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Army - MR
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(Project 95GP-0400)

Reviewer Activities:
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Air Force - 84
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FSC 95GP

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Errata

ASTM Cross Index, pp. 385–412

The specifications listed in column 1 and the top of column 2 on p. 385 have not been inserted in their proper locations within the list. Therefore, when using the ASTM Cross Index, please be sure to check p. 385 if a specification cannot be found elsewhere in the list.

AWS Cross Index, pp. 415–419

The specifications listed in column 1 and the top of column 2 on p. 415 have not been inserted in their proper locations within the list. A corrected version of the AWS Cross Index is attached.

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AWS

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A5.1 (E7024)	W07024
A5.1 (E7024-1)	W07124
A5.1 (E7027)	W07027
A5.1 (E7028)	W07028
A5.1 (E7048)	W07048
A5.2 (R100)	K12147
A5.2 (RG45)	K00045
A5.2 (RG60)	K00060
A5.2 (RG65)	K00065
A5.3 (E1100)	A91100
A5.3 (E3003)	A93003
A5.3 (E4043)	A94043
A5.4 (E7Cr)	W50310
A5.4 (E16-8-2)	W36810
A5.4 (E209)	W32210
A5.4 (E219)	W32310
A5.4 (E240)	W32410
A5.4 (E307)	W30710
A5.4 (E308, E308H)	W30810
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A5.4 (E308MoL)	W30820
A5.4 (E308MoL)	W30823
A5.4 (E309)	W30910
A5.4 (E309Cb)	W30917
A5.4 (E309L)	W30913
A5.4 (E309Mo)	W30920
A5.4 (E309MoL)	W30923
A5.4 (E310)	W31010
A5.4 (E310Cb)	W31017
A5.4 (E310H)	W31015
A5.4 (E310Mo)	W31020
A5.4 (E312)	W31310
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A5.4 (E317L)	W31713
A5.4 (E318)	W31910
A5.4 (E320)	W88021
A5.4 (E320LR)	W88022
A5.4 (E330)	W88331
A5.4 (E330H)	W88335
A5.4 (E347)	W34710
A5.4 (E349)	W34910
A5.4 (E383)	W88028
A5.4 (E385)	W88904
A5.4 (E410)	W41010
A5.4 (E410NiMo)	W41016
A5.4 (E430)	W43010
A5.4 (E502)	W50210
A5.4 (E505)	W50410
A5.4 (E630)	W37410
A5.4 (E2209)	W39209
A5.4 (E2553)	W39553
A5.5 (E801X-B6L)	W50213 ob
A5.5 (E7010-A1)	W17010
A5.5 (E7010-P1)	W17110
A5.5 (E7011-A1)	W17011
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A5.5 (E7016-A1)	W17016
A5.5 (E7016-C1L)	W22116
A5.5 (E7016-C2L)	W23116
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A5.5 (E7018-C1L)	W22118
A5.5 (E7018-C2L)	W23118
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A5.5 (E8016-B2L)	W52116
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A5.5 (E8018-B1)	W51018
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A5.5 (E8018-B8)	W50418
A5.5 (E8018-B8L)	W50408
A5.5 (E8018-C1)	W22018
A5.5 (E8018-C2)	W23018
A5.5 (E8018-C3)	W21018
A5.5 (E8018-C4)	W21918
A5.5 (E8018-D1)	W18118
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A5.5 (E9015-B3)	W53015
A5.5 (E9015-B3L)	W53115
A5.5 (E9015-B9)	W50425
A5.5 (E9015-C5L)	W25018
A5.5 (E9015-D1)	W19015
A5.5 (E9016-B3)	W53016
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A5.5 (E9018-B3)	W53018
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A5.5 (E9018-B9)	W50428
A5.5 (E9018-D1)	W19018
A5.5 (E9018-D3)	W19118
A5.5 (E9018-M)	W21218
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A5.5 (E10018-D2)	W10018
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A5.5 (E12018-M2)	W23228
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A5.6 (ECuMnNiAl)	W60633
A5.6 (ECuNi)	W60715
A5.6 (ECuNiAl)	W60632
A5.6 (ECuSi)	W60656
A5.6 (ECuSn-C)	W60521
A5.6 (ERCCuSn-A)	W60518
A5.7 (ERCu) A5.27 (RCu)	C18980
A5.7 (ERCuAl-A2)	C61800
A5.7 (ERCuAl-A3)	C62400
A5.7 (ERCuAl-Al)	C61000
A5.7 (ERCuMnNiAl)	C63380
A5.7 (ERCuNi)	C71581
A5.7 (ERCuNiAl)	C63280
A5.7 (ERCuSi-A)	C65600
A5.7 (ERCuSn-A)	C51800
A5.7 (ERCuSn-C)	C52100
A5.8 (BAg-1)	P07450
A5.8 (BAg-1a)	P07500
A5.8 (BAg-2)	P07350
A5.8 (BAg-2a)	P07300
A5.8 (BAg-3)	P07501
A5.8 (BAg-4)	P07400
A5.8 (BAg-5)	P07453
A5.8 (BAg-6)	P07503
A5.8 (BAg-7)	P07563
A5.8 (BAg-8)	P07720
A5.8 (BAg-8a)	P07723
A5.8 (BAg-9)	P07650
A5.8 (BAg-10)	P07700
A5.8 (BAg-13)	P07540
A5.8 (BAg-13a)	P07560
A5.8 (BAg-18)	P07600
A5.8 (BAg-19)	P07925
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A5.8 (BAg-21)	P07630
A5.8 (BAg-22)	P07490
A5.8 (BAg-23)	P07850
A5.8 (BAg-24)	P07505
A5.8 (BAg-25)	P07200 ob
A5.8 (BAg-26)	P07250
A5.8 (BAg-27)	P07251
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A5.8 (BAlSi-2)	A94343
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A5.8 (BAlSi-4)	A94047
A5.8 (BAlSi-5)	A94045
A5.8 (BAlSi-7)	A94004
A5.8 (BAlSi-9)	A94147
A5.8 (BAlSi-11)	A94104

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A5.8 (BAu-2)	P00800
A5.8 (BAu-3)	P00350
A5.8 (BAu-4)	P00820
A5.8 (BAu-5)	P00300
A5.8 (BAu-6)	P00700
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A5.8 (BCu-1b)	C11000
A5.8 (BCuP-1)	C55180
A5.8 (BCuP-2)	C55181
A5.8 (BCuP-3)	C55281
A5.8 (BCuP-4)	C55283
A5.8 (BCuP-5)	C55284
A5.8 (BCuP-6)	C55280
A5.8 (BCuP-7)	C55282
A5.8 (BCuZn-F)	C49080 ob
A5.8 (BCuZn-G)	C26380 ob
A5.8 (BMg-1)	M19001
A5.8 (BNi-1)	N99600
A5.8 (BNi-1a)	N99610
A5.8 (BNi-2)	N99620
A5.8 (BNi-3)	N99630
A5.8 (BNi-4)	N99640
A5.8 (BNi-5)	N99650
A5.8 (BNi-5a)	N99651
A5.8 (BNi-5b)	N99652
A5.8 (BNi-6)	N99700
A5.8 (BNi-7)	N99710
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A5.8 (BNi-9)	N99612
A5.8 (BNi-10)	N99622
A5.8 (BNi-11)	N99624
A5.8 (BNi-12)	N99720
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A5.8 (BVAg-0)	P07017
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A5.8 (BVAg-29)	P07627
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A5.8 (BVAg-31)	P07587
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A5.8 (BVAu-4)	P00827
A5.8 (BVAu-7)	P00507
A5.8 (BVAu-8)	P00927
A5.8 (BVCu-1x)	C14181
A5.8 (BVPd-1)	P03657
A5.8 (RBCuZn-A)	C47000
A5.8 (RBCuZn-B)	C68000
A5.8 (RBCuZn-C)	C68100
A5.8 (RBCuZn-D)	C77300
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A5.9 (EC19-10H)	W30440
A5.9 (EC209)	W32240
A5.9 (EC218)	W32540
A5.9 (EC219)	W32340
A5.9 (EC240)	W32440
A5.9 (EC307)	W30740
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A5.9 (EC308L)	W30843
A5.9 (EC308LSi)	W30848
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A5.9 (EC308Si)	W30841
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A5.9 (ER316Si)	S31681
A5.9 (ER317)	S31780
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A5.9 (ER320LR)	N08022
A5.9 (ER321)	S32180
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A5.9 (ER410)	S41080
A5.9 (ER410NiMo)	S41086
A5.9 (ER420)	S42080
A5.9 (ER430)	S43080
A5.9 (ER446MoL)	S44687
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A5.9 (ER502Si)	S50288
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A5.9 (ER505Si)	S50488
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A5.10 (R295.0)	A02950
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A5.11 (ENiCrCoMo-1)	W86117
A5.11 (ENiCrFe-1)	W86132
A5.11 (ENiCrFe-2)	W86133
A5.11 (ENiCrFe-3)	W86182
A5.11 (ENiCrFe-4)	W86134
A5.11 (ENiCrFe-7)	W86152
A5.11 (ENiCrFe-9)	W86094
A5.11 (ENiCrFe-10)	W86095
A5.11 (ENiCrMo-1)	W86007
A5.11 (ENiCrMo-2)	W86002
A5.11 (ENiCrMo3)	W86112
A5.11 (ENiCrMo-4)	W80276
A5.11 (ENiCrMo-5)	W80002
A5.11 (ENiCrMo-6)	W86620
A5.11 (ENiCrMo-7)	W86455
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A5.11 (ENiCrMo-9)	W86985
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A5.11 (ENiCrMo-10)	W86136
A5.11 (ENiCrMo-11)	W86030
A5.11 (ENiCrMo-12)	W86032
A5.11 (ENiCrMo-13)	W86059
A5.11 (ENiCrMo-14)	W86026
A5.11 (ENiCrMo-14)	W86686
A5.11 (ENiCu-7)	W84190
A5.11 (ENiMo-1)	W80001
A5.11 (ENiMo-3)	W80004
A5.11 (ENiMo-7)	W80665
A5.11 (ENiMo-8)	W80008
A5.11 (ENiMo-9)	W80009
A5.11 (ENiMo-10)	W80675
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A5.12 (EWLa-1)	R07941
A5.12 (EWLa-1.5)	R07942
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A5.12 (EWP)	R07900
A5.12 (EWTh-1)	R07911
A5.12 (EWTh-2)	R07912
A5.12(EWTh-3)	R07913 ob
A5.12 (EWZr-1)	R07920
A5.13 (ECoCr-A)	W73006

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A5.13 (ECoCr-C)	W73001
A5.13 (ECoCr-E)	W73021
A5.13 (ECuAl-B)	W60619
A5.13 (ECuAl-C)	W60625
A5.13 (ECuAl-D)	W61625
A5.13 (ECuAl-E)	W62625
A5.13 (ECuMnNiAl)	W60633
A5.13 (ECuNi)	W60715
A5.13 (ECuNiAl)	W60632
A5.13 (ECuSi)	W60656
A5.13 (ECuSn-C)	W60521
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A5.13 (EFe-2)	W74002
A5.13 (EFe-3)	W74003
A5.13 (EFe-4)	W74004
A5.13 (EFe-5)	W75110
A5.13 (EFe5-A)	W77710 ob
A5.13 (EFe5-C)	W77310 ob
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A5.13 (EFe-7)	W77610
A5.13 (EFeCr-A1)	W74510 ob
A5.13 (EFeCr-A1A)	W74011
A5.13 (EFeCr-A2)	W74012
A5.13 (EFeCr-A3)	W74013
A5.13 (EFeCr-A4)	W74014
A5.13 (EFeCr-A5)	W74015
A5.13 (EFeCr-A6)	W74016
A5.13 (EFeCr-A7)	W74017
A5.13 (EFeCr-A8)	W74018
A5.13 (EFeCr-E1)	W74211
A5.13 (EFeCr-E2)	W74212
A5.13 (EFeCr-E3)	W74213
A5.13 (EFeCr-E4)	W74214
A5.13 (EFeMn-A)	W79110
A5.13 (EFeMn-B)	W79310
A5.13 (EFeMn-C)	W79210
A5.13 (EFeMn-D)	W77410 ob
A5.13 (EFeMn-D)	W79410
A5.13 (EFeMn-E)	W79510
A5.13 (EFeMn-F)	W79610
A5.13 (EFeMnCr)	W79710
A5.13 (ENiCr-A)	W89604
A5.13 (ENiCr-B)	W89605
A5.13 (ENiCr-C)	W89606
A5.13 (ENiCrFeCo)	W83002
A5.13 (ENiCrMo-5A)	W80002
A5.13 (ERCCuSn-A)	W60518
A5.14 (ERNi-1)	N02061
A5.14 (ERNiCr-3)	N06082
A5.14 (ERNiCr-4)	N06072
A5.14 (ERNiCr-6)	N06076
A5.14 (ERNiCrCoMo-1)	N06617
A5.14 (ERNiCrFe-5)	N06062
A5.14 (ERNiCrFe-6)	N07092
A5.14 (ERNiCrFe-7)	N06052
A5.14 (ERNiCrFe-8)	N07069
A5.14 (ERNiCrFe-11)	N06601
A5.14 (ERNiCrMo-1)	N06007
A5.14 (ERNiCrMo-2)	N06002
A5.14 (ERNiCrMo-3)	N06625
A5.14 (ERNiCrMo-4)	N10276
A5.14 (ERNiCrMo-7)	N06455
A5.14 (ERNiCrMo-8)	N06975
A5.14 (ERNiCrMo-9)	N06985
A5.14 (ERNiCrMo-10)	N06022
A5.14 (ERNiCrMo-11)	N06030
A5.14 (ERNiCrMo-13)	N06059
A5.14 (ERNiCrMo-14)	N06686
A5.14 (ERNiCrMo-15)	N07725
A5.14 (ERNiCrWMo-1)	N06231
A5.14 (ERNiCu-7)	N04060
A5.14 (ERNiCu-8)	N05504
A5.14 (ERNiFeCr-1)	N08065
A5.14 (ERNiFeCr-2)	N07718
A5.14 (ERNiMo-1)	N10001
A5.14 (ERNiMo-2)	N10003
A5.14 (ERNiMo-3)	N10004
A5.14 (ERNiMo-7)	N10665
A5.14 (ERNiMo-8)	N10008
A5.14 (ERNiMo-9)	N10009
A5.14 (ERNiMo-10)	N10675
A5.15 (ENi-CI)	W82001
A5.15 (ENi-CI-A)	W82003
A5.15 (ENiCu-A)	W84001
A5.15 (ENiCu-B)	W84002
A5.15 (ENiFe-CI)	W82002
A5.15 (ENiFe-CI-A)	W82004
A5.15 (ENiFeMn-CI)	W82006
A5.15 (ENiFeT3-CI)	W82032
A5.15 (ERNi-CI)	N02215
A5.15 (ERNiFeMn-CI)	N02216
A5.15 (ESt)	K01520
A5.15 (RCI)	F10090
A5.15 (RCI-A)	F10091
A5.15 (RCI-B)	F10092
A5.16 (ERTi-1)	R50100
A5.16 (ERTi-2)	R50120
A5.16 (ERTi-3)	R50125
A5.16 (ERTi-4)	R50130
A5.16 (ERTi-5)	R56400
A5.16 (ERTi-5ELI)	R56402
A5.16 (ERTi-6)	R54522
A5.16 (ERTi-6ELI)	R54523
A5.16 (ERTi-7)	R52401
A5.16 (ERTi-9)	R56320
A5.16 (ERTi-9ELI)	R56321
A5.16 (ERTi-12)	R53401
A5.16 (ERTi-15)	R56210
A5.17 (EC 1)	W06041
A5.17 (EH10K)	K01210
A5.17 (EH11K)	K11140
A5.17 (EH12K)	K01213
A5.17 (EH14)	K11585
A5.17 (EL8)	K01008
A5.17 (EL8K)	K01009
A5.17 (EL12)	K01012
A5.17 (EM11K)	K01111
A5.17 (EM12)	K01112
A5.17 (EM12K)	K01113
A5.17 (EM13K)	K01313
A5.17 (EM14K)	K01314
A5.17 (EM15K)	K01515
A5.18 (E70C-3X)	W07703
A5.18 (E70C-6X)	W07706
A5.18 (ER70S-2)	K10726
A5.18 (ER70S-3)	K11022
A5.18 (ER70S-4)	K11132
A5.18 (ER70S-5)	K11357
A5.18 (ER70S-6)	K11140
A5.18 (ER70S-7)	K11125
A5.19 (ER AZ101A)	M11101
A5.19 (ER AZ61A)	M11611
A5.19 (ER AZ92A)	M11922
A5.19 (ER EZ33A)	M12331
A5.20 (E6xT-1)	W06601 ob
A5.20 (E6xT-11)	W06611 ob
A5.20 (E6XT-13)	W06613
A5.20 (E6xT-4)	W06604 ob
A5.20 (E6xT-5)	W06605 ob
A5.20 (E6xT-6)	W06606 ob
A5.20 (E6xT-7)	W06607 ob
A5.20 (E6xT-8)	W06608 ob
A5.20 (E7xT-1, E7xT-1M)	W07601
A5.20 (E7xT-10)	W07610
A5.20 (E7xT-11)	W07611
A5.20 (E7xT-12, E7xT-12M)	W07612
A5.20 (E7xT-13)	W07613
A5.20 (E7xT-14)	W07614
A5.20 (E7xT-2, E7xT-2M)	W07602
A5.20 (E7xT-3)	W07603
A5.20 (E7xT-4)	W07604
A5.20 (E7xT-5, E7xT-5M)	W07605
A5.20 (E7xT-6)	W07606
A5.20 (E7xT-7)	W07607
A5.20 (E7xT-8)	W07608
A5.20 (E7xT-9, E7xT-9M)	W07609
A5.21 (ECoCr-F)	R30002
A5.21 (EFe5-A)	W77710 ob
A5.21 (EFe5-C)	W77310 ob
A5.21 (EFeCr-A1)	W74510 ob
A5.21 (ERCCoCr-A)	W73036
A5.21 (ERCCoCr-B)	W73042
A5.21 (ERCCoCr-C)	W73031
A5.21 (ERCCoCr-E)	W73041
A5.21 (ERCCoCr-G)	W73032
A5.21 (ERCCuAl-A2)	W60618
A5.21 (ERCCuAl-A3)	W60624
A5.21 (ERCCuAl-C)	W60626
A5.21 (ERCCuAl-D)	W61626
A5.21 (ERCCuAl-E)	W62626
A5.21 (ERCCuSi-A)	W60657
A5.21 (ERCCuSn-D)	W60524
A5.21 (ERCFe-1)	W74030
A5.21 (ERCFe-1A)	W74031
A5.21 (ERCFe-2)	W74032
A5.21 (ERCFe-3)	W74033
A5.21 (ERCFe-5)	W74035
A5.21 (ERCFe-6)	W77530
A5.21 (ERCFe-8)	W77538
A5.21 (ERCFeCr-A)	W74531
A5.21 (ERCFeCr-A10)	W74540
A5.21 (ERCFeCr-A1A)	W74530
A5.21 (ERCFeCr-A4)	W74534
A5.21 (ERCFeCr-A5)	W74535
A5.21 (ERCFeCr-A9)	W74539
A5.21 (ERCFeMn-C)	W79230
A5.21 (ERCFeMn-Cr)	W79730
A5.21 (ERCFeMn-F)	W79630
A5.21 (ERCFeMn-G)	W79231
A5.21 (ERCFeMn-H)	W79232
A5.21 (ERCNiCr-A)	W89634
A5.21 (ERCNiCr-B)	W89635
A5.21 (ERCNiCr-C)	W89636
A5.21 (ERCNiCrFeCo)	W83032
A5.21 (ERCNiCrMo-5A)	W80032
A5.21 (ERCNiCrMo-5A)	W86685
A5.21 (ERCoCr-A)	R30006
A5.21 (ERCoCr-B)	R30012
A5.21 (ERCoCr-C)	R30001
A5.21 (ERCoCr-E)	R30021
A5.21 (ERCoCr-F)	R30003
A5.21 (ERCuAl-A2)	C61800
A5.21 (ERCuAl-A3)	C62400
A5.21 (ERCuAl-C)	C62580
A5.21 (ERCuAl-D)	C62581
A5.21 (ERCuAl-E)	C62582

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A5.21 (ERCuSi-A)	C65600
A5.21 (ERCuSn-A)	C51800
A5.21 (ERCuSn-D)	C52400
A5.21 (ERFe-1)	T74000
A5.21 (ERFe-1A)	T74001
A5.21 (ERFe-2)	T74002
A5.21 (ERFe-3)	T74003
A5.21 (ERFe-5)	T74005
A5.21 (ERFe-6)	T75006
A5.21 (ERFe-8)	T75008
A5.21 (ERNiCr-A)	N99644
A5.21 (ERNiCr-B)	N99645
A5.21 (ERNiCr-C)	N99646
A5.21 (ERNiCr-D)	N99647
A5.21 (ERNiCr-E)	N99648
A5.21 (ERNiCrFeCo)	F46100
A5.21 (ERNiCrMo-5A)	N10002
A5.21 (ERNiCrMo-5A)	N10006
A5.21 (RFe5-A)	W77730 ob
A5.22 (E307T-3)	W30733
A5.22 (E307T-x)	W30731
A5.22 (E308HMoT0-3)	W30830
A5.22 (E308LT-3)	W30837
A5.22 (E308LT-x)	W30835
A5.22 (E308MoLT-x)	W30838
A5.22 (E308MoT-x)	W30832
A5.22 (E308T-3)	W30833
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A5.22 (E309CbLT-3)	W30934
A5.22 (E309CbLT-x)	W30932
A5.22 (E309LMoTx-X)	W30938
A5.22 (E309LNiMoTx-X)	W30936
A5.22 (E309LT-3)	W30937
A5.22 (E309LT-x)	W30935
A5.22 (E309MoTx-X)	W30939
A5.22 (E309T-3)	W30933
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A5.22 (E312T-x)	W31331
A5.22 (E316LKT0-3)	W31630
A5.22 (E316LT-3, E316LKT-3)	W31637
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A5.22 (E317LT-3)	W31737
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A5.22 (E347T-3)	W34733
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A5.22 (E409T-x)	W40931
A5.22 (E410NiMoT-x)	W41036
A5.22 (E410NiTiT-x)	W41038
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A5.22 (E430T-x)	W43031
A5.22 (E502T-x)	W50231
A5.22 (E505T-x)	W50431
A5.22 (E2209T-3)	W39239
A5.22 (E2553T-3)	W39533
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A5.23 (ECA1)	W17041
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A5.23 (ECA2)	W17042
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A5.23 (ECA3)	W17043
A5.23 (ECA3N)	W17143
A5.23 (ECA4)	W17044
A5.23 (ECA4N)	W17144
A5.23 (ECB 9)	W50442
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A5.23 (ECB2)	W52040
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A5.23 (ECB2HN)	W52241
A5.23 (ECB2N)	W52041
A5.23 (ECB3)	W53040
A5.23 (ECB3LRN)	W53043
A5.23 (ECB3N)	W53041
A5.23 (ECB3RR)	W53042
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A5.23 (ECB5)	W51340
A5.23 (ECB5N)	W51341
A5.23 (ECB6)	W50240
A5.23 (ECB6H)	W50140
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A5.23 (ECB6N)	W50241
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A5.23 (ECF5)	W22540
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A5.23 (ECM3N)	W22241
A5.23 (ECM4)	W22440
A5.23 (ECM4N)	W22441
A5.23 (ECM5)	W21345
A5.23 (ECM6)	W21346
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A5.23 (ECNi4)	W21250
A5.23 (ECNi4N)	W21251
A5.23 (ECNi5)	W21042
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A5.23 (EF1N)	K11060
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A5.23 (EF3N)	K21385
A5.23 (EF4)	K12048
A5.23 (EF4N)	K11948
A5.23 (EF5)	K41370
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A5.23 (EF6N)	K21035
A5.23 (EL12)	K01012
A5.23 (EL12N)	K00912
A5.23 (EM4N)	K20930
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A5.23 (ENi1K)	K11058
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A5.23 (ENi1N)	K10940
A5.23 (ENi2)	K21010
A5.23 (ENi2N)	K20910
A5.23 (ENi3)	K31310
A5.23 (ENi3N)	K31210
A5.23 (ENi4)	K11485
A5.23 (ENi4N)	K11385
A5.23 (ENi5)	K11240
A5.23 (ENi5N)	K11241
A5.23 (ENil)	K11040
A5.23 (EW)	K11245
A5.24 (ERZr2)	R60702
A5.24 (ERZr3)	R60704
A5.24 (ERZr4)	R60705
A5.24 (ERZr4)	R60707 ob
A5.25 (EA3K-EW)	K10945
A5.25 (EH10K-EW)	K01010
A5.25 (EH11K-EW)	K11140
A5.25 (EH14-EW)	K11585
A5.25 (EM5K-EW)	K10726
A5.25 (EM12-EW)	K01112
A5.25 (EM12K-EW)	K01113
A5.25 (EM13K-EW)	K01313
A5.25 (EM15K-EW)	K01515
A5.25 (EWS-EW)	K11245
A5.25 (EWT1)	W06040
A5.25 (EWT2, EWT4)	W20140
A5.25 (EWT3)	W22340
A5.26 (EG6xT1)	W06301
A5.26 (EG6xT2)	W06302
A5.26 (EG7xT1)	W07301
A5.26 (EG7xT2)	W07302
A5.26 (EGxxS-D2)	K10945
A5.26 (EGxxS-1)	K01313
A5.26 (EGxxS-2)	K10726
A5.26 (EGxxS-3)	K11022
A5.26 (EGxxS-5)	K11325 ob
A5.26 (EGxxS-6)	K11140
A5.26 (EGxxT-Ni1)	W21033
A5.26 (EGxxT-NM1)	W22334
A5.26 (EGxxT-NM2)	W22333

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A5.26 (EGxxT-W)	W20131
A5.28 (E70C-B2L)	W52130
A5.28 (E70C-Ni2, E80C-Ni2)	W22030
A5.28 (E80C-A1)	W17030
A5.28 (E80C-B2)	W52030
A5.28 (E80C-Ni1)	W21030
A5.28 (E80C-Ni3)	W23030
A5.28 (E90C-B3)	W53030
A5.28 (E90C-B3L)	W53130
A5.28 (E90C-D2)	W19230
A5.28 (ER70S-A1)	K11235
A5.28 (ER80S-B2)	K20900
A5.28 (ER80S-B2L)	K20500
A5.28 (ER80S-D2, ER90S-D2)	K10945
A5.28 (ER80S-D3L)	K30560
A5.28 (ER80S-Ni2)	K21240
A5.28 (ER80S-Ni3)	K31240
A5.28 (ER80S-Nil)	K11260
A5.28 (ER90S-B3)	K30960
A5.28 (ER90S-B9)	S59180
A5.28 (ER100S-1)	K10882
A5.28 (ER110S-1)	K21015
A5.28 (ER120S-1)	K21030
A5.29 (E1xxT5-K4)	W22235
A5.29 (E6xT5-B8)	W50431
A5.29 (E6xT5-B8L)	W50430
A5.29 (E7xT11-K2)	W21239
A5.29 (E7xT4-K2)	W21234
A5.29 (E7xT5-A1)	W17035
A5.29 (E7xT6-Ni1)	W21036
A5.29 (E7xT7-K2)	W21237
A5.29 (E7xT8-K2)	W21238
A5.29 (E7XT8-Ni1)	W21038
A5.29 (E7xT8-Ni2)	W22038
A5.29 (E8xT1-A1)	W17031
A5.29 (E8xT1-B1)	W51031
A5.29 (E8xT1-B1L)	W51131
A5.29 (E8xT1-B2)	W52031
A5.29 (E8xT1-B2H)	W52231
A5.29 (E8XT1-B2L)	W52131
A5.29 (E8xT1-W2)	W20131
A5.29 (E8xT5-B2)	W52035
A5.29 (E8xT5-B2L)	W52135
A5.29 (E8xT5-B6)	W50231
A5.29 (E8xT5-B6L)	W50230
A5.29 (E8xT5-K1)	W21135
A5.29 (E8xT5-Ni1)	W21035
A5.29 (E8xT5-Ni2)	W22035
A5.29 (E9xT1-B3), (E10xT1-B3)	W53031
A5.29 (E9xT1-B3H)	W53231
A5.29 (E9xT1-B3L)	W53131
A5.29 (E9xT1-D1)	W19131
A5.29 (E9xT1-D3)	W19331
A5.29 (E9xT5-B3)	W53035
A5.29 (E9xT5-D2, E10xT5-D2)	W19235
A5.29 (E10xT1-K7)	W22051
A5.29 (E11xT1-K4)	W22231
A5.29 (E12xT1-K5)	W21631
A5.29 (E100T5-D2)	W10235 ob
A5.29 (Exx T1-Ni3)	W23031
A5.29 (Exx T11-Ni3)	W23039
A5.29 (Exx T5-K6)	W21045
A5.29 (ExxT1-K2)	W21231
A5.29 (ExxT1-K9)	W23230
A5.29 (ExxT1-Ni1)	W21031
A5.29 (ExxT1-Ni2)	W22031
A5.29 (ExxT5-K2)	W21235
A5.29 (ExxT5-Ni3)	W23035
A5.29 (ExxT8-K6)	W21048
A5.29 (ExxxT1-K3)	W21331
A5.29 (ExxxT5-K3)	W21335
A5.29 (W21438)	W21438
A5.30 (IN6A)	N07092
A5.30 (IN52)	N06052
A5.30 (IN60)	N04060
A5.30 (IN61)	N02061
A5.30 (IN62)	N06062
A5.30 (IN67)	C71581
A5.30 (IN82)	N06082
A5.30 (IN308)	S30880
A5.30 (IN308L)	S30883
A5.30 (IN309)	S30980
A5.30 (IN309L)	S30983
A5.30 (IN310)	S31080
A5.30 (IN312)	S31380
A5.30 (IN316)	S31680
A5.30 (IN316L)	S31683
A5.30 (IN348)	S34780
A5.30 (IN502)	S50280
A5.30 (IN515)	K20900
A5.30 (IN521)	K30960
A5.30 (INMs1)	K10726
A5.30 (INMs2)	K01313
A5.30 (INMs3)	K11140
A5.33	Z13005
A5.33	Z15005
A5.33 (CW-CoCrW)	W73136
A5.33 (CW-CoMoCr)	W73138
A5.33 (CW-CrFeB)	W74630
A5.33 (CW-CuSnSi)	W60658
A5.33 (CW-FeCr-1)	W41036
A5.33 (CW-FeCr-2)	W41039
A5.33 (CW-FeCr-3)	W42040
A5.33 (CW-FeCr-4)	W43070
A5.33 (CW-FeCrB)	W46440
A5.33 (CW-FeCrC-1)	W74532
A5.33 (CW-FeCrNiB)	W46540
A5.33 (CW-FeCrNiB)	W89640
A5.33 (CW-FeCrNiMoB)	W46640
A5.33 (CW-FeMnAl)	W79840
A5.33 (CW-FeVWC)	W77540
A5.33 (CW-FeWC)	W77640
A5.33 (CW-NiAlMo)	W89432
A5.33 (CW-NiCrAl)	W89341
A5.33 (CW-NiCrAlY)	W89343
A5.33 (CW-NiCrFe)	W87740
A5.33 (CW-NiCrMo)	W86142
A5.33 (CW-NiCrSiB)	W89740
A5.33 (CW-NiFeAl)	W89240
A5.33 (W-Al-1100)	A91100
A5.33 (W-Al-1350)	A91350 ob
A5.33 (W-Al-4043)	A94043
A5.33 (W-Al-4047)	A94047
A5.33 (W-Al-5356)	A95356
A5.33 (W-Al-Al2O3)	A71001
A5.33 (W-Cd)	L01950
A5.33 (W-Cu)	C11080
A5.33 (W-CuAl)	C61800
A5.33 (W-CuSn)	C51800
A5.33 (W-CuZn-1)	C22000
A5.33 (W-CuZn-2)	C26800
A5.33 (W-CuZn-3)	C47000
A5.33 (W-CuZnAg)	C56000
A5.33 (W-FeC-1)	G10090
A5.33 (W-FeC-2)	H15220
A5.33 (W-FeC-3)	G10200
A5.33 (W-FeC-4)	G10750
A5.33 (W-FeC-5)	G10800
A5.33 (W-FeCrC)	T87510
A5.33 (W-FeCrMn)	T87515
A5.33 (W-FeCrNi-1)	S30481
A5.33 (W-FeCrNi-2)	S30280
A5.33 (W-FeCrNi-3)	S20281
A5.33 (W-FeCrNi-4)	S20280
A5.33 (W-FeCrNi-5)	S31680
A5.33 (W-FeCrNi-6)	S31683
A5.33 (W-FeCrNi-7)	S31681
A5.33 (W-FeCrNi-8)	S41683
A5.33 (W-FeCrNi-9)	S42080
A5.33 (W-FeNiCr)	T87520
A5.33 (W-Mo)	R03615
A5.33 (W-Ni-2)	N02200
A5.33 (W-Ni-3)	N02202
A5.33 (W-NiAl-1)	N01001
A5.33 (W-NiAl-2)	N01002
A5.33 (W-NiCrFe-1)	N04405
A5.33 (W-NiCrFe-2)	N06078
A5.33 (W-NiCrFe-3)	N06004
A5.33 (W-NiCrMo)	N06021
A5.33 (W-NiCrTi)	N06070
A5.33 (W-NiCu-1)	N06076
A5.33 (W-NiCu-2)	N04406
A5.33 (W-Pb)	L50045
A5.33 (W-Pb-Sb)	L53105
A5.33 (W-PbSbSn)	L53465
A5.33 (W-Sn)	L13012
A5.33 (W-SnCuSb)	L13910
A5.33 (W-SnSbCu-1)	L13890
A5.33(W-SnSbCu-2)	L13892
A5.33(W-SnSbCu-3)	L13893
A5.33(W-SnZn-1)	L13201
A5.33(W-SnZn-2)	L13202
A5.33 (W-Ti)	R50120
A5.33 (W-Zn-1)	Z13001
A5.33 (W-Zn-2)	Z15001
A5.33 (W-ZnAl-1)	Z30401
A5.34 (ENiCr3T-X)	W86082
A5.34 (ENiCrFe1T-X)	W86132
A5.34 (ENiCrFe2T-x)	W86133
A5.34 (ENiCrFe3T-X)	W86182
A5.34 (ENiCrMo3T-X)	W86112
A5.34 (ENiCrMo4T-X)	W80276
A5.34 (ENiFeCr2T-X)	W87718
B2.2	A83003

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Metals & Alloys in the Unified Numbering System

SAE INTERNATIONAL® HS-1086 JAN99

ASTM DS-56 G

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8th Edition

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Preface to the Eighth Edition

The Eighth Edition contains more than 300 new UNS designations and more than 600 updates and revisions to existing UNS designations since the publication of the Seventh Edition in 1996. In total there are nearly 5000 UNS designations for metals and alloys.

Cross-reference specifications from many technical societies and specifying organizations are included. These are not exhaustive lists but include representative specifications from American Society of Mechanical Engineers (ASME), American Society of Testing and Materials (ASTM), SAE, NACE, Federal, Military, American Iron and Steel Institute (AISI), and American Welding Society (AWS).

A comprehensive index of common trade names is also included.

A UNS designation is not a specification because it establishes no requirements for delivery conditions such as mechanical property requirements, heat analysis tolerances, heat treatment, packaging, marking, inspection, etc. UNS designations are identifying numbers for metal and alloys for which controlling requirements are established and published by technical societies and specifying organizations such as ASTM, ASME, and AWS.

James D. Redmond, Chairman
UNS Advisory Board

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Introduction to the Unified Numbering System

The Unified Numbering System for Metals and Alloys (UNS) provides a means of correlating many internationally used metal and alloy numbering systems currently administered by societies, trade associations, and those individual users and producers of metals and alloys. This system avoids the confusion caused by the use of more than one identification number for the same metal or alloy, and the opposite situation of having the same number assigned to two or more different metals or alloys.

It provides the uniformity necessary for efficient indexing, record keeping, data storage and retrieval, and cross-referencing.

A UNS designation is not, in itself, a specification, because it establishes no requirements for form, condition, property, or quality. It is a unified identifier of a metal or an alloy for which controlling limits have been established in specifications published elsewhere.

The UNS establishes 18 series of designations for metals and alloys. Each UNS designation consists of a single-letter prefix followed by five digits. In most cases the letter is suggestive of the family of metals identified: for example, A for aluminum, P for precious metals, S for stainless steels.

Although some of the digits in certain UNS designation groups have special assigned meanings, each series of UNS designations is independent of the others in regard to the significance of digits, thus permitting greater flexibility and avoiding complicated and lengthy UNS designations.

Wherever feasible, and for the convenience of the user, identification "numbers" from existing systems are incorporated into the UNS designations. For example, carbon steel presently identified by the American Iron and Steel Institute as "AISI 1020" is covered by the UNS designation "G10200."

The UNS designation assignments for certain metals and alloys are established by the relevant trade associations which in the past have administered their own numbering systems; for other metals and alloys, UNS designation assignments are administered by the Society of Automotive Engineers (SAE). Each of these assigners has the responsibility for administering a specific UNS series of designations. Each considers requests for the assignment of new UNS designations, and informs the applicants of the action taken. UNS designation assigners report immediately to the office of the Unified Numbering System for Metals and Alloys the details of each new assignment for inclusion into the system.

For additional details on the UNS System, see the combined ASTM E527/SAE J1086, "Recommended Practice for Numbering Metals and Alloys," included in the Appendix.

The listed cross-referenced specifications are representative only and are not necessarily a complete list of specifications applicable to a particular UNS designation.

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Index to UNS Designations by Base Elements

Element	Symbol	UNS Designation
Actinium	Ac	E00000 - E00999
Aluminum	Al	A00001 - A99999
Antimony (Stibium)	Sb	M00001 - M00999
Argentum (Silver)	Ag	P07001 - P07999
Arsenic	As	M01001 - M01999
Aurum (Gold)	Au	P00001 - P00999
Barium	Ba	M02001 - M02999
Beryllium (Glucinum)	Be	R10001 - R19999
Bismuth	Bi	L00001 - L00999
Boron	B	R01001 - R01999
Cadmium	Cd	L01001 - L01999
Calcium	Ca	M03001 - M03999
Cassiopeium (Lutetium)	Lu	E68000 - E68999
Cerium	Ce	E01000 - E20999
Cesium	Cs	L02001 - L02999
Chromium	Cr	R20001 - R29999
Cobalt	Co	R30001 - R39999
Columbium (Niobium)	Cb	R04001 - R04999
Copper (Cuprum)	Cu	C00001 - C99999
Cuprum (Copper)	Cu	C00001 - C99999
Dysprasium	Dy	E46000 - E47999
Erbium	Er	E48000 - E49999
Europium	Eu	E50000 - E51999
Ferrum, Cast (Iron, Cast)	Fe	F00001 - F99999
Gadolinium	Gd	E52000 - E55999
Gallium	Ga	L03001 - L03999
Germanium	Ge	M04001 - M04999
Glucinum (Beryllium)	Be	R10001 - R19999
Gold (Aurum)	Au	P00001 - P00999
Hafnium	Hf	R02001 - R02999
Holmium	Ho	E56000 - E57999
Hydrargyrum (Mercury)	Hg	L07001 - L07999
Indium	In	L04001 - L04999
Iridium	Ir	P01001 - P01999
Iron, Cast (Ferrum, Cast)	Fe	F00001 - F99999
Kalium (Potassium)	K	L08001 - L08999
Lanthanum	La	E58000 - E67999
Lead (Plumbum)	Pb	L50001 - L59999
Lithium	Li	L06001 - L06999
Lutetium (Cassiopeium)	Lu	E68000 - E68999
Magnesium	Mg	M10001 - M19999
Manganese	Mn	M20001 - M29999
Mercury (Hydrargyrum)	Hg	L07001 - L07999
Mixed rare earths		E21000 - E45999
Molybdenum	Mo	R03001 - R03999
Natrium (Sodium)	Na	L11001 - L11999
Neodymium	Nd	E69000 - E73999
Niobium (Columbium)	Nb	R04001 - R04999
Osmium	Os	P02001 - P02999
Palladium	Pd	P03001 - P03999
Platinum	Pt	P04001 - P04999
Plumbum (Lead)	Pb	L50001 - L59999
Plutonium	Pu	M05001 - M05999
Potassium (Kalium)	K	L08001 - L08999
Praesodymium	Pr	E74000 - E77999
Promethium	Pm	E78000 - E78999
Rhenium	Re	R40001 - R49999
Rhodium	Rh	P05001 - P05999
Rubidium	Rb	L09001 - L09999
Ruthenium	Ru	P06001 - P06999
Samarium	Sm, Sa	E79000 - E82999
Scandium	Sc	E83000 - E84999
Selenium	Se	L10001 - L10999
Silicon	Si	M30001 - M39999
Silver (Argentum)	Ag	P07001 - P07999
Sodium (Natrium)	Na	L11001 - L11999
Stannum (Tin)	Sn	L13001 - L13999
Steels - AISI H		H00001 - H99999
Steels - Cast		J00001 - J99999
Steels - Miscellaneous		K00001 - K99999
Steels - SAE/AISI Carbon and Low Alloy Steels		G00001 - G99999
Steels - Stainless		S00001 - S59999
Steels - Tool		T00001 - T99999
Steels - Valve Steels and High Temperature Alloys		S60001 - S69999
Stibium (Antimony)	Sb	M00001 - M00999
Strontium	Sr	M06001 - M06999
Tantalum	Ta	R05001 - R05999
Tellurium	Te	M07001 - M07999
Terbium	Tb	E85000 - E86999
Thallium	Tl	L12001 - L12999
Thorium	Th	R06001 - R06999
Thulium	Tm	E87000 - E87999
Tin (Stannum)	Sn	L13001 - L13999
Titanium	Ti	R50001 - R59999
Tungsten (Wolfram)	W	R07001 - R07999
Uranium	U	M08001 - M08999
Vanadium	V	R08001 - R08999
Weld, Filler - Austenitic Stainless Steels		W30000 - W39999
Weld, Filler - Carbon Steels		W00000 - W09999
Weld, Filler Metal - Chromium Low Alloy Steels		W50000 - W59999
Weld, Filler - Copper Alloys		W60000 - W69999
Weld, Filler - Ferritic Stainless Steels		W40000 - W49999
Weld, Filler - Manganese-Molybdenum Alloys		W10000 - W19999
Weld, Filler - Ni Alloys		W80000 - W89999
Weld, Filler - Ni Steels		W20000 - W29999
Weld, Surfacing Alloys		W70000 - W79999
Wolfram (Tungsten)	W	R07001 - R07999
Ytterbium	Yb	E88000 - E89999
Yttrium	Y	E90000 - E99999
Zinc	Zn	Z00001 - Z99999
Zirconium	Zr	R60001 - R69999

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Axxxxx Number Series
Aluminum and Aluminum Alloys

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ALUMINUM AND ALUMINUM ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
A01001	Aluminum Foundry Alloy, Ingot	**Al** 99.00 nom **Cu** 0.10 max **Fe** 0.6-0.8 **Si** 0.15 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max, Mn+Cr+Ti+V 0.025 max	**AA** 100.1 **ASTM** B179 (100.1)
A01301	Aluminum Foundry Alloy, Ingot	**Al** 99.30 min **Cu** 0.10 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max, Fe/Si ratio 2.5 min, Mn+Cr+Ti+V 0.025 max	**AA** 130.1 **ASTM** B179 (130.1)
A01501	Aluminum Foundry Alloy, Ingot	**Al** 99.50 min **Cu** 0.05 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max, Fe/Si ratio 2.0 min, Mn+Cr+Ti+V 0.025 max	**AA** 150.1 **ASTM** B179 (150.1)
A01601	Aluminum Foundry Alloy, Ingot	**Al** 99.60 min **Fe** 0.25 max **Si** 0.10 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max, Fe/Si ratio 2.0 min,Mn+Cr+Ti+V 0.025 max	**AA** 160.1
A01701	Aluminum Foundry Alloy, Ingot	**Al** 99.70 min **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max, Fe/Si ratio 1.5 min,Mn+Cr+Ti+V 0.025 max	**AA** 170.1 **ASTM** B179 (170.1)
A02010	Aluminum Foundry Alloy, Casting	**Ag** 0.40-1.0 **Al** rem **Cu** 4.0-5.2 **Fe** 0.15 max **Mg** 0.15-0.55 **Mn** 0.20-0.50 **Si** 0.10 max **Ti** 0.15-0.35 **Other** each 0.05 max, total 0.10 max	**AA** 201.0 **AMS** 4233; 4242 **ASTM** B26 (201.0); B618 (201.0) **SAE** J452 (382)
A02012	Aluminum Foundry Alloy, Ingot	**Ag** 0.40-1.0 **Al** rem **Cu** 4.0-5.2 **Fe** 0.10 max **Mg** 0.20-0.55 **Mn** 0.20-0.50 **Si** 0.10 max **Ti** 0.15-0.35 **Other** each 0.05 max, total 0.10 max	**AA** 201.2 **ASTM** B179 (201.2) **SAE** J452 (382)
*A02020	Aluminum Foundry Alloy, Casting	**Ag** 0.40-1.0 **Al** rem **Cr** 0.20-0.6 **Cu** 4.0-5.2 **Fe** 0.15 max **Mg** 0.15-0.55 **Mn** 0.20-0.8 **Si** 0.10 max **Ti** 0.15-0.35 **Other** each 0.05 max, total 0.10 max	**AA** 202.0
*A02022	Aluminum Foundry Alloy, Ingot	**Ag** 0.40-1.0 **Al** rem **Cr** 0.20-0.6 **Cu** 4.0-5.2 **Fe** 0.10 max **Mg** 0.20-0.55 **Mn** 0.20-0.8 **Si** 0.10 max **Ti** 0.15-0.35 **Other** each 0.05 max, total 0.10 max	**AA** 202.2
A02030	Aluminum Foundry Alloy, Casting	**Al** rem **Co** 0.20-0.30 **Cu** 4.5-5.5 **Fe** 0.50 max **Mg** 0.10 max **Mn** 0.20-0.30 **Ni** 1.3-1.7 **Sb** 0.20-0.30 **Si** 0.30 max **Ti** 0.15-0.25 **Zn** 0.10 max **Zr** 0.10-0.30 **Other** each 0.05 max, total 0.20 max, plus Ti+Zr 0.50 max	**AA** 203.0 **AMS** 4225
A02032	Aluminum Foundry Alloy, Ingot	**Al** rem **Co** 0.20-0.30 **Cu** 4.8-5.2 **Fe** 0.35 max **Mg** 0.10 max **Mn** 0.20-0.30 **Ni** 1.3-1.7 **Sb** 0.20-0.30 **Si** 0.20 max **Ti** 0.15-0.25 **Zn** 0.10 max **Zr** 0.10-0.30 **Other** each 0.05 max, total 0.20 max, plus Ti+Zr 0.50 max	**AA** 203.2
A02040	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.2-5.0 **Fe** 0.35 max **Mg** 0.15-0.35 **Mn** 0.10 max **Ni** 0.05 max **Si** 0.20 max **Sn** 0.05 max **Ti** 0.15-0.30 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 204.0 **ASTM** B26 (204.0); B108 (204.0); B618 (204.0)
A02042	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.2-4.9 **Fe** 0.10-0.20 **Mg** 0.20-0.35 **Mn** 0.05 max **Ni** 0.03 max **Si** 0.15 max **Sn** 0.05 max **Ti** 0.15-0.25 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 204.2 **ASTM** B179 (204.2)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
A02060	*Aluminum Foundry Alloy,* Casting	**Al** *rem* **Cu** 4.2-5.0 **Fe** 0.15 max **Mg** 0.15-0.35 **Mn** 0.20-0.50 **Ni** 0.05 max **Si** 0.10 max **Sn** 0.05 max **Ti** 0.15-0.30 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 206.0 **AMS** 4237; 4244 **ASME** SFA5.10 (R206.0) **AWS** A5.10 (R206.0)
A02062	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.2-5.0 **Fe** 0.10 max **Mg** 0.20-0.35 **Mn** 0.20-0.50 **Ni** 0.03 max **Si** 0.10 max **Sn** 0.05 max **Ti** 0.15-0.25 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 206.2
*** A02080**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.5-4.5 **Fe** 1.2 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.35 max **Si** 2.5-3.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 208.0 **ASTM** B26 (208.0); B108 (208.0); B618 (208.0) **MIL SPEC** MIL-F-3922; MIL-F-39000
*** A02081**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.5-4.5 **Fe** 0.9 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.35 max **Si** 2.5-3.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 208.1 **ASTM** B179 (208.1)
*** A02082**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.5-4.5 **Fe** 0.8 max **Mg** 0.03 max **Mn** 0.30 max **Si** 2.5-3.5 **Ti** 0.20 max **Zn** 0.20 max **Other** total 0.30 max	**AA** 208.2 **ASTM** B179 (208.2)
*** A02130**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 6.0-8.0 **Fe** 1.2 max **Mg** 0.10 max **Mn** 0.6 max **Ni** 0.35 max **Si** 1.0-3.0 **Ti** 0.25 max **Zn** 2.5 max **Other** total 0.50 max	**AA** 213.0 **ASTM** B108 (213.0)
*** A02131**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 6.0-8.0 **Fe** 0.9 max **Mg** 0.10 max **Mn** 0.6 max **Ni** 0.35 max **Si** 1.0-3.0 **Ti** 0.25 max **Zn** 2.5 max **Other** total 0.50 max	**AA** 213.1
*** A02220**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 9.2-10.7 **Fe** 1.5 max **Mg** 0.15-0.35 **Mn** 0.50 max **Ni** 0.50 max **Si** 2.0 max **Ti** 0.25 max **Zn** 0.8 max **Other** total 0.35 max	**AA** 222.0 **ASTM** B26 (222.0); B108 (222.0); B618 (222.0) **SAE** J452 (34)
*** A02221**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 9.2-10.7 **Fe** 1.2 max **Mg** 0.20-0.35 **Mn** 0.50 max **Ni** 0.50 max **Si** 2.0 max **Ti** 0.25 max **Zn** 0.8 max **Other** total 0.35 max	**AA** 222.1 **ASTM** B179 (222.1) **SAE** J452 (34)
*** A02240**	Aluminum Foundry Alloy, Casting	**Al** *rem* **Cu** 4.5-5.5 **Fe** 0.10 max **Mn** 0.20-0.50 **Si** 0.06 max **Ti** 0.35 max **V** 0.05-0.15 **Zr** 0.10-0.25 **Other** each 0.03 max, total 0.10 max	**AA** 224.0 **AMS** 4226
*** A02242**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.5-5.5 **Fe** 0.04 max **Mn** 0.20-0.50 **Si** 0.02 max **Ti** 0.25 max **V** 0.05-0.15 **Zr** 0.10-0.25 **Other** each 0.03 max, total 0.10 max	**AA** 224.2

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
* A02380	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 9.0-11.0 **Fe** 1.5 max **Mg** 0.15-0.35 **Mn** 0.6 max **Ni** 1.0 max **Si** 3.5-4.5 **Ti** 0.25 max **Zn** 1.5 max **Other** total 0.50 max	**AA** 238.0
* A02381	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 9.0-11.0 **Fe** 1.2 max **Mg** 0.20-0.35 **Mn** 0.6 max **Ni** 1.0 max **Si** 3.5-4.5 **Ti** 0.25 max **Zn** 1.5 max **Other** total 0.50 max	**AA** 238.1
* A02382	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 9.5-10.5 **Fe** 1.2 max **Mg** 0.20-0.35 **Mn** 0.50 max **Ni** 0.50 max **Si** 3.5-4.5 **Ti** 0.20 max **Zn** 0.50 max **Other** total 0.50 max	**AA** 238.2
A02400	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 7.0-9.0 **Fe** 0.50 max **Mg** 5.5-6.5 **Mn** 0.30-0.7 **Ni** 0.30-0.7 **Si** 0.50 max **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 240.0
A02401	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 7.0-9.0 **Fe** 0.40 max **Mg** 5.6-6.5 **Mn** 0.30-0.7 **Ni** 0.30-0.7 **Si** 0.50 max **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 240.1
A02420	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.25 max **Cu** 3.5-4.5 **Fe** 1.0 max **Mg** 1.2-1.8 **Mn** 0.35 max **Ni** 1.7-2.3 **Si** 0.7 max **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** 242.0 **ASME** SFA5.10 (R242.0) **ASTM** B26 (242.0); B108 (242.0); B618 (242.0) **AWS** A5.10 (R242.0) **SAE** J452 (39)
A02421	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.25 max **Cu** 3.5-4.5 **Fe** 0.8 max **Mg** 1.3-1.8 **Mn** 0.35 max **Ni** 1.7-2.3 **Si** 0.7 max **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** 242.1 **ASTM** B179 (242.1)
A02422	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.5-4.5 **Fe** 0.6 max **Mg** 1.3-1.8 **Mn** 0.10 max **Ni** 1.7-2.3 **Si** 0.6 max **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 242.2 **ASTM** B179 (242.2)
* A02430	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.20-0.40 **Cu** 3.5-4.5 **Fe** 0.40 max **Mg** 1.8-2.3 **Mn** 0.15-0.45 **Ni** 1.9-2.3 **Si** 0.35 max **Ti** 0.06-0.20 **V** 0.06-0.20 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 243.0 **AMS** 4224
* A02431	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.20-0.40 **Cu** 3.5-4.5 **Fe** 0.30 max **Mg** 1.9-2.3 **Mn** 0.15-0.45 **Ni** 1.9-2.3 **Si** 0.35 max **Ti** 0.06-0.20 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 243.1
* A02490	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.8-4.6 **Fe** 0.10 max **Mg** 0.25-0.50 **Mn** 0.25-0.50 **Si** 0.05 max **Ti** 0.02-0.35 **Zn** 2.5-3.5 **Other** each 0.03 max, total 0.10 max	**AA** 249.0

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
* **A02492**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.8-4.6 **Fe** 0.07 max **Mg** 0.30-0.50 **Mn** 0.25-0.50 **Si** 0.05 max **Ti** 0.02-0.12 **Zn** 2.5-3.5 **Other** each 0.03 max, total 0.10 max	**AA** 249.2
A02950	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.0-5.0 **Fe** 1.0 max **Mg** 0.03 max **Mn** 0.35 max **Si** 0.7-1.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** 295.0 **ASME** SFA5.10 (R295.0) **ASTM** B26 (295.0); B618 (295.0) **AWS** A5.10 (R295.0) **MIL SPEC** MIL-F-3922; MIL-F-39000 **SAE** J452 (38)
A02951	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.8 max **Mg** 0.03 max **Mn** 0.35 max **Si** 0.7-1.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** 295.1 **ASTM** B179 (295.1)
A02952	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.8 max **Mg** 0.03 max **Mn** 0.30 max **Si** 0.7-1.2 **Ti** 0.20 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 295.2 **ASTM** B179 (295.2) **SAE** J452 (38)
A02960	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.0-5.0 **Fe** 1.2 max **Mg** 0.05 max **Mn** 0.35 max **Ni** 0.35 max **Si** 2.0-3.0 **Ti** 0.25 max **Zn** 0.50 max **Other** total 0.35 max	**AA** 296.0 **ASTM** B108 (296.0) **SAE** J452 (380)
A02961	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.9 max **Mg** 0.05 max **Mn** 0.35 max **Ni** 0.35 max **Si** 2.0-3.0 **Ti** 0.25 max **Zn** 0.50 max **Other** total 0.35 max	**AA** 296.1 **ASTM** B179 (296.1)
A02962	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.8 max **Mg** 0.03 max **Mn** 0.30 max **Si** 2.0-3.0 **Ti** 0.20 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 296.2 **ASTM** B179 (296.2)
A03010	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-3.5 **Fe** 0.8-1.5 **Mg** 0.25-0.50 **Mn** 0.50-0.8 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 301.0
A03011	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-3.5 **Fe** 0.8-1.2 **Mg** 0.30-0.50 **Mn** 0.50-0.8 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 301.1
A03020	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 2.8-3.2 **Fe** 0.25 max **Mg** 0.7-1.2 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 302.0
A03021	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.8-3.2 **Fe** 0.20 max **Mg** 0.8-1.2 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 302.1
A03030	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 0.8-1.5 **Mg** 0.45-0.7 **Mn** 0.50-0.8 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 303.0
A03031	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.20 max **Fe** 0.8-1.2 **Mg** 0.50-0.7 **Mn** 0.50-0.8 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 303.1
* **A03050**	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.25 max **Cu** 1.0-1.5 **Fe** 0.6 max **Mg** 0.10 max **Mn** 0.50 max **Si** 4.5-5.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** 305.0

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*A03052	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.0-1.5 **Fe** 0.14-0.25 **Mn** 0.05 max **Si** 4.5-5.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 305.2
A03080	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.0-5.0 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Si** 5.0-6.0 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 308.0 **ASTM** B108 (308.0)
A03081	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.8 max **Mg** 0.10 max **Mn** 0.50 max **Si** 5.0-6.0 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 308.1 **ASTM** B179 (308.1)
A03082	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.8 max **Mg** 0.10 max **Mn** 0.30 max **Si** 5.0-6.0 **Ti** 0.20 max **Zn** 0.50 max **Other** total 0.50 max	**AA** 308.2 **ASTM** B179 (308.2)
A03180	Aluminum Foundry Alloy, Die Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.10-0.6 **Mn** 0.50 max **Ni** 0.35 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 1.0 max **Other** 0.50 total	**AA** 318.0
A03181	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.8 max **Mg** 0.15-0.6 **Mn** 0.50 max **Ni** 0.35 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 0.9 max **Other** 0.50 total	**AA** 318.1
A03190	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.35 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 319.0 **ASTM** B26 (319.0); B108 (319.0); B618 (319.0) **SAE** J452 (326)
A03191	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.8 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.35 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 319.1 **ASTM** B179 (319.1) **SAE** J452 (326)
A03192	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.6 max **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.10 max **Si** 5.5-6.5 **Ti** 0.20 max **Zn** 0.10 max **Other** total 0.20 max	**AA** 319.2 **ASTM** B179 (319.2)
A03200	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 2.0-4.0 **Fe** 1.2 max **Mg** 0.05-0.6 **Mn** 0.8 max **Ni** 0.35 max **Si** 5.0-8.0 **Ti** 0.25 max **Zn** 3.0 max **Other** total 0.50 max	**AA** 320.0
A03201	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.0-4.0 **Fe** 0.9 max **Mg** 0.10-0.6 **Mn** 0.8 max **Ni** 0.35 max **Si** 5.0-8.0 **Ti** 0.25 max **Zn** 3.0 max **Other** total 0.50 max	**AA** 320.1
*A03240	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.40-0.6 **Fe** 1.2 max **Mg** 0.40-0.7 **Mn** 0.50 max **Ni** 0.30 max **Si** 7.0-8.0 **Ti** 0.20 max **Zn** 1.0 max **Other** each 0.15 max, total 0.20 max	**AA** 324.0
*A03241	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.40-0.6 **Fe** 0.9 max **Mg** 0.45-0.7 **Mn** 0.50 max **Ni** 0.30 max **Si** 7.0-8.0 **Ti** 0.20 max **Zn** 1.0 max **Other** each 0.15 max, total 0.20 max	**AA** 324.1

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* A03242	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.40-0.6 **Fe** 0.6 max **Mg** 0.45-0.7 **Mn** 0.10 max **Ni** 0.10 max **Si** 7.0-8.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 324.2
* A03280	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.35 max **Cu** 1.0-2.0 **Fe** 1.0 max **Mg** 0.20-0.6 **Mn** 0.20-0.6 **Ni** 0.25 max **Si** 7.5-8.5 **Ti** 0.25 max **Zn** 1.5 max **Other** total 0.50 max	**AA** 328.0 **ASTM** B26 (328.0); B618 (328.0) **SAE** J452 (327)
* A03281	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.35 max **Cu** 1.0-2.0 **Fe** 0.8 max **Mg** 0.25-0.6 **Mn** 0.20-0.6 **Ni** 0.25 max **Si** 7.5-8.5 **Ti** 0.25 max **Zn** 1.5 max **Other** total 0.50 max	**AA** 328.1 **ASTM** B179 (328.1) **SAE** J452 (327)
A03320	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 2.0-4.0 **Fe** 1.2 max **Mg** 0.50-1.5 **Mn** 0.50 max **Ni** 0.50 max **Si** 8.5-10.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 332.0 **ASTM** B108 (332.0) **SAE** J452 (332)
A03321	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.0-4.0 **Fe** 0.9 max **Mg** 0.6-1.5 **Mn** 0.50 max **Ni** 0.50 max **Si** 8.5-10.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 332.1 **ASTM** B179 (332.1) **SAE** J452 (332)
A03322	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.0-4.0 **Fe** 0.6 max **Mg** 0.9-1.3 **Mn** 0.10 max **Ni** 0.10 max **Si** 8.5-10.0 **Ti** 0.20 max **Zn** 0.10 max **Other** total 0.30 max	**AA** 332.2 **ASTM** B179 (332.2)
A03330	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.05-0.50 **Mn** 0.50 max **Ni** 0.50 max **Si** 8.0-10.0 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 333.0 **ASTM** B108 (333.0) **SAE** J452 (331)
A03331	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.8 max **Mg** 0.10-0.50 **Mn** 0.50 max **Ni** 0.50 max **Si** 8.0-10.0 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 333.1 **ASTM** B179 (333.1)
A03360	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.50-1.5 **Fe** 1.2 max **Mg** 0.7-1.3 **Mn** 0.35 max **Ni** 2.0-3.0 **Si** 11.0-13.0 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max	**AA** 336.0 **ASTM** B108 (336.0) **SAE** J452 (321)
A03361	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.50-1.5 **Fe** 0.9 max **Mg** 0.8-1.3 **Mn** 0.35 max **Ni** 2.0-3.0 **Si** 11.0-13.0 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max	**AA** 336.1 **ASTM** B179 (336.1)
A03362	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.50-1.5 **Fe** 0.9 max **Mg** 0.9-1.3 **Mn** 0.10 max **N** 2.0-3.0 **Si** 11.0-13.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 336.2 **ASTM** B179 (336.2)
* A03370	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-3.5 **Fe** 0.8-1.2 **Mg** 0.30-0.50 **Mn** 0.50-0.8 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** 337.0
* A03371	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-3.5 **Fe** 0.8-0.9 **Mg** 0.35-0.50 **Mn** 0.50-0.8 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** 337.1

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* **A03380**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 2.8-3.2 **Fe** 0.20 max **Mg** 0.8-1.2 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Other** each 0.03 max, total 0.10 max	**AA** 338.0
* **A03381**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.8-3.2 **Fe** 0.17 max **Mg** 0.9-1.2 **Ni** 1.0-1.5 **Si** 9.5-10.5 **Ti** 0.20 max **Other** each 0.03 max, total 0.10 max	**AA** 338.1
A03390	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.5-3.0 **Fe** 1.2 max **Mg** 0.50-1.5 **Mn** 0.50 max **Ni** 0.50-1.5 **Si** 11.0-13.0 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 339.0
A03391	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.5-3.0 **Fe** 0.9 max **Mg** 0.6-1.5 **Mn** 0.50 max **Ni** 0.50-1.5 **Si** 11.0-13.0 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** 339.1
* **A03430**	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.10 max **Cu** 0.50-0.9 **Fe** 1.2 max **Mg** 0.10 max **Mn** 0.50 max **Si** 6.7-7.7 **Sn** 0.05 max **Zn** 1.2-2.0 **Other** each 0.10 max, total 0.35 max	**AA** 343.0
* **A03431**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.10 max **Cu** 0.50-0.9 **Fe** 0.50-0.9 **Mg** 0.10 max **Mn** 0.50 max **Si** 6.7-7.7 **Sn** 0.05 max **Zn** 1.2-1.9 **Other** each 0.10 max, total 0.35 max	**AA** 343.1
A03540	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.6-2.0 **Fe** 0.20 max **Mg** 0.40-0.6 **Mn** 0.10 max **Si** 8.6-9.4 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 354.0 **ASTM** B108 (354.0); B686 (354.0) **MIL SPEC** MIL-A-21180 (354.0)
A03541	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.6-2.0 **Fe** 0.15 max **Mg** 0.45-0.6 **Mn** 0.10 max **Si** 8.6-9.4 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 354.1 **ASTM** B179 (354.1)
A03550	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.25 max **Cu** 1.0-1.5 **Fe** 0.6 max **Mg** 0.40-0.6 **Mn** 0.50 max **Si** 4.5-5.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max. Note: If Fe exceeds 0.45, Mn shall not be less than 0.5 x Fe	**AA** 355.0 **AMS** 4210; 4212; 4214; 4245; 4280; 4281 **ASME** SFA5.10 (R355.0) **ASTM** B26 (355.0); B108 (355.0); B618 (355.0) **AWS** A5.10 (R355.0) **MIL SPEC** MIL-F-3922; MIL-F-39000 **SAE** J452 (322)
A03551	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.25 max **Cu** 1.0-1.5 **Fe** 0.50 max **Mg** 0.45-0.6 **Mn** 0.50 max **Si** 4.5-5.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max. Note: If Fe exceeds 0.45, Mn shall not be less than 0.5 x Fe	**AA** 355.1 **ASTM** B179 (355.1)
A03552	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.0-1.5 **Fe** 0.14-0.25 **Mg** 0.50-0.6 **Mn** 0.05 max **Si** 4.5-5.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 355.2 **ASTM** B179 (355.2)
A03560	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.25 max **Fe** 0.6 max **Mg** 0.20-0.45 **Mn** 0.35 max **Si** 6.5-7.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max. Note: If Fe exceeds 0.45, Mn shall not be less than 0.5 x Fe.	**AA** 356.0 **AMS** 4217; 4260; 4261; 4284; 4285; 4286 **ASME** SFA5.10 (R356.0) **ASTM** B26 (356.0); B108 (356.0); B618 (356.0) **AWS** A5.10 (R356.0) **MIL SPEC** MIL-F-3922; MIL-C-10387; MIL-F-39000 **SAE** J452 (323)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
A03561	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.25 max **Fe** 0.50 max **Mg** 0.25-0.45 **Mn** 0.35 max **Si** 6.5-7.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max. Note: If Fe exceeds 0.45, Mn shall not be less than 0.5 x Fe.	**AA** 356.1 **ASTM** B179 (356.1) **SAE** J452 (323)
A03562	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.13-0.25 **Mg** 0.30-0.45 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 356.2 **ASTM** B179 (356.2)
A03570	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.05 max **Fe** 0.15 max **Mg** 0.45-0.6 **Mn** 0.03 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 357.0 **AMS** 4241; 4246 **ASTM** B108 (357.0)
A03571	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.05 max **Fe** 0.12 max **Mg** 0.45-0.6 **Mn** 0.03 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 357.1 **ASTM** B179 (357.1)
A03580	Aluminum Foundry Alloy	**Al** rem **Be** 0.10-0.30 **Cr** 0.20 max **Cu** 0.20 max **Fe** 0.30 max **Mg** 0.40-0.6 **Mn** 0.20 max **Si** 7.6-8.6 **Ti** 0.10-0.20 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 358.0
A03582	Aluminum Foundry Alloy, Ingot	**Al** rem **Be** 0.15-0.30 **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.20 max **Mg** 0.45-0.6 **Mn** 0.10 max **Si** 7.6-8.6 **Ti** 0.12-0.20 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 358.2
A03590	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 0.20 max **Mg** 0.50-0.7 **Mn** 0.10 max **Si** 8.5-9.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 359.0 **ASTM** B108 (359.0) **MIL SPEC** MIL-A-21180 (359.0)
A03592	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.12 max **Mg** 0.55-0.7 **Mn** 0.10 max **Si** 8.5-9.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 359.2 **ASTM** B179 (359.2)
A03600	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.6 max **Fe** 2.0 max **Mg** 0.40-0.6 **Mn** 0.35 max **Ni** 0.50 max **Si** 9.0-10.0 **Sn** 0.15 max **Zn** 0.50 max **Other** total 0.25 max	**AA** 360.0 **AMS** 4290 **ASTM** B85 (360.0)
A03602	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.7-1.1 **Mg** 0.45-0.6 **Mn** 0.10 max **Ni** 0.10 max **Si** 9.0-10.0 **Sn** 0.10 max **Zn** 0.10 max **Other** total 0.20 max	**AA** 360.2 **ASTM** B179 (360.2)
A03610	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.20-0.30 **Cu** 0.50 max **Fe** 1.1 max **Mg** 0.40-0.6 **Mn** 0.25 max **Ni** 0.20-0.30 **Si** 9.5-10.5 **Sn** 0.10 max **Ti** 0.20 max **Zn** 0.50 max **Other** each 0.05 max, total 0.15 max	**AA** 361.0
A03611	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.20-0.30 **Cu** 0.50 max **Fe** 0.8 max **Mg** 0.45-0.6 **Mn** 0.25 max **Ni** 0.20-0.30 **Si** 9.5-10.5 **Sn** 0.10 max **Ti** 0.20 max **Zn** 0.40 max **Other** each 0.05 max, total 0.15 max	**AA** 361.1
* **A03620**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 0.8-1.2 **Mg** 0.50-0.7 **Mn** 0.50-0.8 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** 362.0

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*A03621	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.20 max **Fe** 0.8-0.9 **Mg** 0.6-0.7 **Mn** 0.50-0.8 **Si** 9.5-10.5 **Ti** 0.20 max **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** 362.1
A03630	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 2.5-3.5 **Fe** 1.1 max **Mg** 0.15-0.40 **Ni** 0.25 max **Pb** 0.25 max **Si** 4.5-6.0 **Sn** 0.25 max **Ti** 0.20 max **Zn** 3.0-4.5 **Other** total 0.30 max, plus Mn+Cr 0.8 max	**AA** 363.0
A03631	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.5-3.5 **Fe** 0.8 max **Mg** 0.20-0.40 **Ni** 0.25 max **Pb** 0.25 max **Si** 4.5-6.0 **Sn** 0.25 max **Ti** 0.20 max **Zn** 3.0-4.5 **Other** total 0.30 max, plus Mn+Cr 0.8 max	**AA** 363.1
A03640	Aluminum Foundry Alloy, Casting	**Al** rem **Be** 0.02-0.04 **Cr** 0.25-0.50 **Cu** 0.20 max **Fe** 1.5 max **Mg** 0.20-0.40 **Mn** 0.10 max **Ni** 0.15 max **Si** 7.5-9.5 **Sn** 0.15 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 364.0
A03642	Aluminum Foundry Alloy, Ingot	**Al** rem **Be** 0.02-0.04 **Cr** 0.25-0.50 **Cu** 0.20 max **Fe** 0.7-1.1 **Mg** 0.25-0.40 **Mn** 0.10 max **Ni** 0.15 max **Si** 7.5-9.5 **Sn** 0.15 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 364.2
A03650	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.03 max **Fe** 0.15 max **Mg** 0.10-0.50 **Mn** 0.50-0.8 **P** 0.001 max **Si** 9.5-11.5 **Sr** 0.010-0.020 **Ti** 0.04-0.15 **Zn** 0.07 max **Other** each 0.03 max, total 0.10 max	**AA** 365.0
A03651	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.03 max **Fe** 0.12 max **Mg** 0.15-0.50 **Mn** 0.50-0.8 **P** 0.001 max **Si** 9.5-11.5 **Sr** 0.010-0.020 **Ti** 0.04-0.15 **Zn** 0.07 max **Other** each 0.03 max, total 0.10 max	**AA** 365.1
A03690	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.30-0.40 **Cu** 0.50 max **Fe** 1.3 max **Mg** 0.25-0.45 **Mn** 0.35 max **Ni** 0.05 max **Si** 11.0-12.0 **Sn** 0.10 max **Zn** 1.0 max **Other** each 0.05 max, total 0.15 max	**AA** 369.0
A03691	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.30-0.40 **Cu** 0.50 max **Fe** 1.0 max **Mg** 0.30-0.45 **Mn** 0.35 max **Ni** 0.05 max **Si** 11.0-12.0 **Sn** 0.10 max **Zn** 0.9 max **Other** each 0.05 max, total 0.15 max	**AA** 369.1
A03800	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 2.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 3.0 max **Other** total 0.50 max	**AA** 380.0 **ASTM** B85 (380.0) **SAE** J452 (308)
A03802	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.7-1.1 **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.10 max **Si** 7.5-9.5 **Sn** 0.10 max **Zn** 0.10 max **Other** total 0.20 max	**AA** 380.2 **ASTM** B179 (380.2)
A03810	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.15 max **Cu** 3.0-4.0 **Fe** 1.3 max **Mg** 0.13 max **Mn** 0.50 max **Pb** 0.15 max **Sb** 0.15 max **Si** 9.0-10.0 **Sn** 0.15 max **Ti** 0.20 max **Zn** 3.0 max **Other** Total 0.50 max	**AA** 381.0
A03812	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.15 max **Cu** 3.0-4.0 **Fe** 0.7-1.0 **Mg** 0.13 max **Mn** 0.50 max **Ni** 0.50 max **Pb** 0.15 max **Sb** 0.15 max **Si** 9.0-10.0 **Sn** 0.15 max **Ti** 0.20 max **Zn** 2.9 max. **Other** total 0.50 max.	**AA** 381.2

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A03830	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 2.0-3.0 **Fe** 1.3 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.30 max **Si** 9.5-11.5 **Sn** 0.15 max **Zn** 3.0 max **Other** total 0.50 max	**AA** 383.0 **ASTM** B85 (383.0) **SAE** J452 (383)
A03831	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.0-3.0 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.30 max **Si** 9.5-11.5 **Sn** 0.15 max **Zn** 2.9 max **Other** total 0.50 max	**AA** 383.1 **ASTM** B179 (383.1) **SAE** J452 (383)
A03832	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.0-3.0 **Fe** 0.6-1.0 **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.10 max **Si** 9.5-11.5 **Sn** 0.10 max **Zn** 0.10 max **Other** total 0.20 max	**AA** 383.2 **ASTM** B179 (383.2)
A03840	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.5 **Fe** 1.3 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 3.0 max **Other** total 0.50 max	**AA** 384.0 **ASTM** B85 (384.0) **SAE** J452 (303)
A03841	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.5 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 2.9 max **Other** total 0.50 max	**AA** 384.1 **ASTM** B179 (384.1) **SAE** J452 (303)
A03842	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.5 **Fe** 0.6-1.0 **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.10 max **Si** 10.5-12.0 **Sn** 0.10 max **Zn** 0.10 max **Other** total 0.20 max	**AA** 384.2 **ASTM** B179 (384.2)
A03850	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 2.0-4.0 **Fe** 2.0 max **Mg** 0.30 max **Mn** 0.50 max **Ni** 0.50 max **Si** 11.0-13.0 **Sn** 0.30 max **Zn** 3.0 max **Other** total 0.50 max	**AA** 385.0
A03851	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.0-4.0 **Fe** 1.1 max **Mg** 0.30 max **Mn** 0.50 max **Ni** 0.50 max **Si** 11.0-13.0 **Sn** 0.30 max **Zn** 2.9 max **Other** total 0.50 max	**AA** 385.1
A03900	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.0-5.0 **Fe** 1.3 max **Mg** 0.45-0.65 **Mn** 0.10 max **Si** 16.0-18.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** 390.0 **ASTM** B85 (390.0)
A03902	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.6-1.0 **Mg** 0.50-0.65 **Mn** 0.10 max **Si** 16.0-18.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** 390.2 **ASTM** B179 (390.2)
A03920	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.40-0.8 **Fe** 1.5 max **Mg** 0.8-1.2 **Mn** 0.20-0.6 **Ni** 0.50 max **Si** 18.0-20.0 **Sn** 0.30 max **Ti** 0.20 max **Zn** 0.50 max **Other** each 0.15 max, total 0.50 max	**AA** 392.0 **ASTM** B85 (392.0)
A03921	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.40-0.8 **Fe** 1.1 max **Mg** 0.9-1.2 **Mn** 0.20-0.6 **Ni** 0.50 max **Si** 18.0-20.0 **Sn** 0.30 max **Ti** 0.20 max **Zn** 0.40 max **Other** each 0.15 max, total 0.50 max	**AA** 392.1 **ASTM** B179 (392.1)
A03930	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.7-1.1 **Fe** 1.3 max **Mg** 0.7-1.3 **Mn** 0.10 max **Ni** 2.0-2.5 **Si** 21.0-23.0 **Ti** 0.10-0.20 **V** 0.08-0.15 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 393.0
A03931	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.7-1.1 **Fe** 1.0 max **Mg** 0.8-1.3 **Mn** 0.10 max **Ni** 2.0-2.5 **Si** 21.0-23.0 **Ti** 0.10-0.20 **V** 0.08-0.15 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 393.1

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A03932	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.7-1.1 **Fe** 0.8 max **Mg** 0.8-1.3 **Mn** 0.10 max **Ni** 2.0-2.5 **Si** 21.0-23.0 **Ti** 0.10-0.20 **V** 0.08-0.15 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 393.2
A04082	Aluminum Foundry Alloy, Ingot (Steel Coating Alloy)	**Al** rem **Cu** 0.10 max **Fe** 0.6-1.3 **Mn** 0.10 max **Si** 8.5-9.5 **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** 408.2
A04092	Aluminum Foundry Alloy, Ingot (Steel Coating Alloy)	**Al** rem **Cu** 0.10 max **Fe** 0.6-1.3 **Mn** 0.10 max **Si** 9.0-10.0 **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** 409.2
A04112	Aluminum Foundry Alloy, Ingot (Steel Coating Alloy)	**Al** rem **Cu** 0.20 max **Fe** 0.6-1.3 **Mn** 0.10 max **Si** 10.0-12.0 **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** 411.2
A04130	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.0 max **Fe** 2.0 max **Mg** 0.10 max **Mn** 0.35 max **Ni** 0.50 max **Si** 11.0-13.0 **Sn** 0.15 max **Zn** 0.50 max **Other** total 0.25 max	**AA** 413.0 **ASTM** B85 (413.0)
A04132	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.7-1.1 **Mg** 0.07 max **Mn** 0.10 max **Ni** 0.10 max **Si** 11.0-13.0 **Sn** 0.10 max **Zn** 0.10 max **Other** total 0.20 max	**AA** 413.2 **ASTM** B179 (413.2)
A04352	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.05 **Fe** 0.40 **Mg** 0.05 **Mn** 0.05 **Si** 3.3-3.9 **Zn** 0.10 **Other** each 0.05, total 0.20	**AA** 435.2
A04430	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.25 max **Cu** 0.6 max **Fe** 0.8 max **Mg** 0.05 max **Mn** 0.50 max **Si** 4.5-6.0 **Ti** 0.25 max **Zn** 0.50 max **Other** total 0.35 max	**AA** 443.0 **ASTM** B26 (443.0); B108 (443.0); B618 (443.0) **SAE** J452 (35)
A04431	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.25 max **Cu** 0.6 max **Fe** 0.6 max **Mg** 0.05 max **Mn** 0.50 max **Si** 4.5-6.0 **Ti** 0.25 max **Zn** 0.50 max **Other** total 0.35 max	**AA** 443.1 **ASTM** B179 (443.1) **SAE** J452 (35)
A04432	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.6 max **Mg** 0.05 max **Mn** 0.10 max **Si** 4.5-6.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 443.2 **ASTM** B179 (443.2)
A04440	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.25 max **Fe** 0.6 max **Mg** 0.10 max **Mn** 0.35 max **Si** 6.5-7.5 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** 444.0
A04442	Aluminum Foundry Alloy, ingot	**Al** rem **Cu** 0.10 max **Fe** 0.13-0.25 **Mg** 0.05 max **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 444.2
A04452	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.6-1.3 **Mn** 0.10 max **Si** 6.5-7.5 **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** 445.2
A05110	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.15 max **Fe** 0.50 max **Mg** 3.5-4.5 **Mn** 0.35 max **Si** 0.30-0.7 **Ti** 0.25 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 511.0
A05111	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.15 max **Fe** 0.40 max **Mg** 3.6-4.5 **Mn** 0.35 max **Si** 0.30-0.7 **Ti** 0.25 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15	**AA** 511.1
A05112	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.30 max **Mg** 3.6-4.5 **Mn** 0.10 max **Si** 0.30-0.7 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 511.2

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A05120	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.25 max **Cu** 0.35 max **Fe** 0.6 max **Mg** 3.5-4.5 **Mn** 0.8 max **Si** 1.4-2.2 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** 512.0 **ASTM** B26
A05122	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.30 max **Mg** 3.6-4.5 **Mn** 0.10 max **Si** 1.4-2.2 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 512.2
A05130	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.10 max **Fe** 0.40 max **Mg** 3.5-4.5 **Mn** 0.30 max **Si** 0.30 max **Ti** 0.20 max **Zn** 1.4-2.2 **Other** each 0.05 max, total 0.15 max	**AA** 513.0 **ASTM** B108 (513.0)
A05132	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.30 max **Mg** 3.6-4.5 **Mn** 0.10 max **Si** 0.30 max **Ti** 0.20 max **Zn** 1.4-2.2 **Other** each 0.05 max, total 0.15 max	**AA** 513.2 **ASTM** B179 (513.2)
A05140	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.15 max **Fe** 0.50 max **Mg** 3.5-4.5 **Mn** 0.35 max **Si** 0.35 max **Ti** 0.25 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 514.0 **ASTM** B26 (514.0); B618 (514.0) **SAE** J452 (320)
A05141	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.15 max **Fe** 0.40 max **Mg** 3.6-4.5 **Mn** 0.35 max **Si** 0.35 max **Ti** 0.25 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 514.1 **ASTM** B179 (514.1) **SAE** J452 (320)
A05142	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.30 max **Mg** 3.6-4.5 **Mn** 0.10 max **Si** 0.30 max **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 514.2 **ASTM** B179 (514.2)
A05150	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 1.3 max **Mg** 2.5-4.0 **Mn** 0.40-0.6 **Si** 0.50-1.0 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 515.0
A05152	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.6-1.0 **Mg** 2.7-4.0 **Mn** 0.40-0.6 **Si** 0.50-1.0 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 515.2
A05160	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.30 **Fe** 0.35-1.0 **Mg** 2.5-4.5 **Mn** 0.15-0.40 **Ni** 0.25-0.40 **Pb** 0.10 max **Si** 0.30-1.5 **Sn** 0.10 max **Ti** 0.10-0.20 **Zn** 0.20 max **Other** each 0.05 max	**AA** 516.0
A05161	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.30 max **Fe** 0.35-0.7 **Mg** 2.6-4.5 **Mn** 0.15-0.40 **Ni** 0.25-0.40 **Pb** 0.10 max **Si** 0.30-1.5 **Sn** 0.10 max **Ti** 0.10-0.20 **Zn** 0.20 max **Other** each 0.05 max	**AA** 516.1
A05180	Aluminum Foundry Alloy, Die Casting	**Al** rem **Cu** 0.25 max **Fe** 1.8 max **Mg** 7.5-8.5 **Mn** 0.35 max **Ni** 0.15 max **Si** 0.35 max **Sn** 0.15 max **Zn** 0.15 max **Other** total 0.25 max	**AA** 518.0 **ASTM** B85 (518.0) **MIL SPEC** MIL-F-3922; MIL-F-39000
A05181	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.25 max **Fe** 1.1 max **Mg** 7.6-8.5 **Mn** 0.35 max **Ni** 0.15 max **Si** 0.35 max **Sn** 0.15 max **Zn** 0.15 max **Other** total 0.25 max	**AA** 518.1 **ASTM** B179 (518.1)
A05182	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.7 max **Mg** 7.6-8.5 **Mn** 0.10 max **Ni** 0.05 max **Si** 0.25 max **Sn** 0.05 max **Other** total 0.10 max	**AA** 518.2 **ASTM** B179 (518.2)
A05200	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.25 max **Fe** 0.30 max **Mg** 9.5-10.6 **Mn** 0.15 max **Si** 0.25 max **Ti** 0.25 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 520.0 **ASTM** B26 (520.0); B618 (520.0) **SAE** J452 (324)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
A05202	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.20 max **Fe** 0.20 max **Mg** 9.6-10.6 **Mn** 0.10 max **Si** 0.15 max **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 520.2 **ASTM** B179 (520.2)
A05350	Aluminum Foundry Alloy, Casting	**Al** rem **B** 0.005 max **Be** 0.003-0.007 **Cu** 0.05 max **Fe** 0.15 max **Mg** 6.2-7.5 **Mn** 0.10-0.25 **Si** 0.15 max **Ti** 0.10-0.25 **Other** each 0.05 max, total 0.15 max	**AA** 535.0 **ASTM** B26 (535.0); B108 (535.0); B618 (535.0)
A05352	Aluminum Foundry Alloy, Ingot	**Al** rem **B** 0.002 max **Be** 0.003-0.007 **Cu** 0.05 max **Fe** 0.10 max **Mg** 6.6-7.5 **Mn** 0.10-0.25 **Si** 0.10 max **Ti** 0.10-0.25 **Other** each 0.05 max, total 0.15 max	**AA** 535.2 **ASTM** B179 (535.2)
A07050	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.20-0.40 **Cu** 0.20 max **Fe** 0.8 max **Mg** 1.4-1.8 **Mn** 0.40-0.6 **Si** 0.20 max **Ti** 0.25 max **Zn** 2.7-3.3 **Other** each 0.05 max, total 0.15 max	**AA** 705.0 **ASTM** B26 (705.0); B108 (705.0); B618 (705.0) **SAE** J452 (311)
A07051	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.20-0.40 **Cu** 0.20 max **Fe** 0.6 max **Mg** 1.5-1.8 **Mn** 0.40-0.6 **Si** 0.20 max **Ti** 0.25 max **Zn** 2.7-3.3 **Other** each 0.05 max, total 0.15 max	**AA** 705.1 **ASTM** B179 (705.1) **SAE** J452 (311)
A07070	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.20-0.40 **Cu** 0.20 max **Fe** 0.8 max **Mg** 1.8-2.4 **Mn** 0.40-0.6 **Si** 0.20 max **Ti** 0.25 max **Zn** 4.0-4.5 **Other** 0.05 max, total 0.15 max	**AA** 707.0 **ASTM** B26 (707.0); B108 (707.0); B618 (707.0) **SAE** J452 (312)
A07071	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.20-0.40 **Cu** 0.20 max **Fe** 0.6 max **Mg** 1.9-2.4 **Mn** 0.40-0.6 **Si** 0.20 max **Ti** 0.25 max **Zn** 4.0-4.5 **Other** each 0.05 max, total 0.15 max	**AA** 707.1 **ASTM** B179 (707.1) **SAE** J452 (312)
A07100	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.35-0.6 **Fe** 0.50 max **Mg** 0.6-0.8 **Mn** 0.05 max **Si** 0.15 max **Ti** 0.25 max **Zn** 6.0-7.0 **Other** each 0.05 max, total 0.15 max	**AA** 710.0 **ASTM** B26 (710.0); B618 (710.0) **SAE** J452 (313)
A07101	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.35-0.6 **Fe** 0.40 max **Mg** 0.65-0.8 **Mn** 0.05 max **Si** 0.15 max **Ti** 0.25 max **Zn** 6.0-7.0 **Other** each 0.05 max, total 0.15 max	**AA** 710.1 **ASTM** B179 (710.1)
A07110	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.35-0.6 **Fe** 0.7-1.4 **Mg** 0.25-0.45 **Mn** 0.05 max **Si** 0.30 max **Ti** 0.20 max **Zn** 6.0-7.0 **Other** each 0.05 max, total 0.15 max	**AA** 711.0 **ASTM** B108 (711.0) **MIL SPEC** MIl-F-3922 (C712.0); MIL-F-39000 (C712.0) **SAE** J452 (314)
A07111	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.35-0.6 **Fe** 0.7-1.1 **Mg** 0.30-0.45 **Mn** 0.05 max **Si** 0.30 max **Ti** 0.20 max **Zn** 6.0-7.0 **Other** each 0.05 max, total 0.15 max	**AA** 711.1 **ASTM** B179 (711.1)
A07120	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.40-0.6 **Cu** 0.25 max **Fe** 0.50 max **Mg** 0.50-0.65 **Mn** 0.10 max **Si** 0.30 max **Ti** 0.15-0.25 **Zn** 5.0-6.5 **Other** each 0.05 max, total 0.20 max	**AA** 712.0 **ASTM** B26 (D712.0); B618 (712.0) **MIL SPEC** MIL-F-3922 (D712.0); MIL-F-39000 (D712.0) **SAE** J452 (310)
A07122	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.40-0.6 **Cu** 0.25 max **Fe** 0.40 max **Mg** 0.50-0.65 **Mn** 0.10 max **Si** 0.15 max **Ti** 0.15-0.25 **Zn** 5.0-6.5 **Other** each 0.05 max, total 0.20 max	**AA** 712.2 **ASTM** B179 (712.2)
A07130	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.35 max **Cu** 0.40-1.0 **Fe** 1.1 max **Mg** 0.20-0.50 **Mn** 0.6 max **Ni** 0.15 max **Si** 0.25 max **Ti** 0.25 max **Zn** 7.0-8.0 **Other** each 0.10 max, total 0.25 max	**AA** 713.0 **ASTM** B26 (713.0); B108 (713.0); B618 (713.0) **SAE** J452 (315)
A07131	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.35 max **Cu** 0.40-1.0 **Fe** 0.8 max **Mg** 0.25-0.50 **Mn** 0.6 max **Ni** 0.15 max **Si** 0.25 max **Ti** 0.25 max **Zn** 7.0-8.0 **Other** each 0.10 max, total 0.25 max	**AA** 713.1 **ASTM** B179 (713.1) **SAE** J452 (315)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
A07710	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.06-0.20 **Cu** 0.10 max **Fe** 0.15 max **Mg** 0.8-1.0 **Mn** 0.10 max **Si** 0.15 max **Ti** 0.10-0.20 **Zn** 6.5-7.5 **Other** each 0.05 max, total 0.15 max	**AA** 771.0 **ASTM** B26 (771.0); B618 (771.0)
A07712	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.06-0.20 **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.85-1.0 **Mn** 0.10 max **Si** 0.10 max **Ti** 0.10-0.20 **Zn** 6.5-7.5 **Other** each 0.05 max, total 0.15 max	**AA** 771.2 **ASTM** B179 (771.2)
A07720	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.06-0.20 **Cu** 0.10 max **Fe** 0.15 max **Mg** 0.6-0.8 **Mn** 0.10 max **Si** 0.15 max **Ti** 0.10-0.20 **Zn** 6.0-7.0 **Other** each 0.05 max, total 0.15 max	**AA** 772.0
A07722	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.06-0.20 **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.65-0.8 **Mn** 0.10 max **Si** 0.10 max **Ti** 0.10-0.20 **Zn** 6.0-7.0 **Other** each 0.05 max, total 0.15 max	**AA** 772.2
A08500	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.7-1.3 **Fe** 0.7 max **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.7-1.3 **Si** 0.7 max **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 850.0 **ASTM** B26 (850.0); B108 (850.0); B618 (850.0)
A08501	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.7-1.3 **Fe** 0.50 max **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.7-1.3 **Si** 0.7 max **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 850.1 **ASTM** B179 (850.1)
A08510	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.7-1.3 **Fe** 0.7 max **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.30-0.7 **Si** 2.0-3.0 **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 851.0 **ASTM** B26 (851.0); B108 (851.0); B618 (851.0)
A08511	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.7-1.3 **Fe** 0.50 max **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.30-0.7 **Si** 2.0-3.0 **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 851.1 **ASTM** B179 (851.1)
A08520	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.7-2.3 **Fe** 0.7 max **Mg** 0.6-0.9 **Mn** 0.10 max **Ni** 0.9-1.5 **Si** 0.40 max **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 852.0 **ASTM** B26 (B852.0); B108 (852.0); B618 (852.0)
A08521	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.7-2.3 **Fe** 0.50 max **Mg** 0.7-0.9 **Mn** 0.10 max **Ni** 0.9-1.5 **Si** 0.40 max **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 852.1 **ASTM** B179 (852.1)
A08530	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 0.7 max **Mn** 0.50 max **Si** 5.5-6.5 **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 853.0
A08532	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.50 max **Mn** 0.10 max **Si** 5.5-6.5 **Sn** 5.5-7.0 **Ti** 0.20 max **Other** total 0.30 max	**AA** 853.2
A12010	Aluminum Foundry Alloy, Casting	**Ag** 0.40-1.0 **Al** rem **Cu** 4.0-5.0 **Fe** 0.10 max **Mg** 0.15-0.35 **Mn** 0.20-0.40 **Si** 0.05 max **Ti** 0.15-0.35 **Other** each 0.03 max, total 0.10 max	**AA** A201.0 **AMS** 4223; 4229 **ASTM** B686 (A201.0) **MIL SPEC** MIL-A-21180 (A210.0)
A12011	Aluminum Foundry Alloy, Ingot	**Ag** 0.40-1.0 **Al** rem **Cu** 4.0-5.0 **Fe** 0.07 max **Mg** 0.20-0.35 **Mn** 0.20-0.40 **Si** 0.05 max **Ti** 0.15-0.35 **Other** each 0.03 max, total 0.10 max	**AA** A201.1
* **A12012**	Replaced by A12011		
A12060	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.2-5.0 **Fe** 0.10 max **Mg** 0.15-0.35 **Mn** 0.20-0.50 **Ni** 0.05 max **Si** 0.05 max **Sn** 0.05 max **Ti** 0.15-0.30 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A206.0 **AMS** 4235; 4236

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A12062	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.2-5.0 **Fe** 0.07 max **Mg** 0.20-0.35 **Mn** 0.20-0.50 **Ni** 0.03 max **Si** 0.05 max **Sn** 0.05 max **Ti** 0.15-0.25 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** A206.2
A12400	Aluminum Foundry Alloy, Casting replaced by A02400		
A12401	Aluminum Foundry Alloy, Ingot replaced by A02401		
A12420	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.15-0.25 **Cu** 3.7-4.5 **Fe** 0.8 max **Mg** 1.2-1.7 **Mn** 0.10 max **Ni** 1.8-2.3 **Si** 0.6 max **Ti** 0.07-0.20 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A242.0 **ASTM** B26 (A242.0)
A12421	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.15-0.25 **Cu** 3.7-4.5 **Fe** 0.6 max **Mg** 1.3-1.7 **Mn** 0.10 max **Ni** 1.8-2.3 **Si** 0.6 max **Ti** 0.07-0.20 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A242.1 **ASTM** B179 (A242.1)
A12422	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.15-0.25 **Cu** 3.7-4.5 **Fe** 0.6 max **Mg** 1.3-1.7 **Mn** 0.10 max **Ni** 1.8-2.3 **Si** 0.35 max **Ti** 0.07-0.20 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A242.2 **ASTM** B179 (A242.2)
* **A13050**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.0-1.5 **Fe** 0.20 max **Mg** 0.10 max **Mn** 0.10 max **Si** 4.5-5.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A305.0
* **A13051**	Aluminum Foundry Alloy, Ingot	**Ag** 4.5-5.5 **Al** rem **Cu** 1.0-1.5 **Fe** 0.15 max **Mn** 0.05 max **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** A305.1
* **A13052**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.0-1.5 **Fe** 0.13 max **Mn** 0.05 max **Si** 4.5-5.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** A305.2
A13190	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.35 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 3.0 max **Other** total 0.50 max	**AA** A319.0
A13191	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.8 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.35 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 3.0 max **Other** total 0.50 max	**AA** A319.1
A13320	Aluminum Foundry Alloy, Casting replaced by A03360		
A13321	Aluminum Foundry Alloy, Ingot replaced by A03361		
A13322	Aluminum Foundry Alloy, Ingot replaced by A03362		
A13330	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.05-0.50 **Mn** 0.50 max **Ni** 0.50 max **Si** 8.0-10.0 **Ti** 0.25 max **Zn** 3.0 max **Other** total 0.50 max	**AA** A333.0

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A13331	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.8 max **Mg** 0.10-0.50 **Mn** 0.50 *max* **Ni** 0.50 *max* **Si** 8.0-10.0 **Ti** 0.25 max **Zn** 3.0 max **Other** total 0.50 max	**AA** A333.1
A13550	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.0-1.5 **Fe** 0.09 max **Mg** 0.45-0.6 **Mn** 0.05 max **Si** 4.5-5.5 **Ti** 0.04-0.20 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** A355.0
A13552	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.0-1.5 **Fe** 0.06 max **Mg** 0.50-0.6 **Mn** 0.03 max **Si** 4.5-5.5 **Ti** 0.04-0.20 **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** A355.2
A13560	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 0.20 max **Mg** 0.25-0.45 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A356.0 **AMS** 4218 **ASTM** B26 (A356.0); B108 (A356.0); B618 (A356.0); B686 (A356.0) **MIL SPEC** MIL-A-21180 (356.0) **SAE** J452 (336)
A13561	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.25 max **Fe** 0.15 max **Mg** 0.30-0.45 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A356.1
A13562	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.12 max **Mg** 0.30-0.45 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.20 *max* **Zn** 0.05 *max* **Other** *each* 0.05 max, total 0.15 max	**AA** A356.2 **ASTM** B179 (A356.2)
A13570	Aluminum Foundry Alloy, Casting	**Al** rem **Be** 0.04-0.07 **Cu** 0.20 max **Fe** 0.20 max **Mg** 0.40-0.7 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A357.0 **AMS** 4219 **ASTM** B108 (A357.0); B686 (A357.0) **MIL SPEC** MIL-A-21180 (A357.0)
A13572	Aluminum Foundry Alloy, Ingot	**Al** rem **Be** 0.04-0.07 **Cu** 0.10 max **Fe** 0.12 max **Mg** 0.45-0.7 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** A357.2 **ASTM** B179 (A357.2)
A13590	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 0.25 max **Mg** 0.40-0.6 **Mn** 0.10 max **Si** 8.5-9.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** A359.0
A13591	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.20 max **Fe** 0.20 max **Mg** 0.45-0.6 **Mn** 0.10 max **Si** 8.5-9.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** A359.1
A13600	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.6 max **Fe** 1.3 max **Mg** 0.40-0.6 **Mn** 0.35 max **Ni** 0.50 max **Si** 9.0-10.0 **Sn** 0.15 max **Zn** 0.50 max **Other** total 0.25 max	**AA** A360.0 **AMS** 4290 **ASTM** B85 (A360.0) **MIL SPEC** MIL-F-3922; MIL-F-39000 **SAE** J452 (309)
A13601	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.6 max **Fe** 1.0 max **Mg** 0.45-0.6 **Mn** 0.35 max **Ni** 0.50 max **Si** 9.0-10.0 **Sn** 0.15 max **Zn** 0.40 max **Other** total 0.25 max	**AA** A360.1 **ASTM** B179 (A360.1) **SAE** J452 (309)
A13602	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.6 max **Mg** 0.45-0.6 **Mn** 0.05 max **Si** 9.0-10.0 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** A360.2 **ASTM** B179 (A360.2)
A13800	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.3 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 3.0 max **Other** total 0.50 max	**AA** A380.0 **AMS** 4291 **ASTM** B85 (A380.0) **SAE** J452 (306)
A13801	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 2.9 max **Other** total 0.50 max	**AA** A380.1 **ASTM** B179 (A380.1) **SAE** J452 (306)

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A13802	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.6 max **Mg** 0.10 max **Mn** 0.10 max **Ni** 0.10 max **Si** 7.5-9.5 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A380.2 **ASTM** B179 (A380.2)
A13830	Aluminum Foundry Alloy, Die Casting	**Al** rem **Cu** 2.0-3.0 **Fe** 1.3 max **Mg** 0.10-0.30 **Mn** 0.50 max **Ni** 0.30 max **Si** 9.5-11.5 **Sn** 0.15 max **Zn** 3.0 max **Other** 0.50 total max	**AA** A383.0
A13831	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 2.0-3.0 **Fe** 1.0 max **Mg** 0.15-0.30 **Mn** 0.50 max **Ni** 0.30 max **Si** 9.5-11.5 **Sn** 0.15 max **Zn** 2.9 max **Other** 0.50 total max	**AA** A383.1
A13840	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.5 **Fe** 1.3 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 1.0 max **Other** total 0.50 max	**AA** A384.0
A13841	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.5 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 0.9 max **Other** total 0.50 max	**AA** A384.1
A13900	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.0-5.0 **Fe** 0.50 max **Mg** 0.45-0.65 **Mn** 0.10 max **Si** 16.0-18.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** A390.0
A13901	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 0.40 max **Mg** 0.50-0.65 **Mn** 0.10 max **Si** 16.0-18.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.10 max, total 0.20 max	**AA** A390.1
A14130	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.0 max **Fe** 1.3 max **Mg** 0.10 max **Mn** 0.35 max **Ni** 0.50 max **Si** 11.0-13.0 **Sn** 0.15 max **Zn** 0.50 max **Other** total 0.25 max	**AA** A413.0 **ASTM** B85 (A413.0) **SAE** J452 (305)
A14131	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.0 max **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.35 max **Ni** 0.50 max **Si** 11.0-13.0 **Sn** 0.15 max **Zn** 0.40 max **Other** total 0.25 max	**AA** A413.1 **ASTM** B179 (A413.1) **SAE** J452 (305)
A14132	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.6 max **Mg** 0.05 max **Mn** 0.05 max **Ni** 0.05 max **Si** 11.0-13.0 **Sn** 0.05 max **Zn** 0.05 max **Other** total 0.10 max	**AA** A413.2 **ASTM** B179 (A413.2)
A14430	Aluminum Foundry Alloy, Casting	**Al** rem **Cr** 0.25 max **Cu** 0.30 max **Fe** 0.8 max **Mg** 0.05 max **Mn** 0.50 max **Si** 4.5-6.0 **Ti** 0.25 max **Zn** 0.50 max **Other** total 0.35 max	**AA** A443.0
A14431	Aluminum Foundry Alloy, Ingot	**Al** rem **Cr** 0.25 max **Cu** 0.30 max **Fe** 0.6 max **Mg** 0.05 max **Mn** 0.50 max **Si** 4.5-6.0 **Ti** 0.25 max **Zn** 0.50 max **Other** total 0.35 max	**AA** A443.1
A14440	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.10 max **Fe** 0.20 max **Mg** 0.05 max **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A444.0 **ASTM** B108 (A444.0)
A14441	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.15 max **Mg** 0.05 max **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** A444.1
A14442	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.05 max **Fe** 0.12 max **Mg** 0.05 max **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** A444.2 **ASTM** B179 (A444.2)
A15140	Aluminum Foundry Alloy, Casting replaced by A05130		

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
A15142	Aluminum Foundry Alloy, Ingot replaced by A05132		
A15350	Aluminum Foundry Alloy, Sand Castings	**Al** rem **Cu** 0.10 max **Fe** 0.20 max **Mg** 6.5-7.5 **Mn** 0.10-0.25 **Si** 0.20 max **Ti** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** A535.0
A15351	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.15 max **Mg** 6.6-7.5 **Mn** 0.10-0.25 **Si** 0.20 max **Ti** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** A535.1
A17120	Aluminum Foundry Alloy, Casting replaced by A07100		
A17121	Aluminum Foundry Alloy, Ingot replaced by A07101		
A18500	Aluminum Foundry Alloy, Casting replaced by A08510		
A18501	Aluminum Foundry Alloy, Ingot replaced by A08511		
A22010	Aluminum Foundry Alloy, Casting	**Ag** 0.50-1.0 **Al** rem **Cu** 4.5-5.0 **Fe** 0.05 max **Mg** 0.25-0.35 **Mn** 0.20-0.50 **Si** 0.05 max **Ti** 0.15-0.35 **Other** each 0.05 max, total 0.15 max	**AA** B201.0
A22950	Aluminum Foundry Alloy, Casting replaced by A02960		
A22951	Aluminum Foundry Alloy, Ingot replaced by A02961		
A22952	Aluminum Foundry Alloy, Ingot replaced by A02962		
A23190	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.2 max **Mg** 0.10-0.50 **Mn** 0.8 max **Ni** 0.50 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** B319.0 **SAE** J452 (329)
A23191	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 0.9 max **Mg** 0.15-0.50 **Mn** 0.8 max **Ni** 0.50 max **Si** 5.5-6.5 **Ti** 0.25 max **Zn** 1.0 max **Other** total 0.50 max	**AA** B319.1 **SAE** J452 (329)
A23560	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.05 max **Fe** 0.09 max **Mg** 0.25-0.45 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.05 max **Other** each 0.05, total 0.15	**AA** B356.0
A23562	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.03 max **Fe** 0.06 max **Mg** 0.30-0.45 **Mn** 0.03 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.03 max **Other** each 0.03, total 0.10	**AA** B356.2
A23570	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.05 max **Fe** 0.09 max **Mg** 0.40-0.6 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** A357.0; B357.0
A23572	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.03 max **Fe** 0.06 max **Mg** 0.45-0.6 **Mn** 0.03 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** B357.2
A23580	Aluminum Foundry Alloy, Casting replaced by A03580		
A23582	Aluminum Foundry Alloy, Ingot replaced by A03582		
A23800	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.3 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 1.0 max **Other** total 0.50 max	**AA** B380.0

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A23801	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 0.9 max **Other** total 0.50 max	**AA** B380.1
A23840	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 3.0-4.5 **Fe** 1.3 max **Mg** 0.10-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 1.0 max **Other** total 0.50 max	**AA** B384.0
A23841	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.5 **Fe** 1.0 max **Mg** 0.15-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 0.9 max **Other** 0.50 max total	**AA** B384.1
A23900	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 4.0-5.0 **Fe** 1.3 max **Mg** 0.45-0.65 **Mn** 0.50 max **Ni** 0.10 max **Si** 16.0-18.0 **Ti** 0.20 max **Zn** 1.5 max **Other** each 0.10 max, total 0.20 max	**AA** B390.0 **ASTM** B85 (B390.0)
A23901	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 4.0-5.0 **Fe** 1.0 max **Mg** 0.50-0.65 **Mn** 0.50 max **Ni** 0.10 max **Si** 16.0-18.0 **Ti** 0.20 max **Zn** 1.4 max **Other** each 0.10 max, total 0.20 max	**AA** B390.1 **ASTM** B179 (392.1)
A24130	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.05 max **Mn** 0.35 max **Ni** 0.05 max **Si** 11.0-13.0 **Ti** 0.25 max **Zn** 0.10 max **Other** each 0.05 max, total 0.20 max	**AA** B413.0
A24131	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.40 max **Mg** 0.05 max **Mn** 0.35 max **Ni** 0.05 max **Si** 11.0-13.0 **Ti** 0.25 max **Zn** 0.10 max **Other** each 0.05 max, total 0.20 max	**AA** B413.1
A24430	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.15 max **Fe** 0.8 max **Mg** 0.05 max **Mn** 0.35 max **Si** 4.5-6.0 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** B443.0 **ASTM** B26 (B443.0); B108 (B443.0); B618 (B443.0)
A24431	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.15 max **Fe** 0.6 max **Mg** 0.05 max **Mn** 0.35 max **Si** 4.5-6.0 **Ti** 0.25 max **Zn** 0.35 max **Other** each 0.05 max, total 0.15 max	**AA** B443.1 **ASTM** B179 (B443.1)
A24442	Aluminum Foundry Alloy, Ingot (Steel Coating Alloy) replaced by A04452		
A25140	Aluminum Foundry Alloy, Casting replaced by A05120		
A25142	Aluminum Foundry Alloy, Ingot replaced by A05122		
A25350	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.10 max **Fe** 0.15 max **Mg** 6.5-7.5 **Mn** 0.05 max **Si** 0.15 max **Ti** 0.10-0.25 **Other** each 0.05 max, total 0.15 max	**AA** B535.0
A25352	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.05 max **Fe** 0.12 max **Mg** 6.6-7.5 **Mn** 0.05 max **Si** 0.10 max **Ti** 0.10-0.25 **Other** each 0.05 max, total 0.15 max	**AA** B535.2
A27710	Aluminum Foundry Alloy, Casting replaced by A07720		
A27712	Aluminum Foundry Alloy, Ingot replaced by A07722		
A28500	Aluminum Foundry Alloy, Casting replaced by A08520		
A28501	Aluminum Foundry Alloy, Ingot replaced by A08521		

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A33550	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 1.0-1.5 **Fe** 0.20 max **Mg** 0.40-0.6 **Mn** 0.10 max **Si** 4.5-5.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** C355.0 **AMS** 4215 **ASTM** B26 (C355.0); B108 (C355.0); B618 (C355.0); B686 (C355.0) **MIL SPEC** MIL-A-21180 (C355.0) **SAE** J452 (335)
A33551	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.0-1.5 **Fe** 0.15 max **Mg** 0.45-0.6 **Mn** 0.10 max **Si** 4.5-5.5 **Ti** 0.20 max **Zr** 0.10 max **Other** each 0.05 max, total 0.15 max.	**AA** C355.1
A33552	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 1.0-1.5 **Fe** 0.13 max **Mg** 0.50-0.6 **Mn** 0.05 max **Si** 4.5-5.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** C355.2 **ASTM** B179 (C355.2)
A33560	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.05 max **Fe** 0.07 max **Mg** 0.25-0.45 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** C356.0
A33562	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.03 max **Fe** 0.04 max **Mg** 0.30-0.45 **Mn** 0.03 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** C356.2
A33570	Aluminum Foundry Alloy, Casting	**Al** rem **Be** 0.04-0.07 **Cu** 0.05 max **Fe** 0.09 max **Mg** 0.45-0.7 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** C357.0
A33572	Aluminum Foundry Alloy, Ingot	**Al** rem **Be** 0.04-0.07 **Cu** 0.03 max **Fe** 0.06 max **Mg** 0.50-0.7 **Mn** 0.03 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** C357.2
A33800	Aluminum Foundry Alloy, Die Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.3 max **Mg** 0.10-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 3.0 max **Other** 0.50 total max	**AA** C380.0
A33801	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.15-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 2.9 max **Other** 0.50 total max	**AA** C380.1
A33840	Aluminum Foundry Alloy, Die Casting	**Al** rem **Cu** 3.0-4.5 **Fe** 1.3 max **Mg** 0.10-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 3.0 max **Other** 0.50 total max	**AA** C384.0
A33841	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.5 **Fe** 1.0 max **Mg** 0.15-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 10.5-12.0 **Sn** 0.35 max **Zn** 2.9 max **Other** 0.50 total max	**AA** C384.1
A34430	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.6 max **Fe** 2.0 max **Mg** 0.10 max **Mn** 0.35 max **Ni** 0.50 max **Si** 4.5-6.0 **Sn** 0.15 max **Zn** 0.50 max **Other** total 0.25 max	**AA** C443.0 **ASTM** B85 (C443.0) **SAE** J452 (304)
A34431	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.6 max **Fe** 1.1 max **Mg** 0.10 max **Mn** 0.35 max **Ni** 0.50 max **Si** 4.5-6.0 **Sn** 0.15 max **Zn** 0.40 max **Other** total 0.25 max	**AA** C443.1 **ASTM** B179 (C443.1)
A34432	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.7-1.1 **Mg** 0.05 max **Mn** 0.10 max **Si** 4.5-6.0 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** C443.2 **ASTM** B179 (C443.2)
A37120	Aluminum Foundry Alloy, Casting replaced by A07110		
A37121	Aluminum Foundry Alloy, Ingot replaced by A07111		

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* **A43560**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 0.15 max **Mg** 0.30-0.45 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** D356.0
* **A43561**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.20 max **Fe** 0.12 max **Mg** 0.35-0.45 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** D356.1
A43570	Aluminum Foundry Alloy, Casting	**Al** rem **Be** 0.04-0.07 **Fe** 0.20 max **Mg** 0.55-0.6 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.10-0.20 **Other** each 0.05 max, total 0.15 max	**AA** D357.0 **AMS** 4249
A43800	Aluminum Foundry Alloy, Die Casting	**Al** rem **Cu** 3.0-4.0 **Fe** 1.3 max **Mg** 0.10-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 1.0 max **Other** 0.50 total max	**AA** D380.0
A43801	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 3.0-4.0 **Fe** 1.0 max **Mg** 0.15-0.30 **Mn** 0.50 max **Ni** 0.50 max **Si** 7.5-9.5 **Sn** 0.35 max **Zn** 0.9 max **Other** 0.50 total max	**AA** D380.1
A47120	Aluminum Foundry Alloy, Casting replaced by A07120		
A47122	Aluminum Foundry Alloy, Ingot replaced by A07122		
* **A53570**	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.45-0.6 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** E357.0
* **A53571**	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.07 max **Mg** 0.50-0.6 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** E357.1
A63320	Aluminum Foundry Alloy, Casting replaced by A03320		
A63321	Aluminum Foundry Alloy, Ingot replaced by A03321		
A63322	Aluminum Foundry Alloy, Ingot replaced by A03322		
A63560	Aluminum Foundry Alloy, Casting	**Al** rem **Cu** 0.20 max **Fe** 0.20 max **Mg** 0.17-0.25 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** F356.0
A63562	Aluminum Foundry Alloy, Ingot	**Al** rem **Cu** 0.10 max **Fe** 0.12 max **Mg** 0.17-0.25 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.04-0.20 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** F356.2
A65140	Aluminum Foundry Alloy, Casting replaced by A05110		
A65141	Aluminum Foundry Alloy, Ingot replaced by A05111		
A65142	Aluminum Foundry Alloy, Ingot replaced by A05112		

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A82004	Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A92004 **Cladding** Alloy A91070	**AA** Alclad 2004 **AMS** 4209 **MAM** 4209
A71001	Aluminum Metal Matrix Composite, Non-heat Treatable (Thermal Spray Wire)	**Al** 88.0-92.0 (of A91060) **Other** Al2O3 particles 8.0-12.0	**AA** 1060/Al2O3/10p **AWS** A5.33 (W-Al-Al2O3)
A82014	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A92014 **Cladding** Alloy A96003	**AA** Alclad 2014 **ASTM** B209 (Alclad 2014) **FED** QQ-A-250/3
A82024	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A92024 **Cladding** Alloy A91230	**AA** Alclad 2024; 1-1/2% Alclad 2024; Alclad One Side 2024; 1-1/2% Alclad One Side 2024 **AMS** 4036; 4040; 4041; 4077; 4194; 4195; 4274; 4279 **ASTM** B209 (Alclad 2024) **FED** QQ-A-250/5
A82219	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A92219 **Cladding** Alloy A97072	**AA** Alclad 2219 **AMS** 4094; 4095; 4096 **ASTM** B209 (Alclad 2219)
A83003	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Non-Heat Treatable	**Core** Alloy A93003 **Cladding** Alloy A94343	**AA** No. 7 Brazing Sheet; No. 8 Brazing Sheet; No. 11 Brazing Sheet; No. 12 Brazing Sheet; Alclad 3003 **AMS** 4063; 4064 **ASTM** B361 (Alclad 3003); B548 (Alclad 3003) **AWS** B2.2
A86061	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A96061 **Cladding** Alloy A97072	**AA** Alclad 6061 **AMS** 4021 **ASME** SB209 **ASTM** B209 (Alclad 6061); B548 (6061)
A86951	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A96951 **Cladding** Alloy A94343	**AA** Alclad 6951; No. 13 Brazing Sheet; No. 14 Brazing Sheet; No. 21 Brazing Sheet; No. 22 Brazing Sheet; No. 23 Brazing Sheet; No. 24 Brazing Sheet; No. 33 Brazing Sheet; No. 34 Brazing Sheet; No. 44 Brazing Sheet **AMS** 4255; 4256
A87050	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A97050 **Cladding** Alloy A97072	**AA** Alclad 7050; 7050A **AMS** 4243; 4255; 4256
A87075	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A97075 **Cladding** Alloy A97072 or A97011	**AA** Alclad 7075; 2-1/2% Alclad 7075; Alclad One Side 7075; 2-1/2% Alclad One Side 7075 **AMS** 4046; 4048; 4278 **ASTM** B209 (Alclad 7075) **FED** QQ-A-250/13, /18, /25, /26
* **A87079**	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A97079 **Cladding** Alloy A97072	**AA** Alclad 7079
A87178	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A97178 **Cladding** Alloy A97072	**AA** Alclad 7178 **ASTM** B209 (Alclad 7178) **FED** QQ-A-250/15, /28
A87475	Wrought Aluminum Alloy Clad with Wrought Aluminum Alloy, Heat Treatable	**Core** Alloy A97475 **Cladding** Alloy A97072	**AA** Alclad 7475 **AMS** 4207; 4100
* **A91030**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.30 min **Cu** 0.10 max **Fe** 0.6 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.35 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.10 max **Other** each 0.03 max	**AA** 1030
A91035	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.35 min **Cu** 0.10 max **Fe** 0.6 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.35 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.10 max **Other** each 0.03 max	**AA** 1035
A91040	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.40 min **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.30 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.10 max **Other** each 0.03 max	**AA** 1040
A91045	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.45 min **Cu** 0.10 max **Fe** 0.45 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.30 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max	**AA** 1045

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A91050	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.50 min **Cu** 0.05 max **Fe** 0.40 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.25 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max	**AA** 1050; 1050A **ASTM** B491 (1050)
* **A91055**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.55 min **Cu** 0.05 max **Fe** 0.40 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.25 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max	**AA** 1055
A91060	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.60 min **Cu** 0.05 max **Fe** 0.35 max **Mg** 0.03 max **Mn** 0.03 max **Si** 0.25 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max (Be 0.0008 max for welding electrode and filler metal only)	**AA** 1060 **ASTM** B209 (1060); B210 (1060); B211 (1060); B221 (1060); B234 (1060); B241 (1060); B345 (1060); B361 (1060); B404 (1060); B483 (1060); B548 (1060) **SAE** J454 (1060)
A91065	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.65 min **Cu** 0.05 max **Fe** 0.30 max **Mg** 0.03 max **Mn** 0.03 max **Si** 0.25 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max	**AA** 1065
A91070	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.70 min **Cu** 0.04 max **Fe** 0.25 max **Mg** 0.03 max **Mn** 0.03 max **Si** 0.20 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.04 max **Other** each 0.03 max	**AA** 1070; 1070A
* **A91075**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.75 min **Cu** 0.04 max **Fe** 0.20 max **Mg** 0.03 max **Mn** 0.03 max **Si** 0.20 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.04 max **Other** each 0.03 max	**AA** 1075
A91080	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.80 min **Cu** 0.03 max **Fe** 0.15 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.02 max **Si** 0.15 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.03 max **Other** each 0.02 max	**AA** 1080; 1080A
A91085	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.85 min **Cu** 0.03 max **Fe** 0.12 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.02 max **Si** 0.10 max **Ti** 0.02 max **V** 0.05 max **Zn** 0.03 max **Other** each 0.01 max	**AA** 1085
A91090	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.90 min **Cu** 0.02 max **Fe** 0.07 max **Ga** 0.03 max **Mg** 0.01 max **Mn** 0.01 max **Si** 0.07 max **Ti** 0.01 max **V** 0.05 max **Zn** 0.03 max **Other** each 0.01 max	**AA** 1090
* **A91095**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.95 min **Cu** 0.010 max **Fe** 0.040 max **Mg** 0.010 max **Mn** 0.010 max **Si** 0.030 max **Ti** 0.005 max **Zn** 0.010 max **Other** each 0.005 max	**AA** 1095
A91098	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.98 min **Cu** 0.003 max **Fe** 0.006 max **Si** 0.010 max **Ti** 0.003 max **Zn** 0.015 max **Other** 0.003 max each	**AA** 1098
A91100	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.00 min **Cu** 0.05-0.20 **Mn** 0.05 max **Zn** 0.10 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max, Fe & Si 0.95 max	**AA** 1100 **AMS** 4001; 4003; 4062; 4102; 4180 **ASME** SFA5.3 (E1100); SFA5.10 (ER1100) **ASTM** B209 (1100); B210 (1100); B211 (1100); B221 (1100); B241 (1100); B247 (1100); B313 (1100); B316 (1100); B361 (1100); B479 (1100); B483 (1100); B491 (1100); B547 (1100); B548 (1100) **AWS** A5.3 (E1100); A5.10 (ER1100); A5.33 (W-Al-1100) **FED** QQ-A-225/1; QQ-A-250/1; QQ-A-430; QQ-A-1876; WW-T-700/1 **MIL SPEC** MIL-W-85; MIL-W-6712; MIL-A-12545; MIL-S-24149/5; MIL-C-26094; MIL-I-23413 (MIL-1100) **SAE** AS 7220 (1100); J454 (1100)

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A91110	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.10 min **B** 0.02 max **Cr** 0.01 max **Cu** 0.04 max **Fe** 0.8 max **Mg** 0.25 max **Mn** 0.01 max **Si** 0.30 max **Other** each 0.03 max, Ti + V 0.03 max	**AA** 1110
A91120	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.20 min **B** 0.05 max **Cr** 0.01 max **Cu** 0.05-0.35 **Fe** 0.40 max **Ga** 0.03 max **Mg** 0.20 max **Mn** 0.01 max **Si** 0.10 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max, Ti+V 0.02 max	**AA** 1120
* **A91135**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.35 min **Cu** 0.05-0.20 **Mg** 0.05 max **Mn** 0.04 max **Ti** 0.03 max **Zn** 0.10 max **Other** each 0.03 max, Fe+Si 0.60 max	**AA** 1135
A91145	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.45 min **Cu** 0.05 max **Mg** 0.05 max **Mn** 0.05 max **Ti** 0.03 max **Zn** 0.05 max **Other** each 0.03 max, Fe+Si 0.55 max	**AA** 1145 **AMS** 4011 **ASTM** B373 (1145); B479 (1145) **FED** QQ-A-1876
A91150	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.50 min **Cu** 0.05-0.20 **Mg** 0.05 max **Mn** 0.05 max **Ti** 0.03 max **Zn** 0.05 max **Other** 0.03 max each, Fe+Si 0.45 max	**AA** 1150
* **A91170**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.70 min **Cr** 0.03 max **Cu** 0.03 max **Mg** 0.02 max **Mn** 0.03 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.04 max **Other** each 0.03 max, Fe+Si 0.30 max	**AA** 1170
* **A91175**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.75 min **Cu** 0.10 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.02 max **Ti** 0.02 max **V** 0.05 max **Zn** 0.03 max **Other** each 0.02 max, Fe+Si 0.15 max	**AA** 1175
* **A91180**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.80 min **Cu** 0.01 max **Fe** 0.09 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.02 max **Si** 0.09 max **Ti** 0.02 max **V** 0.03 max **Zn** 0.03 max **Other** each 0.02 max	**AA** 1180
A91185	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.85 min **Cu** 0.01 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.02 max **V** 0.05 max **Zn** 0.03 max **Other** each 0.01 max, Fe+Si 0.15 max	**AA** 1185
A91188	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.88 min **Cu** 0.005 max **Fe** 0.06 max **Ga** 0.03 max **Mg** 0.01 max **Mn** 0.01 max **Si** 0.06 max **Ti** 0.01 max **V** 0.05 max **Zn** 0.03 max **Other** each 0.01 max (Be 0.0008 max for welding electrode and filler wire only)	**AA** 1188 **ASME** SFA5.10 (ER1188) **AWS** A5.10 (ER1188)
A91190	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.90 min **B** 0.01 max **Cr** 0.01 max **Cu** 0.01 max **Fe** 0.07 max **Ga** 0.02 max **Mg** 0.01 max **Mn** 0.01 max **Si** 0.05 max **Zn** 0.02 max **Other** each 0.01 max, Ti+V 0.01 max	**AA** 1190
A91193	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.93 min **Cu** 0.006 max **Fe** 0.04 max **Ga** 0.03 max **Si** 0.04 max **Ti** 0.01 max **V** 0.05 max **Zn** 0.03 max **Other** each 0.01 max	**AA** 1193

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A91198	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.98 min **Cu** 0.006 max **Fe** 0.006 max **Ga** 0.006 max **Mn** 0.006 max **Si** 0.010 max **Ti** 0.006 max **Zn** 0.010 max **Other** 0.003 max each	**AA** 1198
A91199	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.99 min **Cu** 0.006 max **Fe** 0.006 max **Ga** 0.005 max **Mg** 0.006 max **Mn** 0.002 max **Si** 0.006 max **Ti** 0.002 max **V** 0.005 max **Zn** 0.006 max **Other** each 0.002 max	**AA** 1199
A91200	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.00 min **Cu** 0.05 max **Mn** 0.05 max **Ti** 0.05 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max, Fe+Si 1.00 max	**AA** 1200; 1200A **ASTM** B491 (1200)
A91230	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.30 min **Cu** 0.10 max **Mg** 0.05 max **Mn** 0.05 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.10 max **Other** each 0.03, Fe+Si 0.7 max	**AA** 1230 **ASTM** B209 (1230)
A91235	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.35 min **Cu** 0.05 max **Mg** 0.05 max **Mn** 0.05 max **Ti** 0.03 max **Zn** 0.010 max **Other** each 0.03 max, Fe+Si 0.65 max	**AA** 1235 **ASTM** B373 (1235); B479 (1235); B491 (1235) **FED** QQ-A-1876
* **A91250**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.50 min **Cr** 0.01 max **Cu** 0.10 max **Fe** 0.40 max **Mg** 0.01 max **Mn** 0.01 max **Si** 0.20 max **Zn** 0.05 max **Other** each 0.03 max, Ti+V 0.02 max	**AA** 1250
A91260	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.60 min **Cu** 0.04 max **Mg** 0.03 max **Mn** 0.01 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max (Be 0.0008 max for welding electrode and filler wire only), Fe+Si 0.40 max	**AA** 1260
A91275	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.75 min **Cu** 0.05-0.10 **Fe** 0.12 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.02 max **Si** 0.08 max **Ti** 0.02 max **V** 0.03 max **Zn** 0.03 max **Other** 0.01 max each	**AA** 1275
A91285	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.85 min **Cu** 0.02 max **Fe** 0.08 max **Ga** 0.03 max **Si** 0.08 max **Ti** 0.02 max **V** 0.05 max **Zn** 0.03 max **Other** Fe+Si 0.14 max	**AA** 1285
A91345	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.45 min **Cu** 0.10 max **Fe** 0.40 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.30 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max	**AA** 1345
* **A91350**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.50 min **B** 0.05 max **Cr** 0.01 max **Cu** 0.05 max **Fe** 0.40 max **Ga** 0.03 max **Mn** 0.01 max **Si** 0.10 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10, Ti+V 0.02 max	**AA** 1350; 1350A **ASTM** B230; B231; B232 (1350); B233; B236; B313; B314 (1350); B324; B400 (1350); B401; B524; B549; B609; B778 (1350); B779 (1350) **AWS** A5.33 (W-Al-1350) **SAE** J454 (EC-O)
A91370	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.70 min **B** 0.02 max **Cr** 0.01 max **Cu** 0.02 max **Fe** 0.25 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.01 max **Si** 0.10 max **Zn** 0.04 max **Other** each 0.02 max, total 0.10 max, Ti+V 0.02 max	**AA** 1370
A91385	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.85 min **B** 0.02 max **Cr** 0.01 max **Cu** 0.02 max **Fe** 0.12 max **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.01 max **Si** 0.05 max **Zn** 0.03 max **Other** each 0.01 max, Ti+V 0.03 max	**AA** 1385

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A91435	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.35 min **Cu** 0.02 max **Fe** 0.30-0.50 **Mg** 0.05 max **Mn** 0.05 max **Si** 0.15 max **Ti** 0.03 max **V** 0.05 max **Zn** 0.10 max **Other** each 0.03 max	**AA** 1435 **ASTM** B483 (1435)
A91445	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.45 min **Cu** 0.04 max **Other** total 0.05 max, Cu+Fe+Si 0.50 max	**AA** 1445
A91450	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** 99.50 min **Cu** 0.05 max **Fe** 0.40 max **Mg** 0.05 max **Mn** 0.05 max **Si** 0.25 max **Ti** 0.10-0.20 **Zn** 0.07 max **Other** 0.03 max each	**AA** 1450
A92001	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 5.2-6.0 **Fe** 0.20 max **Mg** 0.20-0.45 **Mn** 0.15-0.50 **Ni** 0.05 max **Pb** 0.003 max **Si** 0.20 max **Ti** 0.20 max **Zn** 0.10 max **Zr** 0.05 max **Other** 0.05 max each, 0.15 max total	**AA** 2001
A92002	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 1.5-2.5 **Fe** 0.30 max **Mg** 0.50-1.0 **Mn** 0.20 max **Si** 0.35-0.8 **Ti** 0.20 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 2002
* **A92003**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cd** 0.05-0.20 **Cu** 4.0-5.0 **Fe** 0.30 max **Mg** 0.02 max **Mn** 0.30-0.8 **Si** 0.30 max **Ti** 0.15 max **V** 0.05-0.20 **Zn** 0.10 max **Zr** 0.10-0.25 **Other** 0.05 max each, 0.15 max total	**AA** 2003
A92004	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 5.5 - 6.5 **Fe** 0.20 max, 0.50 max **Mg** 0.50 max **Mn** 0.10 max **Si** 0.20 max **Ti** 0.05 max **Zn** 0.10 max **Zr** 0.30 - 0.50 **Other** each 0.05 max, total 0.15 max	**AA** 2004 **AMS** 4208 **MAM** 4208; 4209
A92005	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.20 max **Cr** 0.10 max **Cu** 3.5-5.0 **Fe** 0.7 max **Mg** 0.20-1.0 **Mn** 1.0 max **Ni** 0.20 max **Pb** 1.0-2.0 **Si** 0.8 max **Ti** 0.20 max **Zn** 0.50 max **Other** 0.05 max each, 0.15 max total	**AA** 2005
A92006	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 1.0-2.0 **Fe** 0.7 max **Mg** 0.50-1.4 **Mn** 0.6-1.0 **Ni** 0.20 max **Si** 0.8-1.3 **Ti** 0.30 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 2006
A92007	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.20 max **Cr** 0.10 max **Cu** 3.3-4.6 **Fe** 0.8 max **Mg** 0.40-1.8 **Mn** 0.50-1.0 **Ni** 0.20 max **Pb** 0.8-1.5 **Si** 0.8 max **Sn** 0.20 max **Ti** 0.20 max **Zn** 0.8 max **Other** 0.10 max each, 0.30 max total	**AA** 2007
A92008	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.7-1.1 **Fe** 0.40 max **Mg** 0.25-0.50 **Mn** 0.30 max **Si** 0.50-0.8 **Ti** 0.10 max **V** 0.05 max **Zn** 0.25 max **Other** Each 0.05 max, Total 0.15 max	**AA** 2008
A92009	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 3.2-4.4 **Fe** 0.05 max **Mg** 1.0-1.6 **O** 0.6 max **Si** 0.25 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 2009
A92010	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.7-1.3 **Fe** 0.50 max **Mg** 0.40-1.0 **Mn** 0.10-0.40 **Si** 0.50 max **Zn** 0.30 max **Other** 0.05 max each, 0.15 max total	**AA** 2010
A92011	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.20-0.6 **Cu** 5.0-6.0 **Fe** 0.7 max **Pb** 0.20-0.6 **Si** 0.40 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 2011; 2011A **ASTM** B210 (2011); B211 (2011) **FED** QQ-A-225/3 **SAE** J454 (2011)

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A92012	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.20-0.7 **Cu** 4.0-5.5 **Fe** 0.7 max **Si** 0.40 max **Sn** 0.20-0.6 **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 2012
A92014	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.9-5.0 **Fe** 0.7 max **Mg** 0.20-0.8 **Mn** 0.40-1.2 **Si** 0.50-1.2 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max, Ti + Zr 0.20 max for extruded and forged products only, but only when producer and purchaser mutually agree.	**AA** 2014; 2014A **AMS** 4028; 4029; 4121; 4133; 4134; 4153; 4314 **ASTM** B209 (2014); B210 (2014); B211 (2014); B221 (2014); B241 (2014); B247 (2014) **FED** QQ-A-225/4 **MIL SPEC** MIL-A-12545; MIL-T-15089; MIL-F-18280; MIL-A-22771 **SAE** J454 (2014)
A92017	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.5-4.5 **Fe** 0.7 max **Mg** 0.40-0.8 **Mn** 0.40-1.0 **Si** 0.20-0.8 **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max, Ti + Zr 0.20 max for extruded and forged products only, but only when producer and purchaser mutually agree.	**AA** 2017; 2017A **AMS** 4118 **ASTM** B211 (2017); B316 (2017) **FED** QQ-A-225/5; QQ-A-430 **SAE** J454 (2017)
A92018	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.5-4.5 **Fe** 1.0 max **Mg** 0.45-0.9 **Mn** 0.20 max **Ni** 1.7-2.3 **Si** 0.9 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2018 **AMS** 4140 **ASTM** B247 (2018) **SAE** J454 (2018)
*A92020	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cd** 0.10-0.35 **Cu** 4.0-5.0 **Fe** 0.40 max **Li** 0.9-1.7 **Mg** 0.03 max **Mn** 0.30-0.8 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2020
A92021	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cd** 0.05-0.20 **Cu** 5.8-6.8 **Fe** 0.30 max **Mg** 0.02 max **Mn** 0.20-0.40 **Si** 0.20 max **Sn** 0.03-0.08 **Ti** 0.02-0.10 **V** 0.05-0.15 **Zn** 0.10 max **Zr** 0.10-0.25 **Other** each 0.05 max, total 0.15 max	**AA** 2021
A92024	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.8-4.9 **Fe** 0.50 max **Mg** 1.2-1.8 **Mn** 0.30-0.9 **Si** 0.50 max **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max, Ti+Zr 0.20 max for extruded and forged products only, but only when producer and purchaser mutually agree.	**AA** 2024 **AMS** 4035; 4037; 4086; 4087; 4088; 4120; 4152; 4164; 4165; 4193; 4273; 4276; 4339 **ASTM** B209 (2024); B210 (2024); B211 (2024); B221 (2024); B241 (2024); B316 (2024); F467; F468 **FED** QQ-A-225/6; QQ-A-250/4; QQ-A-430; WW-T-700/3 **MIL SPEC** MIL-B-6812; MIL-T-15089; MIL-F-18280; MIL-T-50777; MIL-A-81596 **SAE** J454 (2024)
A92025	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.9-5.0 **Fe** 1.0 max **Mg** 0.05 max **Mn** 0.40-1.2 **Si** 0.50-1.2 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2025 **AMS** 4130 **ASTM** B247 (2025) **SAE** J454 (2025)
A92030	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.20 max **Cr** 0.10 max **Cu** 3.3-4.5 **Fe** 0.7 max **Mg** 0.50-1.3 **Mn** 0.20-1.0 **Pb** 0.8-1.5 **Si** 0.8 max **Ti** 0.20 max **Other** 0.10 max each, 0.30 max total	**AA** 2030
A92031	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 1.8-2.8 **Fe** 0.6-1.2 **Mg** 0.6-1.2 **Mn** 0.50 max **Ni** 0.6-1.4 **Si** 0.50-1.3 **Ti** 0.20 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 2031
A92034	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 **Cu** 4.2-4.8 **Fe** 0.12 **Mg** 1.3-1.9 **Mn** 0.8-1.3 **Si** 0.10 **Ti** 0.15 **Zn** 0.20 **Zr** 0.08-0.15 **Other** each 0.15, total 0.15	**AA** 2034
A92036	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 2.2-3.0 **Fe** 0.50 max **Mg** 0.30-0.6 **Mn** 0.10-0.40 **Si** 0.50 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2036

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A92037	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 1.4-2.2 **Fe** 0.50 max **Mg** 0.30-0.8 **Mn** 0.10-0.40 **Si** 0.50 max **Ti** 0.15 max **V** 0.05 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2037
A92038	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 **Cu** 0.8-1.8 **Fe** 0.6 **Ga** 0.05 **Mg** 0.40-1.0 **Mn** 0.10-0.40 **Si** 0.50-1.3 **Ti** 0.15 **V** 0.05 **Zn** 0.50 **Other** each 0.05, total 0.15	**AA** 2038
A92048	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 2.8-3.8 **Fe** 0.20 max **Mg** 1.2-1.8 **Mn** 0.20-0.6 **Si** 0.15 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2048
A92080	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Be** 0.005 max **Cu** 3.3-4.1 **Fe** 0.20 max **Mg** 1.5-2.2 **Mn** 0.25 max **O** 0.05-0.50 **Si** 0.10 max **Zn** 0.10 max **Zr** 0.08-0.25 **Other** 0.05 max each, 0.15 max total	**AA** 2080
A92090	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 2.4-3.0 **Fe** 0.12 max **Li** 1.9-2.6 **Mg** 0.25 max **Mn** 0.05 max **Si** 0.10 max **Ti** 0.15 max **Zn** 0.10 max **Zr** 0.08-0.15 **Other** each 0.05 max, total 0.15 max	**AA** 2090 **AMS** 4232; 4251; 4303
A92091	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 **Cu** 1.8-2.5 **Fe** 0.30 max **Li** 1.7-2.3 **Mg** 1.1-1.9 **Mn** 0.10 max **Si** 0.20 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.04-0.16 **Other** each 0.05 max, total 0.15 max	**AA** 2091
A92094	Wrought Aluminum Alloy, Heat Treatable	**Ag** 0.25-0.6 **Al** rem **Cu** 4.4-5.2 **Fe** 0.15 max **Li** 0.7-1.4 **Mg** 0.25-0.8 **Mn** 0.25 max **Si** 0.12 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.04-0.18 **Other** 0.05 max each, 0.15 max total	**AA** 2094
A92095	Wrought Aluminum Alloy, Heat Treatable	**Ag** 0.25-0.6 **Al** rem **Cu** 3.9-4.6 **Fe** 0.15 max **Li** 0.7-1.5 **Mg** 0.25-0.8 **Mn** 0.25 max **Si** 0.12 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.04-0.18 **Other** 0.05 max each, 0.15 max total	**AA** 2095
A92096	Wrought Aluminum Alloy, Heat Treatable	**Ag** 0.25-0.6 **Al** rem **Cu** 2.3-3.0 **Fe** 0.15 max **Li** 1.3-1.9 **Mg** 0.25-0.8 **Mn** 0.25 max **Si** 0.12 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.04-0.18 **Other** each 0.05 max, total 0.15 max	
A92097	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 2.5-3.1 **Fe** 0.15 max **Li** 1.2-1.8 **Mg** 0.35 max **Mn** 0.10-0.6 **Si** 0.12 max **Ti** 0.15 max **Zn** 0.35 max **Zr** 0.08-0.16 **Other** each 0.05 max, total 0.15 max	**AA** 2097
A92111	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.20-0.8 **Cu** 5.0-6.0 **Fe** 0.7 max **Si** 0.40 max **Sn** 0.10-0.50 **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 2111
A92117	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 2.2-3.0 **Fe** 0.7 max **Mg** 0.20-0.50 **Mn** 0.20 max **Si** 0.8 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2117 **ASTM** B316 (2117) **FED** QQ-A-430 **MIL SPEC** MIL-R-8814 **SAE** AS 7220 (2117); J454 (2117)
A92124	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.8-4.9 **Fe** 0.30 max **Mg** 1.2-1.8 **Mn** 0.30-0.90 **Si** 0.20 max **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max, Ti+Zr 0.20 max for extruded and forged products only, but only when producer and purchaser mutually agree	**AA** 2124 **AMS** 4101; 4221 **ASTM** B209 (2124) **FED** QQ-A-250/29

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A92195	Wrought Aluminum Alloy, Heat Treatable	**Ag** 0.25-0.6 **Al** rem **Cu** 3.7-4.3 **Fe** 0.15 max **Li** 0.8-1.2 **Mg** 0.25-0.8 **Mn** 0.25 max **Si** 0.12 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.08-0.16 **Other** each 0.05 max, total 0.15 max	**AA** 2195
A92197	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 2.5-3.1 **Fe** 0.10 max **Li** 1.3-1.7 **Mg** 0.25 max **Mn** 0.10-0.50 **Si** 0.10 max **Ti** 0.12 max **Zn** 0.05 max **Zr** 0.08-0.15 **Other** each 0.05 max, total 0.15 max	**AA** 2197
A92214	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.9-5.0 **Fe** 0.30 max **Mg** 0.20-0.8 **Mn** 0.40-1.2 **Si** 0.50-1.2 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max, Ti+Zr 0.20 max for extruded and forged products only, but only when producer and purchaser mutually agree	**AA** 2214
A92218	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.5-4.5 **Fe** 1.0 max **Mg** 1.2-1.8 **Mn** 0.20 max **Ni** 1.7-2.3 **Si** 0.9 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2218 **ASTM** B247 (2218) **SAE** J454 (2218)
A92219	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 5.8-6.8 **Fe** 0.30 max **Mg** 0.02 max **Mn** 0.20-0.40 **Si** 0.20 max **Ti** 0.02-0.10 **V** 0.05-0.15 **Zn** 0.10 max **Zr** 0.10-0.25 **Other** each 0.05 max, total 0.15 max	**AA** 2219 **AMS** 4031; 4066; 4068; 4143; 4144; 4162; 4163; 4295; 4313 **ASTM** B209 (2219); B211 (2219); B221 (2219); B241 (2219); B247 (2219); B316 (2219) **FED** QQ-A-250/30; QQ-A-430 **MIL SPEC** MIL-A-22771; MIL-A-46118; MIL-A-46803 **SAE** J454 (2219)
A92224	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 3.8-4.4 **Fe** 0.15 max **Mg** 1.2-1.8 **Mn** 0.30-0.9 **Si** 0.12 max **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2224; 2224A
A92297	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 2.5-3.1 **Fe** 0.10 max **Li** 1.1-1.7 **Mg** 0.25 max **Mn** 0.10-0.50 **Si** 0.10 max **Ti** 0.12 max **Zn** 0.05 max **Zr** 0.08-0.15 **Other** each 0.05 max, total 0.15 max	**AA** 2297
A92319	Wrought Aluminum Alloy, Heat Treatable (Filler Alloy)	**Al** rem **Be** 0.0008 max **Cu** 5.8-6.8 **Fe** 0.30 max **Mg** 0.02 max **Mn** 0.20-0.40 **Si** 0.20 max **Ti** 0.10-0.20 **V** 0.05-0.15 **Zn** 0.10 max **Zr** 0.10-0.25 **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 2319 **AMS** 4191 **ASME** SFA5.10 (ER2319) **AWS** A5.10 (ER2319)
A92324	Wrought Aluminum Alloy	**Al** rem **Cr** 0.10 max **Cu** 3.8-4.4 **Fe** 0.12 max **Mg** 1.2-1.8 **Mn** 0.30-0.9 **Si** 0.10 max **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 2324
A92419	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 5.8-6.8 **Fe** 0.18 max **Mg** 0.02 max **Mn** 0.20-0.40 **Si** 0.15 max **Ti** 0.02-0.10 **V** 0.05-0.15 **Zn** 0.10 max **Zr** 0.10-0.25 **Other** each 0.05 max, total 0.15 max	**AA** 2419
A92424	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 3.8-4.4 **Fe** 0.12 max **Mg** 1.2-1.6 **Mn** 0.30-0.6 **Si** 0.10 max **Ti** 0.10 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 2424 **AMS** 4270
A92519	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 5.3-6.4 **Fe** 0.30 max **Mg** 0.05-0.40 **Mn** 0.10-0.50 **Si** 0.25 max **Ti** 0.02-0.10 **V** 0.05-0.15 **Zn** 0.10 max **Zr** 0.10-0.25 **Other** each 0.05 max, total 0.15 max, Fe+Si 0.40 max	**AA** 2519
A92524	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 4.0-4.5 **Fe** 0.12 max **Mg** 1.2-1.6 **Mn** 0.45-0.7 **Si** 0.06 max **Ti** 0.10 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 2524

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A92618	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 1.9-2.7 **Fe** 0.9-1.3 **Mg** 1.3-1.8 **Ni** 0.9-1.2 **Si** 0.10-0.25 **Ti** 0.04-0.10 **Other** each 0.05 max, total 0.15 max	**AA** 2618; 2618A **AMS** 4132 **ASTM** B247 (2618) **MIL SPEC** MIL-A-22771 (2618) **SAE** J454 (2618)
A93002	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.15 max **Fe** 0.10 max **Mg** 0.05-0.20 **Mn** 0.05-0.25 **Si** 0.08 max **Ti** 0.03 max **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** 3002
A93003	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05-0.20 **Fe** 0.7 max **Mn** 1.0-1.5 **Si** 0.6 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 3003 **AMS** 4006; 4008; 4065; 4067 **ASME** SFA5.3 (E3003) **ASTM** B209 (3003); B210 (3003); B211 (3003); B221 (3003); B234 (3003); B241 (3003); B247 (3003); B313 (3003); B316 (3003); B345 (3003); B361 (WP3003); B361 (3003); B404 (3003); B483 (3003); B491 (3003); B547 (3003); B548 (3003) **AWS** A5.3 (E3003) **FED** QQ-A-225/2; QQ-A-250/2; QQ-A-430; WW-T-700/2 **MIL SPEC** MIL-P-25995; MIL-A-81596 **SAE** J454 (3003)
A93004	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.25 max **Fe** 0.7 max **Mg** 0.8-1.3 **Mn** 1.0-1.5 **Si** 0.30 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 3004; 3004A **ASTM** B209 (3004); B221 (3004); B313 (3004); B547 (3004); B548 (3004) **SAE** J454 (3004)
A93005	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.30 max **Fe** 0.7 max **Mg** 0.20-0.6 **Mn** 1.0-1.5 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 3005; 3005A **ASTM** B209 (3005)
A93006	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.10-0.30 **Fe** 0.7 max **Mg** 0.30-0.6 **Mn** 0.50-0.8 **Si** 0.50 max **Ti** 0.10 max **Zn** 0.15-0.40 **Other** each 0.05 max, total 0.15 max	**AA** 3006
A93007	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.05-0.30 **Fe** 0.7 max **Mg** 0.6 max **Mn** 0.30-0.8 **Si** 0.50 max **Ti** 0.10 max **Zn** 0.40 max **Other** each 0.05 max, total 0.15 max	**AA** 3007
* **A93008**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.7 max **Mg** 0.01 max **Mn** 1.2-1.8 **Ni** 0.05 max **Si** 0.40 max **Ti** 0.10 max **Zn** 0.05 max **Zr** 0.10-0.50 **Other** 0.05 max each, 0.15 max total	**AA** 3008
A93009	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.7 max **Mg** 0.10 max **Mn** 1.2-1.8 **Ni** 0.05 max **Si** 1.0-1.8 **Ti** 0.10 max **Zn** 0.05 max **Zr** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 3009
A93010	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.40 **Cu** 0.03 max **Fe** 0.20 max **Mn** 0.20-0.9 **Si** 0.10 max **Ti** 0.05 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 3010
A93011	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10-0.40 **Cu** 0.05-0.20 **Fe** 0.7 max **Mn** 0.8-1.2 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.10 max **Zr** 0.10-0.30 **Other** each 0.05 max, total 0.15 max	**AA** 3011
A93012	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.10 max **Fe** 0.7 max **Mg** 0.10 max **Mn** 0.50-1.1 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 3012
A93013	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.50 max **Fe** 1.0 max **Mg** 0.20-0.6 **Mn** 0.9-1.4 **Si** 0.6 max **Zn** 0.50-1.0 **Other** 0.05 max each, 0.15 max total	**AA** 3013
A93014	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.50 max **Fe** 1.0 max **Mg** 0.10 max **Mn** 1.0-1.5 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.50-1.0 **Other** 0.05 max each, 0.15 max total	**AA** 3014

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A93015	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.30 max **Fe** 0.8 max **Mg** 0.20-0.7 **Mn** 0.50-0.9 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 3015; 3105B
A93016	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.30 max **Fe** 0.8 max **Mg** 0.50-0.8 **Mn** 0.50-0.9 **Si** 0.6 max **Ti** 0.10 **Zn** 0.25 **Other** each 0.05 max, total 0.15 max	**AA** 3016
A93017	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.25-0.40 **Fe** 0.25-0.45 **Mg** 0.10 max **Mn** 0.8-1.2 **Si** 0.25 max **Ti** 0.05 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 3017
*A93018	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10-0.30 **Fe** 0.15-0.25 **Mg** 0.8-1.4 **Mn** 1.1-1.4 **Pb** 0.01 max **Si** 0.30 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 3018
A93020	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.35 max **Mg** 0.05 max **MN** 0.6-1.4 **Si** 0.15 max **Ti** 0.05-0.35 **Zn** 0.05-0.50 **Other** each 0.05 max, total 0.15 max.	**AA** X3020
A93025	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.30 max **Fe** 0.50-0.9 **Mg** 0.20-0.8 **Mn** 0.40-1.0 **Ni** 0.05 max **Si** 0.6 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max.	**AA** 3025
A93030	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.35 max **Mg** 0.05 max **Mn** 0.10-0.7 **Si** 0.15 max **Ti** 0.05-0.35 **Zn** 0.05-0.50 **Other** each 0.05 max, total 0.15 max	**AA** 3030
A93102	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.7 max **Mn** 0.05-0.40 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 3102 **ASTM** B210 (3102); B221 (3102); B483 (3102); B491 (3102)
A93103	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.7 max **Mg** 0.30 max **Mn** 0.9-1.5 **Si** 0.50 max **Zn** 0.20 max **Other** each 0.05 max, 0.15 max total, Ti+Zr 0.10 max	**AA** 3103; 3103A
A93104	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05-0.25 **Fe** 0.8 max **Ga** 0.05 max **Mg** 0.8-1.3 **Mn** 0.8-1.4 **Si** 0.6 max **Ti** 0.10 max **V** 0.05 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 3104
A93105	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.30 max **Fe** 0.7 max **Mg** 0.20-0.8 **Mn** 0.30-0.8 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.40 max **Other** each 0.05 max, total 0.15 max	**AA** 3105; 3105A **ASTM** B209 (3105)
A93107	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05-0.15 **Fe** 0.7 max **Mn** 0.40-0.9 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 3107
A93203	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05 max **Fe** 0.7 max **Mn** 1.0-1.5 **Si** 0.6 max **Zn** 0.10 max **Other** 0.05 max each (Be 0.008 max for welding electrode and filler wire only), 0.15 max total	**AA** 3203
A93204	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10-0.25 **Fe** 0.7 max **Mg** 0.8-1.5 **Mn** 0.8-1.5 **Si** 0.30 max **Zn** 0.25 max **Other** 0.05 max each, 0.15 max total	**AA** 3204

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
A93207	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.45 max **Mg** 0.10 max **Mn** 0.40-0.8 **Si** 0.30 max **Zn** 0.10 max **Other** 0.05 max each, 0.10 max total	**AA** 3207; 3207A
* **A93303**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05-0.20 **Fe** 0.7 max **Mn** 1.0-1.5 **Si** 0.6 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 3303 **ASTM** B210 (3303)
A93307	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.30 max **Fe** 0.8 max **Mg** 0.30 max **Mn** 0.50-0.9 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.40 max **Other** each 0.05 max, total 0.15 max	**AA** 3307
* **A94002**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cd** 0.8-1.4 **Cu** 0.05-0.15 **Fe** 0.35 max **Mg** 0.05-0.15 **Mn** 0.03 max **Si** 3.5-4.5 **Ti** 0.02 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 4002
A94004	Wrought Aluminum Alloy, Non-Heat Treatable (Brazing Alloy)	**Al** rem **Cu** 0.25 max **Fe** 0.8 max **Mg** 1.0-2.0 **Mn** 0.10 max **Si** 9.0-10.5 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 4004 **ASME** SFA5.8 (BAlSi-7) **AWS** A5.8 (BAlSi-7)
A94006	Wought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.10 max **Fe** 0.50-0.8 **Mg** 0.01 max **Mn** 0.05 max **Si** 0.8-1.2 **Zn** 0.05 max **Other** 0.05 max each, 0.15 max total	**AA** 4006
A94007	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.25 **Co** 0.05 max **Cu** 0.20 max **Fe** 0.40-1.0 **Mg** 0.20 max **Mn** 0.8-1.5 **Ni** 0.15-0.7 **Si** 1.0-1.7 **Ti** 0.10 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 4007
A94008	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.0008 max **Cu** 0.05 max **Fe** 0.09 max **Mg** 0.30-0.45 **Mn** 0.05 max **Si** 6.5-7.5 **Ti** 0.04-0.15 **Zn** 0.05 max **Other** each 0.05 max (Be 0.008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4008 **AMS** 4181
A94009	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 1.0-1.5 **Fe** 0.20 max **Mg** 0.45-0.6 **Mn** 0.10 max **Si** 4.5-5.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4009
A94010	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.0008 max **Cu** 0.20 max **Fe** 0.20 max **Mg** 0.30-0.45 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), 0.15 max total	**AA** 4010
A94011	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.04-0.07 **Cu** 0.20 max **Fe** 0.20 max **Mg** 0.45-0.7 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.04-0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 4011 **ASME** SFA5.10 (R4011) **AWS** A5.10 (R4011)
A94013	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.6-1.5 **Cd** 0.05 max **Cu** 0.05-0.20 **Fe** 0.35 max **Mg** 0.05-0.20 **Mn** 0.03 max **Si** 3.5-4.5 **Ti** 0.02 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 4013
A94014	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 0.7 max **Mg** 0.30-0.8 **Mn** 0.35 max **Si** 1.4-2.2 **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 4014

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A94015	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 0.7 max **Mg** 0.10-0.50 **Mn** 0.6-1.2 **Si** 1.4-2.2 **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 4015
A94016	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 0.7 max **Mg** 0.10 max **Mn** 0.6-1.2 **Si** 1.4-2.2 **Zn** 0.50-1.3 **Other** each 0.05 max, total 0.15 max	**AA** 4016
A94017	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10-0.50 **Fe** 0.7 max **Mg** 0.10-0.50 **Mn** 0.6-1.2 **Si** 0.6-1.6 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 4017
A94018	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05 max **Fe** 0.20 max **Mg** 0.50-0.8 **Mn** 0.10 max **Si** 6.5-7.5 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.10 max	**AA** 4018
A94032	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.50-1.3 **Fe** 1.0 max **Mg** 0.8-1.3 **Ni** 0.50-1.3 **Si** 11.0-13.5 **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 4032 **AMS** 4318; 4319 **ASTM** B247 (4032) **MIL SPEC** Mil-A-22771 **SAE** J454 (4032)
A94043	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.30 max **Fe** 0.8 max **Mg** 0.05 max **Mn** 0.05 max **Si** 4.5-6.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4043; 4043A **AMS** 4190 **ASME** SFA5.3 (E4043); SFA5.10 (ER4043) **AWS** A5.3 (E4043); A5.10 (ER4043); A5.33 (W-Al-4043) **MIL SPEC** MIL-W-6712; MIL-I-23413 (MIL-4043) **SAE** J454 (4043)
A94044	Wrought Aluminum Alloy, Non-Heat Treatable (Brazing Alloy)	**Al** rem **Cu** 0.25 max **Fe** 0.8 max **Mn** 0.10 max **Si** 7.8-9.2 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 4044
A94045	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.30 max **Fe** 0.8 max **Mg** 0.05 max **Mn** 0.05 max **Si** 9.0-11.0 **Ti** 0.20 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 4045 **ASME** SFA5.8 (BAlSi-5) **AWS** A5.8 (BAlSi-5) **MIL SPEC** MIL-B-7883 (BAlSi-5)
A94046	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.03 max **Fe** 0.50 max **Mg** 0.20-0.50 **Mn** 0.40 max **Si** 9.0-11.0 **Ti** 0.15 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 4046
A94047	Wrought Aluminum Alloy, Non-Heat Treatable (Brazing Alloy)	**Al** rem **Cu** 0.30 max **Fe** 0.8 max **Mg** 0.10 max **Mn** 0.15 max **Si** 11.0-13.0 **Zn** 0.20 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4047; 4047A **AMS** 4185 **ASME** SFA5.8 (BAlSi-4); SFA5.10 (ER4047) **AWS** A5.8 (BAlSi-4); A5.10 (ER4047); A5.33 (W-Al-4047) **MIL SPEC** MIL-B-7883 (BAlSi-4); MIL-B-20148
A94048	Wrought Aluminum Alloy, Non-Heat Treatable (Welding Alloy)	**Al** rem **Be** 0.0008 max **Cr** 0.07 max **Cu** 3.3-4.7 **Fe** 0.8 max **Mg** 0.07 max **Mn** 0.07 max **Si** 9.3-10.7 **Zn** 9.3-10.7 **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4048
A94104	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Bi** 0.02-0.20 **Cu** 0.25 max **Fe** 0.8 max **Mg** 1.0-2.0 **Mn** 0.10 max **Si** 9.5-10.5 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 4104 **ASME** SFA5.8 (BAlSi-11) **AWS** A5.8 (BAlSi-11)
A94145	Wrought Aluminum Alloy, Non-Heat Treatable (brazing and Welding Alloy)	**Al** rem **Cr** 0.15 max **Cu** 3.3-4.7 **Fe** 0.8 max **Mg** 0.15 max **Mn** 0.15 max **Si** 9.3-10.7 **Zn** 0.20 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4145; 4145A **AMS** 4184 **ASME** SFA5.8 (BAlSi-3); SFA5.10 (ER4145) **AWS** A5.8 (BAlSi-3); A5.10 (ER4145) **MIL SPEC** MIL-B-7883 (BAlSi-3)
A94147	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.0008 max **Cu** 0.25 max **Fe** 0.8 max **Mg** 0.10-0.50 **Mn** 0.10 max **Si** 11.0-13.0 **Zn** 0.20 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4147 **ASME** SFA5.8 (BAlSi-9) **AWS** A5.8 (BAlSi-9)

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A94343	Wrought Aluminum Alloy, Non-Heat Treatable (Brazing Alloy)	**Al** rem **Cu** 0.25 max **Fe** 0.8 max **Mn** 0.10 max **Si** 6.8-8.2 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 4343 **ASME** SFA5.8 (BAlSi-2) **AWS** A5.8 (BAlSi-2) **MIL SPEC** MIL-B-7883 (BAlSi-2); MIL-B-20148
• **A94543**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.10-0.40 **Mn** 0.05 max **Si** 5.0-7.0 **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 4543
A94643	Wrought Aluminum Alloy, Non-Heat Treatable (Welding Alloy)	**Al** rem **Be** 0.0008 max **Cu** 0.10 max **Fe** 0.8 max **Mg** 0.10-0.30 **Mn** 0.05 max **Si** 3.6-4.6 **Ti** 0.15 max **Zn** 0.10 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 4643 **AMS** 4189 **ASME** SFA5.10 (ER4643) **AWS** A5.10 (ER4643)
A95005	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.20 max **Fe** 0.7 max **Mg** 0.50-1.1 **Mn** 0.20 max **Si** 0.30 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5005; 5005A **ASTM** B209 (5005); B210 (5005); B316 (5005); B396 (5005); B397 (5005); B483 (5005); B531 (5005) **FED** QQ-A-430 (5005) **MIL SPEC** MIL-C-26094 **SAE** J454 (5005)
A95006	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.8 max **Mg** 0.8-1.3 **Mn** 0.40-0.8 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5006
A95010	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.25 max **Fe** 0.7 max **Mg** 0.20-0.6 **Mn** 0.10-0.30 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 5010 **ASTM** B209 (5010)
• **A95013**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.03 max **Cu** 0.03 max **Fe** 0.25 max **Mg** 3.2-3.8 **Mn** 0.30-0.50 **Ni** 0.03 max **Pb** 0.003 max **Si** 0.20 max **Ti** 0.10 max **Zn** 0.10 max **Zr** 0.05 max **Other** 0.05 max each, 0.15 max total	**AA** 5013
• **A95014**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.20 max **Fe** 0.40 max **Mg** 4.0-5.5 **Mn** 0.20-0.9 **Si** 0.40 max **Ti** 0.20 max **Zn** 0.7-1.5 **Other** 0.05 max each, 0.15 max total	**AA** 5014
A95016	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.20 max **Fe** 0.6 max **Mg** 1.4-1.9 **Mn** 0.40-0.7 **Si** 0.25 max **Ti** 0.05 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 5016
A95017	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.18-0.28 **Fe** 0.7 max **Mg** 1.9-2.2 **Mn** 0.6-0.8 **Si** 0.40 max **Ti** 0.09 max **Other** 0.05 max each, 0.15 max total	**AA** 5017
A95018	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.0008 max (for welding electrode and filler wire only) **Cr** 0.30 max **Cu** 0.05 max **Fe** 0.40 max **Mg** 2.6-3.6 **Mn** 0.20-0.6 **Si** 0.25 max **Ti** 0.15 max **Zn** 0.20 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max, Cr+Mn 0.20-0.6	**AA** 5018
A95019	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 4.5-5.6 **Mn** 0.10-0.6 **Si** 0.40 max **Ti** 0.20 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max, Cr+Mn 0.10-0.6	**AA** 5019

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A95021	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.15 max **Fe** 0.50 max **Mg** 2.2-2.8 **Mn** 0.10-0.50 **Si** 0.40 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 5021
A95022	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.20-0.50 **Fe** 0.40 max **Mg** 3.5-4.9 **Mn** 0.20 max **Si** 0.25 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5022
A95023	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.20-0.50 **Fe** 0.40 max **Mg** 5.0-6.2 **Mn** 0.20 max **Si** 0.25 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5023
A95025	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** REM **Be** 0.0008 max **Cr** 0.20 max **Cu** 0.10 max **Fe** 0.25 max **Mg** 4.5-6.0 **Mn** 0.20 max **Sc** 0.05-0.55 **Si** 0.25 max **Ti** 0.05-0.20 **Zn** 0.25 max **Zr** 0.10-0.25 **Other** each 0.05 max, total 0.15 max.	**AA** 5025
* **A95034**	Wrought Aluminum Alloy	**Al** rem **Cr** 0.10 max **Cu** 0.40 max **Fe** 0.40-0.9 **Mg** 0.6-1.1 **Mn** 0.20-0.50 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.40 max **Other** each 0.05 max, total 0.15 max	**AA** 5034
* **A95039**	Wrought Aluminum Alloy, Non-Heat Treatable (Welding Electrode)	**Al** rem **Be** 0.0008 max **Cr** 0.10-0.20 **Cu** 0.03 max **Fe** 0.40 max **Mg** 3.3-4.3 **Mn** 0.30-0.50 **Si** 0.10 max **Ti** 0.10 max **Zn** 2.4-3.2 **Other** each 0.05 max, total 0.l0 max	**AA** 5039
A95040	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10-0.30 **Cu** 0.25 max **Fe** 0.7 max **Mg** 1.0-1.5 **Mn** 0.9-1.4 **Si** 0.30 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5040
A95042	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15 max **Fe** 0.35 max **Mg** 3.0-4.0 **Mn** 0.20-0.50 **Si** 0.20 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5042
A95043	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.05-0.35 **Fe** 0.7 max **Ga** 0.05 max **Mg** 0.7-1.3 **Mn** 0.7-1.2 **Si** 0.40 max **Ti** 0.10 max **V** 0.05 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5043
A95049	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.30 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 1.6-2.5 **Mn** 0.50-1.1 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 5049
* **A95050**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.20 max **Fe** 0.7 max **Mg** 1.1-1.8 **Mn** 0.10 max **Si** 0.40 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5050; 5050A; 5050B **ASTM** B209 (5050); B210 (5050); B313 (5050); B483 (5050); B547 (5050); B548 (5050) **SAE** J454 (5050)
A95051	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.25 max **Fe** 0.7 max **Mg** 1.7-2.2 **Mn** 0.20 max **Si** 0.40 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5051; 5051A
A95052	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.10 max **Fe** 0.40 max **Mg** 2.2-2.8 **Mn** 0.10 max **Si** 0.25 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 5052 **AMS** 4004; 4015; 4016; 4017; 4069; 4070; 4071; 4114; 4178; 4348 **ASTM** B209 (5052); B210 (5052); B211 (5052); B221 (5052); B234 (5052); B241 (5052); B313 (5052); B316 (5052); B404 (5052); B483 (5052); B547 (5052); B548 (5052) **FED** QQ-A-225/7; QQ-A-250/8; QQ-A-430; WW-T-700/4 **MIL SPEC** MIL-G-18014; MIL-G-18015; MIL-C-26094; MIL-A-81596

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*A95056	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.20 **Cu** 0.10 max **Fe** 0.40 max **Mg** 4.5-5.6 **Mn** 0.05-0.20 **Si** 0.30 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 5056 **AMS** 4177; 4182; 4349 **ASTM** B211 (5056); B316 (5056) **FED** QQ-A-430 **MIL SPEC** MIL-R-8814; MIL-A-81596 **SAE** J454 (5056)
A95058	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 4.5-5.6 **Mn** 0.20 max **Pb** 1.2-1.8 **Si** 0.40 max **Ti** 0.20 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 5058
A95082	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.15 max **Fe** 0.35 max **Mg** 4.0-5.0 **Mn** 0.15 max **Si** 0.20 max **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5082
A95083	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.25 **Cu** 0.10 max **Fe** 0.40 max **Mg** 4.0-4.9 **Mn** 0.40-1.0 **Si** 0.40 max **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5083 **AMS** 4056 **ASTM** B209 (5083); B210 (5083); B221 (5083); B241 (5083); B247 (5083); B345 (5083); B361 (5083); B547 (5083); B548 (5083) **FED** QQ-A-250/6 **MIL SPEC** MIL-A-45225; MIL-A-46027; MIL-A-46083; MIL-G--S-24149/2 **SAE** J454 (5083)
A95086	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.25 **Cu** 0.10 max **Fe** 0.50 max **Mg** 3.5-4.5 **Mn** 0.20-0.7 **Si** 0.40 max **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5086 **ASTM** B209 (5086); B210 (5086); B221 (5086); B241 (5086); B313 (5086); B345 (5086); B361 (5086); B547 (5086); B548 (5086) **FED** QQ-A-250/7; WW-T-700/5 **MIL SPEC** MIL-G-18014; MIL-S-24149/2; MIL-C-26094 **SAE** J454 (5086)
A95087	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.25 **Cu** 0.05 max **Fe** 0.40 max **Mg** 4.5-5.2 **Mn** 0.7-1.1 **Si** 0.25 max **Ti** 0.15 max **Zn** 0.25 max **Zr** 0.10-0.20 **Other** 0.05 max each, 0.15 max total	**AA** 5087
A95091	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **C** 1.0-1.3 **Fe** 0.30 max **Li** 1.2-1.4 **Mg** 3.7-4.2 **O** 0.20-0.7 **Si** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 5091 **AMS** 4322
A95110	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.08 max **Mg** 0.30-0.6 **Mn** 0.03 max **Si** 0.08 max **Ti** 0.02 max **Zn** 0.05 max **Other** 0.02 max each	**AA** 5110
A95119	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.0008 max (for welding electrode and filler wire only) **Cr** 0.30 max **Cu** 0.05 max **Fe** 0.40 max **Mg** 4.5-5.6 **Mn** 0.20-0.6 **Si** 0.25 max **Ti** 0.15 max **Zn** 0.20 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max, Cr+Mn 0.20-0.60	**AA** 5119
A95149	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.30 max **Cu** 0.05 max **Fe** 0.40 max **Mg** 1.6-2.5 **Mn** 0.50-1.1 **Si** 0.25 max **Ti** 0.15 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 5149
A95150	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.10 max **Mg** 1.3-1.7 **Mn** 0.03 max **Si** 0.08 max **Ti** 0.06 max **Zn** 0.10 max **Other** 0.03 max each, 0.10 max total	**AA** 5150
A95151	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15 max **Fe** 0.35 max **Mg** 1.5-2.1 **Mn** 0.10 max **Si** 0.20 max **Ti** 0.10 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 5151
A95154	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.10 max **Fe** 0.40 max **Mg** 3.1-3.9 **Mn** 0.10 max **Si** 0.25 max **Ti** 0.20 max **Zn** 0.20 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 5154; 5154A; 5154B **ASTM** B209 (5154); B210 (5154); B211 (5154); B221 (5154); B313 (5154); B361 (5154); B547 (5154); B548 (5154) **MIL SPEC** MIL-C-26094 **SAE** J454 (5154)

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A95180	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.0008 max (for welding electrode and filler wire only) **Cr** 0.10 max **Cu** 0.10 max **Mg** 3.5-4.5 **Mn** 0.20-0.7 **Ti** 0.06-0.20 **Zn** 1.7-2.8 **Zr** 0.08-0.25 **Other** each 0.05 max, total 0.15 max, Fe+Si 0.35 max	**AA** 5180
A95182	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15 max **Fe** 0.35 max **Mg** 4.0-5.0 **Mn** 0.20-0.50 **Si** 0.20 max **Ti** 0.10 max **Zn** 0.25 max **Other** 0.05 max, total 0.15 max	**AA** 5182
A95183	Wrought Aluminum Alloy, Non-Heat Treatable (Welding Electrode)	**Al** rem **Be** 0.0008 max **Cr** 0.05-0.25 **Cu** 0.10 max **Fe** 0.40 max **Mg** 4.3-5.2 **Mn** 0.50-1.0 **Si** 0.40 max **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5183 **ASME** SFA5.10 (ER5183) **AWS** A5.10 (ER5183)
A95186	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.25 max **Fe** 0.45 max **Mg** 3.8-4.8 **Mn** 0.20-0.50 **Si** 0.40 max **Ti** 0.15 max **Zn** 0.40 max **Zr** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 5186
A95205	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.03-0.10 **Fe** 0.7 max **Mg** 0.6-1.0 **Mn** 0.10 max **Si** 0.15 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 5205
A95210	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.04 max **Mg** 0.35-0.6 **Mn** 0.03 max **Si** 0.06 max **Ti** 0.01 max **Zn** 0.04 max **Other** 0.01 max each	**AA** 5210
A95249	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.30 max **Cu** 0.05 max **Fe** 0.40 max **Mg** 1.6-2.5 **Mn** 0.50-1.1 **Si** 0.25 max **Ti** 0.15 max **Zn** 0.20 max **Zr** 0.10-0.20 **Other** 0.05 max each, 0.15 max total	**AA** 5249
A95250	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 **Fe** 0.10 **Ga** 0.03 **Mg** 1.3-1.8 **Mn** 0.04-0.15 **Si** 0.08 **V** 0.05 **Zn** 0.05 **Other** each 0.03, total 0.10	**AA** 5250
A95251	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.15 max **Fe** 0.50 max **Mg** 1.7-2.4 **Mn** 0.10-0.50 **Si** 0.40 max **Ti** 0.15 max **Zn** 0.15 max **Other** 0.05 max each, 0.15 max total	**AA** 5251; 5251A
A95252	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.10 max **Mg** 2.2-2.8 **Mn** 0.10 max **Si** 0.08 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 5252 **ASTM** B209 (5252) **SAE** J454 (5252)
* **A95254**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.05 max **Fe** 0.40 max **Mg** 3.1-3.9 **Mn** 0.01 max **Si** 0.25 max **Ti** 0.05 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max, Fe+Si 0.45 max	**AA** 5254 **ASTM** B209 (5254); B241 (5254); B548 (5254) **SAE** J454 (5254)
A95257	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.20-0.6 **Mn** 0.03 max **Si** 0.08 max **Zn** 0.03 max **Other** each 0.02 max, total 0.05 max	**AA** 5257
* **A95280**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Be** 0.0008 max **Cr** 0.05-0.25 **Cu** 0.10 max **Mg** 3.5-4.5 **Mn** 0.20-0.7 **Zn** 1.5-2.8 **Zr** 0.05-0.25 **Other** 0.05 max each, 0.15 max total, Fe+Si 0.35 max	**AA** 5280

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A95283	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.03 max **Fe** 0.30 max **Mg** 4.5-5.1 **Mn** 0.50-1.0 **Ni** 0.03 max **Si** 0.30 max **Ti** 0.03 max **Zn** 0.10 max **Zr** 0.05 max **Other** 0.05 max each, 0.15 max total	**AA** 5283; 5283A
A95305	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.08 max **Mg** 0.7-1.1 **Mn** 0.03 max **Si** 0.08 max **Ti** 0.02 max **Zn** 0.05 max **Other** 0.02 max each	**AA** 5305
A95310	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.008 max **Mg** 0.35-0.6 **Si** 0.01 max **Ti** 0.008 max **Zn** 0.01 max **Other** each 0.003 max, Fe+Ti 0.008 max	**AA** 5310
A95349	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.18-0.28 **Fe** 0.7 max **Mg** 1.7-2.6 **Mn** 0.6-1.2 **Si** 0.40 max **Ti** 0.09 max **Other** 0.05 max each, 0.15 max total	**AA** 5349
A95351	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.10 max **Mg** 1.6-2.2 **Mn** 0.10 max **Si** 0.08 max **V** 0.05 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 5351
A95352	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Mg** 2.2-2.8 **Mn** 0.10 max **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15, Fe+Si 0.45 max	**AA** 5352
A95354	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.20 **Cu** 0.05 max **Fe** 0.40 max **Mg** 2.4-3.0 **Mn** 0.50-1.0 **Si** 0.25 max **Ti** 0.15 max **Zn** 0.25 max **Zr** 0.10-0.20 **Other** each 0.05 max, total 0.15 max	**AA** 5354
A95356	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.20 **Cu** 0.10 max **Fe** 0.40 max **Mg** 4.5-5.5 **Mn** 0.05-0.20 **Si** 0.25 max **Ti** 0.06-0.20 **Zn** 0.10 max **Other** each 0.05 max (Be 0.0008 max for welding electrode and filler wire only), total 0.15 max	**AA** 5356 **ASME** SFA5.10 (ER5356) **AWS** A5.10 (ER5356); A5.33 (W-Al-5356) **MIL SPEC** MIL-S-24149/2
A95357	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 0.17 max **Mg** 0.8-1.2 **Mn** 0.15-0.45 **Si** 0.12 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 5357
A95383	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.25 max **Cu** 0.20 max **Fe** 0.25 max **Mg** 4.0-5.2 **Mn** 0.7-1.0 **Si** 0.25 max **Ti** 0.15 max **Zn** 0.40 max **Zr** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 5383
A95449	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.30 max **Cu** 0.30 max **Fe** 0.7 max **Mg** 1.6-2.6 **Mn** 0.6-1.1 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 5449
A95451	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.10 **Fe** 0.40 **Mg** 1.8-2.4 **Mn** 0.10 **Ni** 0.05 **Si** 0.25 **Ti** 0.05 **Zn** 0.10 **Other** each 0.05, total 0.15	**AA** 5451
A95454	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.20 **Cu** 0.10 max **Fe** 0.40 max **Mg** 2.4-3.0 **Mn** 0.50-1.0 **Si** 0.25 max **Ti** 0.20 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5454 **ASTM** B209 (5454); B221 (5454); B234 (5454); B241 (5454); B404 (5454); B547 (5454); B548 (5454) **FED** QQ-A-250/10 **SAE** J454 (5454)
A95456	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.20 **Cu** 0.10 max **Fe** 0.40 max **Mg** 4.7-5.5 **Mn** 0.50-1.0 **Si** 0.25 max **Ti** 0.20 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5456; 5456A **ASTM** B209 (5456); B210 (5456); B221 (5456); B241 (5456); B548 (5456) **FED** QQ-A-250/9 **MIL SPEC** MIL-G-18014; MIL-S-24149/2; MIL-A-45225; MIL-A-46027; MIL-A-46083 **SAE** J454 (5456)
A95457	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 0.10 max **Mg** 0.8-1.2 **Mn** 0.15-0.45 **Si** 0.08 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 5457 **ASTM** B209 (5457) **SAE** J454 (5457)

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A95505	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.04 max **Mg** 0.8-1.1 **Mn** 0.03 max **Si** 0.06 max **Ti** 0.01 max **Zn** 0.04 max **Other** 0.01 max each	**AA** 5505
• **A95552**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.05 max **Mg** 2.2-2.8 **Mn** 0.10 max **Si** 0.04 max **V** 0.05 max **Zn** 0.05 max **Other** 0.03 max each, 0.10 max total	**AA** 5552
A95554	Wrought Aluminum Alloy, Non-Heat Treatable (Welding Electrode)	**Al** rem **Be** 0.0008 max **Cr** 0.05-0.20 **Cu** 0.10 max **Fe** 0.40 max **Mg** 2.4-3.0 **Mn** 0.50-1.0 **Si** 0.25 max **Ti** 0.05-0.20 **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 5554 **ASME** SFA5.10 (ER5554) **AWS** A5.10 (ER5554) **MIL SPEC** MIL-G-18014
A95556	Wrought Aluminum Alloy, Non-Heat Treatable (Welding Electrode)	**Al** rem **Be** 0.0008 max **Cr** 0.05-0.20 **Cu** 0.10 max **Fe** 0.40 max **Mg** 4.7-5.5 **Mn** 0.50-1.0 **Si** 0.25 max **Ti** 0.05-0.20 **Zn** 0.25 max **Other** each 0.05, total 0.15 max (Be 0.0008 max for welding electrode and filler wire only)	**AA** 5556; 5556A **ASME** SFA5.10 (ER5556) **AWS** A5.10 (ER5556)
A95557	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.15 max **Fe** 0.12 max **Mg** 0.40-0.8 **Mn** 0.10-0.40 **Si** 0.10 max **V** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 5557
A95605	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.008 max **Mg** 0.8-1.1 **Si** 0.01 max **Ti** 0.008 max **Zn** 0.01 max **Other** each 0.003 max, (Fe+Ti) 0.008 max	**AA** 5605
• **A95652**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.04 max **Mg** 2.2-2.8 **Mn** 0.01 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 5652 **ASTM** B209 (5652); B241 (5652); B548 (5652) **SAE** J454 (5652)
A95654	Wrought Aluminum Alloy, Non-Heat Treatable (Welding Electrode)	**Al** rem **Be** 0.0008 max **Cr** 0.15-0.35 **Cu** 0.05 max **Mg** 3.1-3.9 **Mn** 0.01 max **Ti** 0.05-0.15 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max, Fe+Si 0.45 max	**AA** 5654 **ASME** SFA5.10 (ER5654) **AWS** A5.10 (ER5654)
A95657	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.10 max **Ga** 0.03 max **Mg** 0.6-1.0 **Mn** 0.03 max **Si** 0.08 max **Zn** 0.05 max **Other** each 0.02 max, total 0.05 max	**AA** 5657 **ASTM** B209 (5657) **SAE** J454 (5657)
A95754	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.30 max **Cu** 0.10 max **Fe** 0.40 max **Mg** 2.6-3.6 **Mn** 0.50 max **Si** 0.40 max **Ti** 0.15 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max, Cr+Mn 0.10-0.6	**AA** 5754
• **A95854**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.10 max **Mg** 3.1-3.9 **Mn** 0.10-0.50 **Ti** 0.20 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total, Fe+Si 0.45 max	**AA** 5854
A95954	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.40 max **Mg** 3.3-4.1 **Mn** 0.10 max **Si** 0.25 max **Ti** 0.20 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 5954
A96002	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10-0.25 **Fe** 0.25 max **Mg** 0.45-0.7 **Mn** 0.10-0.20 **Si** 0.6-0.9 **Ti** 0.08 max **Zr** 0.09-0.14 **Other** 0.05 max each, 0.15 max total	**AA** 6002

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A96003	Wrought Aluminum Alloy, Heat Treatable (Cladding Alloy)	**Al** rem **Cr** 0.35 max **Cu** 0.10 max **Fe** 0.6 max **Mg** 0.8-1.5 **Mn** 0.8 max **Si** 0.35-1.0 **Ti** 0.10 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 6003 **ASTM** B209 (6003)
A96004	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.10-0.30 **Mg** 0.40-0.7 **Mn** 0.20-0.6 **Si** 0.30-0.6 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 6004
A96005	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.35 max **Mg** 0.40-0.6 **Mn** 0.10 max **Si** 0.6-0.9 **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 6005; 6005A; 6005B **ASTM** B221 (6005, 6005A)
A96006	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15-0.30 **Fe** 0.35 max **Mg** 0.45-0.9 **Mn** 0.05-0.20 **Si** 0.20-0.6 **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 6006
A96007	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05-0.25 **Cu** 0.20 max **Fe** 0.7 max **Mg** 0.6-0.9 **Mn** 0.05-0.25 **Si** 0.9-1.4 **Ti** 0.15 max **Zn** 0.25 max **Zr** 0.05-0.20 **Other** each 0.05 max, total 0.15 max	**AA** 6007
A96008	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.30 max **Cu** 0.30 max **Fe** 0.35 max **Mg** 0.40-0.7 **Mn** 0.30 max **Si** 0.50-0.9 **Ti** 0.10 max **V** 0.05-0.20 **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 6008
A96009	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15-0.6 **Fe** 0.50 max **Mg** 0.40-0.8 **Mn** 0.20-0.8 **Si** 0.6-1.0 **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6009
A96010	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15-0.6 **Fe** 0.50 max **Mg** 0.6-1.0 **Mn** 0.20-0.8 **Si** 0.8-1.2 **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6010
A96011	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.30 max **Cu** 0.40-0.9 **Fe** 1.0 max **Mg** 0.6-1.2 **Mn** 0.8 max **Ni** 0.20 max **Si** 0.6-1.2 **Ti** 0.20 max **Zn** 1.5 max **Other** each 0.05 max, total 0.15 max	**AA** 6011
A96012	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.7 max **Cr** 0.30 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.6-1.2 **Mn** 0.40-1.0 **Pb** 0.40-2.0 **Si** 0.6-1.4 **Ti** 0.20 max **Zn** 0.30 max **Other** 0.05 max each, 0.15 max total	**AA** 6012
A96013	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.6-1.1 **Fe** 0.50 max **Mg** 0.8-1.2 **Mn** 0.20-0.8 **Si** 0.6-1.0 **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6013 **AMS** 4216; 4347
A96014	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.25 max **Fe** 0.35 max **Mg** 0.40-0.8 **Mn** 0.05-0.20 **Si** 0.30-0.6 **Ti** 0.10 max **V** 0.05-0.20 **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 6014
A96015	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10-0.25 **Fe** 0.10-0.30 **Mg** 0.8-1.1 **Mn** 0.10 max **Si** 0.20-0.40 **Ti** 0.10 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 6015
A96016	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.20 max **Fe** 0.50 max **Mg** 0.25-0.6 **Mn** 0.20 max **Si** 1.0-1.5 **Ti** 0.15 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 6016; 6016A

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• **A96017**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.05-0.20 **Fe** 0.15-0.30 **Mg** 0.45-0.6 **Mn** 0.10 max **Si** 0.55-0.7 **Ti** 0.05 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 6017
A96018	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.40-0.7 **Cr** 0.10 max **Cu** 0.15-0.40 **Fe** 0.7 max **Mg** 0.6-1.2 **Mn** 0.30-0.8 **Pb** 0.40-1.2 **Si** 0.50-1.2 **Ti** 0.20 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 6018
A96019	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05-0.35 **Cu** 0.20-0.6 **Fe** 0.50 max **Mg** 0.8-1.2 **Mn** 0.10 max **Si** 0.6-1.0 **Ti** 0.15 max **Zn** 0.40-1.0 **Other** each 0.05 max, total 0.15 max.	**AA** 6019
A96020	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.30-0.9 **Fe** 0.50 max **Mg** 0.6-1.2 **Mn** 0.35 max **Pb** 0.05 max **Si** 0.40-0.9 **Sn** 0.9-1.5 **Ti** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 6020
A96022	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.01-0.11 **Fe** 0.05-0.20 **Mg** 0.45-0.7 **Mn** 0.02-0.10 **Si** 0.8-1.5 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6022
A96030	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04-0.35 **Cu** 0.15-0.40 **Fe** 0.7 max **In** 0.05-0.50 **Mg** 0.8-1.2 **Mn** 0.15 max **Si** 0.40-0.8 **Sn** 0.05-0.50 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	
A96053	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.10 max **Fe** 0.35 max **Mg** 1.1-1.4 **Si** 45.0-65.0 of Mg **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 6053 **ASTM** B316 (6053) **FED** QQ-A-430 **SAE** J454 (6053)
A96056	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.25 max **Cu** 0.50-1.1 **Fe** 0.50 max **Mg** 0.6-1.2 **Mn** 0.40-1.0 **Si** 0.7-1.3 **Zn** 0.10-0.7 **Other** each 0.05 max, total 0.15 max, Ti+Zr 0.20 max	**AA** 6056
A96060	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.10-0.30 **Mg** 0.35-0.6 **Mn** 0.10 max **Si** 0.30-0.6 **Ti** 0.10 max **Zn** 0.15 max **Other** each 0.05 max, total 0.15 max	**AA** 6060 **ASTM** B221 (6060)
A96061	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04-0.35 **Cu** 0.15-0.40 **Fe** 0.7 max **Mg** 0.8-1.2 **Mn** 0.15 max **Si** 0.40-0.8 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6061;6061A **AMS** 4009; 4025; 4026; 4027; 4079; 4080; 4081; 4082; 4083; 4113; 4115; 4116; 4117; 4127; 4128; 4146; 4150; 4160; 4161; 4172; 4173; 4248; 4312 **MAM** 4248 **ASTM** B209 (6061); B210 (6061); B211 (6061); B221 (6061); B234 (6061); B241 (6061); B247 (6061); B308 (6061); B313 (6061); B316 (6061); B345 (6061); B361 (6061); B404 (6061); B429 (6061); B483 (6061); B547 (6061); B548; B632; F467; F468 **FED** QQ-A-225/8; QQ-A-250/11; QQ-A-430; WW-T-700/6 **MIL SPEC** MIL-W-85; MIL-F-3922; MIL-A-12545; MIL-G-18014; MIL-G-18015; MIL-F-18280; MIL-A-22771; MIL-W-23351; MIL-P-25995; MIL-F-39000 **SAE** J454 (6061)
A96063	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.35 max **Mg** 0.45-0.9 **Mn** 0.10 max **Si** 0.20-0.6 **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 6063; 6063A **AMS** 4156 **ASTM** B210 (6063); B221 (6063); B241 (6063); B345 (6063); B361 (6063); B429 (6063); B483 (6063); B491 (6063) **MIL SPEC** MIL-W-85; MIL-G-18014; MIL-G-18015; MIL-P-25995 **SAE** J454 (6063)
A96066	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.40 max **Cu** 0.7-1.2 **Mg** 0.8-1.4 **Mn** 0.6-1.1 **Si** 0.9-1.8 **Ti** 0.20 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6066 **ASTM** B221 (6066); B241/B241M (6066); B247 (6066) **SAE** J454 (6066)
A96069	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05-0.30 **Cu** 0.55-1.0 **Fe** 0.40 max **Mg** 1.2-1.6 **Mn** 0.05 max **Si** 0.6-1.2 **Sr** 0.05 max **Ti** 0.10 max **V** 0.10-0.30 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 6069

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A96070	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15-0.40 **Fe** 0.50 max **Mg** 0.50-1.2 **Mn** 0.40-1.0 **Si** 1.0-1.7 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6070 **ASTM** B221 (6070); B345 (6070) **MIL SPEC** MIL-A-12545 **SAE** J454 (6070)
A96081	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.6-1.0 **Mn** 0.10-0.45 **Si** 0.7-1.1 **Ti** 0.15 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 6081
A96082	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.25 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.6-1.2 **Mn** 0.40-1.0 **Si** 0.7-1.3 **Ti** 0.10 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 6082; 6082A
* **A96090**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.30-0.9 **Fe** 0.7 max **Mg** 0.8-1.2 **Mn** 0.15 max **O** 0.05-0.7 **Si** 0.40-0.8 **Ti** 0.15 max **Zn** 0.25 max **Other** 0.05 max each, 0.15 max total	**AA** 6090
A96091	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.15-0.40 **Fe** 0.7 max **Mg** 0.8-1.2 **Mn** 0.15 max **O** 0.05-0.50 **Si** 0.40-0.8 **Ti** 0.15 max **Zn** 0.25 max **Other** 0.05 max each, 0.15 max total	**AA** 6091
A96092	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.7-1.0 **Fe** 0.30 max **Mg** 0.8-1.2 **Mn** 0.15 max **O** 0.05-0.50 **Si** 0.40-0.8 **Ti** 0.15 max **Zn** 0.25 max **Other** 0.05 max each, 0.15 max total	**AA** 6092
A96101	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **B** 0.06 max **Cr** 0.03 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.35-0.8 **Mn** 0.03 max **Si** 0.30-0.7 **Zn** 0.10 max **Other** each 0.03 max, total 0.10 max	**AA** 6101; 6101A; 6101B **ASTM** B317 (6101) **SAE** J454 (6101)
A96103	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.35 max **Cu** 0.20-0.30 **Fe** 0.6 max **Mg** 0.8-1.5 **Mn** 0.8 max **Si** 0.35-1.0 **Ti** 0.10 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 6103
A96105	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.35 max **Mg** 0.45-0.8 **Mn** 0.15 max **Si** 0.6-1.0 **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 6105 **ASTM** B221 (6105)
A96106	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.25 max **Fe** 0.35 max **Mg** 0.40-0.8 **Mn** 0.05-0.20 **Si** 0.30-0.6 **Zn** 0.10 max **Other** each 0.05 max, total 0.10 max	**AA** 6106
A96110	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04-0.25 **Cu** 0.20-0.7 **Fe** 0.8 max **Mg** 0.50-1.1 **Mn** 0.20-0.7 **Si** 0.7-1.5 **Ti** 0.15 max **Zn** 0.30 max **Other** each 0.05 max, total 0.15 max	**AA** 6110; 6110A **ASTM** B211 (6110)
A96111	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 **Cu** 0.50-0.9 **Fe** 0.40 **Mg** 0.50-1.0 **Mn** 0.10-0.45 **Si** 0.6-1.1 **Ti** 0.10 **Zn** 0.15 **Other** each 0.05, total 0.15	**AA** 6111
A96113	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.6-1.1 **Fe** 0.30 max **Mg** 0.8-1.2 **Mn** 0.10-0.6 **O** 0.05-0.50 **Si** 0.6-1.0 **Ti** 0.10 max **Zn** 0.25 max **Other** 0.05 max each, 0.15 max total	**AA** 6113
A96116	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.20 max **Fe** 0.25 max **Mg** 0.25-0.6 **Mn** 0.15 max **Si** 0.9-1.3 **Ti** 0.15 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max.	**AA** 6116

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A96151	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15-0.35 **Cu** 0.35 max **Fe** 1.0 max **Mg** 0.45-0.8 **Mn** 0.20 max **Si** 0.6-1.2 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6151 **AMS** 4125 **ASTM** B247 (6151) **MIL SPEC** MIL-C-10387; MIL-A-22771 **SAE** J454 (6151)
A96160	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.20 max **Fe** 0.15 max **Mg** 0.35-0.6 **Mn** 0.05 max **Si** 0.30-0.6 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 6160
A96162	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.20 max **Fe** 0.50 max **Mg** 0.7-1.1 **Mn** 0.10 max **Si** 0.40-0.8 **Ti** 0.10 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6162 **ASME** B241 (6162)
A96181	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.45 max **Mg** 0.6-1.0 **Mn** 0.15 max **Si** 0.8-1.2 **Ti** 0.10 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 6181; 6181B
A96201	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **B** 0.06 max **Cr** 0.03 max **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.6-0.9 **Mn** 0.03 max **Si** 0.50-0.9 **Zn** 0.10 max **Other** each 0.03 max, total 0.10 max	**AA** 6201; 6201A **ASTM** B398 (6201); B399 (6201); B524 (6201); B711 (6201) **SAE** J454 (6201)
A96205	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05-0.15 **Cu** 0.20 max **Fe** 0.7 max **Mg** 0.40-0.6 **Mn** 0.05-0.15 **Si** 0.6-0.9 **Ti** 0.15 max **Zn** 0.25 max **Zr** 0.05-0.15 **Other** each 0.05 max, total 0.15 max	**AA** 6205
A96206	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 **Cu** 0.20-0.50 **Fe** 0.35 max **Mg** 0.45-0.8 **Mn** 0.13-0.30 **Si** 0.35-0.7 **Ti** 0.10 max **Zn** 0.20 max **Other** 0.05 max each, 0.15 max total	**AA** 6206
A96253	Wrought Aluminum Alloy, Heat Treatable (Cladding Alloy)	**Al** rem **Cr** 0.04-0.35 **Cu** 0.10 max **Fe** 0.50 max **Mg** 1.0-1.5 **Si** 45.0-65.0 of Mg **Zn** 1.6-2.4 **Other** each 0.05 max, total 0.15 max	**AA** 6253 **ASTM** B211 (6253)
A96260	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.03 max **Cu** 0.10 max **Fe** 0.15-0.40 **Mg** 0.45-0.7 **Mn** 0.03 max **Si** 0.40-0.6 **Ti** 0.10 max **V** 0.10-0.25 **Zn** 0.05 max **Zr** 0.05 max **Other** each 0.05 max, total 0.15 max.	**AA** X6260
A96261	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15-0.40 **Fe** 0.40 max **Mg** 0.7-1.0 **Mn** 0.20-0.35 **Si** 0.40-0.7 **Ti** 0.10 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 6261
A96262	Wrought Aluminum Alloy, Heat Treatable, Free Machining	**Al** rem **Bi** 0.40-0.7 **Cr** 0.04-0.14 **Cu** 0.15-0.40 **Fe** 0.7 max **Mg** 0.8-1.2 **Mn** 0.15 max **Pb** 0.40-0.7 **Si** 0.40-0.8 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6262 **ASTM** B210 (6262); B211 (6262); B221 (6262); B483 (6262); F467 **FED** QQ-A-225/10 **SAE** J454 (6262)
A96301	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.10 max **Fe** 0.7 max **Mg** 0.6-0.9 **Mn** 0.15 max **Si** 0.50-0.9 **Ti** 0.15 max **Zn** 0.25 max **Other** each 0.05 max, total 0.15 max	**AA** 6301
A96306	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.05-0.16 **Fe** 0.10 max **Mg** 0.45-0.9 **Mn** 0.10-0.40 **Si** 0.20-0.6 **Ti** 0.05 max **Zn** 0.05 max **Other** 0.05 max each, 0.15 max total	**AA** 6306
A96351	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.50 max **Mg** 0.40-0.8 **Mn** 0.40-0.8 **Si** 0.7-1.3 **Ti** 0.20 max **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 6351; 6351A **ASTM** B221 (6351); B241 (6351); B345 (6351)
A96401	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.05-0.20 **Fe** 0.04 max **Mg** 0.35-0.7 **Mn** 0.03 max **Si** 0.35-0.7 **Ti** 0.01 max **Zn** 0.04 max **Other** 0.01 max each	**AA** 6401

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A96463	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 0.15 max **Mg** 0.45-0.9 **Mn** 0.05 max **Si** 0.20-0.6 **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 6463; 6463A **ASTM** B221 (6463) **SAE** J454 (6463)
A96763	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.04-0.16 **Fe** 0.08 max **Mg** 0.45-0.9 **Mn** 0.03 max **Si** 0.20-0.6 **V** 0.05 max **Zn** 0.03 max **Other** each 0.03 max, total 0.10 max	**AA** 6763
* **A96863**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.05-0.20 **Fe** 0.15 max **Mg** 0.50-0.8 **Mn** 0.05 max **Si** 0.40-0.6 **Ti** 0.10 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 6863
A96951	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.15-0.40 **Fe** 0.8 max **Mg** 0.40-0.8 **Mn** 0.10 max **Si** 0.20-0.50 **Zn** 0.20 max **Other** each 0.05 max, total 0.15 max	**AA** 6951
A96963	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.15-0.25 **Fe** 0.25 max **Mg** 0.35-0.7 **Mn** 0.05 max **Si** 0.40-0.6 **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 6963
* **A97001**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.18-0.35 **Cu** 1.6-2.6 **Fe** 0.40 max **Mg** 2.6-3.4 **Mn** 0.20 max **Si** 0.35 max **Ti** 0.20 max **Zn** 6.8-8.0 **Other** each 0.05 max, total 0.15 max	**AA** 7001 **SAE** J454 (7001)
A97003	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.20 max **Fe** 0.35 max **Mg** 0.50-1.0 **Mn** 0.30 max **Si** 0.30 max **Ti** 0.20 max **Zn** 5.0-6.5 **Zr** 0.05-0.25 **Other** 0.05 max each, 0.15 max total	**AA** 7003
A97004	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.05 max **Fe** 0.35 max **Mg** 1.0-2.0 **Mn** 0.20-0.7 **Si** 0.25 max **Ti** 0.05 max **Zn** 3.8-4.6 **Zr** 0.10-0.20 **Other** each 0.05 max, total 0.15 max	**AA** 7004
A97005	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.06-0.20 **Cu** 0.10 max **Fe** 0.40 max **Mg** 1.0-1.8 **Mn** 0.20-0.7 **Si** 0.35 max **Ti** 0.01-0.06 **Zn** 4.0-5.0 **Zr** 0.08-0.20 **Other** each 0.05 max, total 0.15 max	**AA** 7005 **ASTM** B221 (7005)
A97008	Wrought Aluminum Alloy, Heat Treatable (Cladding Alloy)	**Al** rem **Cr** 0.12-0.25 **Cu** 0.05 max **Fe** 0.10 max **Mg** 0.7-1.4 **Mn** 0.05 max **Si** 0.10 max **Ti** 0.05 max **Zn** 4.5-5.5 **Other** each 0.05 max, total 0.10 max	**AA** 7008 **ASTM** B209 (7008)
A97009	Wrought Aluminum Alloy, Heat Treatable	**Ag** 0.25-0.40 **Al** rem **Cr** 0.10-0.25 **Cu** 0.6-1.3 **Fe** 0.20 max **Mg** 2.1-2.9 **Mn** 0.10 max **Si** 0.20 max **Ti** 0.20 max **Zn** 5.5-6.5 **Other** 0.05 max each, 0.15 max total	**AA** 7009
A97010	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 1.5-2.0 **Fe** 0.15 max **Mg** 2.1-2.6 **Mn** 0.10 max **Ni** 0.05 max **Si** 0.12 max **Ti** 0.06 max **Zn** 5.7-6.7 **Zr** 0.10-0.16 **Other** each 0.05 max, total 0.15 max	**AA** 7010 **AMS** 4203; 4204; 4205
A97011	Wrought Aluminum Alloy, Heat Treatable (Cladding Alloy)	**Al** rem **Cr** 0.05-0.20 **Cu** 0.05 max **Fe** 0.20 max **Mg** 1.0-1.6 **Mn** 0.10-0.30 **Si** 0.15 max **Ti** 0.05 max **Zn** 4.0-5.5 **Other** each 0.05 max, total 0.15 max	**AA** 7011

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A97012	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04 max **Cu** 0.8-1.2 **Fe** 0.25 max **Mg** 1.8-2.2 **Mn** 0.08-0.15 **Si** 0.15 max **Ti** 0.02-0.08 **Zn** 5.8-6.5 **Zr** 0.10-0.18 **Other** 0.05 max each, 0.15 max total	**AA** 7012
***A97013**	Wrought Aluminum Alloy, Heat Treatable (Cladding Alloy)	**Al** rem **Cu** 0.10 max **Fe** 0.7 max **Mn** 1.0-1.5 **Si** 0.6 max **Zn** 1.5-2.0 **Other** *each 0.05 max, total 0.15 max*	**AA** 7013
A97014	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.30-0.7 **Fe** 0.50 max **Mg** 2.2-3.2 **Mn** 0.30-0.7 **Ni** 0.10 max **Si** 0.50 max **Zn** 5.2-6.2 **Other** 0.05 max each, 0.15 max total, Ti+Zr 0.20 max	**AA** 7014
A97015	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.06-0.15 **Fe** 0.30 max **Mg** 1.3-2.1 **Mn** 0.10 max **Si** 0.20 max **Ti** 0.10 max **Zn** 4.6-5.2 **Zr** *0.10-0.20* **Other** 0.05 max each, 0.15 max total	**AA** 7015
A97016	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.45-1.0 **Fe** 0.12 max **Mg** 0.8-1.4 **Mn** 0.03 max **Si** 0.10 max **Ti** 0.03 **V** 0.05 max **Zn** 4.0-5.0 **Other** each 0.03 max, total 0.10 max	**AA** 7016
A97017	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.35 max **Cu** 0.20 max **Fe** 0.45 max **Mg** 2.0-3.0 **Mn** 0.05-0.50 **Ni** 0.10 max **Si** 0.35 max **Ti** 0.15 max **Zn** 4.0-5.2 **Zr** 0.10-0.25 **Other** *each* 0.05 max, total 0.15 max, Cr+Mn 0.15 min	**AA** 7017
A97018	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.20 max **Fe** 0.45 max **Mg** 0.7-1.5 **Mn** 0.15-0.50 **Ni** 0.10 max **Si** 0.35 max **Ti** 0.15 max **Zn** 4.5-5.5 **Zr** 0.10-0.25 **Other** 0.05 max each, 0.15 max total	**AA** 7018
A97019	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.20 max **Fe** 0.45 max **Mg** 1.5-2.5 **Mn** 0.15-0.50 **Ni** 0.10 max **Si** 0.35 max **Ti** 0.15 max **Zn** 3.5-4.5 **Zr** 0.10-0.25 **Other** 0.05 max each, 0.15 max total	**AA** 7019; 7019A
A97020	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.35 **Cu** 0.20 max **Fe** 0.40 max **Mg** 1.0-1.4 **Mn** 0.05-0.50 **Si** 0.35 max **Zn** 4.0-5.0 **Zr** 0.08-0.20 **Other** each 0.05 max, total 0.15, Ti+Zr 0.08-0.25	**AA** 7020
A97021	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.25 max **Fe** 0.40 max **Mg** 1.2-1.8 **Mn** 0.10 max **Si** 0.25 max **Ti** 0.10 max **Zn** 5.0-6.0 **Zr** 0.08-0.18 **Other** each 0.05 max, total 0.15 max	**AA** 7021
A97022	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.30 **Cu** 0.50-1.0 **Fe** 0.50 max **Mg** 2.6-3.7 **Mn** 0.10-0.40 **Si** 0.50 max **Zn** 4.3-5.3 **Other** 0.05 max each, 0.15 max total, Ti+Zr 0.20 max	**AA** 7022
A97023	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05-0.35 **Cu** 0.50-1.0 **Fe** 0.50 max **Mg** 2.0-3.0 **Mn** 0.10-0.6 **Si** 0.50 max **Ti** 0.10 max **Zn** 4.0-6.0 **Other** 0.05 max each, 0.15 max total	**AA** 7023
A97024	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05-0.35 **Cu** 0.10 max **Fe** 0.40 max **Mg** 0.50-1.0 **Mn** 0.10-0.6 **Si** 0.30 max **Ti** 0.10 max **Zn** 3.0-5.0 **Other** 0.05 max each, 0.15 max total	**AA** 7024
A97025	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05-0.35 **Cu** 0.10 max **Fe** 0.40 max **Mg** 0.8-1.5 **Mn** 0.10-0.6 **Si** 0.30 max **Ti** 0.10 max **Zn** 3.0-5.0 **Other** *0.05 max each, 0.15 max total*	**AA** 7025

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A97026	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.6-0.9 **Fe** 0.12 max **Mg** 1.5-1.9 **Mn** 0.05-0.20 **Si** 0.08 max **Ti** 0.05 max **Zn** 4.6-5.2 **Zr** 0.09-0.14 **Other** 0.03 max each, 0.10 max total	**AA** 7026
• **A97027**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.10-0.30 **Fe** 0.40 max **Mg** 0.7-1.1 **Mn** 0.10-0.40 **Si** 0.25 max **Ti** 0.10 max **Zn** 3.5-4.5 **Zr** 0.05-0.30 **Other** 0.05 max each, 0.15 max total	**AA** 7027
A97028	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.10-0.30 **Fe** 0.50 max **Mg** 1.5-2.3 **Mn** 0.15-0.6 **Si** 0.35 max **Ti** 0.05 max **Zn** 4.5-5.2 **Other** each 0.05 max, total 0.15 max, Ti+Zr 0.08-0.25	**AA** 7028
A97029	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.50-0.9 **Fe** 0.12 max **Mg** 1.3-2.0 **Mn** 0.03 max **Si** 0.10 max **Ti** 0.05 max **V** 0.05 max **Zn** 4.2-5.2 **Other** each 0.03 max, total 0.10 max	**AA** 7029
A97030	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04 max **Cu** 0.20-0.40 **Fe** 0.30 max **Ga** 0.03 max **Mg** 1.0-1.5 **Mn** 0.05 max **Si** 0.20 max **Ti** 0.03 max **Zn** 4.8-5.9 **Zr** 0.03 max **Other** 0.05 max each, 0.15 max total	**AA** 7030
A97031	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.8-1.4 **Mg** 0.10 max **Mn** 0.10-0.40 **Si** 0.30 max **Zn** 0.8-1.8 **Other** 0.05 max each, 0.15 max total	**AA** 7031
A97032	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Bi** 0.01 max **Cr** 0.15-0.25 **Cu** 1.7-2.3 **Fe** 0.12 max **Mg** 1.5-2.5 **Mn** 0.05 max **Pb** 0.01 max **Si** 0.10 max **Ti** 0.10 max **Zn** 5.6-6.5 **Other** 0.05 max each, 0.15 max total	**AA** 7032
A97033	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.7-1.30 **Fe** 0.30 max **Ga** 0.05 max **Mg** 1.3-2.2 **Mn** 0.10 max **Si** 0.15 max **Ti** 0.10 max **V** 0.05 max **Zn** 4.6-5.6 **Zr** 0.08-0.15 **Other** each 0.05 max, total 0.15 max	**AA** 7033
A97039	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15-0.25 **Cu** 0.10 max **Fe** 0.40 max **Mg** 2.3-3.3 **Mn** 0.10-0.40 **Si** 0.30 max **Ti** 0.10 max **Zn** 3.5-4.5 **Other** each 0.05 max, total 0.15 max	**AA** 7039 **MIL SPEC** MIL-A-22771; MIL-A-45225; MIL-A-46063; MIL-A-46083
A97040	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.04 max **Cu** 1.5-2.3 **Fe** 0.13 max **Mg** 1.7-2.4 **Mn** 0.04 max **Si** 0.10 max **Ti** 0.06 max **Zn** 5.7-6.7 **Zr** 0.05-0.12 **Other** each 0.05 max, total 0.15 max.	**AA** 7040
A97046	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.25 max **Fe** 0.40 max **Mg** 1.0-1.6 **Si** 0.20 max **Ti** 0.06 max **Zn** 6.6-7.6 **Zr** 0.10-0.18 **Other** each 0.05 max, total 0.15 max	**AA** 7046
A97049	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.22 **Cu** 1.2-1.9 **Fe** 0.35 max **Mg** 2.0-2.9 **Mn** 0.20 max **Si** 0.25 max **Ti** 0.10 max **Zn** 7.2-8.2 **Other** each 0.05 max, total 0.15 max	**AA** 7049; 7049A **AMS** 4111; 4157; 4159; 4200; 4247; 4321 **MAM** 4247 **ASTM** B247 (7049)
A97050	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04 max **Cu** 2.0-2.6 **Fe** 0.15 max **Mg** 1.9-2.6 **Mn** 0.10 max **Si** 0.12 max **Ti** 0.06 max **Zn** 5.7-6.7 **Zr** 0.08-0.15 **Other** each 0.05 max, total 0.15 max	**AA** 7050, 7050A **AMS** 4050; 4107; 4108; 4201; 4340; 4341; 4342; 4333 **ASTM** B247 (7050); B316 (7050) **FED** QQ-A-430

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* **A97051**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.05-0.25 **Cu** 0.15 max **Fe** 0.45 max **Mg** 1.7-2.5 **Mn** 0.10-0.45 **Si** 0.35 max **Ti** 0.15 max **Zn** 3.0-4.0 **Other** 0.05 max each, 0.15 max total	**AA** 7051
A97055	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04 max **Cu** 2.0-2.6 **Fe** 0.15 max **Mg** 1.8-2.3 **Mn** 0.05 max **Si** 0.10 max **Ti** 0.06 max **Zn** 7.6-8.4 **Zr** 0.08-0.25 **Other** 0.05 max each, 0.15 max total	**AA** 7055
A97060	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.15-0.25 **Cu** 1.8-2.6 **Fe** 0.20 max **Mg** 1.3-2.1 **Mn** 0.20 max **Pb** 0.003 max **Si** 0.15 max **Ti** 0.05 max **Zn** 6.1-7.5 **Zr** 0.05 max **Other** 0.05 max each, 0.15 max total	**AA** 7060
A97064	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Co** 0.10-0.40 **Cr** 0.06-0.25 **Cu** 1.8-2.4 **Fe** 0.15 max **Mg** 1.9-2.9 **O** 0.05-0.30 **Si** 0.12 max **Zn** 6.8-8.0 **Zr** 0.10-0.50 **Other** 0.05 max each, 0.15 max total	**AA** 7064
A97068	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05max **Cu** 1.6-2.4 **Fe** 0.15 max **Mg** 2.2-3.0. Mn 0.10 max **Si** 0.12 max **Ti** 0.10 max **Zn** 7.3-8.3 **Zr** 0.05-.0.15 **Other** each 0.05 max, total 0.15 max	**AA** 7068
* **A97070**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.05 max **Fe** 0.25 max **Si** 0.15 max **Zn** 1.3-1.8 **Other** each 0.05 max, total 0.15 max	**AA** 7070
A97072	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Mg** 0.10 max **Mn** 0.10 max **Zn** 0.8-1.3 **Other** each 0.05 max, total 0.15 max, Fe+Si 0.7 max	**AA** 7072 **ASTM** B209 (7072); B210 (7072); B221 (7072); B234 (7072); B241 (7072); B313 (7072); B345 (7072); B404 (7072); B547 (7072)
A97075	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.18-0.28 **Cu** 1.2-2.0 **Fe** 0.50 max **Mg** 2.1-2.9 **Mn** 0.30 max **Si** 0.40 max **Ti** 0.20 max **Zn** 5.1-6.1 **Other** each 0.05 max, total 0.15 max, Ti+Zr 0.20 max for extruded and forged products only, but only when producer and purchaser mutually agree.	**AA** 7075 **AMS** 4044; 4045; 4078; 4122; 4123; 4124; 4126; 4131; 4141; 4147; 4154; 4166; 4167; 4168; 4169; 4174; 4186; 4277; 4310; 4311; 4323 **MAM** 4131; 4141; 4323 **ASTM** B209 (7075); B210 (7075); B211 (7075); B221 (7075); B241 (7075); B247 (7075); B316 (7075); B468 (7075); F468 (7075) **FED** QQ-A-225/9; QQ-A-250/24; QQ-A-430; WW-T-700/7 **MIL SPEC** MIL-A-12545; MIL-F-18280; MIL-A-22771 **SAE** J454 (7075)
A97076	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.30-1.0 **Fe** 0.6 max **Mg** 1.2-2.0 **Mn** 0.30-0.8 **Si** 0.40 max **Ti** 0.20 max **Zn** 7.0-8.0 **Other** each 0.05 max, total 0.15 max	**AA** 7076 **ASTM** B247 (7076)
* **A97079**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.25 **Cu** 0.40-0.8 **Fe** 0.40 max **Mg** 2.9-3.7 **Mn** 0.10-0.30 **Si** 0.30 max **Ti** 0.10 max **Zn** 3.8-4.8 **Other** each 0.05 max, total 0.15 max	**AA** 7079 **AMS** 4136; 4138; 4171 **SAE** J454 (7079)
A97090	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Co** 1.0-1.9 **Cu** 0.6-1.3 **Fe** 0.15 **Mg** 2.0-3.0 **O** 0.20-0.50 **Si** 0.12 **Zn** 7.3-8.7 **Other** each 0.05	**AA** 7090
* **A97091**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Co** 0.20-0.6 **Cu** 1.1-1.8 **Fe** 0.15 **Mg** 2.0-3.0 **O** 0.20-0.50 **Si** 0.12 **Zn** 5.8-7.1 **Other** each 0.05 max, total 0.15 max	**AA** 7091

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A97093	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 1.1-1.9 **Fe** 0.15 max **Mg** 2.0-3.0 **Ni** 0.04-0.16 **O** 0.05-0.50 **Si** 0.12 max **Zn** 8.3-9.7 **Zr** 0.08-0.20 **Other** each 0.05 max, total 0.15 max	**AA** 7093
* **A97104**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.03 max **Fe** 0.40 max **Mg** 0.50-0.9 **Si** 0.25 max **Ti** 0.10 max **Zn** 3.6-4.4 **Other** each 0.05 max, total 0.15 max	**AA** 7104
A97108	Wrought Aluminum Alloy, Heat Treatable (Cladding Alloy)	**Al** rem **Cu** 0.05 max **Fe** 0.10 max **Mg** 0.7-1.4 **Mn** 0.05 max **Si** 0.10 max **Ti** 0.05 max **Zn** 4.5-5.5 **Zr** 0.12-0.25 **Other** each 0.05 max, total 0.15 max	**AA** 7108; 7108A
* **A97109**	Wrought Aluminum Alloy, Heat Treatable	**Ag** 0.25-0.40 **Al** rem **Cr** 0.04-0.08 **Cu** 0.8-1.3 **Fe** 0.15 max **Mg** 2.2-2.7 **Mn** 0.10 max **Si** 0.10 max **Ti** 0.10 max **Zn** 5.8-6.5 **Zr** 0.10-0.20 **Other** 0.05 max each, 0.15 max total	**AA** 7109
A97116	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.50-1.1 **Fe** 0.30 max **Ga** 0.03 max **Mg** 0.8-1.4 **Mn** 0.05 max **Si** 0.15 max **Ti** 0.05 max **V** 0.05 max **Zn** 4.2-5.2 **Other** each 0.05 max, total 0.15 max	**AA** 7116 **ASTM** B221 (7116)
A97129	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 0.50-0.9 **Fe** 0.30 max **Ga** 0.03 max **Mg** 1.3-2.0 **Mn** 0.10 max **Si** 0.15 max **Ti** 0.05 max **V** 0.05 max **Zn** 4.2-5.2 **Other** each 0.05 max, total 0.15 max	**AA** 7129 **ASTM** B221 (7129)
* **A97146**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.22 **Cu** 1.2-1.9 **Fe** 0.40 max **Mg** 1.0-1.6 **Mn** 0.20 max **Si** 0.20 max **Ti** 0.06 max **Zn** 6.6-7.6 **Zr** 0.10-0.18 **Other** each 0.05 max, total 0.15 max	**AA** 7146
A97149	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.22 **Cu** 1.2-1.9 **Fe** 0.20 max **Mg** 2.0-2.9 **Mn** 0.20 max **Si** 0.15 max **Ti** 0.10 max **Zn** 7.2-8.2 **Other** each 0.05 max, total 0.15 max	**AA** 7149 **AMS** 4252; 4320; 4343; 4345
A97150	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.04 max **Cu** 1.9-2.5 **Fe** 0.15 max **Mg** 2.0-2.7 **Mn** 0.10 max **Si** 0.12 max **Ti** 0.06 max **Zn** 5.9-6.9 **Zr** 0.08-0.15 **Other** each 0.05 max, total 0.15 max	**AA** 7150 **AMS** 4252; 4306; 4307; 4345
A97175	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.18-0.28 **Cu** 1.2-2.0 **Fe** 0.20 max **Mg** 2.1-2.9 **Mn** 0.10 max **Si** 0.15 max **Ti** 0.10 max **Zn** 5.1-6.1 **Other** each 0.05 max, total 0.15 max	**AA** 7175 **AMS** 4148; 4149; 4179; 4344 **ASTM** B247 (7175) **MIL SPEC** MIL-A-22771
A97178	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.18-0.35 **Cu** 1.6-2.4 **Fe** 0.50 max **Mg** 2.4-3.1 **Mn** 0.30 max **Si** 0.40 max **Ti** 0.20 max **Zn** 6.3-7.3 **Other** each 0.05 max, total 0.15 max	**AA** 7178 **ASTM** B209 (7178); B221 (7178); B241 (7178); B316 (7178) **FED** QQ-A-250/14; QQ-A-250/21; QQ-A-430 **SAE** J454 (7178)
* **A97179**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.25 **Cu** 0.40-0.8 **Fe** 0.20 max **Mg** 2.9-3.7 **Mn** 0.10-0.30 **Si** 0.15 max **Ti** 0.10 max **Zn** 3.8-4.8 **Other** each 0.05 max, total 0.15 max	**AA** 7179

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A97229	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.50-0.9 **Fe** 0.08 max **Mg** 1.3-2.0 **Mn** 0.03 max **Si** 0.06 **Ti** 0.05 max **V** 0.05 max **Zn** 4.2-5.2 **Other** each 0.03 max, total 0.10 max	**AA** 7229
A97249	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.12-0.18 **Cu** 1.3-1.9 **Fe** 0.12 max **Mg** 2.0-2.4 **Mn** 0.10 max **Si** 0.10 max **Ti** 0.06 max **Zn** 7.5-8.2 **Other** each 0.05 max, total 0.15 max	**AA** 7249 **AMS** 4334
A97277	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.18-0.35 **Cu** 0.8-1.7 **Fe** 0.7 max **Mg** 1.7-2.3 **Si** 0.50 max **Ti** 0.10 max **Zn** 3.7-4.3 **Other** each 0.05 max, total 0.15 max	**AA** 7277 **ASTM** B316 (7277)
A97278	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.17-0.25 **Cu** 1.6-2.2 **Fe** 0.20 max **Ga** 0.03 max **Mg** 2.5-3.2 **Mn** 0.02 max **Si** 0.15 max **Ti** 0.03 max **V** 0.05 max **Zn** 6.6-7.4 **Other** 0.03 max each, 0.10 max total	**AA** 7278; 7278A
A97349	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10-0.22 **Cu** 1.4-2.1 **Fe** 0.15 max **Mg** 1.8-2.7 **Mn** 0.20 max **Si** 0.12 max **Zn** 7.5-8.7 **Other** each 0.05 max, total 0.15 max, (Ti+Zr) 0.25 max	**AA** 7349
A97449	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 1.4-2.1 **Fe** 0.15 max **Mg** 1.8-2.7 **Mn** 0.20 max **Si** 0.12 max **Zn** 7.5-8.7 **Other** each 0.05 max, total 0.15 max, (Ti+Zr) 0.25 max	**AA** 7449
* **A97472**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.05 max **Fe** 0.6 max **Mg** 0.9-1.5 **Mn** 0.05 max **Si** 0.25 max **Zn** 1.3-1.9 **Other** each 0.05 max, total 0.15 max	**AA** 7472
A97475	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.18-0.25 **Cu** 1.2-1.9 **Fe** 0.12 max **Mg** 1.9-2.6 **Mn** 0.06 max **Si** 0.10 max **Ti** 0.06 max **Zn** 5.2-6.2 **Other** each 0.05 max, total 0.15	**AA** 7475 **AMS** 4084; 4085; 4089; 4090; 4202
* **A98001**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.001 max **Cd** 0.003 max **Co** 0.001 max **Cu** 0.15 max **Fe** 0.45-0.7 **Li** 0.008 max **Ni** 0.9-1.3 **Si** 0.17 max **Other** each 0.05 max, total 0.15 max	**AA** 8001
* **A98004**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.03 max **Fe** 0.15 max **Mg** 0.02 max **Mn** 0.02 max **Si** 0.15 max **Ti** 0.30-0.7 **Zn** 0.03 max **Other** 0.02 max each, 0.15 max total	**AA** 8004
A98005	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05 max **Fe** 0.40-0.8 **Mg** 0.05 max **Si** 0.20-0.50 **Zn** 0.05 max **Other** 0.05 max each, 0.15 max total	**AA** 8005
A98006	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.30 **Fe** 1.2-2.0 **Mg** 0.10 **Mn** 0.30-1.0 **Si** 0.40 **Zn** 0.10 **Other** each 0.05, total 0.15	**AA** 8006
A98007	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 **Fe** 1.2-2.0 **Mg** 0.10 **Mn** 0.30-1.0 **Si** 0.40 **Zn** 0.8-1.8 **Other** each 0.05, total 0.15	**AA** 8007
A98008	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 0.9-1.6 **Mn** 0.50-1.0 **Si** 0.6 max **Ti** 0.10 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 8008

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A98009	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Fe** 8.4-8.9 **Mn** 0.10 max **O** 0.30 max **Si** 1.7-1.9 **Ti** 0.10 max **V** 1.1-1.5 **Zn** 0.25 max **Other** 0.05 max each, 0.15 max total	**AA** 8009 **AMS** 4308, 4309
A98010	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.10-0.30 **Fe** 0.35-0.7 **Mg** 0.10-0.50 **Mn** 0.10-0.8 **Si** 0.40 max **Ti** 0.10 max **Zn** 0.40 max **Other** each 0.05 max, total 0.15 max	**AA** 8010
A98011	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.6-1.0 **Mg** 0.05 max **Mn** 0.20 max **Si** 0.50-0.9 **Ti** 0.08 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 8011; 8011A
• **A98013**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20-0.50 **Ti** 0.10 max **Other** each 0.03 max, total 0.10 max, plus Si+Fe 0.25 max	**AA** 8013
A98014	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Fe** 1.2-1.6 **Mg** 0.10 max **Mn** 0.20-0.6 **Si** 0.30 max **Ti** 0.10 max **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 8014
A98015	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.8-1.4 **Mg** 0.10 max **Mn** 0.10-0.40 **Si** 0.30 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 8015
A98016	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.10 max **Fe** 0.7-1.1 **Mg** 0.10 max **Mn** 0.10-0.30 **Si** 0.20 max **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 8016
A98017	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.04 max **Cu** 0.10-0.20 **Fe** 0.55-0.8 **Li** 0.003 max **Mg** 0.01-0.05 **Si** 0.10 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 8017 **ASTM** B800 (8017)
A98018	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.30-0.6 **Fe** 0.6-1.0 **Mn** 0.30 max **Si** 0.50-0.9 **Ti** 0.006-0.06 **Other** 0.05 max each, 0.15 max total	**AA** 8018
A98019	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Ce** 3.5-4.5 **Fe** 7.3-9.3 **Mn** 0.05 max **O** 0.05-0.50 **Si** 0.20 max **Ti** 0.05 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max, Ce 3.5-4.5	**AA** 8019
A98020	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Bi** 0.10-0.50 **Cu** 0.005 max **Fe** 0.10 max **Mn** 0.005 max **Si** 0.10 max **Sn** 0.10-0.25 **V** 0.05 max **Zn** 0.005 max **Other** each 0.03 max, total 0.10 max	**AA** 8020
A98021	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05 max **Fe** 1.2-1.7 **Si** 0.15 max **Other** 0.05 max each, 0.15 max total	**AA** 8021; 8021A; 8021B
A98022	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.10 max **Fe** 6.2-6.8 **Mn** 0.10 max **O** 0.05-0.20 **Si** 1.2-1.4 **Ti** 0.10 max **V** 0.40-0.8 **Zn** 0.25 max **Other** 0.05 max each, 0.15 max total	**AA** 8022
A98023	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.01-0.02 **Cr** 0.02 max **Cu** 0.10-0.40 **Fe** 1.3-1.6 **Mg** 0.005 max **Mn** 0.30-0.6 **Si** 0.20 max **Ti** 0.05-0.10 **Other** each 0.05 max, total 0.15 max.	**AA** 8023
A98030	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.001-0.04 **Cu** 0.15-0.30 **Fe** 0.30-0.8 **Mg** 0.05 max **Si** 0.10 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 8030 **ASTM** B800 (8030)
A98040	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.20 max **Mn** 0.05 max **Zn** 0.20 max **Zr** 0.10-0.30 **Other** each 0.15 max, total 0.15, Fe+Si 1.0 max	**AA** 8040

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A98050	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.05 max **Fe** 1.1-1.2 **Mg** 0.05 max **Mn** 0.45-0.55 **Si** 0.15-0.30 **Zn** 0.10 max **Other** 0.05 max each, 0.15 max total	**AA** 8050
A98076	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.04 max **Cu** 0.04 max **Fe** 0.6-0.9 **Mg** 0.08-0.22 **Si** 0.10 max **Zn** 0.05 max **Other** each 0.03 max, total 0.10 max	**AA** 8076 **ASTM** B800 (8076)
A98077	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.05 max **Cu** 0.05 max **Fe** 0.10-0.40 **Mg** 0.10-0.30 **Si** 0.10 max **Zn** 0.05 max **Zr** 0.02-0.08 **Other** each 0.03 max, total 0.10 max	**AA** 8077
A98079	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05 max **Fe** 0.7-1.3 **Si** 0.05-0.30 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 8079 **ASTM** B479 (8079)
* **A98081**	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.7-1.3 **Fe** 0.7 max **Mn** 0.10 max **Si** 0.7 max **Sn** 18.0-22.0 **Ti** 0.10 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 8081
A98090	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 1.0-1.6 **Fe** 0.30 max **Li** 2.2-2.7 **Mg** 0.6-1.3 **Mn** 0.10 max **Si** 0.20 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.04-0.16 **Other** 0.05 max each, 0.15 max total	**AA** 8090 **AMS** 4259
A98091	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 1.6-2.2 **Fe** 0.50 max **Li** 2.4-2.8 **Mg** 0.50-1.2 **Mn** 0.10 max **Si** 0.30 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.08-0.16 **Other** 0.05 max each, 0.15 max total	**AA** 8091
A98093	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cr** 0.10 max **Cu** 1.0-1.6 **Fe** 0.10 max **Li** 1.9-2.6 **Mg** 0.9-1.6 **Mn** 0.10 max **Si** 0.10 max **Ti** 0.10 max **Zn** 0.25 max **Zr** 0.04-0.14 **Other** each 0.05 max, total 0.15 max	**AA** 8093
A98111	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.05 max **Cu** 0.10 max **Fe** 0.40-1.0 **Mg** 0.05 max **Mn** 0.10 max **Si** 0.30-1.1 **Ti** 0.08 max **Zn** 0.10 max **Other** each 0.05, total 0.15	**AA** 8111 **ASTM** B479 (8111)
A98112	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.20 max **Cu** 0.40 max **Fe** 1.0 max **Mg** 0.7 max **Mn** 0.6 max **Si** 1.0 max **Ti** 0.20 max **Zn** 1.0 max **Other** each 0.05 max, total 0.15 max	**AA** 8112
A98130	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cu** 0.05-0.15 **Fe** 0.40-1.0 **Si** 0.15 max **Zn** 0.10 max **Other** each 0.03 max, total 0.10 max, Fe+Si 1.0 max	**AA** 8130 **ASTM** B800 (8130)
A98150	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.9-1.3 **Mn** 0.20-0.7 **Si** 0.30 max **Ti** 0.05 max **Other** each 0.05 max, total 0.15 max.	**AA** 8150
A98176	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Fe** 0.40-1.0 **Ga** 0.03 max **Si** 0.03-0.15 **Zn** 0.10 max **Other** each 0.05 max, total 0.15 max	**AA** 8176 **ASTM** B800 (8176)
* **A98177**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.04 **Cu** 0.04 **Fe** 0.25-0.45 **Mg** 0.04-0.12 **Si** 0.10 **Zn** 0.05 **Other** each 0.03 max, total 0.10 max	**AA** 8177 **ASTM** B800 (8177)
A98211	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **Cr** 0.15 max **Cu** 0.10 max **Fe** 0.50-1.0 **Mg** 0.10 max **Mn** 0.05-0.20 **Si** 0.40-0.8 **Ti** 0.05 max **Zn** 0.10 max **Other** 0.06 max each, 0.15 max total	**AA** 8211

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• **A98276**	Wrought Aluminum Alloy, Non-Heat Treatable	**Al** rem **B** 0.02 max **Cr** 0.01 max **Cu** 0.035 max **Fe** 0.50-0.8 **Ga** 0.03 max **Mg** 0.02 max **Mn** 0.01 max **Si** 0.25 max **Zn** 0.05 max **Other** 0.03 max each, 0.10 max total, V+Ti 0.03 max	**AA** 8276
A98280	Wrought Aluminum Alloy, Heat Treatable	**Al** rem **Cu** 0.7-1.3 **Fe** 0.7 max **Ni** 0.20-0.7 **Si** 1.0-2.0 **Sn** 5.5-7.0 **Ti** 0.10 max **Zn** 0.05 max **Other** each 0.05 max, total 0.15 max	**AA** 8280

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Cxxxxx Number Series
Copper and Copper Alloys

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COPPER AND COPPER ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C10100	Oxygen-Free Electronic Copper (OFE)	**Ag** 0.0025 max **As** 0.0005 max **Bi** 0.0001 max **Cd** 0.0001 max **Cu** 99.99 min **Fe** 0.0010 max **Mn** 0.0005 max **Ni** 0.0010 max **O_2** 0.0005 max **P** 0.0003 max **Pb** 0.0005 max **S** 0.0018 max **Sb** 0.0004 max **Se** 0.0010 max **Sn** 0.0002 max **Te** 0.0002 max **Zn** 0.0001 max **Other** total As, Bi, Mn, Sb, Se, Sn, and Te 0.0040 max	**AMS** 4700 **ASTM** B1; B2; B3; B8; B33; B48; B49; F68; B75; B111 (OFE); B133; B152; B172; B173; B174; B187; B188; B189; B224 (OFE); B246; B272; B280; B286; B298; B355; B359; B432; B447; B451; B470; B496; B640; B641; B698 (OFE) **FED** QQ-B-575; QQ-W-343 **MIL SPEC** MIL-W-85; MIL-W-3318; MIL-B-18907
C10200	Oxygen-Free Copper (OF)	**Cu** (incl Ag) 99.95 min	**AMS** 4501; 4602; 4701 **ASME** SB42; SB75; SB111; SB133; SB152; SB359; SB395 **ASTM** B1; B2; B3; B8; F9; B33; B42; B48; B49; B68; B75; B88; B111; B133; B152; B172; B173; B174; B187; B188; B189; B224 (OF); B226; B246; B272; B280; B286; B298; B355; B359; B372; B395; B432; B447; B451; B470; B496; B506; B566; B638 (OF); B640; B641; B687; B698 (OF); B716; B738; B743 **FED** QQ-B-575; WW-P-377; WW-T-799 **MIL SPEC** MIL-W-85; MIL-B-2029; MIL-W-6712; MIL-B-18907; MIL-T-24107 **SAE** J461; J463
C10300	Oxygen-Free Extra Low Phosphorus Copper (OFXLP)	**Cu** (incl Ag) 99.95 min **P** 0.001-0.005	**ASTM** B42; B68; B75; B88; B111; B133; B152; B187; B188; B224 (OFXLP); B280; B302; B306; B359; B372; B379 (OFXLP); B395; B432; B447; B638 (OFXLP); B640; B641; B687; B698 (OFXLP); B716; B743 **FED** WW-P-377 **MIL SPEC** MIL-T-3235; MIL-B-20292
C10400	Oxygen-Free Copper with Silver (OFS)	**Ag** 0.027 min **Cu** (incl Ag) 99.95 min	**ASME** SB152 **ASTM** B1; B2; B3; B49; B133; B152; B187; B188; B189; B224 (OFS); B246; B272; B298; B355; B506 **MIL SPEC** MIL-W-3318; MIL-B-20292
C10500	Oxygen-Free Copper with Silver (OFS)	**Ag** 0.034 min **Cu** (incl Ag) 99.95 min	**ASME** SB152 **ASTM** B1; B2; B3; B49; B133; B152; B187; B188; B189; B224 (OFS); B246; B272; B298; B355; B506
C10700	Oxygen-Free Copper with Silver (OFS)	**Ag** 0.085 min **Cu** (incl Ag) 99.95 min	**ASME** SB152 **ASTM** B1; B2; B3; B49; B133; B152; B187; B188; B189; B224 (OFS); B246; B272; B298; B355; B506 **FED** QQ-B-650 **MIL SPEC** MIL-W-3318; MIL-B-19231; MIL-B-20292
C10800	Oxygen-Free Low Phosphorus Copper (OFLP)	**Cu** (incl Ag + P) 99.95 min **P** 0.005-0.012	**ASTM** B42; B68; B75; B88; B111; B133; B152; B187; B224 (OFLP); B280; B302; B306; B359; B360; B379; B395; B432; B447; B543; B638 (OFLP); B640; B641; B687; B698 (OFLP); B716; B743 **FED** WW-P-377 **MIL SPEC** MIL-B-20292; MIL-T-24107
C10920	Copper (Controlled Oxygen)	**Cu** (incl Ag) 99.90 min **O** 0.02 max	
C10930	Copper (Controlled Oxygen)	**Ag** 0.044 min **Cu** (incl Ag) 99.90 min **O** 0.02 max	**ASTM** B187
C10940	Copper (Controlled Oxygen)	**Ag** 0.085 min **Cu** (incl Ag) 99.90 min **O** 0.02 max	
C11000	Electrolytic Tough Pitch Copper (ETP)	**Cu** (incl Ag) 99.90 min	**AMS** 4500 **ASME** SB133; SFA5.8 (BCu-1b) **ASTM** B1; B2; B3; B8; B33; B47; B48; B49; B101; B116; B124; B133; B152; B172; B173; B174; B187; B188; B189; B224 (ETP); B226; B228; B229; B246; B272; B283; B286; B298; B355; B370; B447; B451; B470; B496; B506; B566; B638; B694; B738; F467 (110); F468 (110) **AWS** A5.8 (BCu-1b) **FED** QQ-B-575; WW-P-377 **MIL SPEC** MIL-W-6712; MIL-C-12168; MIL-B-20292 **SAE** J461; J463
C11010	Remelted High Conductivity Tough Pitch Copper	**Cu** (incl Ag) 99.90 min **Other** Unspecified oxygen and trace elements	**ASTM** B224 (RHC)
C11020	Fine Refined High Conductivity Tough Pitch Copper	**Cu** (incl Ag) 99.90 min **Other** Unspecified oxygen and trace elements	**ASTM** B224 (FRHC)
C11030	Chemically Refined Tough Pitch Copper	**Cu** (incl Ag) 99.90 min **Other** Unspecified oxygen and trace elements	**ASTM** B224 (CRTP)

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C11040	Electronic/Electrowon Tough Pitch Copper	**Ag** 0.0025 max **As** 0.0005 max **Bi** 0.00010 max **Cu** 99.90 min **Fe** 0.0010 max **Ni** 0.0010 max O_2 0.010-0.065 **Pb** 0.0005 max **S** 0.0015 max **Sb** 0.0004 max **Se** 0.0002 max **Sn** 0.0005 max **Te** 0.0002 max **Other** Bi+Se+Te 0.0003 max total, total all (except Cu+O_2) 0.0065 max	**ASTM** B49
C11080	Non-Ferrous Thermal Spray Wire (W-Cu)	**Cu** 99.8 min	**AWS** A 5.33 (W-Cu)
C11100	Electrolytic Tough Pitch Anneal Resistant	**Cu** (incl Ag) 99.90 min **Note:** Small amounts of Cd or other elements may be added to improve the resistance to softening at elevated temperatures	**ASTM** B224 (ETP) **CDA** C11100
C11300	Tough Pitch Copper with Silver (STP)	**Ag** 0.027 min **Cu** (incl Ag) 99.90 min **Note:** Oxygen and trace elements may vary depending on the process	**ASTM** B1; B2; B3; B5 (STP); B8; B33; B47; B48; B49; B116; B33; B48; B152; B172; B173; B174; B187; B188; B189; B224 (ETP); B226; B228; B229; B246; B272; B286; B298; B355; B442 (STP); B470; B496; B506; B623 (STP) **FED** QQ-B-575 **MIL SPEC** MIL-B-20292 **SAE** J461; J463
C11400	Tough Pitch Copper with Silver (STP)	**Ag** 0.034 min **Cu** (incl Ag) 99.90 min **Note:** Oxygen and trace elements may vary depending on the process	**ASTM** B1; B2; B3; B5 (STP); B8; B47; B48; B49; B116; B152; B172; B173; B174; B187; B188; B189; B224 (ETP); B226; B229; B246; B272; B286; B298; B355; B442 (STP); B470; B496; B506; B623 (STP) **FED** QQ-B-575 **MIL SPEC** MIL-B-20292 **SAE** J461; J463
C11500	Tough Pitch Copper with Silver (STP)	**Ag** 0.054 min **Cu** (incl Ag) 99.90 min **Note:** Oxygen and trace elements may vary depending on the process	**ASTM** B1; B2; B3; B5 (STP); B8; B33; B47; B49; B116; B172; B173; B174; B189; B224 (ETP); B226; B228; B229; B246; B272; B286; B298; B355; B442 (STP); B470; B496; B623 (STP) **FED** QQ-B-575; QQ-W-343 **SAE** J461; J463
C11600	Tough Pitch Copper with Silver (STP)	**Ag** 0.085 min **Cu** (incl Ag) 99.90 min **Note:** Oxygen and trace elements may vary depending on the process	**ASTM** B1; B2; B3; B5 (STP); B8; B33; B47; B48; B49; B116; B152; B172; B173; B174; B187; B188; B189; B224 (ETP); B226; B229; B246; B272; B286; B298; B355; B442 (STP); B470; B496; B506; B623 (STP) **FED** QQ-B-575 **MIL SPEC** MIL-B-19231; MIL-B-20292 **SAE** J461; J463
C11700	Boron Deoxidized Copper	**B** 0.004-0.02 **Cu** (incl Ag+B) 99.90 min **P** 0.04 max	**FED** QQ-B-650
* **C11904**	Tough Pitch Copper with Silver	**Ag** 0.027 min **Cu** (incl Ag) 99.90 min **Other** For oxygen-free and deoxidized grades, B, Li, P, etc., limits shall be as agreed upon.	
* **C11905**	Tough Pitch Copper with Silver	**Ag** 0.034 min **Cu** (incl Ag) 99.90 min **Other** For oxygen-free and deoxidized grades, B, Li, P, etc., limits shall be as agreed upon.	
* **C11906**	Tough Pitch Copper with Silver	**Ag** 0.054 min **Cu** (incl Ag) 99.90 min **Other** For oxygen-free and deoxidized grades, B, Li, P, etc., limits shall be as agreed upon.	
* **C11907**	Tough Pitch Copper with Silver	**Ag** 0.085 min **Cu** (incl Ag) 99.90 min **Other** For oxygen-free and deoxidized grades, B, Li, P, etc., limits shall be as agreed upon.	

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C12000	Phosphorus Deoxidized, Low Residual Phosphorus Copper (DLP)	**Cu** (incl Ag) 99.90 min **P** 0.004-0.012	**ASME** SB42; SB75; SB111; SB133; SB359; SB395 **ASTM** B5 (DLP); B42; B68; B75; B88; B111; B133; B152; B187; B188; B224 (DLP); B272; B280; B302; B306; B359; B372; B395; B442 (DLP); B447; B451; B506; B623 (DLP); B638; B640; B641; B687; B698 (DLP); B716; B743 **FED** WW-P-377; WW-T-799 **MIL SPEC** MIL-W-85; MIL-T-3235; MIL-B-18907; MIL-B-20292; MIL-T-24107 **SAE** J461; J463
C12100	Silver-Bearing, Low Residual Phosphorus Copper (DLP)	**Ag** 0.014 min **Cu** (incl Ag) 99.90 min **P** 0.005-0.012	**ASTM** B224 (DLPS) **FED** QQ-B-650 **MIL SPEC** MIL-B-20292
C12200	Phosphorus Deoxidized, High Residual Phosphorus Copper (DHP)	**Cu** (incl Ag) 99.90 min **P** 0.015-0.040	**ASME** B16.22; B16.29; SB42; SB75; SB111; SB133; SB152; SB359; SB395; SB543 **ASTM** B5 (DHP); B42; B68; B75; B88; B101; B111; B133; B152; B187; B224 (DHP); B272; B280; B302; B306; B359; B360; B370; B379 (OFLP); B395; B432; B442 (DHP); B447; B506; B543; B623 (DHP); B638; B640; B641; B687; B698 (DHP); B716; B743 **FED** WW-P-377; WW-T-799 **MIL SPEC** MIL-T-3235; MIL-B-18907; MIL-B-20292; MIL-T-22214; MIL-T-24107 **SAE** J461; J463
C12210	Phosphorus Deoxidized Copper	**Cu** (incl Ag) 99.90 min **P** 0.015-0.025	
C12220	Phosphorus Deoxidized Copper	**Cu** (incl Ag) 99.90 min **P** 0.040-0.065	
C12300	*Silver-Bearing, High Residual* Phosphorus Copper (DHP)	**Cu** *(incl Ag) 99.90 min* **P** *0.015-0.040*	**ASME** SB152 **ASTM** B5 (DHPS); B152; B224 (DHPS); B442 (DHPS); B506; B623 (DHPS)
C12500	Fire-Refined Tough Pitch Copper (FRTP)	**As** 0.012 max **Bi** 0.003 max **Cu** (incl Ag) 99.88 min **Ni** 0.050 max **Pb** 0.004 max **Sb** 0.003 max **Te** 0.025 max **Other** Se included in Te	**ASME** SB133 **ASTM** B101; B133; B152; B216; B224 (FRTP); B272; B370; B506 **MIL SPEC** MIL-B-20292
C12510	Fire-Refined Tough Pitch	**Bi** 0.005 max **Cu** (incl. Ag) 99.9 min **Fe** 0.05 max **Ni** 0.050 max **P** 0.03 max **Pb** 0.020 max **Sb** 0.003 max **Sn** 0.05 max **(Te+Se)** 0.025 max **Zn** 0.080 max	**Other** CDA A1001-97-98 Revised July 1998
***C12700**	Fire-Refined Tough Pitch Copper with Silver (FRSTP)	**Ag** 0.027 min **As** 0.012 max **Bi** 0.003 max **Cu** (incl Ag) 99.88 min **Ni** 0.050 max **Pb** 0.004 max **Sb** 0.003 max **Te** 0.025 max **Other** Se included in Te	**ASTM** B224 (FRSTP) **MIL SPEC** MIL-B-20292
***C12800**	Fire-Refined Tough Pitch Copper with Silver (FRSTP)	**Ag** 0.034 min **As** 0.012 max **Bi** 0.003 max **Cu** (incl Ag) 99.88 min **Ni** 0.050 max **Pb** 0.004 max **Sb** 0.003 max **Te** 0.025 max **Other** Se included in Te	**ASTM** B224 (FRSTP) **MIL SPEC** MIL-B-20292
C12900	Fire-Refined Tough Pitch Copper with Silver (FRSTP)	**Ag** 0.054 min **As** 0.012 max **Bi** 0.003 max **Cu** (incl Ag) 99.88 min **Ni** 0.050 max **Pb** 0.004 max **Sb** 0.003 max **Te** 0.025 max **Other** Se included in Te	**ASTM** B224 (FRSTP) **MIL SPEC** MIL-B-20292
***C13000**	Fire-Refined Tough Pitch Copper with Silver (FRSTP)	**Ag** 0.085 min **As** 0.012 max **Bi** 0.003 max **Cu** (incl Ag) 99.88 min **Ni** 0.050 max **Pb** 0.004 max **Sb** 0.003 max **Te** 0.025 max **Other** Se included in Te	**ASTM** B224 (FRSTP) **MIL SPEC** MIL-B-20292
***C14100**	Arsenical, Tough Pitch Copper (ATP)	**As** 0.15-0.50 **Cu** 99.40 min **Other** Ag included in Cu	**ASME** SB11; SB12
C14180	Copper Brazing Filler Metal	**Al** 0.01 max **Cu** (incl Ag) 99.90 min **P** 0.075 max **Pb** 0.02 max	**ASME** SFA5.8 (BCu-1) **AWS** A5.8 (BCu-1) **FED** QQ-B-650 (BCu-1) **MIL SPEC** MIL-B-7883 (BCu-1)

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C14181	Copper Vacuum Grade Brazing Filler Metal	**C** 0.005 max **Cd** 0.002 max **Cu** (incl Ag) 99.90 min **P** 0.002 max **Pb** 0.002 max **Zn** 0.002	**ASME** SFA5.8 (BVCu-1x) **AWS** A5.8 (BVCu-1x)
C14200	Phosphorus Deoxidized Copper, Arsenical (DPA)	**As** 0.15-0.50 **Cu** (incl Ag) 99.4 min **P** 0.015-0.040	**ASME** SB75; SB111; SB133; SB359; SB395 **ASTM** B5 (DPA); B75; B111; B133; B152; B216 (DPA); B224 (DPA); B359; B379 (DPA); B395; B442 (DPA); B447; B623 (DPA) **MIL SPEC** MIL-T-24107
*C14210	Phosphorus Deoxidized Arsenical Copper	**As** 0.30-0.50 **Cu** (incl Ag) 99.20 min **P** 0.013-0.050	
C14300	Cadmium Copper, Deoxidized	**Cd** 0.05-0.15 **Cu** (incl Ag + Cd) 99.90 min **Note:** Li by agreement	
*C14310	Cadmium Copper, Deoxidized	**Cd** 0.10-0.30 **Cu** (incl Ag + Cd) 99.90 min **Note:** Li by agreement	
*C14400	Tin Copper Radiator Strip	**Cu** (incl Ag + Sn + P) 99.90 min **Fe** 0.03 max **Ni** 0.05 max **P** 0.013-0.025 **Sb** 0.003 max **Se** + Te 0.02 max **Sn** 0.10-0.20 **Zn** 0.05 max **Note:** Se + Te 0.02 max	**FED** QQ-B-650
C14410	Copper-Tin-Phosphorus Alloy	**Cu** (incl Ag + Sn) 99.90 min **Fe** 0.05 max **P** 0.005-.020 **Pb** 0.05 max **Sn** 0.10-0.20	
C14415	Copper-Tin Alloy	**Cu** (incl Ag + Sn) 99.96 min **Sn** 0.10-0.15	
C14420	Copper-Tellurium-Tin Alloy	**Cu** (incl Ag + Sn + Te) 99.90 min **Sn** 0.05-0.15 **Te** (Te+Sn) 0.02-0.05	**ASTM** B152; B187
*C14430	Copper - Tin Alloy	**Cu** (incl Ag) rem **Sn** 0.25-0.35 **Other** Cu + sum of named elements 99.90 min	
*C14440	Copper Alloy	**Cu** (incl Ag + Sn) 99.96 min **Sn** 0.005-0.01	
C14500	Phosphorus Deoxidized Copper, Tellurium Bearing (DPTE) Includes oxygen-free or deoxidized grades with deoxidizers (such as phosphorus, boron, lithium, or other) in an amount agreed upon.	**Cu** (incl Ag + Te) 99.90 min **P** 0.004-0.012 **Te** 0.40-0.70 **Note:** Other deoxidizers may be used instead of P	**ASME** B16.22 **ASTM** B5 (DPTE); B124; B216 (DPTE); B224 (DPTE); B283; B301; B442 (DPTE); B623 (DPTE) **SAE** J462; J463
C14510	Copper-Tellurium Alloy Includes oxygen-free or deoxidized grades with deoxidizers (such as phosphorus, boron, lithium, or other) in an amount agreed upon.	**Cu** (incl Ag + Te) 99.85 min **P** 0.010 - 0.030 **Pb** 0.05 max **Te** 0.30 - 0.70	**ASTM** B301
C14520	Copper-Tellurium	**Cu** (incl Ag + Te) 99.40 min **P** 0.004-0.020 **Te** 0.40-0.7	**ASTM** B216; B301
C14530	Copper - Tellurium Alloy	**Cu** (incl Ag) 99.95 min **P** 0.001-0.005 **Sn** 0.003-0.022 **Te** 0.003-0.022	

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C14700	Sulfur-Bearing Copper	**Cu** (incl Ag + P + S) 99.90 min **S** 0.20-0.50 **P** 0.002 - 0.005 **Note:** For oxygen-free and deoxidized grades: O, P, B, Li, etc., limits as agreed upon	**ASME** B16.22 **ASTM** B124; B224; B283; B301 **SAE** J461; J463
***C14710**	Sulfur Bearing Copper	**Cu** (incl AG+P+Pb+S) 99.90 min **P** 0.010-0.030 **Pb** 0.05 max **S** 0.05-0.15 **Note:** For oxygen-free and deoxidized grades O, P, B, Li, etc., limits shall be as agreed upon.	**ASTM** B301
***C14720**	Sulfur Copper	**Cu** (incl Ag+P+Pb+S) 99.50 min **P** 0.010-0.030 **Pb** 0.10 max **S** 0.20-0.50 **Note:** For oxygen-free and deoxidized grades O, P, B, Li, etc., limits shall be as agreed upon.	**ASTM** B301
***C14730**	Sulfur Bearing Copper	**Cu** 99.80 **Other** Includes Ag, S, P, and Pb; Includes oxygen-free or deoxidized grades with deoxidizers (such as P, B, Li, or other) in an amount agreed upon.	
C15000	Zirconium Copper	**Cu** (incl Ag) 99.80 min **Zr** 0.10-0.20 **Other** Cu + sum of named elements 99.9 min	**ASTM** B224 **SAE** J461; J463
C15100	Zirconium Copper	**Cu** (incl Ag) 99.85 min **Zr** 0.05-0.15	**ASTM** B747
***C15150**	Copper - Zirconium Alloy	**Cu** (incl Ag+Zn) 99.96 min **Zr** 0.015-0.03	
C15500	Silver-Bearing Copper	**Ag** 0.027-0.10 **Cu** (incl Ag) 99.75 min **Mg** 0.08-0.13 **P** 0.040-0.080	
***C15600**	Copper Cobalt	**Co** 0.20-0.30 **Cu** (incl Ag) 99.6 min **Mg** 0.02 max **P** 0.06-0.09	
***C15710**	Dispersion Strengthened Copper	**Al** 0.08-0.12 **Cu** (incl Ag) 99.71 min **Fe** 0.01 max **O_2** 0.07-0.15 **Pb** 0.01 max **Note:** 0.04% of O_2 as Cu_2O with a negligible amount in solid solution with Cu.	
C15715	Dispersion Strengthened Copper	**Al** 0.13-0.17 **Cu** (incl Ag) 99.62 min **Fe** 0.01 max **O_2** 0.12-0.19 **Pb** 0.01 max **Note:** Cu content includes Ag, and 0.04% O_2 present as Cu_2O with a negligible amount in solid solution with Cu.	
C15720	Dispersion Strengthened Copper	**Al** 0.18-0.22 **Cu** (incl Ag) 99.52 min **Fe** 0.01 max **O_2** 0.16-0.24 **Pb** 0.01 max **Note:** 0.04% O_2 present as Cu_2O with a negligible amount in solid solution with Cu.	
C15725	Dispersion Strengthened Copper	**Al** 0.23-0.27 **Cu** (incl Ag) 99.43 min **Fe** 0.01 max **O** 0.20-0.28 **Pb** 0.01 max **Note:** 0.04% O_2 as Cu_2O with a negligible amount in solid solution with Cu	

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* **C15735**	Dispersion Strengthened Copper	**Al** 0.33-0.37 **Cu** (incl Ag) 99.24 min **Fe** 0.01 max **O_2** 0.29-0.37 **Pb** 0.01 max **Note:** 0.04% O_2 present as Cu_2O with a negligible amount in solid solution with Cu.	
C15760	Dispersion Strengthened Copper	**Al** 0.58-0.62 **Cu** (incl Ag) 98.77 min **Fe** 0.01 max **O_2** 0.52-0.59 **Pb** 0.01 max **Note:** 0.04% O_2 present as Cu_2O with a negligible amount in solid solution with Cu.	
C15815	Dispersion Strengthened Copper Alloy (CSM Metal)	**Al** 0.13-0.17 **B** 1.2-1.8 **Cu** (incl. Ag) 97.82 min **Fe** 0.01 max **O** 0.19 max **Pb** 0.01 max **Other** All aluminum present as Al2O3; 0.04% oxygen present as Cu2O with a negligible amount in solid solution with copper.	**Other:** CDA A1001-95/96
C16200	Cadmium Copper	**Cd** 0.7-1.2 **Cu** (incl Ag) rem **Fe** 0.02 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B105; B624 **SAE** J461; J463
* **C16210**	Cadmium Copper	**Cd** 0.50-1.2 **Cu** (incl Ag) rem **Other** Cu + sum of named elements 99.5 min	
* **C16400**	Cadmium Copper Alloy	**Cd** 0.6-0.9 **Cu** 99.8 min **Fe** 0.02 max **Sn** 0.20-0.40 **Other** Ag + Cd + Fe + Sn included in Cu	**ASTM** B105
C16500	Cadmium Copper Alloy	**Cd** 0.6-1.0 **Cu** (incl Ag) rem **Fe** 0.02 max **Sn** 0.50-0.7 **Other** Cu + sum of named elements 99.5 min	**ASTM** B9; B105
C17000	Beryllium Copper	**Al** 0.20 max **Be** 1.60-1.79 **Cu** (incl Ag) rem **Si** 0.20 max; Ni + Co 0.20 min **Other** Ni + Fe + Co 0.6 max; Cu + sum of named elements 99.5 min	**ASTM** B194; B196; B570 **SAE** J461; J463
C17200	Beryllium Copper	**Al** 0.20 max **Be** 1.80-2.00 **Cu** (incl Ag) rem **Si** 0.20 max; Ni + Co 0.20 min **Other** Ni + Fe + Co 0.6 max; Cu + sum of named elements 99.5 min	**AMS** 4530; 4532; 4533; 4534; 4535; 4650; 4651; 4725 **ASTM** B194; B196; B197; B570; B643 **MIL SPEC** MIL-C-21657 **SAE** J461; J463
C17300	Beryllium Copper with Lead	**Al** 0.20 max **Be** 1.80-2.00 **Cu** (incl Ag) rem **Pb** 0.20-0.6 **Si** 0.20 max; Ni + Co 0.20 min **Other** Ni + Fe + Co 0.6 max: Cu + sum of named elements 99.5 min	**ASTM** B196; B197
* **C17400**	Copper-Beryllium Alloy (Beryllium-Copper)	**Al** 0.20 max **Be** 0.15-0.50 **Co** 0.15-0.35 **Cu** (incl Ag) rem **Fe** 0.20 max **Si** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B768
C17410	Copper-Beryllium Alloy (Beryllium-Copper)	**Al** 0.20 max **Be** 0.15-0.50 **Co** 0.35-0.6 **Cu** (incl Ag) rem **Fe** 0.20 max **Si** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B768
* **C17420**	Copper-Beryllium Alloy (Beryllium-Copper)	**Al** 0.20 max **Be** 0.05-0.15 **Co** 0.05-0.6 **Cu** (incl Ag) rem **Fe** 0.20 max **Si** 0.20 max **Other** Cu + sum of named elements 99.5 min	

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C17450	Copper-Beryllium Alloy	**Al** 0.20 max **Be** 0.15-0.50 **Cu** (incl. Ag) rem **Fe** 0.20 max **Ni** 0.50-1.0 **Si** 0.20 max **Sn** 0.25 max **Zr** 0.10-0.50 **Other** Cu (incl. Ag) + sum of named elements 99.5 min	
C17460	Copper-Beryllium Alloy	**Al** 0.20 max **Be** 0.15-0.50 **Cu** (incl. Ag) rem **Fe** 0.20 max **Ni** 1.0-1.4 **Si** 0.20 max **Sn** 0.25 max **Zr** 0.10-0.50 **Other** Cu (incl. Ag) + sum of named elements 99.5 min	
C17500	Beryllium Copper	**Be** 0.40-0.7 **Co** 2.4-2.7 **Cu** (incl Ag) rem **Fe** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B441; B534 **MIL SPEC** MIL-C-81021 **SAE** J461; J463
C17510	Copper Beryllium Alloy	**Al** 0.20 max **Be** 0.20-0.6 **Co** 0.30 max **Cu** (incl Ag) rem **Fe** 0.10 max **Ni** 1.4-2.2 **Other** Cu + sum of named elements 99.5 min	**ASTM** B441; B534 **MIL SPEC** MIL-C-81021 **SAE** J461; J463
***C17520**	Copper Beryllium	**Be** 0.10-0.30 **Cu** (incl Ag) rem **Mg** 0.03-0.06 **Ni** 0.50-1.5 **Zr** 0.10-0.30 **Other** Cu + sum of named elements 99.5 min	
C17530	Copper-Beryllium Alloy	**Al** 0.6 max **Be** 0.20-0.40 **Cu** (incl. Ag) rem **Fe** 0.20 max **Ni** (incl. Co) 1.8-2.5 **Si** 0.20 max **Other** Cu (incl. Ag) + sum of named elements 99.7 min	**Other:** CDA A1001-95/96
***C17600**	Beryllium Copper	**Ag** 0.9-1.1 **Al** 0.20 max **Be** 0.25-0.50 **Co** 1.4-1.7 **Cu** (incl Ag) rem **Fe** 0.10 max **Si** 0.20 max **Other** Cu + sum of named elements 99.5 min	**SAE** J461; J463
***C17700**	Beryllium Copper	**Al** 0.20 max **Be** 0.40-0.7 **Co** 2.4-2.7 **Cu** (incl Ag) rem **Fe** 0.10 max **Te** 0.40-0.6 **Si** 0.20 max **Other** Cu + sum of named elements 99.5 min	
C18000	Chromium Silicon Copper	**Cr** 0.10-0.6 **Cu** (incl Ag) rem **Fe** 0.15 max **Ni** (incl Co) 2.0-3.0 **Si** 0.40-0.8 **Other** *Cu + sum of named elements* 99.5 min	
C18030	Copper Alloy	**Cr** 0.10-0.20 **Cu** (incl Ag) 99.9 min **P** 0.005-0.15 **Sn** 0.08-0.12	
C18040	Copper Alloy	**Cr** 0.25-0.35 **Cu** (incl Ag) 99.9 min **P** 0.005-0.015 **Sn** 0.20-0.30 **Zn** 0.05-0.15	
C18050	Copper Alloy	**Cr** 0.05-0.15 **Cu** (incl Ag) 99.8 min **Te** 0.005-0.015	
C18070	Copper Alloy	**Cr** 0.15-0.40 **Cu** (incl Ag) 99.0 min **Si** 0.02-0.07 **Ti** 0.01-0.40 **Other** Cu + sum of named elements 99.8	
C18090	Copper-Tin-Nickel-Chromium-Titanium Alloy	**Cr** 0.30-1.0 **Cu** (incl Ag) 96.0 min **Ni** 0.30-1.2 **Sn** 0.50-1.2 **Ti** 0.15-0.8 **Other** Cu + sum of named elements 99.85 min	
C18100	Chromium Magnesium Copper Alloy	**Cr** 0.40-1.0 **Cu** (incl Ag) 98.7 min **Mg** 0.03-0.06 **Zr** 0.08-0.20 **Other** Cu + sum of named elements 99.5 min	

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C18135	Cadmium Chromium Copper	**Cd** 0.20-0.6 **Cr** 0.20-0.6 **Cu** (incl Ag) rem **Other** Cu + sum of named elements 99.5 min	
C18140	High Copper Alloy	**Cr** 0.150-.45 **Cu** (incl. Ag) rem **Si** 0.005-0.05 **Zr** 0.05-0.25	**Other:** CDA A1001-97-98 Revised July 1998
C18150	Copper Alloy	**Cr** 0.50-1.5 **Cu** (incl Ag) rem **Zr** 0.05-0.25 **Other** Cu + sum of named elements 99.7 min	
C18200	Chromium Copper	**Cr** 0.6-1.2 **Cu** (incl Ag) rem **Fe** 0.10 max **Pb** 0.05 max **Si** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASTM** F9 **MIL SPEC** MIL-C-19311
C18400	Chromium Copper	**As** 0.005 max **Ca** 0.005 max **Cr** 0.40-1.2 **Cu** (incl Ag) rem **Fe** 0.15 max **Li** 0.05 max **P** 0.05 max **Si** 0.10 max **Zn** 0.7 max **Other** Cu + sum of named elements 99.5 min	**MIL SPEC** MIL-C-19311 **SAE** J461; J463
* **C18500**	Chromium Copper	**Ag** 0.08-0.12 **Cr** 0.40-1.0 **Cu** (incl Ag) rem **P** 0.04 max **Pb** 0.015 max **Other** Cu + sum of named elements 99.5 min	**MIL SPEC** MIL-C-19311
* **C18550**	Copper Chromium Alloy	**Cr** 0.6-1.0 **Cu** (incl Ag) rem **Sn** 0.10-0.14 **Other** Cu + Sum of named elements 99.8 min	
C18600	High Copper Alloy	**Co** 0.10 max **Cr** 0.10-1.0 **Cu** (incl. Ag) rem **Fe** 0.25-0.8 **Ni** 0.25 max **Ti** 0.05-0.50 **Zr** 0.05-0.40 **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C18610	High Copper Alloy	**Co** 0.25-0.8 **Cr** 0.10-1.0 **Cu** (incl. Ag) rem **Fe** 0.10 max **Ni** 0.25 max **Ti** 0.05-0.50 **Zr** 0.05-0.40 **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C18665	High Copper Alloy	**Cu** (incl. Ag) 99.0 min **Mg** 0.40-0.9 **P** 0.002-0.04	**Other:** CDA A1001-97-98 Revised July 1998
C18700	Leaded Copper	**Cu** (incl Ag) rem **Pb** 0.8-1.5 **Other** Cu + sum of named elements 99.5 min	**ASTM** B301 **SAE** J461; J463
C18835	High Copper Alloy	**Cu** (incl. Ag) 99.0 min **Fe** 0.10 max **Sn** 0.15-0.55 **P** 0.01 max **Pb** 0.05 max **Zn** 0.30 max **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C18900	High Copper Alloy	**Al** 0.01 max **Cu** (incl Ag) rem **Mn** 0.10-0.30 **P** 0.05 max **Pb** 0.02 max **Si** 0.15-0.40 **Sn** 0.6-0.9 **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	**MIL SPEC** MIL-E-45829
C18980	Copper Welding Filler Metal	**Cu** (incl Ag) 98.0 min **Mn** 0.50 max **P** 0.15 max **Pb** 0.02 max **Si** 0.50 max **Sn** 1.0 max **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (ERCu); SFA5.27 (RCu) **AWS** A5.7 (ERCu) A5.27 (RCu) **MIL SPEC** MIL-C-19654 (MIL-RCu-2)
C18990	Copper Tin Alloy	**Cr** 0.10-0.20 **Cu** (incl Ag) rem **P** 0.005-0.015 **Sn** 1.8-2.2 **Other** Cu + sum of named elements 99.9 min	
C19000	High Copper Alloy	**Cu** (incl Ag) rem **Fe** 0.10 max **Ni** 0.9-1.3 **P** 0.15-0.35 **Pb** 0.05 max **Zn** 0.8 max **Other** Cu + sum of named elements 99.5 min	

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C19010	Copper Alloy	**Cu** (incl Ag) rem **Ni** 0.8-1.8 **P** 0.01-0.05 **Si** 0.15-0.35 **Other** Cu + sum of named elements 99.5 min	
C19015	Copper Alloy	**Cu** (incl. Ag) rem **Mg** 0.02-0.15 **Ni** 0.50-2.4 **P** 0.02-0.20 **Si** 0.10-0.40 **Other** (Cu + sum of named elements) 99.8 min	**Other:** CDA A1001-97-98 Revised July 1998
C19020	Copper Alloy	**Cu** (incl Ag) rem **Ni** 0.50-3.0 **P** 0.01-0.20 **Sn** 0.30-0.9 **Other** Mn+Si 0.35 max, Cu + sum of named elements 99.8 min	
C19025	High Copper Alloy (NB 109)	**Cu** rem **Ni** 0.8-1.2 **P** 0.03-0.07 **Sn** 0.7-1.1 **Other** Cu + sum of named elements 99.7 min	**ASTM** B422
C19030	Copper-Nickel-Tin Alloy	**Cu** (incl Ag) rem **Fe** 0.10 max **Ni** 1.5-2.0 **P** 0.01-0.03 **Pb** 0.02 max **Sn** 1.0-1.5 **Other** Cu + sum of named elements 99.7 min	
C19100	High Copper Alloy	**Cu** (incl Ag) rem **Fe** 0.20 max **Ni** 0.9-1.3 **P** 0.15-0.35 **Pb** 0.10 max **Te** 0.35-0.6 **Zn** 0.50 max **Other** Cu + sum of all named elements 99.5 min	
C19140	Copper-Nickel-Lead-Phosphorus Alloy (Ansonia)	**Cu** (incl. Ag) rem **Fe** 0.05 max **Ni** 0.8-1.2 **P** 0.15-0.35 **Pb** 0.40-0.8 **Sn** 0.05 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**Other:** CDA A1001-95/96
C19150	Copper-Nickel-Lead-Phosphorus Alloy	**Cu** (incl Ag) rem **Fe** 0.05 max **Ni** 0.8-1.2 **P** 0.15-0.35 **Pb** 0.50-1.0 **Sn** 0.05 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	
C19160	Copper-Nickel-Lead-Phosphorus Alloy (Brush Wellman)	**Cu** (incl. Ag) rem **Fe** 0.05 max **Ni** 0.8-1.2 **P** 0.15-0.35 **Pb** 0.8-1.2 **Sn** 0.05 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**Other:** CDA A1001-95/96
C19710	High Copper Alloy	**Cu** rem **Fe** 0.05-0.40 **Mg** 0.03-0.06 **Mn** 0.05 max **Ni** (incl. Co) 0.10 max **P** 0.07-0.15 **Pb** 0.05-max **Sn** 0.20 max **Zn** 0.20 max	
C19200	High Copper Alloy	**Cu** 98.7 min **Fe** 0.8-1.2 **P** 0.01-0.04 **Zn** 0.20 max **Other** Cu + sum of named elements 99.8 min	**ASME** SB111; SB359; SB395; SB640 **ASTM** B111; B359; B395; B465; B469; B638; B640; B698 **Other:** CDA A1001-95/96 **SAE** J461; J463
C19210	Copper-Iron Alloy	**Cu** rem **Fe** 0.05-0.15 **P** 0.025-0.040 **Other** Cu + sum of named elemtns 99.8 min	
C19220	Copper-Iron Alloy	**B** 0.005-0.015 **Cu** rem **Fe** 0.10-0.30 **Ni** 0.10-0.25 **P** 0.03-0.07 **Sn** 0.05-0.10 **Other** Cu + sum of named elements 99.8 min	
* **C19250**	Copper-Iron Alloy	**B** 0.005-0.025 **Cu** rem **Fe** 0.05-0.40 **Ni** 0.05-0.40 **P** 0.03-0.10 **Sn** 0.05-0.20	
C19260	Copper Iron Alloy	**Cu** 98.5 min **Fe** 0.40-0.8 **Mg** 0.02-0.15 **Ti** 0.20-0.40 **Other** Cu + sum of named elements 99.9 min	
C19280	Copper-Iron Alloy	**Cu** rem **Fe** 0.50-1.5 **P** 0.005-0.015 **Sn** 0.30-0.7 **Zn** 0.30-0.7 **Other** Cu + sum of named elements 99.8 min	
C19400	High Copper Alloy	**Cu** 97.0 min **Fe** 2.1-2.6 **P** 0.015-0.15 **Pb** 0.03 max **Zn** 0.05-0.20 **Other** Cu + sum of named elements 99.8 min	**ASME** SB543 **ASTM** B465; B543; B638; B640; B694; B698

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C19410	Copper Iron Alloy	**Cu** rem **Fe** 1.8-2.3 **P** 0.015-0.050 **Sn** 0.6-0.9 **Other** Cu + sum of named elements 99.8 min	
C19450	Copper Iron Alloy	**Cu** rem **Fe** 1.5-3.0 **P** 0.005-0.05 **Sn** 0.8-2.5 **Other** Cu + sum of named elements 99.8 min	
C19500	High Copper Alloy	**Al** 0.02 max **Co** 0.30-1.3 **Cu** 96.0 min **Fe** 1.0-2.0 **P** 0.01-0.35 **Pb** 0.02 max **Sn** 0.10-1.0 **Zn** 0.20 max **Other** Cu + sum of named elements 99.8 min	**ASTM** B465
C19520	Copper-Iron-Tin Alloy	**Cu** 96.6 min **Fe** 0.50-1.5 **P** 0.01-0.35 **Sn** 0.50-1.5 **Other** Cu + sum of named elements 99.8 min	
•**C19600**	High Copper Alloy	**Cu** rem **Fe** 0.9-1.2 **P** 0.25-0.35 **Zn** 0.35 max **Other** Cu + sum of named elements 99.8 min	**ASTM** B465
C19700	Copper Alloy	**Co** 0.05 max **Cu** rem **Fe** 0.30-1.2 **Mg** 0.01-0.20 **Mn** 0.05 max **Ni** 0.05 max **P** 0.10-0.40 **Pb** 0.05 max **Sn** 0.02 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.8 min	**ASTM** B 422
C19750	Copper Alloy	**Co** 0.05 max **Cu** rem **Fe** 0.35-1.2 **Mg** 0.01-0.20 **Mn** 0.05 max **Ni** 0.05 max **P** 0.10-0.40 **Pb** 0.05 max **Sn** 0.05-0.40 **Zn** 0.20 max **Other** Cu + sum of named elements 99.8 min	
C19900	Copper-Titanium Alloy	**Cu** + Ti 99.5 min **Ti** 2.9-3.4	
•**C20500**	Brass	**Cu** 97.0-98.0 **Fe** 0.05 max **Pb** 0.02 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	
C21000	Gilding, 95% (Copper/Zinc)	**Cu** 94.0-96.0 **Fe** 0.05 max **Pb** 0.03 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	**ASTM** B36; B134; B587; B642; B698 (Gilding-95%) **FED** QQ-W-321 **SAE** J461; J463
C22000	Commercial Bronze, 90%	**Cu** 89.0-91.0 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	**ASTM** B36; B130; B131; B134; B135; B372; B587; B694 **AWS** A5.33 (W-CuZn-1) **FED** QQ-W-321 **MIL SPEC** MIL-W-85; MIL-C-3383; MIL-W-6712; MIL-B-18907; MIL-B-20292 **SAE** J461; J463
C22600	Jewelry Bronze, 87-1/2%	**Cu** 86.0-89.0 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	**ASTM** B36
C23000	Red Brass, 85%	**Cu** 84.0-86.0 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	**ASME** B16.22; B16.29; SB43; SB111; SB359; SB395; SB543 **ASTM** B36; B43; B111; B134; B135; B359; B395; B543; B587; B687; B698 (Red Brass-85%) **FED** QQ-W-321; WW-P-351; WW-T-791 **MIL SPEC** MIL-T-20168 **SAE** J461; J463
C23030	Red Brass	**Cu** 83.5-85.5 **Fe** 0.05 max **Pb** 0.05 max **Si** 0.20-0.40 **Zn** rem **Other** Cu + sum of named elements 99.8 min	
C23400	Brass	**Cu** 81.0-84.0 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	
C24000	Low Brass, 80%	**Cu** 78.5-81.5 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	**ASTM** B36; B134 **FED** QQ-W-321 **SAE** J461; J463
C24080	Low Brass	**Al** 0.10 max **Cu** 78.0-82.0 **Pb** 0.20 max **Zn** rem **Other** Cu + sum of named elements 99.8 min	

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* **C25000**	Brass	**Cu** 74.0-76.0 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	
C25600	Brass	**Cu** 71.0-73.0 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** (Cu + sum of named elements) 99.7 min	**Other:** CDA A1001-97-98 Revised July 1998
C26000	Cartridge Brass, 70%	**Cu** 68.5-71.5 **Fe** 0.05 max **Pb** 0.07 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**AMS** 4505; 4507; 4508; 4555 **ASTM** B19; B36; B129; B134; B135; B569; B587 **FED** WW-T-791 **MIL SPEC** MIL-C-10375; MIL-T-20219; MIL-S-22499 **SAE** J461; J463
* **C26100**	Brass	**Cu** 68.5-71.5 **Fe** 0.05 max **P** 0.02-0.05 **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**MIL SPEC** MIL-C-10375; MIL-S-22499
C26130	Arsenic Inhibited Cartridge Brass	**As** 0.02-0.08 **Cu** 68.5-71.5 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	
C26200	Brass	**Cu** 67.0-70.0 **Fe** 0.05 max **Pb** 0.07 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	
* **C26380**	Brass Brazing Rod	**Cu** 68.0-72.0 **Al** 0.10 max **Cr** 68.0-72.0 **Pb** 0.30 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASME** SFA5.8 (BCuZn-G) **AWS** A5.8 (BCuZn-G)
C26800	Yellow Brass, 66%	**Cu** 64.0-68.5 **Fe** 0.05 max **Pb** 0.15 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B36; B587 **AWS** A5.33 (W-CuZn-2) **MIL SPEC** MIL-W-6712 **SAE** J461; J463
C27000	Yellow Brass, 65%	**Cu** 63.0-68.5 **Fe** 0.07 max **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**AMS** 4710; 4712; 4713 **ASTM** B134; B135; B587; F467; F468 **FED** QQ-W-321 **SAE** J461; J463
C27200	Brass	**Cu** 62.0-65.0 **Fe** 0.07 max **Pb** 0.07 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B36; B135; B587
C27400	Yellow Brass, 63%	**Cu** 61.0-64.0 **Fe** 0.05 max **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B134 **FED** QQ-W-321
C28000	Muntz Metal, 60%	**Cu** 59.0-63.0 **Fe** 0.07 max **Pb** 0.30 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASME** SB111 **ASTM** B111; B135 **FED** WW-T-791
* **C28200**	Brass	**Al** 0.005 max **Cu** 58.0-61.0 **Fe** 0.05 max **P** 0.12-0.22 **Pb** 0.03 max **Si** 0.005 max **Sn** 0.05 max **Zn** rem	
* **C28580**	Brass Brazing Rod	**Al** 0.10 max **Cu** 49.0-52.0 **Fe** 0.10 max **Pb** 0.50 max **Zn** rem **Other** Cu + sum of named elements 99.7 min	
* **C29800**	Brazing Alloy	**Al** 0.10 max **Cu** 49.0-52.0 **Fe** 0.10 max **Pb** 0.50 max **Zn** rem	

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* **C31000**	Leaded Commercial Bronze (Low Lead)	**Cu** 89.0-91.0 **Fe** 0.10 max **Pb** 0.30-0.7 **Zn** rem	**ASTM** B121
C31200	Medium Leaded Commercial Bronze	**Cu** 87.5-90.5 **Fe** 0.10 max **Ni** 0.25 max **Pb** 0.7-1.2 **Zn** rem **Other** Cu + sum of named elements 99.6 min	
C31400	Leaded Commercial Bronze	**Cu** 87.5-90.5 **Fe** 0.10 max **Ni** 0.7 max **Pb** 1.3-2.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B140 **MIL SPEC** MIL-V-18436
C31600	Leaded Commercial Bronze (Nickel Bearing)	**Cu** 87.5-90.5 **Fe** 0.10 max **Ni** 0.7-1.2 **P** 0.04-0.10 **Pb** 1.3-2.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B140 **MIL SPEC** MIL-V-18436
C32000	Leaded Red Brass	**Cu** 83.5-86.5 **Fe** 0.10 max **Ni** 0.25 max **Pb** 1.5-2.2 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B140
* **C32500**	Leaded Brass	**Cu** 72.0-74.5 **Fe** 0.10 max **Pb** 2.5-3.0 **Zn** rem	
* **C32510**	Leaded 70/30 Arsenical Brass	**As** 0.20-0.06 **Cu** 69.0-72.0 **Pb** 0.30-0.7 **Zn** rem **Other** Cu + sum of named elements 99.6 min	
C33000	Low Leaded Brass (Tube)	**Cu** 65.0-68.0 **Fe** 0.07 max **Pb** 0.25-0.7 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**AMS** 4555 **ASTM** B135 **FED** WW-T-791 **MIL SPEC** MIL-T-46072 **SAE** J461; J463
* **C33100**	Leaded Brass	**Cu** 65.0-68.0 **Fe** 0.06 max **Pb** 0.8-1.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**MIL SPEC** MIL-T-46072 **SAE** J461; J463
C33200	High Leaded Brass (Tube)	**Cu** 65.0-68.0 **Fe** 0.07 max **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**AMS** 4558 **ASTM** B135 **MIL SPEC** MIL-T-46072
C33500	Low Leaded Brass	**Cu** 62.0-65.0 **Fe** 0.15 max **Pb** 0.25-0.7 **Zn** rem **Other** Cu + sum of named elements 99.6 min **Note:** Fe 0.010 max for flat products	**ASTM** B121; B453
* **C33530**	Leaded 65/35 Arsenical Brass	**As** 0.02-0.06 **Cu** 62.5-66.5 **Fe** 0.10 max **Pb** 0.30-0.8 **Zn** rem **Other** Cu + sum of named elements 99.6 min	
C34000	Medium Leaded Brass, 64-1/2%	**Cu** 62.0-65.0 **Fe** 0.15 max **Pb** 0.8-1.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min **Note:** Fe 0.010 max for flat products	**ASTM** B121; B453
C34200	High Leaded Brass, 64-1/2%	**Cu** 62.0-65.0 **Fe** 0.15 max **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min **Note:** Fe 0.010 max for flat products	**ASTM** B121 **SAE** J461; J463
* **C34400**	Leaded Brass	**Cu** 62.0-66.0 **Fe** 0.10 max **Pb** 0.50-1.0 **Zn** rem	

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C34500	Leaded Brass	**Cu** 62.0-65.0 **Fe** 0.15 max **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B453 **SAE** J461; J463
* **C34700**	Leaded Brass	**Cu** 62.5-64.5 **Fe** 0.10 max **Pb** 1.0-1.8 **Zn** rem	
* **C34800**	Leaded Brass	**Cu** 61.5-63.5 **Fe** 0.10 max **Pb** 0.40-0.8 **Zn** rem	
* **C34900**	Leaded Brass	**Cu** 61.0-64.0 **Fe** 0.10 max **Pb** 0.10-0.50 **Zn** rem	
C35000	Medium Leaded Brass, 62%	**Cu** 60.0-63.0 **Fe** 0.15 max **Pb** 0.8-2.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min **Note:** For rod, Cu 61.0 min; for flat products, Fe 0.10 max	**ASTM** B121; B453 **SAE** J461; J463
C35300	High Leaded Brass, 62%	**Cu** 60.0-63.0 **Fe** 0.15 max **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min **Note:** For rod, Cu 61.0 min; for flat products, Fe 0.10 max	**ASTM** B121; B453
C35330	63/37 Leaded Brass	**As** 0.02-0.25 **Cu** 60.5-64.0 **Pb** 1.5-3.5 **Zn** rem **Other** Lead content may be reduced to 1% by agreement between purchaser and supplier. Cu + sum of named elements 99.5 min **Note:** For rod, Cu 61.0 min; for flat products, Fe 0.10 max	
* **C35340**	Leaded Brass	**Cu** 60.0-63.0 **Fe** 0.10-0.30 **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B121; B453
C35600	Leaded Brass Alloy	**Cu** 60.0-63.0 **Fe** 0.15 max **Pb** 2.0-3.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min **Note:** For flat products, Fe 0.10 max	**ASTM** B121; B453
C36000	Free Cutting Brass	**Cu** 60.0-63.0 **Fe** 0.35 max **Pb** 2.5-3.7 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**AMS** 4610 **ASTM** B16 **SAE** J461; J463 **MIL SPEC** MIL-V-18436
* **C36200**	Leaded Brass	**Cu** 60.0-63.0 **Fe** 0.15 max **Pb** 3.5-4.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C36500	Leaded Muntz Metal, Uninhibited (Cu-Zn-Pb)	**Cu** 58.0-61.0 **Fe** 0.15 max **Pb** 0.25-0.7 **Sn** 0.25 max **Zn** rem **Other** *Cu + sum of named elements* 99.6 min	**ASME** SB171 **ASTM** B124; B171; B283; B432
* **C36600**	Leaded Muntz Metal, Arsenical (Cu-Zn-Pb)	**As** 0.02-0.06 **Cu** 58.0-61.0 **Fe** 0.15 max **Pb** 0.25-0.7 **Sn** 0.25 max **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASME** SB171 **ASTM** B171; B432

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* **C36700**	Leaded Muntz Metal, Antimonial (Cu-Zn-Pb)	**Cu** 58.0-61.0 **Fe** 0.15 max **Pb** 0.25-0.7 **Sb** 0.02-0.10 **Sn** 0.25 max **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASME** SB171 **ASTM** B171; B432
* **C36800**	Leaded Muntz Metal, Phosphorized (Cu-Zn-Pb)	**Cu** 58.0-61.0 **Fe** 0.15 max **P** 0.02-0.10 **Pb** 0.25-0.7 **Sn** 0.25 max **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASME** SB171 **ASTM** B171; B432
C37000	Free Cutting Muntz Metal (Cu-Zn-Pb)	**Cu** 59.0-62.0 **Fe** 0.15 max **Pb** 0.8-1.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B135 **MIL SPEC** MIL-T-46072
C37100	Leaded Brass	**Cu** 58.0-62.0 **Fe** 0.15 max **Pb** 0.6-1.2 **Zn** rem **Other** Cu + sum of named elements 99.6 min	
C37700	Forging Brass	**Cu** 58.0-61.0 **Fe** 0.30 max **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**AMS** 4614 **ASME** SB283 **ASTM** B124; B283 **SAE** J461; J463
C37710	2% Leaded 60/40 (Forging) Brass	**Cu** 56.5-60.0 **Fe** 0.30 max **Pb** 1.0-2.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
* **C37800**	Leaded Brass	**Cu** 56.0-59.0 **Fe** 0.30 max **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C38000	Leaded Brass	**Al** 0.50 max **Cu** 55.0-60.0 **Fe** 0.35 max **Pb** 1.5-2.5 **Sn** 0.30 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B455
* **C38010**	Brass	**Al** 0.10-0.6 **Cu** 55.0-60.0 **Fe** 0.30 max **Pb** 1.5-3.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C38500	Architectural Bronze	**Cu** 55.0-59.0 **Fe** 0.35 max **Pb** 2.5-3.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B455
* **C38510**	Free Cutting Brass	**Cu** 56.0-60.0 **Pb** 2.5-4.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
* **C38590**	Architectural Brass	**Cu** 56.5-60.0 **Fe** 0.35 max **Pb** 2.0-3.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
* **C38600**	Copper	**Cu** 56.0-59.0 **Fe** 0.35 max **Pb** 2.5-3.5 **Sb** 0.02 max **Zn** rem	
C40400	Tin Brass	**Cu** rem **Sn** 0.35-0.7 **Zn** 2.0-3.0 **Other** Cu + sum of named elements 99.7 min	
C40500	Tin Brass	**Cu** 94.0-96.0 **Fe** 0.05 max **Pb** 0.05 max **Sn** 0.7-1.3 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591

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*C40800	Tin Brass	**Cu** 94.0-96.0 **Fe** 0.05 max **Pb** 0.05 max **Sn** 1.8-2.2 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
C40810	Tin Brass	**Cu** 94.5-96.5 **Fe** 0.08-0.12 **Ni** 0.11-0.20 **P** 0.028-0.040 **Pb** 0.05 max **Sn** 1.8-2.2 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
C40850	Tin Brass	**Cu** 94.5-96.5 **Fe** 0.05-0.20 **Ni** 0.05-0.20 **P** 0.02-0.04 **Pb** 0.05 max **Sn** 2.6-4.0 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
C40860	Tin Brass	**Cu** 94.0-96.0 **Fe** 0.01-0.05 **Ni** 0.05-0.20 **P** 0.02-0.04 **Pb** 0.05 max **Sn** 1.7-2.3 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B591
*C40900	Tin Brass	**Cu** 92.0-94.0 **Fe** 0.05 max **Pb** 0.05 max **Sn** 0.50-0.8 **Zn** rem	
C41000	Tin Brass	**Cu** 91.0-93.0 **Fe** 0.05 max **Pb** 0.05 max **Sn** 2.0-2.8 **Zn** rem **Other** Cu + sum of named elements 99.7 min	
C41100	Tin Brass	**Cu** 89.0-92.0 **Fe** 0.05 max **Pb** 0.10 max **Sn** 0.30-0.7 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B105; B508; B591 **MIL SPEC** MIL-B-13501
C41120	Tin Brass	**Cu** 89.0-92.0 **Fe** 0.05- 0.20 **Ni** 0.05-0.20 **P** 0.02-0.05 **Pb** 0.05 max **Sn** 0.30-0.7 **Zn** rem **Other** (Cu + sum of named elements) 99.7 min	**Other:** CDA A1001-97-98 Revised July 1998
C41300	Tin Brass	**Cu** 89.0-93.0 **Fe** 0.05 max **Pb** 0.10 max **Sn** 0.7-1.3 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
C41500	Tin Brass	**Cu** 89.0-93.0 **Fe** 0.05 max **Pb** 0.10 max **Sn** 1.5-2.2 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
*C41900	Tin Brass	**Cu** 89.0-92.0 **Fe** 0.05 max **Pb** 0.10 max **Sn** 4.8-5.5 **Zn** rem	
C42000	Tin Brass	**Cu** 88.0-91.0 **P** 0.25 max **Sn** 1.5-2.0 **Zn** rem **Other** Cu + sum of named elements 99.7 min	
*C42100	Tin Brass	**Cu** 87.5-89.0 **Fe** 0.05 max **Mn** 0.15-0.35 **P** 0.35 max **Pb** 0.05 max **Sn** 2.2-3.0 **Zn** rem **Other** Cu + sum of named elements 99.7 min	
C42200	Tin Brass	**Cu** 86.0-89.0 **Fe** 0.05 max **P** 0.35 max **Pb** 0.05 max **Sn** 0.8-1.4 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
C42500	Tin Brass	**Cu** 87.0-90.0 **Fe** 0.05 max **P** 0.35 max **Pb** 0.05 max **Sn** 1.5-3.0 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591

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C42510	Tin Brass	**Cu** 88.0-91.0 **Fe** 0.05- 0.20 **Ni** 0.05-0.20 **P** 0.02-0.05 **Pb** 0.05 max **Sn** 0.7-1.4 **Zn** rem **Other** (Cu + sum of named elements) 99.7 min	**Other:** CDA A1001-97-98 Revised July 1998
C42520	Tin Brass	**Cu** 88.0-91.0 **Fe** 0.05-0.20 **Ni** 0.05-0.20 **P** 0.02-0.04 **Pb** 0.05 max **Sn** 1.5-3.0 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
C43000	Tin Brass	**Cu** 84.0-87.0 **Fe** 0.05 max **Pb** 0.10 max **Sn** 1.7-2.7 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
*C43200	Tin Brass	**Cu** 85.0-88.0 **Fe** 0.05 max **P** 0.35 max **Pb** 0.05 max **Sn** 0.40-0.6 **Zn** rem **Other** Cu + sum of named elements 99.7 min	
C43400	Tin Brass	**Cu** 84.0-87.0 **Fe** 0.05 max **Pb** 0.05 max **Sn** 0.40-1.0 **Zn** rem **Other** Cu + sum of named elements 99.7 min	**ASTM** B591
C43500	Tin Brass	**Cu** 79.0-83.0 **Fe** 0.05 max **Pb** 0.10 max **Sn** 0.6-1.2 **Zn** rem **Other** Cu + sum of named elements 99.7 min	
C43600	Tin Brass	**Cu** 80.0-83.0 **Fe** 0.05 max **Pb** 0.05 max **Sn** 0.20-0.50 **Zn** rem **Other** Cu + sum of named elements 99.7 min	
*C43800	Tin Brass	**Cu** 79.0-82.0 **Fe** 0.05 max **Pb** 0.05 max **Sn** 1.0-1.5 **Zn** rem	
C44300	Admiralty, Arsenical (Cu-Zn-Sn)	**As** 0.02-0.06 **Cu** 70.0-73.0 **Fe** 0.06 max **Pb** 0.07 max **Sn** 0.8-1.2 **Zn** rem **Other** For tubular products, Sn 0.9 min **Other** Cu + sum of named elements 99.6 min	**ASME** SB111; SB171; SB359; SB395; SB543 **ASTM** B111; B135; B171; B359; B395; B432; B543
C44400	Admiralty, Antimonial (Cu-Zn-Sn)	**Cu** 70.0-73.0 **Fe** 0.06 max **Pb** 0.07 max **Sb** 0.02-0.10 **Sn** 0.8-1.2 **Zn** rem **Other** For tubular products, Sn 0.9 min **Other** Cu + sum of named elements 99.6 min	**ASME** SB111; SB171; SB359; SB395; SB543 **ASTM** B111; B171; B359; B395; B432; B543
C44500	Admiralty, Phosphorized (Cu-Zn-Sn)	**Cu** 70.0-73.0 **Fe** 0.06 max **P** 0.02-0.10 **Pb** 0.07 max **Sn** 0.8-1.2 **Zn** rem **Other** For tubular products, Sn 0.9 min **Other** Cu + sum of named elements 99.6 min	**ASME** SB111; SB171; SB359; SB395; SB543 **ASTM** B111; B171; B359; B395; B432; B543
*C45450	Copper Alloy	**Al** 0.20-0.40 **Cu** 65.0-66.0 **P** 0.10-0.30 **Sn** 0.10-0.30 **Zn** rem **Other** Cu + sum of named elements 99.8 min	
C46200	Naval Brass, 63-1/2%	**Cu** 62.0-65.0 **Fe** 0.10 max **Pb** 0.20 max **Sn** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B21; F68; F467; F468 **FED** QQ-B-639
*C46210	Copper Alloy	**Al** 0.03 max **Cu** 61.0-64.0 **Pb** 0.05 max **Si** 0.50 max **Sn** 1.0 max **Zn** rem **Other** Cu + sum of named elements 99.6 min	

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C46400	Naval Brass, Uninhibited	**Cu** 59.0-62.0 **Fe** 0.10 max **Pb** 0.20 max **Sn** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**AMS** 4611; 4612 **ASME** SB171 **ASTM** B21; B124; B171; B283; B432; F467; F468 **FED** QQ-B-639 **MIL SPEC** MIL-W-6712 **SAE** J461; J463
* **C46420**	Naval Brass	**Cu** 61.0-63.5 **Fe** 0.20 max **Pb** 0.20 max **Sn** 1.0-1.4 **Zn** rem **Other** Cu + sum of named elements 99.6 min	
C46500	Naval Brass, Arsenical	**As** 0.02-0.06 **Cu** 59.0-62.0 **Fe** 0.10 max **Pb** 0.20 max **Sn** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASME** SB171 **ASTM** B171; B432 **SAE** J461; J463
* **C46600**	Naval Brass, Antimonial	**Cu** 59.0-62.0 **Fe** 0.10 max **Pb** 0.20 max **Sb** 0.02-0.10 **Sn** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASME** SB171 **ASTM** B171; B432 **SAE** J461; J463
* **C46700**	Naval Brass, Phosphorized	**Cu** 59.0-62.0 **Fe** 0.10 max **P** 0.02-0.10 **Pb** 0.20 max **Sn** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASME** SB171 **ASTM** B171; B432 **SAE** J461; J463
C47000	Naval Brass, Welding and Brazing Rod	**Al** 0.01 max **Cu** 57.0-61.0 **Pb** 0.05 max **Sn** 0.25-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASME** SFA5.8 (RBCuZn-A) **AWS** A5.8 (RBCuZn-A); A5.33 (W-CuZn-3) **FED** QQ-B-650 (BCuZn-A) **MIL SPEC** MIL-B-7883 (RBCuZn-A)
* **C47200**	Brazing Alloy (Cu-Zn-Sn)	**Cu** 49.0-52.0 **Fe** 0.10 max **Pb** 0.50 max **Sn** 3.0-4.0 **Zn** rem	
* **C47600**	Tin Brass, Leaded	**Cu** 86.0-88.0 **Fe** 0.05 max **Mn** 0.05-0.15 **P** 0.03-0.07 **Pb** 1.8-2.2 **Sn** 1.8-2.2 **Zn** rem **Other** Cu + sum of named elements 99.6 min	
C47940	Brass Alloy	**Cu** 63.0-66.0 **Fe** 0.10-1.0 **Ni** (incl Co) 0.10-0.50 **Pb** 1.0-2.0 **Sn** 1.2-2.0 **Zn** rem	**ASTM** B21
C48200	Naval Brass, Medium Leaded	**Cu** 59.0-62.0 **Fe** 0.10 max **Pb** 0.40-1.0 **Sn** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B21; B124; B283 **FED** QQ-B-639
C48500	Naval Brass, High Leaded	**Cu** 59.0-62.0 **Fe** 0.10 max **Pb** 1.3-2.2 **Sn** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**ASTM** B21; B124; B283 **FED** QQ-B-639
* **C48510**	Leaded Naval Brass, Arsenical	**As** 0.02-0.25 **Cu** 59.0-62.0 **Pb** 1.0-2.5 **Sn** 0.7-1.5 **Zn** rem	
C48600	Naval Brass, Arsenical, Leaded	**As** 0.02-0.25 **Cu** 59.0-62.0 **Pb** 1.0-2.5 **Sn** 0.8-1.5 **Zn** rem **Other** Cu + sum of named elements 99.6 min	
C48650	Replaced by C48600		
* **C49080**	Brass Brazing Filler Metal	**Al** 0.10 max **Cu** 49.0-52.0 **Pb** 0.50 max **Sn** 3.0-4.0 **Zn** rem **Other** Cu + sum of named elements 99.6 min	**AWS** A5.8 (BCuZn-F)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C50100	Phosphor Bronze	**Cu** rem **Fe** 0.05 max **P** 0.01-0.05 **Pb** 0.05 max **Sn** 0.50-0.8 **Other** Cu + sum of named elements 99.5 min	**ASTM** B105
C50200	Phosphor Bronze	**Cu** rem **Fe** 0.10 max **P** 0.04 max **Pb** 0.05 max **Sn** 1.0-1.5 **Other** Cu + sum of named elements 99.5 min	**ASTM** B105
C50500	Phosphor Bronze, 1.25% E	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 0.05 max **Sn** 1.0-1.7 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B9; B105; B508
C50510	Phosphor Bronze	**Cu** rem **Ni** 0.15-0.40 **P** 0.02-0.07 **Sn** 1.0-1.5 **Zn** 0.10-0.25 **Other** (Cu + sum of named elements) 99.7 min	**Other:** CDA A1001-97-98 Revised July 1998
C50580	Phosphor Bronze	**Cu** rem **Fe** 0.05- 0.20 **Ni** 0.05-0.20 **P** 0.02-0.10 **Pb** 0.05 max **Sn** 1.0-1.7 **Zn** 0.30 max **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C50700	Phosphor Bronze	**Cu** rem **Fe** 0.10 max **P** 0.30 max **Pb** 0.05 max **Sn** 1.5-2.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B105
C50710	Phosphor Bronze Alloy (MF 202)	**Cu** rem **Ni** 0.10-0.40 **P** 0.15 max **Sn** 1.7-2.3 **Other** Cu + sum of named elements 99.5 min	
C50715	Phosphor Bronze Alloy	**Cu** rem **Fe** 0.05-0.15 **P** 0.025-0.04 **Pb** 0.02 max **Sn** 1.7-2.3 **Other** Cu + sum of named elements 99.5 min	
C50725	Copper-Zinc-Tin-Phosphorus Bronze (Kobe Steel CAC 52)	**Cu** 94.0 min **Fe** 0.05-0.20 **P** 0.02-0.06 **Pb** 0.02 max **Sn** 1.5-2.5 **Zn** 1.5-3.0 **Other** Cu + sum of named elements 99.5 min	**Other:** CDA A1001-95/96
C50780	Phosphor Bronze	**Cu** rem **Fe** 0.05-0.20 **Ni** 0.05-0.20 **P** 0.020-0.10 **Pb** 0.05 max **Sn** 1.7-2.3 **Other** Cu + sum of named elements 99.5 min	**ASTM** B103
* **C50800**	Phosphor Bronze	**Cu** rem **Fe** 0.10 max **P** 0.01-0.07 **Pb** 0.05 max **Sn** 2.6-3.4 **Other** Cu + sum of named elements 99.5 min	**ASTM** B105
C50900	Phosphor Bronze	**Cu** rem **Fe** 0.10 max **P** 0.03-0.30 **Pb** 0.05 max **Sn** 2.5-3.8 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	
C51000	Phosphor Bronze, 5% A	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 0.05 max **Sn** 4.2-5.8 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4510; 4625; 4720 **ASTM** B100; B103; B139; B159; F467 (510); F468 (510) **FED** QQ-W-321 **MIL SPEC** MIL-T-3595; MIL-W-6712; MIL-B-13501 **SAE** J461; J463
C51080	Phosphor Bronze	**Cu** rem **Fe** 0.05-0.20 **Ni** 0.05-0.20 **P** 0.02-0.10 **Pb** 0.05 max **Sn** 4.8-5.8 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B103
C51100	Phosphor Bronze	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 0.05 max **Sn** 3.5-4.9 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B100; B103
C51180	Phosphor Bronze	**Cu** rem **Fe** 0.05-0.20 **Ni** 0.11-0.20 **P** 0.02-0.10 **Pb** 0.05 max **Sn** 3.5-4.9 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B103
C51800	Phosphor Bronze	**Al** 0.01 max **Cu** rem **P** 0.10-0.35 **Pb** 0.02 max **Sn** 4.0-6.0 **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (ERCuSn-A); SFA5.21 (ERCuSn-A) **AWS** A5.7 (ERCuSn-A); A5.21 (ERCuSn-A); A5.33 (W-CuSn)

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C51900	Phosphor Bronze	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 0.05 max **Sn** 5.0-7.0 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	
C51980	Phosphor Bronze	**Cu** rem **Fe** 0.05-0.20 **Ni** 0.05-0.20 **P** 0.02-0.10 **Pb** 0.05 max **Sn** 5.5-7.0 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B103
C52100	Phosphor Bronze, 8%	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 0.05 max **Sn** 7.0-9.0 **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (ERCuSn-C) **ASTM** B103; B139; B159 **AWS** A5.7 (ERCuSn-C) **MIL SPEC** MIL-E-23765/3 (MIL-CuSn-C) **SAE** J461; J463
C52180	Phosphor Bronze	**Cu** rem **Fe** 0.05-0.20 **Ni** 0.05-0.20 **P** 0.02-0.10 **Pb** 0.05 max **Sn** 7.0-9.0 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B103
C52400	Phosphor Bronze, 10% D	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 0.05 max **Sn** 9.0-11.0 **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.21 (ERCuSn-D) **ASTM** B103; B139; B159 **AWS** A5.21 (ERCuSn-D) **SAE** J461; J463
C52480	Phosphor Bronze	**Cu** rem **Fe** 0.05- 0.20 **Ni** 0.05-0.20 **P** 0.02-0.10 **Pb** 0.05 max **Sn** 9.0-11.0 **Zn** 0.30 max **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
* **C52600**	Phosphor Bronze	**Cu** 99.5 min **Fe** 0.10 max **Mn** 1.0-2.0 **P** 0.03-0.35 **Pb** 0.05 max **Sn** 2.2-3.3 **Zn** 0.20 max **Other** Mn + P + Sn included in Cu	
* **C52900**	Phosphor Bronze	**Cu** 99.5 min **Fe** 0.10 max **Mn** 1.0-2.0 **P** 0.03-0.35 **Pb** 0.05 max **Sn** 7.0-9.0 **Zn** 0.20 max **Other** Mn + P + Sn included in Cu	
* **C53200**	Phosphor Bronze B	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 2.5-4.0 **Sn** 4.0-5.5 **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B103
C53400	Phosphor Bronze B-1	**Cu** rem **Fe** 0.10 max **P** 0.03-0.35 **Pb** 0.8-1.2 **Sn** 3.5-5.8 **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B103; B139
C54400	Phosphor Bronze B-2	**Cu** rem **Fe** 0.10 max **P** 0.01-0.50 **Pb** 3.5-4.5 **Sn** 3.5-4.5 **Zn** 1.5-4.5 **Other** Cu + sum of named elements 99.5 min	**AMS** 4520 **ASTM** B103; B139 **SAE** J461; J463
* **C54600**	Phosphor Bronze B-2 (P 0.50 max)	**Cu** 99.5 min **Fe** 0.10 max **P** 0.50 max **Pb** 3.5-4.5 **Sn** 3.5-4.5 **Zn** 1.5-4.5 **Other** P + Pb + Sn + Zn included in Cu	**MIL SPEC** MIL-B-13501
* **C54800**	Leaded Phosphor Bronze	**Cu** 99.5 min **Fe** 0.10 max **P** 0.03-0.35 **Pb** 4.0-6.0 **Sn** 4.0-6.0 **Zn** 0.30 max **Other** P + Pb + Sn + Zn included in Cu	

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C55180	Copper-Phosphorus Brazing Filler Metal	**Cu** rem **P** 4.8-5.2 **Other** Cu + P = 99.85 min	**ASME** SFA5.8 (BCuP-1) **AWS** A5.8 (BCuP-1) **FED** QQ-B-650 (BCuP-1)
C55181	Copper-Phosphorus Brazing Filler Metal	**Cu** rem **P** 7.0-7.5 **Other** Cu + P = 99.85 min	**ASME** SFA5.8 (BCuP-2) **AWS** A5.8 (BCuP-2) **FED** QQ-B-650 (BCuP-2)
C55280	Cu-Ag-P Brazing Filler Metal	**Ag** 1.8-2.2 **Cu** rem **P** 6.8-7.2 **Other** Cu + all named elements = 99.85 min	**ASME** SFA5.8 (BCuP-6) **AWS** A5.8 (BCuP-6) **FED** QQ-B-650 (BCuP-6)
C55281	Cu-Ag-P Brazing Filler Metal	**Ag** 4.8-5.2 **Cu** rem **P** 5.8-6.2 **Other** Cu + all named elements = 99.85 min	**ASME** SFA5.8 (BCuP-3) **AWS** A5.8 (BCuP-3) **FED** QQ-B-650 (BCuP-3) **MIL SPEC** MIL-B-7883 (BCuP-3)
C55282	Cu-Ag-P Brazing Filler Metal	**Ag** 4.8-5.2 **Cu** rem **P** 6.5-7.0 **Other** Cu + all named elements = 99.85 min	**ASME** SFA5.8 (BCuP-7) **AWS** A5.8 (BCuP-7) **FED** QQ-B-650 (BCuP-7)
C55283	Cu-Ag-P Brazing Filler Metal	**Ag** 5.8-6.2 **Cu** rem **P** 7.0-7.5 **Other** Cu + all named elements = 99.85 min	**ASME** SFA5.8 (BCuP-4) **AWS** A5.8 (BCuP-4) **FED** QQ-B-650 (BCuP-4)
C55284	Cu-Ag-P Brazing Filler Metal	**Ag** 14.5-15.5 **Cu** rem **P** 4.8-5.2 **Other** Cu + all named elements = 99.85 min	**ASME** SFA5.8 (BCuP-5) **AWS** A5.8 (BCuP-5) **FED** QQ-B-650 (BCuP-5); QQ-B-654 (BCuP-5) **MIL SPEC** MIL-B-7883 (BCuP-5)
C56000	Non-Ferrous Thermal Spray Wire (W-CuZnAg)	**Ag** 29-31 **Cu** 37-39 **Zn** 30-34	**AWS** A 5.33 (W-CuZnAg)
• **C60600**	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 4.0-7.0 **Fe** 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B150 **FED** QQ-C-450
• **C60700**	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 2.3-2.9 **Pb** 0.01 max **Sn** 1.7-2.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B105
C60800	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 5.0-6.5 **As** 0.2-0.35 **Fe** 0.10 max **Pb** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB111; SB359; SB395 **ASTM** B111; B359; B395
C61000	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 6.0-8.5 **Fe** 0.50 max **Pb** 0.02 max **Si** 0.10 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB169; SFA5.7 (ERCuAl-Al) **AWS** A5.7 (ERCuAl-Al) **FED** QQ-C-450
C61300	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 6.0-7.5 **Fe** 2.0-3.0 **Mn** 0.20 max **Ni** (incl Co) 0.15 max **P** 0.015 max **Pb** 0.01 max **Si** 0.10 max **Sn** 0.20-0.50 **Zn** 0.10 max **Other** Cu + sum of named elements 99.8 min **Note:** When the product is for subsequent welding applications and is so specified, the Cr, Cd, Zr, and Zn limits shall be 0.05 max each.	**ASTM** B111; B150; B169; B171; B315; B432; B608; F467 (613); F468 (613) **FED** QQ-C-450
C61400	Aluminum Bronze D	**Cu** (incl Ag) rem **Al** 6.0-8.0 **Fe** 1.5-3.5 **Mn** 1.0 max **P** 0.015 max **Pb** 0.01 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB150; SB169; SB171 **ASTM** B111; B150; B169; B171; B315; B432; B608; F467; F468 **FED** QQ-C-450 **SAE** J461; J463
C61470	Aluminum Bronze Welding Electrode replaced by W60614		
C61500	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 7.7-8.3 **Ni** 1.8-2.2 **Pb** 0.015 max **Other** Cu + sum of named elements 99.5 min	
C61550	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 5.5-6.5 **Cu** rem **Fe** 0.20 max **Mn** 1.0 max **Ni** (incl Co) 1.5-2.5 **Pb** 0.05 max **Sn** 0.05 max **Zn** 0.8 max **Other** Cu + all named elements = 99.5 min	**ASTM** B694

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C61800	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 8.5-11.0 **Fe** 0.50-1.5 **Pb** 0.02 max **Si** 0.10 max **Zn** 0.02 max **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (ERCuAl-A2); SFA5.21 (ERCuAl-A2) **AWS** A5.7 (ERCuAl-A2); A5.21 (ERCuAl-A2); 5.33 (W-CuAl) **MIL SPEC** MIL-W-6712; MIL-E-23765/3 (MIL-CuAl-A2)
C61810	Aluminum Bronze (Combined with C61800)		
C61900	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 8.5-10.0 **Fe** 3.0-4.5 **Pb** 0.02 max **Sn** 0.6 max **Zn** 0.8 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B124; B150; B283
C62200	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 11.0-12.0 **Fe** 3.0-4.2 **Pb** 0.02 max **Si** 0.10 max **Zn** 0.02 max **Other** Cu + sum of named elements 99.5 min	
C62300	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 8.5-10.0 **Fe** 2.0-4.0 **Mn** 0.50 max **Ni** (incl Co) 1.0 max **Si** 0.25 max **Sn** 0.6 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4635 **ASME** SB150 **ASTM** B124; B150); B283 **MIL SPEC** MIL-B-16166 **SAE** J461; J463
C62400	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 10.0-11.5 **Fe** 2.0-4.5 **Mn** 0.30 max **Si** 0.25 max **Sn** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (ERCuAl-A3); SFA5.21 (ERCuAl-A3) **ASTM** B150 **AWS** A5.7 (ERCuAl-A3); A5.21 (ERCuAl-A3) **SAE** J461; J463
C62500	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 12.5-13.5 **Fe** 3.5-5.0 **Mn** 2.0 max **Other** Cu + sum of named elements 99.5 min	
C62580	Aluminum Bronze Welding Filler Metal	**Cu** (incl Ag) rem **Al** 12.0-13.0 **Fe** 3.0-5.0 **Pb** 0.02 max **Si** 0.04 max **Zn** 0.02 max **Other** Cu + sum of named elements 99.5	**ASME** SFA5.21 (ERCuAl-C) **AWS** A5.21 (ERCuAl-C)
C62581	Aluminum Bronze Welding Filler Metal	**Cu** (incl Ag) rem **Al** 13.0-14.0 **Fe** 3.0-5.0 **Pb** 0.02 max **Si** 0.04 max **Zn** 0.02 max **Other** Cu + sum of named elements 99.5	**ASME** SFA5.21 (ERCuAl-D) **AWS** A5.21 (ERCuAl-D)
C62582	Aluminum Bronze Welding Filler Metal	**Cu** (incl Ag) rem **Al** 14.0-15.0 **Fe** 3.0-5.0 **Pb** 0.02 max **Si** 0.04 max **Zn** 0.02 max **Other** Cu + sum of named elements 99.5	**ASME** SFA5.21 (ERCuAl-E) **AWS** A5.21 (ERCuAl-E)
*C62730	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 8.5-11.0 **Fe** 4.0-6.0 **Mg** 0.05 max **Mn** 0.50 max **Ni** (incl Co) 4.0-6.0 **Pb** 0.05 max **Si** 0.10 max **Sn** 0.10 max **Zn** 0.40 max **Other** Cu + sum of named elements 99.5 min	
C63000	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 9.0-11.0 **Fe** 2.0-4.0 **Mn** 1.5 max **Ni** (incl Co) 4.0-5.5 **Si** 0.25 max **Sn** 0.20 max **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4640 **ASME** SB150; SB171 **ASTM** B124; B150; B171; B283; F467; F468 **FED** QQ-C-450 **MIL SPEC** MIL-B-16166 **SAE** J461; J463
C63010	Aluminum Bronze	**Al** 9.7-10.9 **Cu** (incl Ag) 78.0 min **Fe** 2.0-3.5 **Mn** 1.5 max **Ni** (incl Co) 4.5-5.5 **Sn** 0.20 max **Zn** 0.30 max **Other** Cu + sum of named elements 99.8 min	
C63020	Copper Alloy	**Al** 10.5-11.5 **Cr** 0.05 max **Co** 0.20 max **Cu** (incl Ag) 74.5 min **Fe** 4.0-5.5 **Mn** 1.5 max **Ni** (incl Co) 4.2-6.0 **Pb** 0.03 max **Si** 0.15 max **Sn** 0.25 max **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C63200	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 8.7-9.5 **Fe** 3.5-4.3 **Mn** 1.2-2.0 **Ni** (incl Co) 4.0-4.8 **Pb** 0.02 max **Si** 0.10 max **Other** Cu + sum of named elements 99.5 min **Note:** Fe content shall not exceed Ni content	**ASTM** B124; B150; B283
• **C63230**	Aluminum Bronze	**Al** 8.5-9.5 **Cu** (incl Ag) 75.9-84.5 **Fe** 3.0-5.0 **Mn** 3.5 max **Ni** (incl Co) 4.0-5.5 **Pb** 0.02 max **Si** 0.10 max **Other** Cu + sum of named elements 99.5 min **Note:** Fe content shall not exceed Ni content	
C63280	Nickel Aluminum Bronze Welding Filler Metal	**Cu** (incl Ag) rem **Al** 8.5-9.5 **Fe** 3.0-5.0 **Mn** 0.6-3.5 **Ni** 4.0-5.5 **Pb** 0.02 max **Si** 0.10 max **Other** Cu + sum of named elements 99.5 min **Note:** Fe content shall not exceed Ni content	**ASME** SFA5.7 (ERCuNiAl) **AWS** A5.7 (ERCuNiAl) **MIL SPEC** MIL-E-23765/3 (MIL- CuNiAl)
• **C63300**	Copper Alloy	**Al** 5.0-7.5 **Cu** (incl Ag) rem **Fe** 2.0-6.0 **Mn** 11.0-13.0 **Ni** (incl Co) 1.0-2.5 **Pb** 0.02 max **Si** 1.5 max	
C63380	Manganese Aluminum Bronze Welding Filler Metal	**Cu** (incl Ag) rem **Al** 7.0-8.5 **Fe** 2.0-4.0 **Mn** 11.0-14.0 **Ni** 1.5-3.0 **Pb** 0.02 max **Si** 0.10 max **Zn** 0.15 max **Other** Cu + sum of named elements 99.5 min **Note:** Fe content shall not exceed Ni content	**ASME** SFA5.7 (ERCuMnNiAl) **AWS** A5.7 (ERCuMnNiAl) **MIL SPEC** MIL-E-23765/3 (MIL-CuMnNiAl)
C63400	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 2.6-3.2 **As** 0.15 max **Fe** 0.15 max **Ni** (incl Co) 0.15 max **Pb** 0.05 max **Si** 0.25-0.45 **Sn** 0.20 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	
C63600	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 3.0-4.0 **As** 0.15 max **Fe** 0.15 max **Ni** (incl Co) 0.15 max **Pb** 0.05 max **Si** 0.7-1.3 **Sn** 0.20 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	
C63800	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 2.5-3.1 **Co** 0.25-0.55 **Fe** 0.20 max **Mn** 0.10 max **Ni** 0.20 max **Pb** 0.05 max **Si** 1.5-2.1 **Zn** 0.8 max **Other** Cu + sum of named elements 99.5 min **Note:** Ni does not include Co	**ASTM** B422
• **C64110**	Aluminum Bronze, Free Machining	**Cu** (incl Ag) rem **Al** 8.0-11.0 **Mn** 0.50 max **Pb** 1.0-2.0 **Other** Cu + sum of named elements 99.5 min	
C64200	Aluminum Bronze	**Cu** (incl Ag) rem **Al** 6.3-7.6 **As** 0.15 max **Fe** 0.30 max **Mn** 0.10 max **Ni** (incl Co) 0.25 max **Pb** 0.05 max **Si** 1.5-2.2 **Sn** 0.20 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB150; SB283 **ASTM** B124; B150; B283; F467; F468 **AMS** 4631 **SAE** J461; J463
C64210	Aluminum Silicon Bronze	**Cu** (incl Ag) rem **Al** 6.3-7.0 **As** 0.15 max **Fe** 0.30 max **Mn** 0.10 max **Ni** (incl Co) 0.25 max **Pb** 0.05 max **Si** 1.5-2.0 **Sn** 0.20 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B124; B150; B283

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* C64250	Aluminum Silicon Bronze	**Cu** (incl Ag) rem **Al** 5.5-7.5 **Fe** 1.0 max **Mn** 0.50 max **Si** 1.5-3.0 **Other** Cu + sum of named elements 99.5 min	
* C64400	Aluminum Silicon Bronze	**Cu** (incl Ag) rem **Al** 3.5-4.5 **Cu** rem **Fe** 0.05 max **Ni** (incl Co) 4.2-5.0 **Pb** 0.03 max **Si** 0.8-1.3 **Sn** 0.10 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B422
C64700	Silicon Bronze	**Cu** (incl Ag) rem **Fe** 0.10 max **Ni** (incl Co) 1.6-2.2 **Pb** 0.10 max **Si** 0.40-0.8 **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B411; B412
C64710	Copper-Nickel-Silicon Alloy	**Cu** (incl Ag) 95.0 min **Mn** 0.10 max **Ni** (incl Co) 2.9-3.5 **Si** 0.50-0.9 **Zn** 0.20-0.50 **Other** Cu + sum of named elements 99.5 min	
* C64720	Copper Silicon Alloy	**Cu** rem **Mg** 0.01-0.03 **Ni** 1.6-2.2 **Si** 0.35-0.6 **Zn** 0.10-0.40 **Other** Cu + sum of named elements 99.5 min	
C64725	Copper-Silicon Alloys (Max 25)	**Cr** 0.20 max **Cu** (incl. Ag) 95.0 min **Fe** 0.25 max **Mg** 0.20 max **Ni** (incl. Co) 1.3-2.7 **Pb** 0.01 max **Si** 0.20-0.8 **Sn** 0.20-0.8 **Zn** 0.50-1.5 **Ca** 0.01 max **Other** Cu + sum of named elements 99.5 min	
C64730	Copper-Nickel-Silicon Alloy (KLF 125)	**Cu** 93.5 min **Mn** 0.10 max **Ni** 2.9-3.5 **Si** 0.50-0.9 **Sn** 1.0-1.5 **Zn** 0.20-0.50 **Other** Cu + sum of named elements 99.5 min	
C64740	Copper-Silicon Alloys (Tamac 15)	**Cu** (incl. Ag) 95.0 min **Mg** 0.05 max **Ni** (incl. Co) 1.0-2.0 **Pb** 0.01 max **Si** 0.05-0.50 **Sn** 1.5-2.5 **Zn** 0.20-1.0 **Ca** 0.01 max **Other** Cu + sum of named elements 99.5 min	
C64900	Silicon Bronze	**Al** 0.10 max **Cu** (incl Ag) rem **Fe** 0.10 max **Ni** (incl Co) 0.10 max **Pb** 0.05 max **Si** 0.8-1.2 **Sn** 1.2-1.6 **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	
C65100	Low Silicon Bronze B	**Cu** (incl Ag) rem **Fe** 0.8 max **Mn** 0.7 max **Pb** 0.05 max **Si** 0.8-2.0 **Zn** 1.5 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB98; SB315 **ASTM** B96; B98; B99; B105; B315; B432; F467; F468
* C65300	Silicon Bronze	**Cu** (incl Ag) rem **Fe** 0.8 max **Pb** 0.05 max **Si** 2.0-2.6 **Other** Cu + sum of named elements 99.5 min	
C65400	Copper Silicon	**Cr** 0.01-0.12 **Cu** (incl Ag) rem **Pb** 0.05 max **Si** 2.7-3.4 **Sn** 1.2-1.9 **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B96
C65500	High Silicon Bronze A	**Cu** (incl Ag) rem **Fe** 0.8 max **Mn** 0.50-1.3 **Ni** (incl Co) 0.6 max **Pb** 0.05 max **Si** 2.8-3.8 **Zn** 1.5 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4615; 4665 **ASME** SB96; SB98; SB315 **ASTM** B96; B98; B99; B100; B105; B124; B283; B315; B432; F467; F468 **MIL SPEC** MIL-T-8231 **SAE** J461; J463

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C65600	Silicon Bronze	**Al** 0.01 max **Cu** (incl Ag) rem **Fe** 0.50 max **Mn** 1.5 max **Pb** 0.02 max **Si** 2.8-4.0 **Sn** 1.5 max **Zn** 1.5 max **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (ERCuSi-A); SFA5.21 (ERCuSi-A) **AWS** A5.7 (ERCuSi-A); A5.21 (ERCuSi-A) **MIL SPEC** MIL-E-23765/3 (MIL-CuSi)
• **C65620**	Copper Silicon Alloy	**Cu** (incl Ag) 90.0 min **Fe** 1.0-2.0 **Mn** 1.0 max **P** 0.10 max **Si** 2.4-4.0 **Zn** 1.5-4.0 **Other** Cu + sum of named elements 99.5 min	
• **C65800**	Silicon Bronze	**Cu** (incl Ag) rem **Fe** 0.25 max **Mn** 0.50-1.3 **Ni** (incl Co) 0.6 max **Pb** 0.05 max **Si** 2.8-3.8 **Other** Cu + sum of named elements 99.5 min	**ASTM** B96; B98; B315
C66100	Silicon Bronze	**Cu** (incl Ag) rem **Fe** 0.25 max **Mn** 1.5 max **Pb** 0.20-0.8 **Si** 2.8-3.5 **Zn** 1.5 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB98 **ASTM** B98; F467; F468
C66300	Misc. Copper-Zinc Alloy	**Co** 0.20 max **Cu** (incl. Ag) 84.5-87.5 **P** 0.35 max **Pb** 0.05 max **Sn** 1.5-3.0 **Zn** rem **Other** (Fe + Co) 1.4-2.4, Cu + sum of named elements 99.5	
C66400	Copper Alloy	**Co** 0.30-0.7 **Cu** (incl Ag) rem **Fe** 1.3-1.7 **Mn** 0.05 max **Ni** 0.05 max **P** 0.02 max **Pb** 0.015 max **Si** 0.05 max **Sn** 0.05 max **Zn** 11.0-12.0 **Other** Fe+Co 1.8-2.3, Cu + sum of named elements 99.5 min	**ASTM** B694
C66410	Misc. Copper Zinc Alloy	**Al** 0.05 max **As** 0.05 max **Cu** (incl Ag) rem **Fe** 1.8-2.3 **Mn** 0.05 max **Ni** 0.05 max **P** 0.02 max **Pb** 0.015 max **Si** 0.05 max **Sn** 0.05 max **Zn** 11.0-12.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B694
C66420	Copper-Zinc Alloy (Outokumpu Copper)	**Cu** (incl. Ag) rem **Fe** 0.50-1.5 **Zn** 12.7-17.0 **Other** Cu + sum of named elements 99.5 min	**Other:** CDA A1001-95/96
C66700	Manganese Brass	**Cu** (incl Ag) 68.5-71.5 **Fe** 0.10 max **Mn** 0.8-1.5 **Pb** 0.07 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B291
C66800	Manganese Bronze	**Cu** (incl Ag) 60.0-63.0 **Al** 0.25 max **Fe** 0.35 max **Mn** 2.0-3.5 **Ni** (incl Co) 0.25 max **Pb** 0.50 max **Si** 0.50-1.5 **Sn** 0.30 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C66900	Manganese Bronze	**Cu** (incl Ag) 62.5-64.5 **Fe** 0.25 max **Mn** 11.5-12.5 **Pb** 0.05 max **Zn** rem **Other** (Cu + sum of named elements) 99.8 min	
C66950	Manganese Bronze	**Al** 1.0-1.5 **Cu** (incl. Ag) rem **Fe** 0.50 max **Mn** 14.0-15.0 **Pb** 0.01 max **Zn** 14.0-15.0 **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C67000	Manganese Bronze B	**Al** 3.0-6.0 **Cu** (incl Ag) 63.0-68.0 **Fe** 2.0-4.0 **Mn** 2.5-5.0 **Pb** 0.20 max **Sn** 0.50 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B138 **SAE** J461; J463

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*C67130	Leaded Manganese Bronze	**Al** 0.10-1.0 **Cu** (incl Ag) 56.0-59.0 **Mn** 0.50-1.5 **Ni** (incl Co) 0.50-1.5 **Pb** 0.50-1.5 **Sn** 0.50-1.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C67300	Manganese Bronze	**Al** 0.25 max **Cu** (incl Ag) 58.0-63.0 **Fe** 0.50 max **Mn** 2.0-3.5 **Ni** (incl Co) 0.25 max **Pb** 0.40-3.0 **Si** 0.50-1.5 **Sn** 0.30 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**SAE** J461; J463
C67400	Manganese Bronze	**Al** 0.50-2.0 **Cu** (incl Ag) 57.0-60.0 **Fe** 0.35 max **Mn** 2.0-3.5 **Ni** (incl Co) 0.25 max **Pb** 0.50 max **Si** 0.50-1.5 **Sn** 0.30 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**SAE** J461; J463
*C67410	Manganese Bronze	**Al** 1.3-2.3 **Cu** (incl Ag) 55.5-59.0 **Fe** 1.0 max **Mn** 1.0-2.4 **Ni** (incl Co) 2.0 max **Pb** 0.8 max **Si** 0.7-1.3 **Sn** 0.50 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C67420	Manganese Bronze	**Al** 1.0-2.0 **Cu** (incl. Ag) 57.0-58.5 **Fe** 0.15-0.55 **Mn** 1.5-2.5 **Ni** (incl. Co) 0.25 max **Pb** 0.25-0.8 **Si** 0.25-0.7 **Sn** 0.35 max **Zn** rem **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C67500	Manganese Bronze A	**Al** 0.25 max **Cu** (incl Ag) 57.0-60.0 **Fe** 0.8-2.0 **Mn** 0.05-0.50 **Pb** 0.20 max **Sn** 0.50-1.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B124; B138; B283; F467; F468 **SAE** J461; J463
C67600	Leaded Manganese Bronze	**Cu** (incl Ag) 57.0-60.0 **Fe** 0.40-1.3 **Mn** 0.05-0.50 **Pb** 0.50-1.0 **Sn** 0.50-1.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C67620	Leaded Manganese Bronze	**Cu** (incl Ag) 55.0-57.0 **Fe** 0.50-1.2 **Mn** 1.0-2.0 **Pb** 0.50-1.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C67700	Copper Alloy	**As** 0.40-0.8 **Cu** (incl Ag) 55.5-58.0 **Fe** 0.7-1.5 **Mn** 0.05-0.30 **Ni** (incl Co) 1.5-2.3 **Pb** 0.50-1.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C67800	Copper Alloy	**Al** 0.50-1.5 **Cu** (incl Ag) 56.0-59.0 **Fe** 0.7-1.5 **Mn** 0.20-0.6 **Pb** 0.30 max **Sn** 0.20 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**AMS** 4619
*C67810	Manganese Bronze	**Al** 0.40-1.6 **Cu** (incl Ag) 56.5-59.5 **Fe** 1.0 max **Mn** 0.40-1.8 **Ni** (incl Co) 1.5 max **Pb** 1.0 max **Si** 0.6 max **Sn** 0.50 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	

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* **C67820**	Manganese Bronze	**Al** 0.30-1.3 **Cu** (incl Ag) 56.5-59.5 **Fe** 0.50-1.2 **Mn** 0.30-2.0 **Pb** 0.10 max **Sn** 0.30-1.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C68000	Bronze, Low Fuming (Nickel)	**Al** 0.01 max **Cu** (incl Ag) 56.0-60.0 **Fe** 0.25-1.25 **Mn** 0.01-0.50 **Ni** (incl Co) 0.20-0.8 **Pb** 0.05 max **Si** 0.04-0.15 **Sn** 0.75-1.10 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.8 (RBCuZn-B) **AWS** A5.8 (RBCuZn-B)
C68100	Bronze, Low Fuming	**Al** 0.01 max **Cu** (incl Ag) 56.0-60.0 **Fe** 0.25-1.25 **Mn** 0.01-0.50 **Pb** 0.05 max **Si** 0.04-0.15 **Sn** 0.75-1.10 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASME** AFA5.8 (RBCuZn-C); SFA5.27 (RBCuZn-C) **AWS** A5.8 (RBCuZn-C)
* **C68200**	Copper Alloy	**Cu** (incl Ag) 58.0-60.0 **Fe** 0.6-1.0 **Mn** 0.6-1.0 **Si** 0.07-0.15 **Zn** rem	
* **C68600**	Leaded Manganese Bronze	**Al** 0.30-1.5 **Cu** (incl Ag) 56.0-60.0 **Fe** 0.50-1.2 **Mn** 0.30-2.0 **Pb** 0.50-1.5 **Sn** 0.20-1.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C68700	Aluminum Brass, Arsenical	**Al** 1.8-2.5 **As** 0.02-0.06 **Cu** (incl Ag) 76.0-79.0 **Fe** 0.06 max **Pb** 0.07 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASME** SB111; SB359; SB395; SB543 **ASTM** B111; B359; B395; B543
C68800	Copper Alloy	**Al** 3.0-3.8 **Co** 0.25-0.55 **Cu** (incl Ag) rem **Fe** 0.20 max **Pb** 0.05 max **Zn** 21.3-24.1 **Other** Cu + sum of named elements 99.5 min	**ASTM** B592
* **C69000**	Miscellaneous Copper-Zinc	**Al** 3.0-3.8 **Cu** (incl Ag) 72.0-74.5 **Fe** 0.05 max **Ni** (incl Co) 0.50-0.8 **Pb** 0.025 max **Zn** rem **Other** Al + Zn 25.1 - 27.1; Cu + sum of named elements 99.5 min	**ASTM** B592
C69050	Copper Alloy	**Al** 3.0-4.0 **Cu** 70.0-75.0 **Ni** 0.50-1.5 **Si** 0.10-0.6 **Zn** rem **Zr** 0.01-0.20 **Other** Cu + sum of named elements 99.5 min	
C69100	Copper Alloy	**Al** 0.7-1.2 **Cu** (incl Ag) 81.0-84.0 **Fe** 0.25 max **Mn** 0.10 max **Ni** (incl Co) 0.8-1.4 **Pb** 0.05 max **Si** 0.8-1.3 **Sn** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B706
C69400	Silicon Red Brass	**Cu** (incl Ag) 80.0-83.0 **Fe** 0.20 max **Pb** 0.30 max **Si** 3.5-4.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371
C69430	Silicon Red Brass	**As** 0.03-0.06 **Cu** (incl Ag) 80.0-83.0 **Fe** 0.20 max **Pb** 0.30 max **Si** 3.5-4.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371

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*C69440	Silicon Red Brass	**Cu** (incl Ag) 80.0-83.0 **Fe** 0.20 max **Pb** 0.30 max **Sb** 0.03-0.06 **Si** 3.5-4.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371
*C69450	Silicon Red Brass	**Cu** (incl Ag) 80.0-83.0 **Fe** 0.20 max **Mn** 0.40 max **P** 0.03-0.06 **Pb** 0.30 max **Si** 3.5-4.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371
C69700	Leaded Silicon Brass	**Cu** (incl Ag) 75.0-80.0 **Fe** 0.20 max **Mn** 0.40 max **Pb** 0.50-1.5 **Si** 2.5-3.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371
C69710	Silicon Brass	**As** 0.03-0.06 **Cu** (incl Ag) 75.0-80.0 **Fe** 0.20 max **Mn** 0.40 max **Pb** 0.50-1.5 **Si** 2.5-3.5 **Zn** Rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371
*C69720	Silicon Brass	**Cu** (incl Ag) 75.0-80.0 **Fe** 0.20 max **Mn** 0.40 max **Pb** 0.50-1.5 **Sb** 0.03-0.06 **Si** 2.5-3.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371
*C69730	Silicon Brass	**Cu** (incl Ag) 75.0-80.0 **Fe** 0.20 max **Mn** 0.40 max **P** 0.03-0.06 **Pb** 0.50-1.5 **Si** 2.5-3.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B371
*C69800	Copper Zinc	**Cu** (incl Ag) 66.0-70.0 **Fe** 0.4 max **Ni** (incl Co) 0.50 max **Pb** 0.8 max **Si** 0.7-1.3 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C69900	Copper Manganese Alloy	**Ag** 0.05 max **Al** 1.4-2.3 **As** 0.01 max **C** 0.05 max **Cd** 0.05 max **Co** 0.20 max **Cu** (incl Ag) rem **Fe** 0.10 max **Mn** 40.0-48.0 **Ni** (incl Co) 0.10 max **Pb** 0.02 max **Zn** 0.14 max **Other** Cu + sum of named elements 99.5 min	
*C69910	Brazing Alloy (Cu-Mn-Fe)	**Al** 0.25-0.8 **Cu** (incl Ag) rem **Fe** 1.0-1.4 **Mn** 28.0-32.0 **Pb** 0.01 max **Zn** 3.0-5.0 **Other** Cu + sum of named elements 99.5 min	
*C69950	Copper Alloy (1600N)	**Cu** (incl Ag) 51.0-54.0 **Mn** 36.0-40.0 **Ni** (incl Co) 8.5-10.5 **Other** Cu + sum of named elements 99.5 min	**AMS** 4764
C70100	Copper-Nickel Alloy	**Cu** (incl Ag) rem **Fe** 0.05 max **Mn** 0.50 max **Ni** (incl Co) 3.0-4.0 **Zn** 0.25 max **Other** Cu + sum of named elements 99.5 min	

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C70200	Copper-Nickel	**Cu** (incl Ag) rem **Fe** 0.10 max **Mn** 0.40 max **Ni** (incl Co) 2.0-3.0 **Pb** 0.05 max **Other** Cu + sum of named elements 99.5 min	**MIL SPEC** MIL-B-18907; MIL-B-20292
C70230	Copper Nickel	**(Ag** + B) 0.10 max **Cu** (incl. Ag) rem **Ni** (incl. Co) 2.2-3.2 **Si** 0.40-0.8 **Sn** 0.10-0.50 **Zn** 0.50-2.0 **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C70250	Copper Nickel	**Cu** (incl Ag) rem **Fe** 0.20 max **Mg** 0.05-0.30 **Mn** 0.10 max **Ni** (incl Co) 2.2-4.2 **Pb** 0.05 max **Si** 0.25-1.2 **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	
C70260	Copper Nickel	**Cu** (incl. Ag) rem **Ni** (incl. Co) 1.0-3.0 **P** 0.005 max **Si** 0.20-0.7 **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
***C70300**	Copper-Nickel Alloy	**Cu** 99.5 min **Fe** 0.05 max **Mn** 0.50 max **Ni** 4.7-5.7 **Other** Fe + Mn + Ni included in Cu	
***C70320**	Copper-Nickel	**Al** 0.20-1.2 **Cr** 0.18-0.50 **Cu** (incl Ag) rem **Ni** (incl Co) 2.5-5.0 **Si** 0.20-1.2 **Other** Cu + sum of named elements 99.5 min	
C70400	Copper-Nickel, 5%	**Cu** (incl Ag) rem **Fe** 1.3-1.7 **Mn** 0.30-0.8 **Ni** (incl Co) 4.8-6.2 **Pb** 0.05 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB111; SB359; SB466; SB543 **ASTM** B111; B359; B395; B466; B543
***C70440**	95/5 Copper-Nickel	**C** 0.05 max **Cu** (incl Ag) rem **Fe** 1.0-1.8 **Mn** 0.50-1.5 **Ni** (incl Co) 4.5-6.0 **Pb** 0.05 max **S** 0.05 max **Si** 0.35-0.45 **Sn** 0.10 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	
C70500	Copper-Nickel, 7%	**Cu** (incl Ag) rem **Fe** 0.10 max **Mn** 0.15 max **Ni** (incl Co) 5.8-7.8 **Pb** 0.05 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	
C70600	Copper-Nickel, 10%	**Cu** (incl Ag) rem **Fe** 1.0-1.8 **Mn** 1.0 max **Ni** (incl Co) 9.0-11.0 **Pb** 0.05 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min **Note:** When the product is for subsequent welding applications, C shall be 0.05 max, Zn 0.50 max, P 0.02 max, Pb 0.02 max, and S 0.02 max	**ASME** SB111; SB171; SB359; SB395; SB402; SB466; SB467; SB543 **ASTM** B111; B122; B151; B171; B359; B395; B432; B466; B467; B469; B543; B552; B608 **MIL SPEC** MIL-T-15005; MIL-C-15726; MIL-T-16420; MIL-T-22214 **SAE** J461; J463
C70610	90/10 Copper-Nickel	**C** 0.05 max **Cu** (incl Ag) rem **Fe** 1.0-2.0 **Mn** 0.50-1.0 **Ni** (incl Co) 10.0-11.0 **Pb** 0.01 max **S** 0.05 max **Other** Cu + sum of named elements 99.5 min	
C70620	90/10 Copper-Nickel (Welding Rod Composition)	**C** 0.05 max **Cu** (incl. Ag) 86.5 min **Fe** 1.0-1.8 **Mn1.0** max **Ni** (incl. Co) 9.0-11.0 **P** 0.02max **Pb** 0.02 max **S** 0.02 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5	**MIL SPEC** MIL-C-24679

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C70690	Copper-Nickel, 90Cu-10Ni	**Al** 0.002 max **As** 0.001 max **Bi** 0.001 max **C** 0.03 max **Co** 0.02 max **Cu** (incl Ag) rem **Fe** 0.005 max **Hg** 0.0005 max **Mn** 0.001 max **Ni** (incl Co) 9.0-11.0 **P** 0.001 max **Pb** 0.001 max **S** 0.003 max **Sb** 0.001 max **Si** 0.02 max **Sn** 0.001 max **Ti** 0.001 max **Zn** 0.001 max **Other** Cu + sum of named elements 99.5 min	**ASTM** F96
C70700	Copper-Nickel	**Cu** (incl Ag) rem **Fe** 0.05 max **Mn** 0.50 max **Ni** (incl Co) 9.5-10.5 **Other** Cu + sum of named elements 99.5 min	
C70800	Copper-Nickel, 11%	**Cu** (incl Ag) rem **Fe** 0.10 max **Mn** 0.15 max **Ni** (incl Co) 10.5-12.5 **Pb** 0.05 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	
*C70900	Copper-Nickel	**Cu** (incl Ag) rem **Fe** 0.6 max **Mn** 0.6 max **Ni** (incl Co) 13.5-16.5 **Pb** 0.05 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	
C71000	Copper-Nickel, 20%	**Cu** (incl Ag) rem **Fe** 1.0 max **Mn** 1.0 max **Ni** (incl Co) 19.0-23.0 **Pb** 0.05 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB111; SB359; SB395; SB466 **ASTM** B111; B122; B206; B359; B395; B466; B543; B694; F467; F468 **SAE** J461; J463
C71100	Copper-Nickel	**Cu** (incl Ag) rem **Fe** 0.10 max **Mn** 0.15 max **Ni** (incl Co) 22.0-24.0 **Pb** 0.05 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	
*C71110	Copper-Nickel Alloy (77.5 Cu - 22.5 Ni)	**Cu** (incl Ag) rem **Mn** 0.35 max **Ni** (incl Co) 21.5-23.5 **S** 0.008 max **Ti** 0.05 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4732
C71300	Copper-Nickel	**Cu** (incl Ag) rem **Fe** 0.20 max **Mn** 1.0 max **Ni** (incl Co) 23.5-26.5 **Pb** 0.05 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	
C71500	Copper-Nickel, 30% (MONEL 450)	**Cu** (incl Ag) rem **Fe** 0.40-1.0 **Mn** 1.0 max **Ni** (incl Co) 29.0-33.0 **Pb** 0.05 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min **Note:** When the product is for subsequent welding applications, C shall be 0.05 max, Pb 0.02 max, P 0.02 max, S 0.02 max, and Zn 0.50 max.	**ASME** SB111; SB171; SB359; SB395; SB402; SB466; SB467; SB543 **ASTM** B111; B122; B151; B171; B359; B395; B402; B432; B466; B467; B543; B552; B608; F467; F468 **MIL SPEC** MIL-T-15005; MIL-C-15726; MIL-T-16420; MIL-T-22214 **SAE** J461; J463
C71520	70/30 Copper-Nickel (Welding Rod Composition)	**C** 0.05 max **Cu** (incl. Ag) 65.0 min **Fe** 0.40-1.0 **Mn** 1.0 max **Ni** (incl. Co) 29.0-33.0 **P** 0.02 max **Pb** 0.02 max **S** 0.02 max **Zn** 0.50 max **Other** (Cu + sum of named elements) 99.5 min	**MIL SPEC** MIL-C-24679; Other CDA A1001-97-98 Revised July 1998
C71580	Copper-Nickel	**Al** 0.05 max **C** 0.07 max **Cu** (incl Ag) rem **Fe** 0.50 max **Mn** 0.30 max **Ni** (incl Co) 29.0-33.0 **P** 0.03 max **Pb** 0.05 max **S** 0.024 max **Si** 0.15 max **Zn** 0.05 max **Other** Cu + sum of named elements 99.5 min	**ASTM** F96
C71581	Copper-Nickel Welding Filler Metal	**Cu** (incl Ag) rem **Fe** 0.40-0.7 **Mn** 1.0 max **Ni** (incl Co) 29.0-32.0 **P** 0.02 max **Pb** 0.02 max **S** 0.01 max **Si** 0.25 max **Ti** 0.20-0.50 **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (ERCuNi); SFA5.27 (RCuNi); SFA5.30 (IN67) **AWS** A5.7 (ERCuNi); A5.30 (IN67) **MIL SPEC** MIL-E-21562 (RN7, EN67, RN67); MIL-I-23413 (MIL-67)

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C71590	Copper-Nickel, 70Cu-30Ni	**Al** 0.002 max **As** 0.001 max **Bi** 0.001 max **C** 0.02 max **Co** 0.05 max **Cu** (incl Ag) rem **Fe** 0.15 max **Hg** 0.0005 max **Mg** 0.10 max **Mn** 0.50 max **Ni** 29.0-31.0 **P** 0.001 max **Pb** 0.001 max **S** 0.003 max **Sb** 0.001 max **Si** 0.015 max **Sn** 0.001 max **Ti** 0.001 max **Zn** 0.001 max	**ASTM** F96
*C71630	Copper-Nickel	**C** 0.06 max **Cu** (incl Ag) rem **Fe** 0.40-1.0 **Mn** 0.50-1.5 **Ni** (incl Co) 30.0-32.0 **Pb** 0.01 max **S** 0.08 max **Other** Cu + sum of named elements 99.5 min	
C71640	Copper-Nickel	**C** 0.06 max **Cu** (incl Ag) rem **Fe** 1.7-2.3 **Mn** 1.5-2.5 **Ni** (incl Co) 29.0-32.0 **Pb** 0.01 max **S** 0.03 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B111; B543; B552
C71700	Copper-Nickel	**Be** 0.30-0.7 **Cu** (incl Ag) rem **Fe** 0.40-1.0 **Ni** (incl Co) 29.0-33.0 **Other** Cu + sum of named elements 99.5 min	
C71900	Copper-Nickel	**C** 0.04 max **Cr** 2.2-3.0 **Cu** (incl Ag) rem **Fe** 0.50 max **Mn** 0.20-1.0 **Ni** (incl Co) 28.0-33.0 **P** 0.02 max **Pb** 0.015 max **Si** 0.25 max **S** 0.015 max **Ti** 0.01-0.20 **Zn** 0.05 max **Zr** 0.02-0.35 **Other** Cu + sum of named elements 99.5 min	
C72150	Copper-Nickel	**C** 0.10 max **Cu** (incl Ag) rem **Fe** 0.10 max **Mn** 0.05 max **Ni** (incl Co) 43.0-46.0 **Pb** 0.05 max **Si** 0.50 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.5 min	
C72200	Copper-Nickel	**C** 0.03 max **Cr** 0.30-0.7 **Cu** (incl Ag) rem **Fe** 0.5-1.0 **Mn** 1.0 max **Ni** (incl Co) 15.0-18.0 **Pb** 0.05 max **Si** 0.03 max **Ti** 0.03 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.8 min **Note:** When product is for subsequent welding applications, C shall be 0.05 max, Pb 0.02 max, P 0.02 max, S 0.02 max, and Zn 0.50 max	**ASTM** B111; B122; B171; B359; B395; B466; B543; B552
*C72400	Copper-Nickel Alloy	**Al** 1.5-2.5 **Cu** (incl Ag) rem **Fe** 0.10 max **Mg** 0.05-0.40 **Mn** 1.0 max **Ni** (incl Co) 11.0-15.0 **Pb** 0.05 max **Sn** 0.05 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B422
C72420	Copper Nickel Alloy	**Al** 1.0-2.0 **C** 0.05 max **Cr** 0.50 max **Cu** (incl Ag) rem **Fe** 0.7-1.2 **Mg** 0.05 max **Mn** 3.5-5.5 **Ni** (incl Co) 13.5-16.5 **P** 0.01 max **Pb** 0.02 max **Si** 0.15 max **S** 0.15 max **Sn** 0.10 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.7 min	
C72500	Copper-Nickel	**Cu** (incl Ag) rem **Fe** 0.6 max **Mn** 0.20 max **Ni** (incl Co) 8.5-10.5 **Pb** 0.05 max **Sn** 1.8-2.8 **Zn** 0.50 max **Other** Cu + sum of named elements 99.8 min	**ASTM** B122

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* **C72600**	Copper-Nickel Tin Spinodal Alloy	**Cu** (incl Ag) 91.0-93.0 **Fe** 0.20 max **Mn** 0.20 max **Ni** (incl Co) 3.5-4.5 **P** 0.05 max **Pb** 0.05 max **Sn** 3.5-4.5 **Zn** 0.50 max **Other** Cu + sum of named elements 99.7 min	
C72650	Copper-Nickel-Tin Alloy	**Cu** (incl Ag) rem **Fe** 0.10 max **Mn** 0.10 max **Ni** 7.0-8.0 **Pb** 0.01 max **Sn** 4.5-5.5 **Zn** 0.10 max **Other** Cu + sum of named elements 99.7 min	
C72700	Copper-Nickel Tin Spinodal Alloy	**Cu** (incl Ag) rem **Fe** 0.50 max **Mg** 0.15 max **Mn** 0.05-0.30 **Nb** 0.10 max **Ni** (incl Co) 8.5-9.5 **Pb** 0.02 max **Sn** 5.5-6.5 **Zn** 0.50 max **Other** Cu + sum of named elements 99.7 min	**ASTM** B740
C72800	Copper-Nickel Tin Spinodal Alloy	**Al** 0.10 max **B** 0.001 max **Bi** 0.001 max **Cu** (incl Ag) rem **Fe** 0.50 max **Mg** 0.005-0.15 **Mn** 0.05-0.30 **Nb** 0.10-0.30 **Ni** (incl Co) 9.5-10.5 **P** 0.005 max **Pb** 0.005 max **S** 0.0025 max **Sb** 0.02 max **Si** 0.05 max **Sn** 7.5-8.5 **Ti** 0.01 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.7 min	
C72900	Copper-Nickel Tin Spinodal Alloy	**Cu** (incl Ag) rem **Fe** 0.50 max **Mg** 0.15 max **Mn** 0.30 max **Nb** 0.10 max **Ni** (incl Co) 14.5-15.5 **Pb** 0.02 **Sn** 7.5-8.5 **Zn** 0.50 max **Other** Cu + sum of named elements 99.7 min;.	**ASTM** B740
C72950	Copper Nickel Tin Spinodal Alloy	**Cu** (incl Ag) rem **Fe** 0.6 max **Mn** 0.6 max **Ni** (incl Co) 20.0-22.0 **Pb** 0.05 max **Sn** 4.5-5.7 **Other** Cu + Sum of named elements 99.7 min	
* **C73150**	Nickel Silver	**Cu** (incl Ag) rem **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 4.0-7.0 **Pb** 0.10 max **Zn** 9.0-15.0 **Other** Cu + sum of named elements 99.7 min	
* **C73200**	Nickel Silver	**Cu** (incl Ag) rem **Fe** 0.6 max **Mn** 1.0 max **Ni** (incl Co) 19.0-23.0 **Pb** 0.05 max **Zn** 3.0-6.0 **Other** Cu + sum of named elements 99.5 min	
C73500	Nickel Silver	**Cu** (incl Ag) 70.5-73.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 16.5-19.5 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B122
* **C73800**	Nickel Silver, 70-12	**Cu** (incl Ag) 68.5-71.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 11.0-13.0 **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C74000	Nickel Silver	**Cu** (incl Ag) 69.0-73.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 9.0-11.0 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B122
C74300	Nickel Silver	**Cu** (incl Ag) 63.0-66.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 7.0-9.0 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	

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C74400	Copper Nickel Zinc	**Cu** (incl. Ag) 62.0-66.0 **Fe** 0.05 max **Pb** 0.05 max **Zn** rem **Other** (Cu + sum of named elements) 99.7 min	**Other:** CDA A1001-97-98 Revised July 1998
C74500	Nickel Silver, 65-10	**Cu** (incl Ag) 63.5-66.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 9.0-11.0 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B122; B151; B206 **FED** QQ-W-321
C75200	Nickel Silver, 65-18	**Cu** (incl Ag) 63.5-66.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 16.5-19.5 **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B122; B151; B206; B458 (1) **FED** QQ-W-321 **SAE** J461; J463
C75400	Nickel Silver, 65-15	**Cu** (incl Ag) 63.5-66.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 14.0-16.0 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C75700	Nickel Silver, 65-12	**Cu** (incl Ag) 63.5-66.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 11.0-13.0 **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B151; B206 **FED** QQ-W-321
***C75720**	12% Nickel Silver	**Cu** (incl Ag) 60.0-65.0 **Fe** 0.25 max **Mn** 0.05-0.30 **Ni** (incl Co) 11.0-13.0 **Pb** 0.04 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
***C75900**	Nickel Silver	**Cu** (incl Ag) 60.0-65.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** + Co 17.0-19.0 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C76000	Nickel Silver	**Cu** (incl Ag) 60.0-63.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 7.0-9.0 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
***C76100**	Nickel Silver	**Cu** (incl Ag) 59.0-63.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 7.0-9.0 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C76200	Nickel Silver	**Cu** (incl Ag) 57.0-61.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 11.0-13.5 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B122
***C76300**	Nickel Silver	**Cu** (incl Ag) 60.0-64.0 **Fe** 0.50 max **Mn** 0.50 max **Ni** (incl Co) 17.0-19.0 **Pb** 0.50-2.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
***C76390**	Leaded Nickel Silver	**Cu** (incl Ag) 59.0-63.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 23.0-26.0 **Pb** 0.8-1.1 **Sn** 0.40-0.60 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C76400	Nickel Silver	**Cu** (incl Ag) 58.5-61.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 16.5-19.5 **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B151; B206 **FED** QQ-W-321

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*C76600	Nickel Silver	**Cu** (incl Ag) 55.0-58.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 11.0-13.5 **Pb** 0.10 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C76700	Nickel Silver, 56.5-15	**Cu** (incl Ag) 55.0-58.0 **Mn** 0.50 max **Ni** (incl Co) 14.0-16.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C77000	Nickel Silver, 55-18	**Cu** (incl Ag) 53.5-56.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 16.5-19.5 **Pb** 0.05 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B122; B151; B206 **FED** QQ-W-321 **SAE** J461; J463
*C77010	Nickel Silver	**Cu** (incl Ag) 54.0-56.0 **Fe** 0.30 max **Mn** 0.05-0.35 **Ni** (incl Co) 17.0-19.0 **Pb** 0.03 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C77300	Nickel Brass Welding and Brazing Filler Metal	**Al** 0.01 max **Cu** (incl Ag) 46.0-50.0 **Ni** (incl Co) 9.0-11.0 **P** 0.25 max **Pb** 0.05 max **Si** 0.04-0.25 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASME** SFA5.7 (RBCuZn-D); AFA5.8 (RBCuZn-D); SFA5.27 (RBCuZn-D) **AWS** A5.8 (RBCuZn-D) **FED** QQ-B-650 (BCuZn-D)
*C77310	Nickel Silver	**Al** 0.01 max **Cu** (incl Ag) 46.0-56.0 **Mn** 0.50 max **Ni** (incl Co) 9.0-11.0 **P** 0.25 max **Pb** 0.05 **Si** 0.04-0.25 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C77400	Nickel Silver	**Cu** (incl Ag) 43.0-47.0 **Ni** (incl Co) 9.0-11.0 **Pb** 0.20 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B124; B283
*C77600	Nickel Silver, 43.5-13	**Cu** (incl Ag) 42.0-45.0 **Fe** 0.20 max **Mn** 0.25 max **Ni** (incl Co) 12.0-14.0 **Pb** 0.25 max **Sn** 0.15 max **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C78200	Leaded Nickel Silver	**Cu** (incl Ag) 63.0-67.0 **Fe** 0.35 max **Mn** 0.50 max **Ni** (incl Co) 7.0-9.0 **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C78800	Leaded Nickel Silver	**Cu** (incl Ag) 63.0-67.0 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 9.0-11.0 **Pb** 1.5-2.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C79000	Leaded Nickel Silver	**Cu** (incl Ag) 63.0-67.0 **Fe** 0.35 max **Mn** 0.50 max **Ni** (incl Co) 11.0-13.0 **Pb** 1.5-2.2 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C79200	Leaded Nickel Silver	**Cu** (incl Ag) 59.5-66.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 11.0-13.0 **Pb** 0.8-1.4 **Zn** rem **Other** Cu + sum of named elements 99.5 min	**ASTM** B151; B206

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*C79300	Leaded Nickel Silver	**Cu** (incl Ag) 55.0-59.00 **Fe** 0.50 max **Mn** 0.50 max **Ni** (incl Co) 11.0-13.0 **Pb** 0.50-2.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C79600	Leaded Nickel Silver, 10%	**Cu** (incl Ag) 43.5-46.5 **Mn** 1.5-2.5 **Ni** (incl Co) 9.0-11.0 **Pb** 0.8-1.2 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C79620	Leaded Nickel Silver	**Cu** (incl Ag) 46.0-48.0 **Mn** 0.50 max **Ni** (incl Co) 8.0-11.0 **Pb** 0.50-2.0 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C79800	Leaded Nickel Silver	**Cu** (incl Ag) 45.5-48.5 **Fe** 0.25 max **Mn** 1.5-2.5 **Ni** (incl Co) 9.0-11.0 **Pb** 1.5-2.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C79810	Leaded Nickel Silver	**Cu** (incl Ag) 46.0-48.0 **Mn** 0.50 max **Ni** (incl Co) 8.0-11.0 **Pb** 2.0-3.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
*C79820	Leaded Nickel Silver	**Cu** 46.0-48.0 **Mn** 0.50 max **Ni** 8.0-11.0 **Pb** 2.0-3.5 **Zn** rem **Other** Co included in Ni	
C79830	Copper Nickel Zinc	**Cu** (incl. Ag) 45.5-47.0 **Fe** 0.45 max **Mn** 0.15-0.55 **Ni** 9.0-10.5 **Pb** 1.0-2.5 **Zn** rem **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
*C79900	Leaded Nickel Silver	**Cu** (incl Ag) 47.5-50.5 **Fe** 0.25 max **Mn** 0.50 max **Ni** (incl Co) 6.5-8.5 **Pb** 1.0-1.5 **Zn** rem **Other** Cu + sum of named elements 99.5 min	
C80100	Cast Copper	**Cu** (incl Ag) 99.95 min	
*C80300	Cast Copper, Silver Bearing	**Ag** 0.034 min **Cu** (incl Ag) 99.95 min **Other** total 0.05 max	
C80410	Cast Copper Alloy	**Cu** (incl. Ag) 99.9 min **Other** Total other elements 0.10 max	**Other:** CDA A1001-95/96
*C80500	Cast Copper, Silver Bearing	**Ag** 0.034 min **B** 0.02 max **Cu** (incl Ag) 99.75 min	
*C80700	Cast Copper	**B** 0.02 max **Cu** (incl Ag) 99.75 min	
*C80900	Cast Copper	**Ag** 0.034 min **Cu** (incl Ag) 99.70 min	

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C81100	Cast Copper	**Cu** (incl Ag) 99.70 min	
C81200	Cast Phosphorus Deoxidized Copper	**Cu** (incl Ag) 99.9 min **P** 0.040-0.065	
* **C81300**	Cast Beryllium Copper	**Be** 0.02-0.10 **Co** 0.6-1.0 **Cu** 98.5 min **Other** Cu + sum of named elements 99.5 min	
C81400	Cast Chromium Copper, 70C	**Be** 0.02-0.10 **Cr** 0.6-1.0 **Cu** 98.5 min **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B770
C81500	Cast Chromium Copper	**Al** 0.10 max **Cr** 0.40-1.5 **Cu** 98.0 min **Fe** 0.10 max **Pb** 0.02 max **Si** 0.15 max **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	
C81540	Cast Chromium Nickel Copper	**Al** 0.10 max **Cr** 0.10-0.6 **Cu** (incl Ag) 95.1 min **Fe** 0.15 max **Ni** (incl Co) 2.0-3.0 **Pb** 0.02 max **Si** 0.40-0.8 **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	
* **C81700**	Cast Beryllium Copper	**Ag** 0.8-1.2 **Be** 0.30-0.55 **Co** 0.25-1.5 **Cu** 94.2 min **Ni** 0.25-1.5 **Other** Cu + sum of named elements 99.5 min	
* **C81800**	Cast Chromium Copper, 50C	**Ag** 0.8-1.2 **Be** 0.30-0.55 **Co** 1.4-1.7 **Cu** 95.6 min **Other** Cu + sum of named elements 99.5 min	
C82000	Cast Beryllium Copper	**Al** 0.10 max **Be** 0.45-0.8 **Co** (incl Ni) 2.4-2.7 **Cr** 0.10 max **Cu** 95.0 min **Fe** 0.10 max **Ni** 0.20 max **Pb** 0.02 max **Si** 0.15 max **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30 (10C); B770 **FED** QQ-C-390
* **C82100**	Cast Beryllium Copper	**Be** 0.35-0.8 **Co** 0.25-1.5 **Cu** 95.5 min **Ni** 0.25-1.5 **Other** Cu + sum of named elements 99.5 min	
C82200	Cast Beryllium Copper, 35B, 35C	**Be** 0.35-0.8 **Cu** 96.5 min **Ni** 1.0-2.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30 (3C, 14C); B770
C82400	Cast Beryllium Copper, 165C	**Al** 0.15 max **Be** 1.65-1.75 **Co** 0.20-0.40 **Cr** 0.10 max **Cu** 96.4 min **Fe** 0.20 max **Ni** 0.10 max **Pb** 0.02 max **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30 (165C, 165CT); B770 **FED** QQ-C-390
C82500	Cast Beryllium Copper, 20C	**Al** 0.15 max **Be** 1.90-2.15 **Co** (incl Ni) 0.35-0.7 **Cr** 0.10 max **Cu** 95.5 min **Fe** 0.25 max **Ni** 0.20 max **Pb** 0.02 max **Si** 0.20-0.35 **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4890 **ASTM** B30 (20C, 20CT); B770 **FED** QQ-C-390 **MIL SPEC** MIL-C-22087 (10)
C82510	Cast Beryllium Copper	**Al** 0.15 max **Be** 1.90-2.15 **Co** 1.0-2.0 **Cr** 0.10 max **Cu** 95.5 min **Fe** 0.25 max **Ni** 0.20 max **Pb** 0.02 max **Si** 0.20-0.35 **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30 (21C); B770

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C82600	*Cast Beryllium Copper, 245C*	**Al** 0.15 max **Be** 2.25-2.45 **Co** 0.35-0.7 **Cr** 0.10 max **Cu** 95.2 min **Fe** 0.25 max **Ni** 0.20 max **Pb** 0.02 max **Si** 0.20-0.35 **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30 (245C, 245CT); B770 **FED** QQ-C-390; WW-V-1967
C82700	Cast Beryllium Copper	**Al** 0.15 max **Be** 2.35-2.55 **Cr** 0.10 max **Cu** 94.6 min **Fe** 0.25 max **Ni** 1.0-1.5 **Pb** 0.02 max **Si** 0.15 max **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + sum of named elements 99.5 min	**FED** QQ-C-390; WW-V-1967
C82800	Cast Beryllium Copper, 275C	**Al** 0.15 max **Be** 2.50-2.75 **Co** (incl Ni) 0.35-0.7 **Cr** 0.10 max **Cu** 94.8 min **Fe** 0.25 max **Ni** 0.20 max **Pb** 0.02 max **Si** 0.20-0.35 **Sn** 0.10 max **Zn** 0.10 max **Other** Cu + Sum of named elements 99.5 min.	**ASTM** B30 (275C, 275CT); B770 **FED** QQ-C-390; WW-V-1967
C83300	Cast Leaded Red Brass	**Cu** (incl Ni) 92.0-94.0 **Pb** 1.0-2.0 **Sn** 1.0-2.0 **Zn** 2.0-6.0 **Other** Cu + sum of named elements 99.3 min	
C83400	Cast Red Brass	**Cu** (incl Ni) 88.0-92.0 **Pb** 0.50 max **Sn** 0.20 max **Zn** 8.0-12.0 **Other** Cu + sum of named elements 99.3 min	**MIL SPEC** MIL-B-46066
***C83410**	Red Brass	**Al** 0.005 max **Cu** (incl Ni) 88.0-91.0 **Fe** 0.05 max **Ni** (incl Co) 0.05 max **Pb** 0.10 max **Si** 0.005 max **Sn** 1.0-2.0 **Zn** rem **Other** Cu + sum of named elements 99.8 min	
***C83420**	Cast Red Brass	**Cu** (incl Ni) 88.0-92.0 **Fe** 0.10 max **Pb** 0.50 max **Sn** 0.25-0.7 **Zn** rem **Other** Cu + sum of named elements 99.3 min	
C83450	Cast Leaded Red Brass	**Al** 0.005 max **Cu** 87.0-89.0 **Fe** 0.30 max **Ni** (incl Co) 0.8-2.0 **P** 0.03 max **Pb** 1.5-3.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 2.0-3.5 **Zn** 5.5-7.5 **Other** Cu + sum of named elements 99.3 min **Note:** For continuous casting, P 1.5 max	**ASTM** B30; B584; B763
C83500	Cast Leaded Red Brass	**Al** 0.008 max **Cu** 86.0-88.0 **Fe** 0.25 max **Ni** (incl Co) 0.50-1.0 **P** 0.03 max **Pb** 3.5-5.5 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 5.5-6.5 **Zn** 1.0-2.5 **Other** Cu + sum of named elements 99.3 min **Note:** For continuous casting, P 1.5 max	
***C83520**	Cast Leaded Red Brass	**Cu** (incl Ni) rem **Fe** 0.30 max **Ni** (incl Co) 1.0 max **Pb** 3.5-4.5 **Sb** 0.25 max **Sn** 3.5-4.5 **Zn** 1.5-4.0 **Other** Cu + sum of named elements 99.8 min	
C83600	Cast Leaded Red Brass	**Al** 0.005 max **Cu** (incl Ni) 84.0-86.0 **Fe** 0.30 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 4.0-6.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 4.0-6.0 **Zn** 4.0-6.0 **Other** Cu + sum of named elements 99.3 min **Note:** For continuous casting, P 1.5 max	**AMS** 4855 **ASME** B16.15; B16.18; B16.23; B16.24; B16.26; B16.32; SB62 **ASTM** B30 (4A); B62; B271; B505; B584 (formerly B145) **FED** QQ-C-390; WW-P-460; WW-T-725; WW-U-516 **MIL SPEC** MIL-V-18436 **SAE** J461; J462 **Other:** Ingot 115

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*C83700	Red Brass	**Al** 0.005 max **As** 0.05-0.20 **Cu** (incl Ni) 83.0-88.0 **Fe** 0.30 max **Ni** (incl Co) 0.30 max **Pb** 0.50 max **Si** 0.005 max **Sn** 1.0 max **Zn** rem **Other** Cu + sum of named elements 99.3 min	
C83800	Cast Leaded Red Brass	**Al** 0.005 max **Cu** (incl Ni) 82.0-83.8 **Fe** 0.30 max **Ni** (incl Co) 1.0 max **P** 0.03 max **Pb** 5.0-7.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 3.3-4.2 **Zn** 5.0-8.0 **Other** Cu + sum of named elements 99.3 min **Note:** For continuous casting, P 1.5 max	**ASME** B16.15; B16.18; B16.23 **ASTM** B30; B271; B505; B584 (formerly B145); B763 **FED** QQ-C-390; WW-T-725; WW-U-516; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 120
C83810	Cast Leaded Red Brass	**Al** 0.01 max **As** 0.50 max **Bi** 0.10 max **Cu** (incl Ni) rem **Fe** 0.50 max **Ni** (incl Co) 2.0 max **Pb** 4.0-6.0 **Si** 0.005 max **Sn** 2.0-3.5 **Zn** 7.5-9.5 **Sb** 0.50 max **Other** Cu + sum of named elements 99.3 min **Note:** As + Fe + Sb 0.50 max	
C84200	Cast Semi-Red Brass	**Al** 0.005 max **Cu** (incl Ni) 78.0-82.0 **Fe** 0.40 max **Ni** (incl Co) 0.8 max **P** 0.05 max **Pb** 2.0-3.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 4.0-6.0 **Zn** 10.0-16.0 **Other** Cu + sum of named elements 99.2 min **Note:** For continuous casting P 1.5 max	**ASTM** B30; B505 **FED** QQ-C-390; WW-P-460
C84400	Cast Semi-Red Brass	**Al** 0.005 max **Cu** (incl Ni) 78.0-82.0 **Fe** 0.40 max **Ni** (incl Co) 1.0 max **P** 0.2 max **Pb** 6.0-8.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 2.3-3.5 **Zn** 7.0-10.0 **Other** Cu + sum of named elements 99.2 min; Ingot 123 **Note:** For continuous casting P 1.5 max	**ASME** B16.15; B16.18; B16.23; B16.26; B16.32 **ASTM** B30; B271; B505; B584 (formerly B145); B763 **FED** QQ-C-390; WW-T-725; WW-U-516 **Other:** Ingot 123
C84410	Cast Semi Red Brass	**Al** 0.01 max **Bi** 0.05 max **Cu** (incl Ni) rem **Ni** (incl Co) 1.0 max **Pb** 7.0-9.0 **Si** 0.20 max **Sn** 3.0-4.5 **Zn** 7.0-11.0 **Other** Cu + sum of named elements 99.2 min; Fe + Sb + As 0.8 max	
C84500	Cast Semi-Red Brass	**Al** 0.005 max **Cu** (incl Ni) 77.0-79.0 **Fe** 0.40 max **Ni** (incl Co) 1.0 max **P** 0.02 max **Pb** 6.0-7.5 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 2.0-4.0 **Zn** 10.0-14.0 **Other** Cu + sum of named elements 99.2 min **Note:** For continuous casting, P 1.5 max	**Other:** Ingot 125
C84800	Cast Semi-Red Brass	**Al** 0.005 max **Cu** (incl Ni) 75.0-77.0 **Fe** 0.40 max **Ni** (incl Co) 1.0 max **P** 0.02 max **Pb** 5.5-7.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 2.0-3.0 **Zn** 13.0-17.0 **Other** Cu + sum of named elements 99.2 min **Note:** For continuous casting P 1.5 max	**ASTM** B30; B271; B505; B584 (formerly B145); B763 **FED** QQ-C-390 **Other:** Ingot 130
C85200	Cast Leaded Yellow Brass	**Al** 0.005 max **Cu** (incl Ni) 70.0-74.0 **Fe** 0.6 max **Ni** (incl Co) 1.0 max **P** 0.02 max **Pb** 1.5-3.8 **S** 0.05 max **Sb** 0.20 max **Si** 0.05 max **Sn** 0.7-2.0 **Zn** 20.0-27.0 **Other** Cu + sum of named elements 99.1 min	**ASTM** B30; B271; B584 (formerly B146); B763 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 400
*C85210	Yellow Brass	**Al** 0.005 max **As** 0.02-0.06 **Cu** (incl Ni) 70.0-75.0 **Fe** 0.8 max **Ni** (incl Co) 1.0 max **Pb** 2.0-5.0 **Si** 0.005 max **Sn** 1.0-3.0 **Zn** rem **Other** Cu + sum of named elements 98.9 min	

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* **C85300**	Cast Leaded Yellow Brass	**Cu** 68.0-72.0 **Pb** 0.50 max **Sn** 0.50 max **Zn** rem **Other** total (including Pb + Sn) 1.0 max	
* **C85310**	Leaded Yellow Brass	**Al** 0.01 max **As** 0.02-0.06 **Cu** (incl Ni) 68.0-73.0 **Fe** 0.8 max **Ni** (incl Co) 1.0 max **Pb** 2.0-5.0 **Sn** 1.5 max **Zn** rem **Other** Cu + sum of named elements 98.9 min **Note:** Fe + Sb + As 0.8 max	
C85400	Cast Leaded Yellow Brass	**Al** 0.35 max **Cu** (incl Ni) 65.0-70.0 **Fe** 0.7 max **Ni** (incl Co) 1.0 max **Pb** 1.5-3.8 **Si** 0.05 max **Sn** 0.50-1.5 **Zn** 24.0-32.0 **Other** Cu + sum of named elements 98.9 min	**ASTM** B30; B271; B584 (formerly B146); B763 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 403
C85500	Cast Leaded Yellow Brass	**Cu** (incl Ni) 59.0-63.0 **Fe** 0.20 max **Mn** 0.20 max **Ni** (incl Co) 0.20 max **Pb** 0.20 max **Sn** 0.20 max **Zn** rem **Other** Cu + sum of named elements 98.9 min	**FED** QQ-C-390; WW-V-1967
* **C85600**	Cast Leaded Yellow Brass	**Cu** 59.0-63.0 **Fe** 0.20 max **Mn** 0.20 max **Ni** 0.20 max **Pb** 0.20 max **Sn** 0.20 max **Zn** rem	
C85700	Cast Leaded Yellow Brass	**Al** 0.8 max **Cu** (incl Ni) 58.0-64.0 **Fe** 0.7 max **Ni** (Incl Co) 1.0 max **Pb** 0.8-1.5 **Si** 0.05 max **Sn** 0.50-1.5 **Zn** 32.0-40.0 **Other** Cu + sum of named elements 98.7 min	**ASTM** B30; B176; B271; B584; B763 **FED** QQ-C-390 **Other:** Ingot 405.2
* **C85710**	Leaded Yellow Brass	**Al** 0.20-0.8 **Cu** (incl Ni) 58.0-63.0 **Fe** 0.8 max **Mn** 0.50 max **Ni** (incl Co) 1.0 max **Pb** 1.0-2.5 **Si** 0.05 max **Sn** 1.0 max **Zn** rem **Other** Cu + sum of named elements 98.7 min	
C85800	Cast Leaded Yellow Brass	**Al** 0.50 max **As** 0.05 max **Cu** (incl Ni) 57.0 min **Fe** 0.50 max **Mn** 0.25 max **Ni** (incl Co) 0.50 max **P** 0.01 max **Pb** 1.5 max **S** 0.05 max **Sb** 0.05 max **Si** 0.25 max **Sn** 1.5 max **Zn** 31.0-41.0 **Other** Cu + sum of named elements 98.7 min	**ASTM** B30; B176 **SAE** J461; J462 **Other:** Ingot 405.1
C86100	Cast Manganese Bronze	**Al** 4.5-5.5 **Cu** (incl Ni) 66.0-68.0 **Fe** 2.0-4.0 **Mn** 2.5-5.0 **Pb** 0.20 max **Sn** 0.20 max **Zn** rem **Other** Cu + sum of named elements 99.0 min	**FED** QQ-C-390; QQ-C-523; WW-V-1967 **Other:** Ingot 423
C86200	Cast Manganese Bronze	**Al** 3.0-4.9 **Cu** (incl Ni) 60.0-66.0 **Fe** 2.0-4.0 **Mn** 2.5-5.0 **Ni** (incl Co) 1.0 max **Pb** 0.20 max **Sn** 0.20 max **Zn** 22.0-28.0 **Other** Cu + sum of named elements 99.0 min	**ASTM** B30; B271; B505; B584 (formerly B147); B763 **FED** QQ-C-390; QQ-C-523; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 423
C86300	Cast Manganese Bronze	**Al** 5.0-7.5 **Cu** (incl Ni) 60.0-66.0 **Fe** 2.0-4.0 **Mn** 2.5-5.0 **Ni** (incl Co) 1.0 max **Pb** 0.20 max **Sn** 0.20 max **Zn** 22.0-28.0 **Other** Cu + sum of named elements 99.0 min	**AMS** 4862 **ASTM** B22; B30; B271; B505; B584 (formerly B147); B763 **FED** QQ-C-390; QQ-C-523; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 424

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C86400	Cast Leaded Manganese Bronze	**Al** 0.50-1.5 **Cu** (incl Ni) 56.0-62.0 **Fe** 0.40-2.0 **Mn** 0.10-1.0 **Ni** (incl Co) 1.0 max **Pb** 0.50-1.5 **Sn** 0.50-1.5 **Zn** 34.0-42.0 **Other** Cu + sum of named elements 99.0 min	**ASTM** B30; B271; B505; B584 (formerly B132, B147); B763 **FED** QQ-C-390; QQ-C-523; WW-V-1967 **Other:** Ingot 420
C86500	Cast Manganese Bronze	**Al** 0.50-1.5 **Cu** (incl Ni) 55.0-60.0 **Fe** 0.40-2.0 **Mn** 1.0-1.5 **Ni** (incl Co) 1.0 max **Pb** 0.40 max **Sn** 1.0 max **Zn** 36.0-42.0 **Other** Cu + sum of named elements 99.0 min	**AMS** 4860 **ASTM** B30; B176; B271; B505; B584 (formerly B147); B763 **FED** QQ-C-390; QQ-C-523; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 421
C86550	Cast Manganese Bronze	**Al** 0.05-2.5 **Cu** (incl. Ni) 57.0 min **Fe** 0.7-2.0 **Mn** 0.10-3.0 **Ni** (incl. Co) 1.0 max **Pb** 0.50 max **Si** 1.0 max **Sn** 1.0 max **Zn** rem **Other** (Cu + sum of named elements) 99.0 min	**Other:** CDA A1001-97-98 Revised July 1998
C86700	Cast Leaded Manganese Bronze	**Al** 1.0-3.0 **Cu** (incl Ni) 53.0-60.0 **Fe** 1.0-3.0 **Mn** 1.0-3.5 **Ni** (incl Co) 1.0 max **Pb** 0.5-1.5 **Sn** 1.5 max **Zn** 30.0-38.0 **Other** Cu + sum of named elements 99.0 min	**ASTM** B30; B271; B584 (formerly B132); B763
C86800	Cast Manganese Bronze	**Al** 2.0 max **Cu** (incl Ni) 53.5-57.0 **Fe** 1.0-2.5 **Mn** 2.5-4.0 **Ni** (incl Co) 2.5-4.0 **Pb** 0.20 max **Sn** 1.0 max **Zn** rem **Other** Cu + sum of named elements 99.0 min	**FED** QQ-C-390; WW-V-1967
• **C87200**	Cast Copper Silicon Bronze	**Al** 1.5 max **Cu** 89.0 min **Fe** 2.5 max **Mn** 1.5 max **Pb** 0.50 max **Si** 1.0-5.0 **Sn** 1.0 max **Zn** 5.0 max **Other** total named elements 99.5 min	**ASTM** B271; B584; B763 **FED** QQ-C-390 **SAE** J461; J462
C87300	Cast Copper Silicon	**Cu** 94.0 min **Fe** 0.20 max **Mn** 0.8-1.5 **Pb** 0.20 max **Si** 3.5-4.5 **Zn** 0.25 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B271; B584; B763 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 500A
C87400	Cast Silicon Brass	**Al** 0.8 max **Cu** 79.0 min **Pb** 1.0 max **Si** 2.5-4.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.2 min	**ASTM** B30; B271; B584 (formerly B198); B763 **FED** QQ-C-390; WW-V-1967 **Other:** Ingot 500B
• **C87410**	Cast Silicon Brass	**Al** 0.8 max **As** 0.03-0.06 **Cu** 79.0 min **Pb** 1.0 max **Si** 2.5-4.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.2 min	
* **C87420**	Cast Silicon Brass	**Al** 0.8 max **Cu** 79.0 min **Pb** 1.0 max **Sb** 0.03-0.06 **Si** 2.5-4.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.2 min	
• **C87430**	Cast Silicon Brass	**Al** 0.8 max **Cu** 79.0 min **P** 0.03-0.06 **Pb** 1.0 max **Si** 2.5-4.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.2 min	
C87500	Cast Silicon Brass	**Al** 0.50 max **Cu** 79.0 min **Pb** 0.50 max **Si** 3.0-5.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B271; B584 (formerly B198); B763; B806 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 500C

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• **C87510**	Cast Silicon Brass	**Al** 0.50 max **As** 0.03-0.06 **Cu** 79.0 min **Pb** 0.50 max **Si** 3.0-5.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.5 min	
• **C87520**	Cast Silicon Brass	**Al** 0.50 max **Cu** 79.0 min **Pb** 0.50 max **Sb** 0.03-0.06 **Si** 3.0-5.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.5 min	
• **C87530**	Cast Silicon Brass	**Al** 0.50 max **Cu** 79.0 min **P** 0.03-0.06 **Pb** 0.50 max **Si** 3.0-5.0 **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.5 min	
C87600	Cast Silicon Brass	**Cu** 88.0 min **Fe** 0.20 max **Mn** 0.25 max **Pb** 0.50 max **Si** 3.5-4.5 **Zn** 4.0-7.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B584; B763 **Other:** Ingot 500D
C87610	Cast Leaded Tin Bronze	**Cu** 90.0 min **Fe** 0.20 max **Mn** 0.25 max **Pb** 0.20 max **Si** 3.0-5.0 **Zn** 3.0-5.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B584; B763 **Other:** Ingot 500E
C87800	Cast Silicon Bronze	**Al** 0.15 max **As** 0.05 max **Cu** 80.0 min **Fe** 0.15 max **Mg** 0.01 max **Mn** 0.15 max **Ni** (incl Co) 0.20 max **P** 0.01 max **Pb** 0.15 max **S** 0.05 max **Sb** 0.05 max **Si** 3.8-4.2 **Sn** 0.25 max **Zn** 12.0-16.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B176; B806 **SAE** J461; J462 **Other:** Ingot 500F
• **C87900**	Cast Silicon Bronze	**Al** 0.15 max **As** 0.05 max **Cu** 63.0 min **Fe** 0.40 max **Mn** 0.15 max **Ni** (incl Co) 0.50 max **P** 0.01 max **Pb** 0.25 max **S** 0.05 max **Sb** 0.05 max **Si** 0.8-1.2 **Sn** 0.25 max **Zn** 30.0-36.0 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B176 **SAE** J461; J462 **Other:** Ingot 500G
C89320	Cast Copper-Tin-Bismuth Bronze Alloy (Magnolia B-1 Lead-free Bronze)	**Al** 0.005 max **Bi** 4.0-6.0 **Cu** 87.0-91.0 **Fe** 0.20 max **Ni** (incl. Co) 1.0 max **P** 0.30 max **Pb** 0.09 max **S** 0.08 max **Sb** 0.35 max **Si** 0.005 max **Sn** 5.0-7.0 **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	**Other:** CDA A1001-95/96
• **C89325**	Cast Copper-Tin-Bismuth Bronze Alloy (Federalloy III-937)	**Al** 0.005 max **Bi** 2.7-3.7 **Cu** 84.0-88.0 **Fe** 0.15 max **Ni** (incl. Co) 1.0 max **P** 0.10 max **Pb** 0.10 max **S** 0.08 max **Sb** 0.50 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 1.0 max **Other** Misch Metal 0.10-1.0, Cu + sum of named elements (excl. Misch Metal) 99.0 min	**Other:** CDA A1001-95/96
C89510	Cast Copper-Tin-Zinc-Bismuth-Selenium Alloy (SeBiLOY I)	**Al** 0.005 **Bi** 0.50-1.5 **Cu** 86.0-88.0 **Fe** 0.30 max **Ni** (incl. Co) 1.0 max **P** 0.05 max **Pb** 0.25 max **S** 0.08 max **Sb** 0.25 max **Se** 0.35-0.7 **Si** 0.005 max **Sn** 4.0-6.0 **Zn** 4.0-6.0 **Other** Cu + sum of named elements 99.5 min	**Other:** CDA A1001-95/96

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C89520	Cast Copper-Tin-Zinc-Bismuth-Selenium Alloy (SeBiLOY II)	**Al** 0.005 max **Bi** 1.6-2.2 **Cu** 85.0-87.0 **Fe** 0.30 max **Ni** (incl. Co) 1.0 max **P** 0.05 max **Pb** 0.25 max **S** 0.08 max **Sb** 0.25 max **Se** 0.8-1.2 **Si** 0.005 max **Sn** 5.0-6.0 **Zn** 4.0-6.0 **Other** Cu + sum of named elements 99.5 min; Bi:Se 2:1	**ASTM** B30; B584 **Other:** CDA A1001-95/96
C89550	Cast Copper-Zinc-Bismuth-Selenium Alloy (SeBiLOY III)	**Al** 0.30-0.7 **Bi** 0.7-2.0 **Cu** 58.0-64.0 **Fe** 0.7 max **Ni** (incl. Co) 1.0 max **Pb** 0.20 max **Se** 0.07-0.25 **Sn** 0.50-1.5 **Zn** 32.0-40.0 **Other** Cu + sum of named elements 99.5 min	**Other:** CDA A1001-95/96
* **C89831**	Cast Copper-Tin-Zinc-Bismuth Alloy (Federalloy I-844)	**Al** 0.005 max **Bi** 2.7-3.7 **Cu** 87.0-91.0 **Fe** 0.30 max **Ni** (incl. Co) 1.0 max **P** 0.050 max **Pb** 0.10 max **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 2.7-3.7 **Zn** 2.0-4.0 **Other** Misch Metal 0.10-1.0, Cu + sum of named elements (exc. Misch Metal) 99.0 min	**Other:** CDA A1001-95/96
* **C89833**	Cast Copper-Tin-Zinc-Bismuth Alloy (Federalloy I-836)	**Al** 0.005 max **Bi** 1.7-2.7 **Cu** 87.0-91.0 **Fe** 0.30 max **Ni** (incl. Co) 1.0 max **P** 0.050 max **Pb** 0.10 max **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 4.0-6.0 **Zn** 2.0-4.0 **Other** Misch Metal 0.10-1.0, Cu + sum of named elements (excl. Misch Metal) 99.0 min	**Other:** CDA A1001-95/96
* **C89835**	Cast Copper-Tin-Zinc-Bismuth Alloy (Federalloy III-932)	**Al** 0.005 max **Bi** 1.7-2.7 **Cu** 85.0-89.0 **Fe** 0.20 max **Ni** (incl. Co) 1.0 max **P** 0.10 max **Pb** 0.10 max **S** 0.08 max **Sb** 0.35 max **Si** 0.005 max **Sn** 6.0-7.5 **Zn** 2.0-4.0 **Other** Misch Metal 0.10-1.0, Cu + sum of named elements (excl. Misch Metal) 99.0 min	**Other:** CDA A1001-95/96
* **C89837**	Cast Copper-Tin-Zinc-Bismuth Alloy (Federalloy I)	**Al** 0.005 max **Bi** 0.7-1.2 **Cu** 84.0-88.0 **Fe** 0.30 max **Ni** (incl. Co) 1.0 max **P** 0.050 max **Pb** 0.10 max **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 3.0-4.0 **Zn** 6.0-10.0 **Other** Misch Metal 0.10-1.0, Cu + sum of named elements (excl. Misch Metal) 99.0 min	**Other:** CDA A1001-95/96
C89844	Cast Copper-Zinc-Tin-Bismuth Alloy	**Al** 0.005 max **Bi** 2.0-4.0 **Cu** 83.0-86.0 **Fe** 0.30 max **Ni** (incl. Co) 1.0 max **P** 0.05 max **Pb** 0.20 max **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 3.0-5.0 **Zn** 7.0-10.0 **Other** (Cu + sum of named elements) 99.3 min	**ASTM** B30; B763 **Other:** CDA A1001-95/96
C89940	Cast Copper-Tin-Zinc-Nickel-Bismuth Alloy (Waukesha 119WM)	**Al** 0.005 max **Bi** 4.0-5.5 **Cu** 64.0-68.0 **Fe** 0.7-2.0 **Mn** 0.20 max **Ni** (incl. Co) 20.0-23.0 **P** 0.10-0.15 **Pb** 0.01 max **S** 0.05 max **Sb** 0.10 max **Si** 0.15 max **Sn** 3.0-5.0 **Zn** 3.0-5.0 **Other** Cu + sum of named elements 99.5 min **Other:** CDA A1001-95/96	

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C90200	Cast Tin Bronze	**Al** 0.005 **Cu** (incl Ni) 91.0-94.0 **Fe** 0.20 **Ni** (incl Co) 0.50 max **P** 0.05 max **Pb** 0.30 max **S** 0.05 **Sb** 0.20 **Si** 0.005 **Sn** 6.0-8.0 **Zn** 0.50 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous casting, P 1.5 max	**Other:** Ingot 242
* **C90250**	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 89.0-91.0 **Fe** 0.25 max **Mn** 0.10 max **Ni** (incl Co) 0.50 max **P** 0.05 max **Pb** 0.30 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 0.50 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous casting, P 1.5 max	
C90300	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 86.0-89.0 **Fe** 0.20 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 0.30 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 **Sn** 7.5-9.0 **Zn** 3.0-5.0 **Other** Cu + sum of named elements 99.4 min **Note:** For continuous casting, P 1.5 max	**ASTM** B30; B271; B505; B584 (formerly B143); B763 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 225
C90500	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 86.0-89.0 **Fe** 0.20 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 0.30 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 1.0-3.0 **Other** Cu + sum of named elements 99.7 min **Note:** For Continuous casting; P 1.5 max	**AMS** 4845 **ASTM** B22; B30; B271; B505; B584 (formerly B143); B763 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 210
C90700	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 88.0-90.0 **Fe** 0.15 max **Ni** (incl Co) 0.50 max **P** 0.30 max **Pb** 0.50 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 10.0-12.0 **Zn** 0.50 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous casting, P 1.5 max	**ASTM** B30; B427; B505 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 205
C90710	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) rem **Fe** 0.10 max **Ni** (incl Co) 0.10 max **P** 0.50-1.2 **Pb** 0.25 max **Si** 0.005 max **Sn** 10.0-12.0 **Zn** 0.05 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous casting, P 1.5 max	
C90800	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 85.0-89.0 **Fe** 0.15 max **Ni** (incl Co) 0.50 max **P** 0.30 max **Pb** 0.25 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 11.0-13.0 **Zn** 0.25 max **Other** Cu + sum of named elements 99.4 **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B427
C90810	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) rem **Fe** 0.15 max **Ni** (incl Co) 0.50 max **P** 0.15-0.8 **Pb** 0.25 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 11.0-13.0 **Zn** 0.30 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	
C90900	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 86.0-89.0 **Fe** 0.15 max **Ni** (incl Co) 0.50 max **P** 0.05 max **Pb** 0.25 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 12.0-14.0 **Zn** 0.25 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	

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C91000	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 84.0-86.0 **Fe** 0.10 max **Ni** (incl Co) 0.8 max **P** 0.05 max **Pb** 0.20 max **S** 0.5 max **Sb** 0.20 max **Si** 0.005 max **Sn** 14.0-16.0 **Zn** 1.5 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B505 **FED** QQ-C-390 **Other:** Ingot 197
C91100	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 82.0-85.0 **Fe** 0.25 max **Ni** (incl Co) 0.50 max **P** 1.0 max **Pb** 0.25 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 15.0-17.0 **Zn** 0.25 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B22; B30
C91300	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 79.0-82.0 **Fe** 0.25 max **Ni** (incl Co) 0.50 max **P** 1.0 max **Pb** 0.25 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 18.0-20.0 **Zn** 0.25 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	**AMS** 7322 **ASTM** B22; B30; B505 **FED** QQ-C-390 **Other:** Ingot 194
C91600	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 86.0-89.0 **Fe** 0.20 max **Ni** (incl Co) 1.2-2.0 **P** 0.30 max **Pb** 0.25 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 9.7-10.8 **Zn** 0.25 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B427 **FED** QQ-C-390 **Other:** Ingot 205N
C91700	Cast Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 84.0-87.0 **Fe** 0.20 max **Ni** (incl Co) 1.2-2.0 **P** 0.30 max **Pb** 0.25 max **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 11.3-12.5 **Zn** 0.25 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B427
C92200	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 86.0-90.0 **Fe** 0.25 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 1.0-2.0 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 5.5-6.5 **Zn** 3.0-5.0 **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**ASME** SB61; SB584 **ASTM** B30; B61; B271; B505; B584 (formerly B143) **FED** QQ-C-390; WW-P-460; WW-T-725; WW-V-1967 **MIL SPEC** MIL-V-17547 **SAE** J461; J462 **Other:** Ingot 245
C92210	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl. Ni) 86.0-89.0 **Fe** 0.25 max **Ni** (incl. Co) 0.7-1.0 **P** 0.03 max **Pb** 1.7-2.5 **S** 0.05 max **Sb** 0.20 max **Si** 0.005 max **Sn** 4.5-5.5 **Zn** 3.0-4.5 **Other** (Cu + sum of named elements) 99.3 min; Note: For continuous casting, P 1.5 max	**Other:** CDA A1001-97-98 Revised July 1998
C92220	Lead Tin Bronze Grave Markers	**Cu** 86.0-88.0 **Fe** 0.25 max **Ni** (incl Co) 0.5-1.0 **P** 0.05 max **Pb** 1.5-2.5 **Sn** 5.0-6.0 **Zn** 3.0-5.5 **Other** Cu + sum of named elements 99.3 min, In determining Cu min, copper may be calculated as Cu + Ni	
C92300	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 85.0-89.0 **Fe** 0.25 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 0.30-1.0 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 7.5-9.0 **Zn** 2.5-5.0 **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B271; B505; B584 (formerly B143); B763 **FED** QQ-C-390 (D3) **SAE** J461; J462 **Other:** Ingot 230

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C92310	Cast Leaded Tin Bronze	**Al** 0.005 max **Bi** 0.03 max **Cu** (incl Ni) rem **Ni** (Incl Co) 1.0 maxi **Pb** 0.30-1.5 **Si** 0.005 max **Sn** 7.5-8.5 **Zn** 3.5-4.5 **Other** Cu + sum of named elements 99.3 min	
C92400	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 86.0-89.0 **Fe** 0.25 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 1.0-2.5 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 1.0-3.0 **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**Other:** Ingot 220
C92410	Cast Leaded Tin Bronze	**Al** 0.005 max **Bi** 0.05 max **Cu** (incl Ni) rem **Fe** 0.20 max **Ni** (incl Co) 0.20 max **Pb** 2.5-3.5 **Sb** 0.25 max **Si** 0.005 max **Sn** 6.0-8.0 **Zn** 1.5-3.0 **Other** Cu + sum of named elements 99.3 min	
C92500	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** 85.0-88.0 **Fe** 0.30 max **Ni** (incl Co) 0.8-1.5 **P** 0.30 max **S** 0.05 max **Pb** 1.0-1.5 **Sb** 0.25 max **Si** 0.005 max **Sn** 10.0-12.0 **Zn** 0.50 max **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B505 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 200N
C92600	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 86.0-88.5 **Fe** 0.20 max **Ni** (incl Co) 0.7 max **P** 0.03 max **Pb** 0.8-1.5 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 9.3-10.5 **Zn** 1.3-2.5 **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B584 **Other:** Ingot 215
C92610	Cast Leaded Tin Bronze	**Al** 0.005 max **Bi** 0.03 max **Cu** (incl Ni) rem **Fe** 0.15 max **Ni** (incl Co) 1.0 max **Pb** 0.30-1.5 **Si** 0.005 max **Sn** 9.5-10.5 **Zn** 1.7-2.8 **Other** Cu + sum of named elements 99.3 min	
C92700	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) rem **Fe** 0.20 max **Ni** (incl Co) 1.0 max **P** 0.25 max **Pb** 1.0-2.5 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 0.7 max **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B505 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 206
C92710	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) rem **Fe** 0.20 max **Ni** (incl Co) 2.0 max **P** 0.10 max **Pb** 4.0-6.0 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 1.0 max **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	
C92800	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 78.0-82.0 **Fe** 0.20 max **Ni** (incl Co) 0.8 max **P** 0.05 max **Pb** 4.0-6.0 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 15.0-17.0 **Zn** 0.8 max **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**AMS** 7320 **ASTM** B30; B505
C92810	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** 78.0-82.0 **Fe** 0.50 max **Ni** (incl Co) 0.8-1.2 **P** 0.05 max **Pb** 4.0-6.0 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 12.0-14.0 **Zn** 0.50 max	

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C92900	Cast Leaded Tin Bronze	**Al** 0.005 max **Cu** 82.0-86.0 **Fe** 0.20 max **Ni** (incl Co) 2.8-4.0 **P** 0.50 max **Pb** 2.0-3.2 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 0.25 max **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B427; B505 **SAE** J461; J462 **Other:** Ingot 206N
C93100	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) rem **Fe** 0.25 max **Ni** (incl Co) 1.0 max **P** 0.30 max **Pb** 2.0-5.0 **S** 0.05 max **Sb** 0.25 max **Si** 0.005 max **Sn** 6.5-8.5 **Zn** 2.0 max **Other** Cu + sum of named elements 99.2 min **Note:** For Continuous castings, P 1.5 max	
C93200	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 81.0-85.0 **Fe** 0.20 max **Ni** (incl Co) 1.0 max **P** 0.15 max **Pb** 6.0-8.0 **S** 0.08 max **Sb** 0.35 max **Si** 0.005 max **Sn** 6.3-7.5 **Zn** 1.0-4.0 **Other** Cu + sum of named elements 99.2 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B271; B505; B584 (formerly B144); B763 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 315
C93400	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 82.0-85.0 **Fe** 0.20 max **Ni** (incl Co) 1.0 max **P** 0.50 max **Pb** 7.0-9.0 **S** 0.08 max **Sb** 0.50 max **Si** 0.005 max **Sn** 7.0-9.0 **Zn** 0.8 max **Other** Cu + sum of named elements 99.2 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B505 **FED** QQ-C-390 **Other:** Ingot 310
C93500	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 83.0-86.0 **Fe** 0.20 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 8.0-10.0 **S** 0.08 max **Sb** 0.30 max **Si** 0.005 max **Sn** 4.3-6.0 **Zn** 2.0 max **Other** Cu + sum of named elements 99.4 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B271; B505; B584 (formerly B144); B763 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 326
C93600	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 79.0-83.0 min **Fe** 0.20 max **Ni** (incl Co) 1.0 max **P** 0.15 max **Pb** 11.0-13.0 **S** 0.08 max **Sb** 0.55 max **Si** 0.005 max **Sn** 6.0-8.0 **Zn** 1.0 max **Other** Cu + sum of named elements 99.3 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B271; B505
C93700	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 78.0-82.0 **Fe** 0.7 max **Ni** (incl Co) 0.50 max **P** 0.10 max **Pb** 8.0-11.0 **S** 0.08 max **Sb** 0.50 max **Si** 0.005 max **Sn** 9.0-11.0 **Zn** 0.8 max **Other** Cu may include Ni; Fe 0.35 max for steel-backed bearings; Cu + sum of named elements 99.0 min **Note:** For Continuous castings, P 1.5 max	**AMS** 4842; 4827 **ASME** SB584 **ASTM** B30; B271; B505; B584 (formerly B144); B763 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 305
C93720	Cast High-Leaded Tin Bronze	**Cu** (incl Ni) 83.0 min **Fe** 0.7 max **Ni** (incl Co) 0.50 max **P** 0.10 max **Pb** 7.0-9.0 **Sb** 0.50 max **Sn** 3.5-4.5 **Zn** 4.0 max **Other** Cu + sum of named elements 99.0 min **Note:** For Continuous castings, P 1.5 max	**SAE** J460
C93800	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 75.0-79.0 **Fe** 0.15 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 13.0-16.0 **S** 0.08 max **Sb** 0.8 max **Si** 0.005 max **Sn** 6.3-7.5 **Zn** 0.8 max **Other** Cu + sum of named elements 98.9 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B66; B271; B505; B584; B763 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 319

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C93900	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 76.5-79.5 **Fe** 0.40 max **Ni** (incl Co) 0.8 max **P** 1.5 max **Pb** 14.0-18.0 **S** 0.08 max **Sb** 0.50 max **Si** 0.005 max **Sn** 5.0-7.0 **Zn** 1.5 max **Other** Cu + sum of named elements 98.9 min	**ASTM** B30; B505 **FED** QQ-C-390
C94000	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 69.0-72.0 **Fe** 0.25 max **Ni** (incl Co) 0.50-1.0 **P** 0.05 max **Pb** 14.0-16.0 **S** 0.08 max **Sb** 0.50 max **Si** 0.005 max **Sn** 12.0-14.0 **Zn** 0.50 max **Other** Cu + sum of named elements 98.7 min **Note:** For Continuous castings, P 1.5 max and S 0.25 max	**ASTM** B30; B505 **FED** QQ-C-390
C94100	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 72.0-79.0 **Fe** 0.25 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 18.0-22.0 **S** 0.08 max **Sb** 0.8 max **Si** 0.005 max **Sn** 4.5-6.5 **Zn** 1.0 max **Other** Cu + sum of named elements 98.7 min **Note:** For Continuous castings, P 1.5 max and S 0.25 max	**ASTM** B30; B67; B505 **FED** QQ-C-390 **Other:** Ingot 325
* **C94200**	Cast High-Leaded Tin Bronze	**Cu** 68.5-75.5 **Fe** 0.35 max **Ni** 0.50 max **Pb** 3.0-4.0 **Sb** 0.50 max **Sn** 3.0-4.0 **Zn** 3.0 max **Other** total 0.40 max	
C94300	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) 67.0-72.0 **Fe** 0.15 max **Ni** (incl Co) 1.0 max **P** 0.08 max **Pb** 22.0-25.0 **S** 0.08 max **Sb** 0.8 max **Si** 0.005 max **Sn** 4.5-6.0 **Zn** 0.8 max **Other** Cu + sum of named elements 99.0 **Note:** For Continuous castings, P 1.5 max and S 0.25 max	**ASTM** B30; B66; B271; B505; B584 (formerly B144); B763 **FED** QQ-C-390 **SAE** J461; J462 **Other:** Ingot 322
C94310	Cast High-Leaded Tin Bronze	**Cu** rem **Fe** 0.50 max **Ni** (incl Co) 0.25-1.0 **P** 0.05 max **Pb** 27.0-34.0 **Sb** 0.50 max **Sn** 1.5-3.0 **Zn** 0.50 max **Other** Cu + sum of named elements 99.0 min **Note:** For Continuous castings, P 1.5 max	
C94320	Cast High-Leaded Tin Bronze	**Cu** (incl Ni) rem **Fe** 0.35 max **Pb** 24.0-32.0 **Sn** 4.0-7.0 **Other** Cu + sum of named elements 99.0 min	**SAE** J460
C94330	Cast High-Leaded Tin Bronze	**Cu** (incl Ni) 68.5-75.5 **Fe** 0.7 max **Ni** (incl Co) 0.50 max **P** 0.10 max **Pb** 21.0-25.0 **Sb** 0.50 max **Sn** 3.0-4.0 **Zn** 3.0 max **Other** Cu + sum of named elements 99.0 min **Note:** For Continuous castings, P 1.5 max	**SAE** J460
C94400	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) rem **Fe** 0.15 max **Ni** (incl Co) 1.0 max **P** 0.50 max **Pb** 9.0-12.0 **S** 0.08 max **Sb** 0.8 max **Si** 0.005 max **Sn** 7.0-9.0 **Zn** 0.8 max **Other** Cu + sum of named elements 99.0 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B66
C94500	Cast High-Leaded Tin Bronze	**Al** 0.005 max **Cu** (incl Ni) rem **Fe** 0.15 max **Ni** (incl Co) 1.0 max **P** 0.05 max **Pb** 16.0-22.0 **S** 0.08 max **Sb** 0.8 max **Si** 0.005 max **Sn** 6.0-8.0 **Zn** 1.2 max **Other** Cu + sum of named elements 99.0 min **Note:** For Continuous castings, P 1.5 max	**ASTM** B30; B66 **Other:** Ingot 321

*Boxed entries are no longer active and are retained for reference purposes only.

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C94700	Cast Nickel-Tin Bronze	**Al** 0.005 max **Cu** 85.0-89.0 **Fe** 0.25 max **Mn** 0.20 max **Ni** 4.5-6.0 **P** 0.05 max **Pb** 0.10 max **S** 0.05 max **Sb** 0.15 max **Si** 0.005 max **Sn** 4.5-6.0 **Zn** 1.0-2.5 **Other** Cu + sum of named elements 99.3 min	**ASTM** B30; B505; B584 (formerly B292); B763 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462
C94800	Cast Nickel-Tin Bronze	**Al** 0.005 max **Cu** 84.0-89.0 **Fe** 0.25 max **Mn** 0.20 max **Ni** 4.5-6.0 **P** 0.05 max **Pb** 0.30-1.0 **S** 0.05 max **Sb** 0.15 max **Si** 0.005 max **Sn** 4.5-6.0 **Zn** 1.0-2.5 **Other** Cu + sum of named elements 99.3 min	**ASTM** B30; B505; B584 (formerly B292); B763 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462
C94900	Cast Nickel-Tin Bronze	**Al** 0.005 max **Cu** 79.0-81.0 **Fe** 0.30 max **Mn** 0.10 max **Ni** 4.0-6.0 **P** 0.05 max **Pb** 4.0-6.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.005 max **Sn** 4.0-6.0 **Zn** 4.0-6.0 **Other** Cu + sum of named elements 99.2 min	**ASTM** B30; B584 (formerly B292); B763
C95200	Cast Aluminum Bronze	**Al** 8.5-9.5 **Cu** 86.0 min **Fe** 2.5-4.0 **Other** Cu + sum of named elements 99.0 min	**ASME** SB148; B16.24; SB505; SB271 **ASTM** B30; B148; B271; B505; B763 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 415A
C95210	Cast Aluminum Bronze	**Al** 8.5-9.5 **Cu** 86.0 min **Fe** 2.5-4.0 **Mg** 0.05 max **Mn** 1.0 max **Ni** (incl Co) 1.0 max **Pb** 0.05 max **Si** 0.25 max **Sn** 0.10 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.0 min	
C95220	Cast Aluminum Bronze	**Al** 9.5-10.5 **Cu** rem **Fe** 2.5-4.0 **Mn** 0.50 max **Ni** (incl Co) 2.5 max **Other** Cu + sum of named elements 99.5 min	
C95300	Cast Aluminum Bronze	**Al** 9.0-11.0 **Cu** 86.0 min **Fe** 0.8-1.5 **Other** Cu + sum of named elements 99.0 min	**ASTM** B30; B148; B271; B505; B763; B806 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 415B
C95400	Cast Aluminum Bronze	**Al** 10.0-11.5 **Cu** 83.0 min **Fe** 3.0-5.0 **Mn** 0.50 max **Ni** (incl Co) 1.5 max **Other** Cu + sum of named elements 99.5 min	**ASME** SB148; SB271 **ASTM** B30; B148; B271; B505; B763; B806 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 415C
C95410	Cast Aluminum Bronze	**Al** 10.0-11.5 **Cu** 83.0 min **Fe** 3.0-5.0 **Mn** 0.50 max **Ni** (incl Co) 1.5-2.5 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B148; B271; B505; B763; B806 **Other:** Ingot 415C + Ni
C95420	Cast Aluminum Bronze	**Al** 10.5-12.0 **Cu** 83.5 min **Fe** 3.0-4.3 **Mn** 0.50 max **Ni** (incl Co) 0.50 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4870; 4871; 4872; 4873 **FED** QQ-C-390 **SAE** J461; J462
C95500	Cast Aluminum Bronze	**Al** 10.0-11.5 **Cu** 78.0 min **Fe** 3.0-5.0 **Mn** 3.5 max **Ni** (incl Co) 3.0-5.5 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B148; B271; B505; B763; B806 **FED** QQ-C-390; WW-V-1967 **SAE** J461; J462 **Other:** Ingot 415D
C95510	Cast Aluminum Bronze	**Al** 9.7-10.9 **Cu** 78.0 min **Fe** 2.0-3.5 **Mn** 1.5 max **Ni** (incl Co) 4.5-5.5 **Sn** 0.20 max **Zn** 0.30 max **Other** Cu + sum of named elements 99.8 min **Note:** Cu includes Ag and Ni includes Co; Cu + all named elements = 99.8 min.	**AMS** 4880 **FED** QQ-C-390 **SAE** J461; J462
C95520	Cast Aluminum Bronze	**Al** 10.5-11.5 **Co** 0.20 max **Cr** 0.05 max **Cu** 74.5 min **Fe** 4.0-5.5 **Mn** 1.5 max **Ni** (incl Co) 4.2-6.0 **Pb** 0.03 max **Si** 0.15 max **Sn** 0.25 max **Zn** 0.30 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4881 **ASTM** B148 **FED** QQ-C-390 **SAE** J461; J462
C95600	Cast Aluminum Bronze	**Al** 6.0-8.0 **Cu** 88.0 min **Ni** (incl Co) 0.25 max **Si** 1.8-3.3 **Other** Cu + sum of named elements 99.0 min	**ASTM** B30; B148; B763 **Other:** Ingot 415E

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C95700	Cast Aluminum Bronze	**Al** 7.0-8.5 **Cu** 71.0 min **Fe** 2.0-4.0 **Mn** 11.0-14.0 **Ni** (incl Co) 1.5-3.0 **Pb** 0.03 max **Si** 0.10 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B148; B505 **FED** QQ-C-390 **Other:** Ingot 415F
C95710	Cast Aluminum Bronze	**Al** 7.0-8.5 **Cu** 71.0 min **Fe** 2.0-4.0 **Mn** 11.0-14.0 **Ni** (incl Co) 1.5-3.0 **P** 0.05 max **Pb** 0.05 max **Si** 0.15 max **Other** Cu + sum of named elements 99.5 min	
C95720	Cast Aluminum Bronze	**Al** 6.0-8.0 **Cu** 73.0 min **Cr** 0.20 max **Fe** 1.5-3.5 **Mn** 12.0-15.0 **Ni** (incl. Co) 3.0-6.0 **Pb** 0.03 max **Si** 0.10 max **Sn** 0.10 max **Zn** 0.10 max **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C95800	Cast Aluminum Bronze	**Al** 8.5-9.5 **Cu** 79.0 min **Fe** 3.5-4.5 **Mn** 0.8-1.5 **Ni** (incl Co) 4.0-5.0 **Pb** 0.03 max **Si** 0.10 max **Other** Fe less than Ni, *total named elements* 99.5 min **Note:** Fe content shall not exceed Ni content	**ASTM** B30; B148; B271; B505; B763; B806 **FED** QQ-C-390; WW-V-1967 **MIL SPEC** MIL-B-24480 **SAE** J461; J462 **Other:** Ingot 415G
C95810	Cast Aluminum Bronze	**Al** 8.5-9.5 **Cu** 79.0 min **Fe** 3.5-4.5 **Mg** 0.05 max **Mn** 0.8-1.5 **Ni** (incl Co) 4.0-5.0 **Pb** 0.10 max **Si** 0.10 max **Zn** 0.50 max **Other** *Cu + sum of named* elements 99.5 min	
C95820	Cast Nickel Aluminum Bronze	**Al** 9.0-10.0 **Cu** 77.5 min **Fe** 4.0-5.0 **Mn** 1.5 max **Ni** 4.5-5.8 **Pb** 0.02 max **Si** 0.10 max **Sn** 0.20 max **Zn** 0.20 max **Other:** (Cu+sum of named elements) 99.2 min	**ASME** SB 584 **ASTM** B30; B148; B584
C95900	Cast Aluminum Bronze	**Al** 12.0-13.5 **Cu** rem **Fe** 3.0-5.0 **Mn** 1.5 max **Ni** (incl Co) 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B148; B505
C96200	Cast Copper-Nickel	**C** 0.10 max **Cu** rem **Fe** 1.0-1.8 **Mn** 1.5 max **Nb** 1.0 max **Ni** (incl Co) 9.0-11.0 **P** 0.02 max **Pb** 0.01 max **S** 0.02 max **Si** 0.50 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B369 **FED** QQ-C-390 **MIL SPEC** MIL-V-18436 **SAE** J461; J462
C96300	Cast Copper-Nickel	**C** 0.15 max **Cu** rem **Fe** 0.50-1.5 **Mn** 0.25-1.5 **Nb** 0.50 - 1.5 **Ni** (incl Co) 18.0-22.0 **P** 0.02 max **Pb** 0.01 max **S** 0.02 max **Si** 0.50 max **Other** Cu + sum of named elements 99.5 min	
C96400	Cast Copper-Nickel	**C** 0.15 max **Cu** rem **Fe** 0.25-1.5 **Mn** 1.5 max **Nb** 0.50-1.5 **Ni** (incl Co) 28.0-32.0 **P** 0.02 max **Pb** 0.03 max **S** 0.02 max **Si** 0.50 max **Other** Cu + sum of named elements 99.5 min **Note:** For welding grades, Pb 0.01 max	**ASTM** B30; B369; B505 **FED** QQ-C-390; WW-V-1967
C96600	Cast Copper-Nickel	**Be** 0.40-0.7 **Cu** rem **Fe** 0.8-1.1 **Mn** 1.0 max **Ni** (incl Co) 29.0-33.0 **Pb** 0.01 max **Si** 0.15 max **Other** Cu + sum of named elements 99.5 min	
C96700	Cast Copper Nickel Beryllium Alloy	**Be** 1.1-1.2 **Cu** rem **Fe** 0.7-1.0 **Mn** 0.7 max **Ni** (incl Co) 29.0-33.0 **Pb** 0.01 max **Si** 0.15 max **Ti** 0.010-0.20 **Zr** 0.10-0.20 **Other** Cu + sum of named elements 99.5 min	**ASTM** B30 (72C); B770

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C96800	Cast Copper-Nickel Alloy	**Al** 0.10 max **B** 0.001 max **Bi** 0.001 max **Cu** rem **Fe** 0.50 max **Mg** 0.005-0.15 **Mn** 0.05-0.30 **Nb** 0.10-0.30 **Ni** (incl Co) 9.5-10.5 **P** 0.005 max **Pb** 0.005 max **S** 0.0025 max **Sb** 0.02 max **Si** 0.05 max **Sn** 7.5-8.5 **Ti** 0.01 max **Zn** 1.0 max **Other** Cu + sum of named elements 99.5 min	**ASTM** B30; B584
C96900	Cast Copper-Nickel Alloy	**Cu** rem **Fe** 0.50 max **Mg** 0.15 max **Mn** 0.50-0.30 **Nb** 0.10 max **Ni** 14.5-15.5 **Pb** 0.02 max **Sn** 7.5-8.5 **Zn** 0.50 max **Other** Cu includes Ag, Ni includes Co	
C96950	Cast Copper Nickel	**Cu** rem **Fe** 0.50 max **Mg** 0.15 max **Mn** 0.05-0.40 **Nb** 0.10 max **Ni** (incl. Co) 11.0-15.5 **Pb** 0.02 max **Si** 0.30 max **Sn** 5.8-8.5 **Other** (Cu + sum of named elements) 99.5 min	**Other:** CDA A1001-97-98 Revised July 1998
C97300	Cast Nickel-Silver	**Al** 0.005 max **Cu** 53.0-58.0 **Fe** 1.5 max **Mn** 0.50 max **Ni** (incl Co) 11.0-14.0 **P** 0.05 max **Pb** 8.0-11.0 **S** 0.08 max **Sb** 0.35 max **Si** 0.15 max **Sn** 1.5-3.0 **Zn** 17.0-25.0 **Other** Cu + sum of named elements 99.0 min	**ASTM** B30; B271; B505; B584 (formerly B149); B763 **SAE** J461; J462 **Other:** Ingot 410
C97400	Cast Nickel-Silver	**Cu** 58.0-61.0 **Fe** 1.5 max **Mn** 0.50 max **Ni** (incl Co) 15.5-17.0 **Pb** 4.5-5.5 **Sn** 2.5-3.5 **Zn** rem **Other** Cu + sum of named elements 99.0 min	**Other:** Ingot 411
C97600	Cast Nickel-Silver	**Al** 0.005 max **Cu** 63.0-67.0 **Fe** 1.5 max **Mn** 1.0 max **Ni** (incl Co) 19.0-21.5 **P** 0.05 max **Pb** 3.0-5.0 **S** 0.08 max **Sb** 0.25 max **Si** 0.15 max **Sn** 3.5-4.5 **Zn** 3.0-9.0 **Other** Cu + sum of named elements 99.7 min	**ASME** SB584 **ASTM** B30; B271; B505; B584 (formerly B149); B763 **MIL SPEC** MIL-V-18436 **SAE** J461; J462 **Other:** Ingot 412
C97800	Cast Nickel-Silver	**Al** 0.005 max **Cu** 64.0-67.0 **Fe** 1.5 max **Mn** 1.0 max **Ni** (incl Co) 24.0-27.0 **P** 0.05 max **Pb** 1.0-2.5 **S** 0.08 max **Sb** 0.20 max **Si** 0.15 max **Sn** 4.0-5.5 **Zn** 1.0-4.0 **Other** Cu + sum of named elements 99.6 min	**ASTM** B30; B271; B505; B584 (formerly B149); B763 **MIL SPEC** MIL-V-18436 **Other:** Ingot 413B
C98200	Cast Leaded Copper	**Cu** 73.0-79.0 **Fe** 0.7 max **Ni** 0.50 max **P** 0.10 max **Pb** 21.0-27.0 **Sb** 0.50 max **Sn** 0.6 - 2.0 **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4824
C98400	Cast Leaded Copper	**Ag** 1.5 max **Cu** rem **Fe** 0.7 max **Ni** 0.50 max **P** 0.10 max **Pb** 26.0-33.0 **Sb** 0.50 max **Sn** 0.50 max **Zn** 0.50 max **Other** Cu + sum of named elements 99.5 min	**AMS** 4822 **MIL SPEC** MIL-B-13506
C98600	Cast Leaded Copper	**Ag** 1.5 max **Cu** 60.0-70.0 **Fe** 0.35 max **Pb** 30.0-40.0 **Sn** 0.50 max	
C98800	Cast Leaded Copper	**Ag** 5.5 max **Cu** (incl Ag) 56.5-62.5 **Fe** 0.35 max **P** 0.02 max **Pb** 37.5-42.5 **Sn** 0.25 max **Zn** 0.10 max **Note:** Pb and Ag may be adjusted to modify the alloy hardness	
C98820	Cast Leaded Copper	**Cu** rem **Fe** 0.35 max **Pb** 40.0-44.0 **Sn** 1.0-5.0	**SAE** J460
C98840	Cast Leaded Copper	**Cu** rem **Fe** 0.35 max **Pb** 44.0-58.0 **Sn** 1.0-5.0 **Other** Cu + sum of named elements 99.5 min	**SAE** J460

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
C99300	Incramet 800	**Al** 10.7-11.5 **Co** 1.0-2.0 **Cu** rem **Fe** 0.40-1.0 **Ni** 13.5-16.5 **Pb** 0.02 max **Si** 0.02 max **Sn** 0.05 max **Other** Cu + sum of named elements 99.7 min	
C99350	Cast Copper Alloy	**Al** 9.5-10.5 **Cu** rem **Fe** 1.0 max **Mn** 0.25 max **Ni** (incl Co) 14.5-16.0 **Pb** 0.15 max **Zn** 7.5-9.5 **Other** Cu + sum of named elements 99.7 min	
C99400	Cast Copper Alloy	**Al** 0.50-2.0 **Cu** rem **Fe** 1.0-3.0 **Mn** 0.50 max **Ni** 1.0-3.5 **Pb** 0.25 max **Si** 0.50-2.0 **Zn** 0.50-5.0 **Other** Cu + sum of named elements 99.7 min	**ASTM** B30; B763
C99500	Cast Copper Alloy	**Al** 0.50-2.0 **Cu** rem **Fe** 3.0-5.0 **Mn** 0.50 max **Ni** 3.5-5.5 **Pb** 0.25 max **Si** 0.50-2.0 **Zn** 0.50-2.0 **Other** Cu + sum of named elements 99.7 min	**ASTM** B30; B763
C99600	Cast Copper (Incramute I)	**Al** 1.0-2.8 **C** 0.05 max **Co** 0.20 max **Cu** rem **Fe** 0.20 max **Mn** 39.0-45.0 **Ni** 0.20 max **Pb** 0.02 max **Si** 0.10 max **Sn** 0.10 max **Zn** 0.20 max **Other** Cu + sum of named elements 99.7 min	
C99700	Cast Copper Alloy	**Al** 0.50-3.0 **Cu** 54.0 min **Fe** 1.0 max **Mn** 11.0-15.0 **Nb** 4.0-6.0 **Ni** 4.0-6.0 **Pb** 2.0 max **Sn** 1.0 max **Zn** 19.0-25.0 **Other** Cu + sum of named elements 99.7 min	**ASTM** B30; B176
C99750	Cast Copper Alloy	**Al** 0.25-3.0 **Cu** 55.0-61.0 **Fe** 1.0 max **Mn** 17.0-23.0 **Ni** 5.0 max **Pb** 0.50-2.5 **Sn** 0.50 - 2.5 **Zn** 17.0-23.0 **Other** Cu + sum of named elements 99.7 min	**ASTM** B30; B176

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Exxxxx Number Series
Rare Earth and Similar Metals and Alloys

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RARE EARTH AND SIMILAR METALS AND ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
E00000	Commercial Grade Actinium	**Ac** 99.0 min	
E01000	Commercial Grade Cerium	**Ce** 99.0 min	
E01401	Cerium - Cobalt Rare Earth Alloy	**Ce** 70.0 nom **Co** 30.0 nom	
E21000	Mischmetal (Rare Earths) (Bastnasite Derived)	**Other** total mixed rare earths 99.0 min, consisting of Ce 50.0, La 38.0, Nd 12.0, Pr 4.0, other rare earth metals 1.0	
E21100	Mischmetal (Rare Earths) (Bastnasite Derived)-2.5 Magnesium	**Mg** 2.5 nom **Other** total mixed rare earths 97.5 nom, consisting of Ce 48.8, La 32.1, Nd 11.7, Pr 3.9, other rare earth metals 1.0	
E21101	Mischmetal (Rare Earths) (Bastnasite Derived)-5.0 Magnesium	**Mg** 5.0 nom **Other** total mixed rare earths 95.0 nom, consisting of Ce 47.5, La 31.3, Nd 11.4, Pr 3.9, other rare earth metals 1.0	
E21102	Mischmetal (Rare Earths) (Bastnasite Derived)-10.0 Magnesium	**Mg** 10.0 nom **Other** total mixed rare earths 90.0 nom, consisting of Ce 45.0, La 29.7, Nd 10.8, Pr 3.6, other rare earth metals 0.9	
E21103	Mischmetal (Rare Earths) (Bastnasite Derived)-20.0 Magnesium	**Mg** 20.0 nom **Other** total mixed rare earths 80.0 nom, consisting of Ce 40.0, La 26.4, Nd 9.6, Pr 3.6, other rare earth metals 0.8	
E21200	Mischmetal (Rare Earths) (Bastnasite Derived)-1.0 Al	**Al** 1.0 nom **Other** total mixed rare earths 99.0 nom	
E21201	Mischmetal (Rare Earths) (Bastnasite Derived)-20.0 Al	**Al** 20.0 nom **Other** total mixed rare earths 80.0 nom	
E21300	Mischmetal (Rare Earths) (Bastnasite Derived)-1.0 Fe	**Fe** 1.0 nom **Other** total mixed rare earths 99.0 nom, consisting of Ce 49.4, La 32.7, Nd 11.9, Pr 4.0, other rare earth metals 1.0	
E21301	Mischmetal (Rare Earths) (Bastnasite Derived)-5.0 Fe	**Fe** 5.0 nom **Other** total mixed rare earths 95.0 nom	
E21302	Mischmetal (Rare Earths) (Bastnasite Derived)-25.0 Fe	**Fe** 25.0 nom **Other** total mixed rare earths 75.0 nom	
E21500	Mischmetal (Rare Earths) (Bastnasite Derived)-1.0 Au	**Au** 1.0 nom **Other** total mixed rare earths 99.0 nom	
E23130	Mischmetal (Rare Earths) (Bastnasite Derived)-2.5 Mg, 1.0 Fe	**Fe** 1.0 nom **Mg** 2.5 nom **Other** total mixed rare earths 96.5 nom, consisting of Ce 48.2, La 31.8, Nd 11.6, Pr 3.9, other rare earth metals 1.0	
E23310	Mischmetal (Rare Earths) (Bastnasite Derived)-10.0 Fe-2.5 Mg	**Fe** 10.0 nom **Mg** 2.5 nom **Other** total mixed rare earths 87.5 nom	
E23311	Mischmetal (Rare Earths) (Bastnasite Derived)-22.0 Fe-2.0 Mg	**Fe** 22.0 nom **Mg** 2.0 nom **Other** total mixed rare earths 76.0 nom	
E23312	Mischmetal (Rare Earths) (Bastnasite Derived)-23.0 Fe-6.0 Mg	**Fe** 23.0 nom **Mg** 6.0 nom **Other** total mixed rare earths 71.0 nom	
E28531	Mischmetal (Rare Earths) (Bastnasite Derived)-36.0 Si-14.0 Fe-5.0 Ca	**Ca** 5.0 nom **Fe** 14.0 nom **Si** 36.0 nom **Other** total mixed rare earths 45.0 nom, consisting of Ce 22.5, La 14.8, Nd 5.4, Pr 1.8, other rare earth metals 0.5	

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
E31000	Mischmetal (Rare Earths) *(Monazite Derived)*	**Other** total mixed rare earths 99.0 *min, consisting of Ce 45.0, La 20.0,* Nd 19.0, Pr 6.0, Sm 4.0, Gd 2.0, Y 2.0, other rare earth metals 2.0	
E46000	Commercial Grade Dysprosium	**Dy** 99.0 min	
E48000	Commercial Grade Erbium	**Er** 99.0 min	
E50000	Commercial Grade Europium	**Eu** 99.0 min	
E52000	Commercial Grade Gadolinium	**Gd** 99.0 min	
E56000	Commercial Grade Holmium	**Ho** 99.0 min	
E58000	Commercial Grade Lanthanum	**La** 99.0 min	
E58401	Lanthanum-Cobalt Rare *Earth Alloy*	**Co** 25.0 nom **La** 75.0 nom	
E68000	Commercial Grade Lutetium	**Lu** 99.0 min	
E69000	Commercial Grade Neodymium	**Nd** 99.0 min	
E74000	Commercial Grade Praseodymium	**Pr** 99.0 min	
E74401	Praseodymium-Cobalt Rare Earth Alloy	**Co** 28.0 nom **Pr** 72.0 nom	
E78000	Commercial Grade Promethium	**Pm** 99.0 min	
E79000	Commercial Grade Samarium	**Sm** 99.0 min	
E79401	Samarium-Cobalt Rare Earth Alloy	**Co** 40.0 nom **Sm** 60.0 nom	
E83000	Commercial Grade Scandium	**Sc** 99.0 min	
E85000	Commercial Grade Terbium	**Tb** 99.0 min	
E87000	Commercial Grade Thulium	**Tm** 99.0 min	
E88000	Commercial Grade Ytterbium	**Yb** 99.0 min	
E90000	Commercial Grade Yttrium	**Y** 99.0 min	
E90401	*Yttrium-Cobalt Rare Earth* Alloy	**Co** 36.0 nom **Y** 64.0 nom	
E90501	Yttrium-Chromium Rare Earth Alloy	**Cr** 5.0 nom **Y** 95.0 nom	

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Fxxxxx Number Series
Cast Irons

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CAST IRONS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
F10001	Cast Iron, Gray	**C** 3.50 min	**ASTM** A319 (I)
F10002	Cast Iron, Gray	**C** 3.20 min	**ASTM** A319 (II)
F10003	Cast Iron, Gray	**C** 2.80 min	**ASTM** A319 (III)
F10004	Cast Iron, Gray, HB: 187 max	**C** 3.40-3.70 **Mn** 0.50-0.80 **P** 0.25 max **S** 0.15 max **Si** 2.30-2.80 **Note:** Low carbon with high silicon and vice versa.	**ASTM** A159 (G1800) **SAE** J431 (G1800)
F10005	Cast Iron, Gray, HB: 170-229	**C** 3.20-3.50 **Mn** 0.60-0.90 **P** 0.20 max **S** 0.15 max **Si** 2.00-2.40 **Note:** Low carbon with high silicon and vice versa.	**ASTM** A159 (G2500) **SAE** J431 (G2500)
F10006	Cast Iron, Gray, HB: 187-241	**C** 3.10-3.40 **Mn** 0.60-0.90 **P** 0.15 max **S** 0.15 max **Si** 1.90-2.30 **Note:** Low carbon with high silicon and vice versa.	**ASTM** A159 (G3000) **SAE** J431 (G3000)
F10007	Cast Iron, Gray, HB: 207-255	**C** 3.00-3.30 **Mn** 0.60-0.90 **P** 0.12 max **S** 0.15 max **Si** 1.80-2.20 **Note:** Low carbon with high silicon and vice versa.	**ASTM** A159 (G3500) **SAE** J431 (G3500)
F10008	Cast Iron, Gray, HB: 217-269	**C** 3.00-3.30 **Mn** 0.70-1.00 **P** 0.10 max **S** 0.15 max **Si** 1.80-2.10 **Note:** Low carbon with high silicon and vice versa.	**ASTM** A159 (G4000) **SAE** J125 (G4000); J431 (G4000)
F10009	Cast Iron, Gray, HB: 170-229	**C** 3.40 min **Mn** 0.60-0.90 **P** 0.15 max **S** 0.12 max **Si** 1.60-2.10	**ASTM** A159 (G2500a) **SAE** J431 (G2500a)
F10010	Cast Iron, Gray, HB: 207-255	**C** 3.40 min **Mn** 0.60-0.90 **P** 0.15 max **S** 0.12 max **Si** 1.30-1.80	**ASTM** A159 (G3500b) **SAE** J431 (G3500b)
F10011	Cast Iron, Gray, HB: 207-255	**C** 3.50 min **Mn** 0.60-0.90 **P** 0.15 max **S** 0.12 max **Si** 1.30-1.80	**ASTM** A159 (G3500c) **SAE** J431 (G3500c)
F10012	Cast Iron, Gray, HB: 241-321	**C** 3.10-3.60 **Cr** 0.85-1.25 **Mn** 0.60-0.90 **Mo** 0.40-0.60 **P** 0.10 max **S** 0.15 max **Si** 1.95-2.40 **Other** Ni 0.20-0.45 (optional)	**ASTM** A159 (G4000d) **SAE** J431 (G4000d)
F10090	Cast Iron Welding Filler Metal (RCI)	**C** 3.25-3.50 **Mn** 0.60-0.75 **P** 0.50-0.75 **S** 0.10 max **Si** 2.75-3.00	**AWS** A5.15 (RCI)
F10091	Cast Iron Welding Filler Metal (RCI-A)	**C** 3.25-3.50 **Mn** 0.50-0.70 **Mo** 0.25-0.45 **Ni** 1.20-1.60 **P** 0.20-0.40 **S** 0.10 max **Si** 2.00-2.50	**AWS** A5.15 (RCI-A)
F10092	Cast Iron Welding Filler Metal (RCI-B)	**C** 3.25-4.00 **Mg** 0.04-0.1 **Mn** 0.10-0.40 **Ni** 0.50 max **P** 0.05 max **S** 0.015 max **Si** 3.25-3.75 **Other** Ce 0.20 max	**AWS** A5.15 (RCI-B)
F11401	Cast Iron, Gray, T.S.: 138 MPa (20 ksi) Min	**Other** None specified	**ASME** SA278 (20) **ASTM** A48 (20); A278 (20)
F11501	Cast Iron, Gray, T.S.: 145 MPa (21 ksi) Min	**Other** None specified	**ASTM** A126 (A)
F11701	Cast Iron, Gray, T.S.: 172 MPa (25 ksi) Min	**Other** None specified	**ASME** SA278 (25) **ASTM** A48 (25); A278 (25)
F12101	Cast Iron, Gray, T.S.: 207 MPa (30 ksi) Min	**Other** None specified	**ASME** SA278 (30) **ASTM** A48 (30); A278 (30)
F12102	Cast Iron, Gray, T.S.: 214 MPa (31 ksi) Min	**Other** None specified	**ASTM** A126 (B)
F12401	Cast Iron, Gray, T.S.: 241 MPa (35 ksi) Min	**Other** None specified	**ASME** SA278 (35) **ASTM** A48 (35); A278 (35)
F12801	Cast Iron, Gray, T.S.: 276 MPa (40 ksi) Min	**Other** None specified	**ASTM** A48 (40)
F12802	Cast Iron, Gray, T.S.: 283 MPa (41 ksi) Min	**Other** None specified	**ASTM** A126 (C)

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F12803	Cast Iron, Gray, T.S.: 276 MPa (40 ksi) Min	**Other** None specified	**ASME** SA278 (40) **ASTM** A278 (40)
F13101	Cast Iron, Gray, T.S.: 310 MPa (45 ksi) Min	**Other** None specified	**ASTM** A48 (45)
F13102	Cast Iron, Gray, T.S.: 310 MPa (45 ksi) Min	**Other** None specified	**ASME** SA278 (45) **ASTM** A278 (45)
F13501	Cast Iron, Gray, T.S.: 345 MPa (50 ksi) Min	**Other** None specified	**ASTM** A48 (50)
F13502	Cast Iron, Gray, T.S.: 345 MPa (50 ksi) Min	**Other** None specified	**ASME** SA278 (50) **ASTM** A278 (50)
F13801	Cast Iron, Gray, T.S.: 379 MPa (55 ksi) Min	**Other** None specified	**ASTM** A48 (55)
F13802	Cast Iron, Gray, T.S.: 379 MPa (55 ksi) Min	**Other** None specified	**ASME** SA278 (55) **ASTM** A278 (55)
F14101	Cast Iron, Gray, T.S.: 414 MPa (60 ksi) Min	**Other** None specified	**ASTM** A48 (60)
F14102	Cast Iron, Gray, T.S.: 414 MPa (60 ksi) Min	**Other** None specified	**ASME** SA278 (60) **ASTM** A278 (60)
F14801	Cast Iron, Gray, T.S.: 483 MPa (70 ksi) Min	**Other** None specified	**ASME** SA278 (70) **ASTM** A278 (70)
F15501	Cast Iron, Gray, T.S.: 552 MPa (80 ksi) Min	**Other** None specified	**ASME** SA278 (80) **ASTM** A278 (80)
F20000	Cast Iron, Malleable, T.S.: 345 MPa (50 ksi) Min, Y.S.: 220.5 MPa (32 ksi) Min	**C** 2.20-2.90 **Mn** 0.15-1.25 **P** 0.02-0.15 **S** 0.02-0.20 **Si** 0.90-1.90	**ASTM** A602 (M3210) **SAE** J158 (M3210)
F20001	Cast Iron, Malleable, T.S.: 447.9 MPa (65 ksi) Min, Y.S.: 309.7 MPa (45 ksi) Min	**C** 2.20-2.90 **Mn** 0.15-1.25 **P** 0.02-0.15 **S** 0.02-0.20 **Si** 0.90-1.90	**SAE** J158 (M4504)
F20002	Cast Iron, Malleable, T.S.: 516.5 MPa (75 ksi) Min, Y.S.: 345 MPa (50 ksi) Min	**C** 2.20-2.90 **Mn** 0.15-1.25 **P** 0.02-0.15 **S** 0.02-0.20 **Si** 0.90-1.90	**SAE** J158 (M5003)
F20003	Cast Iron, Malleable, T.S.: 516.5 MPa (75 ksi) Min, Y.S.: 379.3 MPa (55 ksi) Min	**C** 2.20-2.90 **Mn** 0.15-1.25 **P** 0.02-0.15 **S** 0.02-0.20 **Si** 0.90-1.90	**SAE** J158 (M5503)
F20004	Cast Iron, Malleable, T.S.: 620.3 MPa (90 ksi) Min, Y.S.: 482.2 MPa (70 ksi) Min	**C** 2.20-2.90 **Mn** 0.15-1.25 **P** 0.02-0.15 **S** 0.02-0.20 **Si** 0.90-1.90	**SAE** J158 (M7002)
F20005	Cast Iron, Malleable, T.S.: 723.2 MPa (105 ksi) Min, Y.S.: 586.0 MPa (85 ksi) Min	**C** 2.20-2.90 **Mn** 0.15-1.25 **P** 0.02-0.15 **S** 0.02-0.20 **Si** 0.90-1.90	**SAE** J158 (M8501)
F22000	Cast Iron, Malleable, Cupola, T.S.: 276 MPa (40 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**Other** None specified	**ASTM** A197
F22200	Cast Iron, Malleable, T.S.: 345 MPa (50 ksi) Min, Y.S.: 224 MPa (32 ksi) Min	**Other** None specified	**ASTM** A47 (32510)
F22400	Cast Iron, Malleable, T.S.: 365 MPa (53 ksi) Min, Y.S.: 241 MPa (35 ksi) Min	**Other** None specified	**ASTM** A47 (35018)
F22830	Cast Iron, Pearlitic Malleable, T.S.: 414 MPa (60 ksi) Min, Y.S.: 276 MPa (40 ksi) Min	**Other** None specified	**ASTM** A220 (40010)
F23130	Cast Iron, Pearlitic Malleable, T.S.: 448 MPa (65 ksi) Min, Y.S.: 310 MPa (45 ksi) Min, Elongation: 8% Min	**Other** None specified	**ASTM** A220 (45008)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
F23131	Cast Iron, Pearlitic Malleable, T.S.: 448 MPa (65 ksi) Min, Y.S.: 310 MPa (45 ksi) Min, Elongation: 6% Min	**Other** None specified	**ASTM** A220 (45006)
F23330	Cast Iron, Pearlitic Malleable, T.S.: 483 MPa (70 ksi) Min, Y.S.: 331 MPa (48 ksi) Min	**Other** None specified	**AMS** 5310
F23530	Cast Iron, Pearlitic Malleable, T.S.: 483 MPa (70 ksi) Min, Y.S.: 345 MPa (50 ksi) Min	**Other** None specified	**ASTM** A220 (50005)
F24130	Cast Iron, Pearlitic, T.S.: 552 MPa (80 ksi) Min, Y.S.: 414 MPa (60 ksi) Min	**Other** None specified	**ASTM** A220 (60004)
F24830	Cast Iron, Pearlitic Malleable, T.S.: 586 MPa (85 ksi) Min, Y.S.: 483 MPa (70 ksi) Min	**Other** None specified	**ASTM** A220 (70003)
F25530	Cast Iron, Pearlitic Malleable, T.S.: 655 MPa (95 ksi) Min, Y.S.: 552 MPa (80 ksi) Min	**Other** None specified	**ASTM** A220 (80002)
F26230	Cast Iron, Pearlitic Malleable, T.S.: 724 MPa (105 ksi) Min, Y.S.: 621 MPa (90 ksi) Min	**Other** None specified	**ASTM** A220 (90001)
F30000	Cast Iron, Ductile, Martensitic, HB: As specified (Q and T)	**Other** None specified	**SAE** J434 (DQ and T)
F32800	Cast Iron, Ductile, T.S.: 414 MPa (60 ksi) Min, Y.S.: 276 MPa (40 ksi) Min, HB: 170	**Other** None specified	**ASME** SA395 (60-40-18) **ASTM** A395 (60-40-18); A536 (60-40-18) **SAE** J434 (D4018)
F32900	Cast Iron, Ductile, T.S.: 414 MPa (60 ksi) Min, Y.S.: 290 MPa (42 ksi) Min		**ASTM** A716
F33100	Cast Iron, Ductile, T.S.: 448 MPa (65 ksi) Min, Y.S.: 310 MPa (45 ksi) Min, HB: 156-217	**Other** None specified	**ASTM** A536 (65-45-12) **SAE** J434 (D4512)
F33101	Cast Iron, Ductile, T.S.: 414 MPa (60 ksi) Min, Y.S.: 310 MPa (45 ksi) Min, HB: 190	**C** 3.0 min **Si** 2.50 max	**AMS** 5315
F33800	Cast Iron, Ductile, T.S.: 552 MPa (80 ksi) Min, Y.S.: 379 MPa (55 ksi) Min, HB: 187-255	**Other** None specified	**ASTM** A536 (80-55-06) **SAE** J434 (D5506)
F34100	Cast Iron, Ductile, T.S.: 552 MPa (80 ksi) Min, Y.S.: 414 MPa (60 ksi) Min	**C** 3.0 min **P** 0.08 max **S** 0.05 max **Si** 3.0 max	**AMS** 5316 **ASTM** A476
F34800	Cast Iron, Ductile, T.S.: 689 MPa (100 ksi) Min, Y.S.: 483 MPa (70 ksi) Min, HB: 241-302	**Other** None specified	**ASTM** A536 (100-70-03) **SAE** J434 (D7003)
F36200	Cast Iron, Ductile, T.S.: 827 MPa (120 ksi) Min, Y.S.: 621 MPa (90 ksi) Min	**Other** None specified	**ASTM** A536 (120-90-02)
F41000	Cast Iron, Gray, Austenitic, T.S.: 172 MPa (25 ksi) Min	**C** 3.00 max **Cr** 1.5-2.5 **Cu** 5.50-7.50 **Mn** 0.5-1.5 **Ni** 13.50-17.50 **S** 0.12 max **Si** 1.00-2.80	**ASTM** A436 (1)
F41001	Cast Iron, Gray, Austenitic, T.S.: 207 MPa (30 ksi) Min	**C** 3.00 max **Cr** 2.50-3.50 **Cu** 5.50-7.50 **Mn** 0.5-1.5 **Ni** 13.50-17.50 **S** 0.12 max **Si** 1.00-2.80	**ASTM** A436 (1b)
F41002	Cast Iron, Gray, Austenitic, Y.S.: 172 MPa (25 ksi) Min	**C** 3.00 max **Cr** 1.5-2.5 **Cu** 0.50 max **Mn** 0.50-1.50 **Ni** 18.00-22.00 **S** 0.12 max **Si** 1.00-2.80	**ASTM** A436 (2)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
F41003	Cast Iron, Gray, Austenitic, T.S.: 207 MPa (30 ksi) Min	**C** 3.00 max **Cr** 3.00-6.00 **Cu** 0.50 max **Mn** 0.5-1.5 **Ni** 18.00-22.00 **S** 0.12 max **Si** 1.00-2.80	**ASTM** A436 (2b)
F41004	Cast Iron, Gray, Austenitic, T.S.: 172 MPa (25 ksi) Min	**C** 2.60 max **Cr** 2.50-3.50 **Cu** 0.50 max **Mn** 0.5-1.5 **Ni** 28.00-32.00 **S** 0.12 max **Si** 1.00-2.00	**ASTM** A436 (3)
F41005	Cast Iron, Gray, Austenitic, T.S.: 172 MPa (25 ksi) Min	**C** 2.60 max **Cr** 4.50-5.50 **Cu** 0.50 max **Mn** 0.5-1.5 **Ni** 29.00-32.00 **S** 0.12 max **Si** 5.00-6.00	**ASTM** A436 (4)
F41006	Cast Iron, Gray, Austenitic, T.S.: 138 MPa (20 ksi) Min	**C** 2.40 max **Cr** 0.10 max **Cu** 0.50 max **Mn** 0.5-1.5 **Ni** 34.00-36.00 **S** 0.12 max **Si** 1.00-2.00	**ASTM** A436 (5)
F41007	Cast Iron, Gray, Austenitic, T.S.: 172 MPa (25 ksi) Min	**C** 3.00 max **Cr** 1.00-2.00 **Cu** 3.50-5.50 **Mn** 0.5-1.5 **Mo** 1.00 max **Ni** 18.00-22.00 **S** 0.12 **Si** 1.50-2.50	**ASTM** A436 (6)
F43000	Cast Iron, Ductile, Austenitic, T.S.: 400 MPa (58 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 3.00 max **Cr** 1.75-2.75 **Mn** 0.70-1.25 **Ni** 18.00-22.00 **P** 0.08 max **Si** 1.50-3.00	**ASTM** A439 (D-2)
F43001	Cast Iron, Ductile, Austenitic, T.S.: 400 MPa (58 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 3.00 max **Cr** 2.75-4.00 **Mn** 0.70-1.25 **Ni** 18.00-22.00 **P** 0.08 max **Si** 1.50-3.00	**ASTM** A439 (D-2B)
F43002	Cast Iron, Ductile, Austenitic, T.S.: 400 MPa (58 ksi) Min, Y.S.: 193 MPa (28 ksi) Min	**C** 2.90 max **Cr** 0.50 max **Mn** 1.80-2.40 **Ni** 21.00-24.00 **P** 0.08 max **Si** 1.00-3.00	**ASTM** A439 (D-2C)
F43003	Cast Iron, Ductile, Austenitic, T.S.: 379 MPa (55 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 2.60 max **Cr** 2.50-3.50 **Mn** 1.00 max **Ni** 28.00-32.00 **P** 0.80 max **Si** 1.00-2.80	**ASTM** A439 (D-3)
F43004	Cast Iron, Ductile, Austenitic, T.S.: 379 MPa (55 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 2.60 max **Cr** 1.00-1.50 **Mn** 1.00 max **Ni** 28.00-32.00 **P** 0.08 max **Si** 1.00-2.80	**ASTM** A439 (D-3A)
F43005	Cast Iron, Ductile, Austenitic, T.S.: 414 MPa (60 ksi) Min, HB: 202-273	**C** 2.60 max **Cr** 4.50-5.50 **Mn** 1.00 max **Ni** 28.00-32.00 **P** 0.08 max **Si** 5.00-6.00	**ASTM** A439 (D-4)
F43006	Cast Iron, Ductile, Austenitic, T.S.: 379 MPa (55 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 2.40 max **Cr** 0.10 max **Mn** 1.00 max **Ni** 34.00-36.00 **P** 0.08 max **Si** 1.00-2.80	**ASTM** A439 (D-5)
F43007	Cast Iron, Ductile, Austenitic, T.S.: 379 MPa (55 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 2.40 max **Cr** 2.00-3.00 **Mn** 1.00 max **Ni** 34.00-36.00 **P** 0.08 max **Si** 1.00-2.80	**ASTM** A439 (D-5B)
F43010	Cast Iron, Ductile, Austenitic, T.S.: 448 MPa (65 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 2.20-2.70 **Cr** 0.20 max **Mn** 3.75-4.50 **Ni** 21.0-24.0 **P** 0.08 max **Si** 1.50-2.50	**ASTM** A571 (D-2M)
F43020	Cast Iron, Ductile, Austenitic, T.S.: 379 MPa (50 ksi) Min, Y.S.: 207 MPa (30 ksi) Min	**C** 2.40-3.00 **Cr** 1.70-2.40 **Mn** 0.80-1.50 **Ni** 18.00-22.00 **P** 0.20 max **Si** 1.80-3.20	
F43021	Cast Iron, Ductile, Austenitic, T.S.: 345 MPa (50 ksi) Min, Y.S.: 172 MPa (25 ksi) Min	**C** 2.70-3.10 **Cr** 0.50 max **Mn** 1.90-2.50 **Ni** 20.00-23.00 **P** 0.15 **Si** 2.00-3.00	
F43030	Cast Iron, Ductile, T.S.: 345 MPa (50 ksi) Min, Y.S.: 173 MPa (25 ksi) Min	**C** 2.5-3.0 **Cr** 0.50 max **Mn** 1.9-2.5 **Mo** 0.30 max **Ni** 20.0-24.0 **P** 0.15 max **S** 0.05 max **Si** 2.0-3.0	**AMS** 5395
F45000	Cast Iron, White, HB (Sand Cast): 550 Min, HB (Chill Cast): 600 Min	**C** 3.0-3.6 **Cr** 1.4-4.0 **Mn** 1.3 max **Mo** 1.0 max **Ni** 3.3-5.0 **P** 0.30 max **S** 0.15 max **Si** 0.8 max	**ASTM** A532 (IA)
F45001	Cast Iron, White, HB (Sand Cast): 550 Min, HB (Chill Cast): 600 Min	**C** 2.5-3.0 **Cr** 1.4-4.0 **Mn** 1.3 max **Mo** 1.0 max **Ni** 3.3-5.0 **P** 0.30 max **S** 0.15 max **Si** 0.8 max	**ASTM** A532 (IB)
F45002	Cast Iron, White, HB (Sand Cast): 550 Min, HB (Chill Cast): 600 Min	**C** 2.9-3.7 **Cr** 1.1-1.5 **Mn** 1.3 max **Mo** 1.0 max **Ni** 2.7-4.0 **P** 0.30 max **S** 0.15 max **Si** 0.8 max	**ASTM** A532 (IC)

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F45003	Cast Iron, White, HB: 400-600	**C** 2.5-3.6 **Cr** 7.0-11.0 **Mn** 1.3 max **Mo** 1.0 max **Ni** 4.5-7.0 **P** 0.10 max **S** 0.15 max **Si** 1.0-2.2	**ASTM** A532 (ID)
F45004	Cast Iron, White, HB: 400-600	**C** 2.4-2.8 **Cr** 11.0-14.0 **Cu** 1.2 max **Mn** 0.5-1.5 **Mo** 0.5-1.0 **Ni** 0.5 max **P** 0.10 max **S** 0.06 max **Si** 1.0 max	**ASTM** A532 (IIA)
F45005	Cast Iron, White, HB: 400-600	**C** 2.4-2.8 **Cr** 14.0-18.0 **Cu** 1.2 max **Mn** 0.5-1.5 **Mo** 1.0-3.0 **Ni** 0.5 max **P** 0.10 max **S** 0.06 max **Si** 1.0 max	**ASTM** A532 (IIB)
F45006	Cast Iron, White, HB: 400-600	**C** 2.8-3.6 **Cr** 14.0-18.0 **Cu** 1.2 max **Mn** 0.5-1.5 **Mo** 2.3-3.5 **Ni** 0.5 max **P** 0.10 max **S** 0.06 max **Si** 1.0 max	
F45007	Cast Iron, White, HB: 400-600	**C** 2.0-2.6 **Cr** 18.0-23.00 **Cu** 1.2 max **Mn** 0.5-1.5 **Mo** 1.5 max **Ni** 1.5 max **P** 0.10 max **S** 0.06 max **Si** 1.0 max	**ASTM** A532 (IID)
F45008	Cast Iron, White, HB: 400-600	**C** 2.6-3.2 **Cr** 18.0-23.0 **Cu** 1.2 max **Mn** 0.5-1.5 **Mo** 1.0-2.0 **Ni** 1.5 max **P** 0.10 max **S** 0.06 max **Si** 1.0 max	
F45009	Cast Iron, White, HB: 400-600	**C** 2.3-3.0 **Cr** 23.0-28.0 **Cu** 1.2 max **Mn** 0.5-1.5 **Mo** 1.5 max **Ni** 1.5 max **P** 0.10 max **S** 0.06 max **Si** 1.0 max	
F45100	Austenitic Chromium-Iron Welding Rod for Surfacing	**C** 3.7-5.0 **Cr** 27.0-35.0 **Mn** 2.0-6.0 **Si** 1.10-2.5	
F46100	Austenitic Ni-Cr-Fe-Co Welding Rod for Surfacing (ERNiCrFeCo)	**C** 2.5-3.0 **Cr** 25-30 **Co** 10-15 **Fe** 20-25 **Mn** 1.0 max **Mo** 7-10 **Ni** 10-33 **Si** 0.6-1.5 **W** 2.0-4.0	**ASME** SFA 5.21 (ERNiCrFeCo) **AWS** A5.21 (ERNiCrFeCo)
F47001	Cast Iron, Corrosion Resistant, T.S.: 172 MPa (25 ksi) Min	**C** 2.60-3.00 **Cr** 1.80-3.50 **Cu** 5.50-7.50 **Mn** 1.00-1.50 **Ni** 13.5-17.5 **P** 0.20 max **S** 0.10 max **Si** 1.25-2.20	
F47002	Cast Iron, Corrosion Resistant, T.S.: 172 MPa (25 ksi) Min	**C** 2.60-3.00 **Cr** 1.75-3.50 **Cu** 0.50 max **Mn** 0.80-1.30 **Ni** 18.0-22.0 **P** 0.20 max **S** 0.10 max **Si** 1.25-2.20	
F47003	Cast Iron, Corrosion Resistant	**C** 0.70-1.10 **Cr** 0.50 max **Cu** 0.50 max **Mn** 1.50 max **Mo** 0.50 max **Si** 14.20-14.75	
F47004	Cast Iron, Corrosion Resistant, T.S.: 207 MPa (30 ksi) Min	**C** 2.4-2.8 **Cr** 1.8-2.4 **Cu** 6.0-7.0 **Mn** 1.0-1.5 **Ni** 14.0-16.0 **P** 0.30 max **Pb** 0.003 max **S** 0.12 max **Si** 1.5-2.5	**AMS** 5392
F47005	Cast Iron, Corrosion and Heat Resistant, T.S.: 207 MPa (30 ksi) Min	**C** 2.4-2.8 **Cr** 1.7-2.4 **Cu** 0.5 **Mn** 0.8-1.6 **Ni** 18.0-22.0 **P** 0.30 **Pb** 0.003 **S** 0.12 **Si** 1.5-2.8	**AMS** 5393
F47006	Cast Iron, Ductile, Corrosion and Heat Resistant, T.S.: 379 MPa (55 ksi) Min, Y.S.: 227 MPa (32 ksi) Min	**C** 2.4-3.0 **Cr** 1.7-2.4 **Cu** 0.50 max **Mn** 0.8-1.6 **Ni** 18.0-22.0 **P** 0.25 max **Pb** 0.003 max **Si** 2.0-3.2	**AMS** 5394

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Gxxxxx Number Series
AISI and SAE Carbon and Alloy Steels

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AISI AND SAE CARBON AND ALLOY STEELS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
G10050	Carbon Steel	**C** 0.06 max **Mn** 0.35 max **P** 0.040 max **S** 0.050 max	**AISI** 1005 **ASTM** A29 (1005); A510 (1005) **MIL SPEC** MIL-S-11310 (CS1005) **SAE** J403 (1005); J412 (1005)
G10060	Carbon Steel	**C** 0.08 max **Mn** 0.25-0.40 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, Mn 0.25-0.45	**AISI** 1006 **ASTM** A29 (1006); A510 (1006); A545 (1006); A635 (1006); A830 **MIL SPEC** MIL-S-11310 (CS1006) **SAE** J403 (1006); J412 (1006); J1397 (1006)
G10080	Carbon Steel	**C** 0.10 max **Mn** 0.30-0.50 **P** 0.040 max **S** 0.050 max **Other** Sheets, Mn 0.25-0.50; ERW Tubing, Mn 0.25-0.50	**AISI** 1008 **ASTM** A29 (1008); A108 (1008); A510 (1008); A512 (1008); A513 (1008); A519 (1008); A545 (1008); A549 (1008); A575 (M1008); A576 (1008); A635 (1008); A830 **MIL SPEC** MIL-S-11310 (CS1008) **SAE** J403 (1008); J412 (1008); J1397 (1008)
G10090	Carbon Steel	**C** 0.15 max **Mn** 0.60 max **P** 0.040 max **S** 0.050 max	**AISI** 1009 **ASTM** A635 (1009); A827; A830 **AWS** A5.33 (W-FeC-1) **SAE** J1249 (1009)
G10100	Carbon Steel	**C** 0.08-0.13 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max	**AISI** 1010 **AMS** 5040; 5042; 5044; 5047; 5050; 5053; 7225 **ASTM** A29 (1010); A108; A510 (1010, MT 1010); A512 (1010, MT 1010); A513 (1010, MT 1010); A519 (1010, MT 1010); A545; A549 (1010); A576 (1010) A635 (1010); A787 (MT 1010); A830 **MIL SPEC** MIL-S-11310 (CS1010) **SAE** J403 (1010); J412 (1010); J1397 (1010)
G10110	Carbon Steel	**C** 0.08-0.13 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max	**AISI** 1011 **ASTM** A29 (1011); A510 (1011) **SAE** J412 (1011); J1249 (1011)
G10120	Carbon Steel	**C** 0.10-0.15 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max	**AISI** 1012 **ASTM** A29 (1012); A510 (1012); A512 (1012); A519 (1012); A545 (1012); A549 (1012); A575 (M1012); A576 (1012); A611 (Grade C&D); A635 (1012); A830 **MIL SPEC** MIL-S-11310 (CS1012) **SAE** J403 (1012); J412 (1012); J1397 (1012)
G10130	Carbon Steel	**C** 0.11-0.16 **Mn** 0.50-0.80 **P** 0.040 max **S** 0.050 max	**ASTM** A29 (1013); A510 (1013); A548 (1013) **SAE** J403 (1013); J412 (1013)
G10150	Carbon Steel	**C** 0.13-0.18 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.12-0.18	**AISI** 1015 **AMS** 5060 **ASTM** A29 (1015); A510 (1015); A512 (1015, MT 1015); A513 (1015, MT 1015); A519 (1015, MT 1015); A545 (1015); A549 (1015); A575 (M1015); A576 (1015); A635 (1015); A659 (1015); A787 (MT 1015); A794 (1015); A830 **SAE** J403 (1015); J412 (1015); J1397 (1015)
G10160	Carbon Steel	**C** 0.13-0.18 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.12-0.18; ERW Tubing, C 0.12-0.19	**AISI** 1016 **ASTM** A29 (1016); A108 (1016); A510 (1016); A512 (1016); A513 (1016); A519 (1016); A545 (1016); A548 (1016); A549 (1016); A576 (1016); A635 (1016); A659 (1016); A794 (1016); A830 **SAE** J403 (1016); J412 (1016); J1397 (1016)
G10170	Carbon Steel	**C** 0.15-0.20 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.14-0.20; ERW Tubing, C 0.14-0.21	**AISI** 1017 **ASTM** A29 (1017); A510 (1017); A513 (1017); A519 (1017); A544 (1017); A549 (1017); A575 (M1017); A576 (1017); A611 (A, B, C, E); A635 (1017); A659 (1017); A794 (1017); A830 **MIL SPEC** MIL-S-11310 (CS1017) **SAE** J403 (1017); J412 (1017); J1397 (1017)
G10180	Carbon Steel	**C** 0.15-0.20 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.14-0.20; ERW Tubing, C 0.14-0.21	**AISI** 1018 **AMS** 5069 **ASTM** A29 (1018); A510 (1018); A512 (1018); A513 (1018); A519 (1018); A544 (1018); A545 (1018); A548 (1018); A549 (1018); A576 (1018); A611 (D-1); A635 (1018); A659 (1018); A794 (1018); A830 **MIL SPEC** MIL-S-11310 (CS1018) **SAE** J403 (1018); J412 (1018); J1397 (1018)
G10190	Carbon Steel	**C** 0.15-0.20 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.14-0.20; ERW Tubing, C 0.14-0.21	**AISI** 1019 **ASTM** A29 (1019); A510 (1019); A512 (1019); A513 (1019); A519 (1019); A545 (1019); A548 (1019); A576 (1019); A635 (1019); A830 **SAE** J403 (1019); J412 (1019); J1397 (1019)
G10200	Carbon Steel	**C** 0.18-0.23 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.17-0.23	**AISI** 1020 **AMS** 5032; 5045; 5046 **ASTM** A29 (1020); A510 (1020); A512 (1020, MT 1020); A513 (1020, MT 1020); A519 (1020, MT 1020); A544 (1020); A575 (M1020); A576 (1020); A635 (1020); A659 (1020); A787 (MT 1020); A794 (1020); A827; A830 **AWS** A5.33 (W-FeC-3) **MIL SPEC** MIL-T-3520; MIL-S-7952; MIL-S-11310 (CS1020); MIL-S-16788 **SAE** J403 (1020); J412 (1020); J1397 (1020)
G10210	Carbon Steel	**C** 0.18-0.23 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.17-0.23; ERW Tubing, C 0.17-0.24	**AISI** 1021 **ASTM** A29 (1021); A510 (1021); A512 (1021); A513 (1021); A519 (1021); A545 (1021); A548 (1021); A576 (1021); A635 (1021); A659 (1021); A794 (1021); A830 **SAE** J403 (1021); J412 (1021); J1397 (1021)

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G10220	Carbon Steel	**C** 0.18-0.23 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.17-0.23; ERW Tubing, C 0.17-0.24	**AISI** 1022 **AMS** 5070 **ASTM** A29 (1022); A510 (1022); A513 (1022); A519 (1022); A544 (1022); A545 (1022); A548 (1022); A576 (1022); A635 (1022; A830 **MIL SPEC** MIL-S-11310 (CS1022) **SAE** J403 (1022); J412 (1022); J1397 (1022)
G10230	Carbon Steel	**C** 0.20-0.25 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.19-0.25; ERW Tubing, C 0.19-0.26	**AISI** 1023 **ASTM** A29 (1023); A510 (1023); A513 (1023); A576 (1023); A635 (1023); A659 (1023); A794 (1023); A830 **SAE** J403 (1023); J412 (1023); J1397 (1023)
G10250	Carbon Steel	**C** 0.22-0.28 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max **Other** ERW Tubing, C 0.21-0.28	**AISI** 1025 **AMS** 5046; 5075; 5077 **ASTM** A29 (1025); A510 (1025); A512 (1025); A513 (1025); A519 (1025); A575 (M1025); A576 (1025); A830 **FED** QQ-S-700 (C1025) **MIL SPEC** MIL-T-3520; MIL-T-5066; MIL-S-7952; MIL-S-11310 (CS1025) **SAE** J403 (1025); J412 (1025); J1397 (1025)
G10260	Carbon Steel	**C** 0.22-0.28 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** ERW Tubing, C 0.21-0.28	**AISI** 1026 **ASTM** A29 (1026); A510 (1026); A512 (1026); A513 (1026); A519 (1026); A545 (1026); A576 (1026); A830 **MIL SPEC** MIL-F-20670; MIL-S-22698; MIL-S-24093 **SAE** J403 (1026); J412 (1026); J1397 (1026)
G10290	Carbon Steel	**C** 0.25-0.31 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max	**AISI** 1029 **ASTM** A29 (1029); A510 (1029); A576 (1029) **SAE** J403 (1029); J412 (1029)
G10300	Carbon Steel	**C** 0.28-0.34 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.27-0.34, ERW Tubing, C 0.27-0.35	**AISI** 1030 **ASTM** A29 (1030); A510 (1030); A512 (1030); A513 (1030); A519 (1030); A544 (1030); A545 (1030); A546 (1030); A576 (1030); A682 (1030); A830 **FED** QQ-S-700 (C1030) **MIL SPEC** MIL-S-11310 (CS1030); MIL-S-46070 **SAE** J403 (1030); J412 (1030); J1397 (1030)
G10330	Carbon Steel	**C** 0.29-0.36 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max	**AISI** 1033 **ASTM** A513 (1033); A830 **SAE** J1249 (1033)
G10340	Carbon Steel	**C** 0.32-0.38 **Mn** 0.50-0.80 **P** 0.040 max **S** 0.050 max	**AISI** 1034 **ASTM** A29 (1034); A510 (1034) **SAE** J412 (1034); J1249 (1034)
G10350	Carbon Steel	**C** 0.32-0.38 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.31-0.38; ERW Tubing, C 0.31-0.39	**AISI** 1035 **AMS** 5080; 5082 **ASTM** A29 (1035); A510 (1035); A512 (1035); A513 (1035); A519 (1035); A544 (1035); A545 (1035); A546 (1035); A576 (1035); A682 (1035); A827; A830 **FED** QQ-S-700 (C1035) **MIL SPEC** MIL-S-3289; MIL-S-19434; MIL-S-46070 **SAE** J403 (1035); J412 (1035); J1397 (1035)
G10370	Carbon Steel	**C** 0.32-0.38 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.31-0.38	**AISI** 1037 **ASTM** A29 (1037); A510 (1037); A576 (1037); A830 **SAE** J403 (1037); J412 (1037); J1397 (1037)
G10380	Carbon Steel	**C** 0.35-0.42 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.34-0.42	**AISI** 1038 **ASTM** A29 (1038); A510 (1038); A544 (1038); A545 (1038); A546 (1038); A576 (1038); A830 **SAE** J403 (1038); J412 (1038); J1397 (1038)
G10390	Carbon Steel	**C** 0.37-0.44 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.36-0.44	**AISI** 1039 **ASTM** A29 (1039); A510 (1039); A546 (1039); A576 (1039); A830 **SAE** J403 (1039); J412 (1039); J1397 (1039)
G10400	Carbon Steel	**C** 0.37-0.44 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.36-0.44	**AISI** 1040 **ASTM** A29 (1040); A510 (1040); A513 (1040); A519 (1040); A546 (1040); A576 (1040); A682 (1040); A827; A830 **MIL SPEC** MIL-S-11310 (CS1040); MIL-S-16788; MIL-S-46070 **SAE** J403 (1040); J412 (1040); J1397 (1040)
G10420	Carbon Steel	**C** 0.40-0.47 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.39-0.47	**AISI** 1042 **ASTM** A29 (1042); A183 (2-Nuts); A510 (1042); A576 (1042); A830 **SAE** J403 (1042); J412 (1042); J1397 (1042)
G10430	Carbon Steel	**C** 0.40-0.47 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.39-0.47	**AISI** 1043 **ASTM** A29 (1043); A183 (2-Nuts); A510 (1043); A576 (1043); A830 **SAE** J403 (1043); J412 (1043); J1397 (1043)
G10440	Carbon Steel	**C** 0.43-0.50 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max	**AISI** 1044 **ASTM** A183 (2-Nuts); A510 (1044); A575 (M1044); A576 (1044) **SAE** J403 (1044); J412 (1044); J1397 (1044)
G10450	Carbon Steel	**C** 0.43-0.50 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets, C 0.42-0.50	**AISI** 1045 **ASTM** A29 (1045); A183 (2-Nuts); A236 (1045); A266 (1045); A510 (1045); A519 (1045); A576 (1045); A682 (1045); A827; A830 **FED** QQ-S-700 (C1045) **SAE** J403 (1045); J412 (1045); J1397 (1045)
G10460	Carbon Steel	**C** 0.43-0.50 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max	**AISI** 1046 **ASTM** A29 (1046); A510 (1046); A576 (1046); A830 **SAE** J403 (1046); J412 (1046); J1397 (1046)
G10490	Carbon Steel	**C** 0.46-0.53 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max	**AISI** 1049 **ASTM** A29 (1049); A510 (1049); A576 (1049); A830 **SAE** J403 (1049); J412 (1049); J1397 (1049)

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G10500	Carbon Steel	**C** 0.48-0.55 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max	**AISI** 1050 **AMS** 5085 **ASTM** A29 (1050); A510 (1050); A513 (1050); A519 (1050); A576 (1050); A682 (1050); A827; A830 **FED** QQ-S-700 (C1050) **SAE** J403 (1050); J412 (1050); J1397 (1050)
G10530	Carbon Steel	**C** 0.48-0.55 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max	**AISI** 1053 **ASTM** A510 (1053); A576 (1053) **SAE** J403 (1053); J412 (1053)
G10550	Carbon Steel	**C** 0.50-0.60 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max	**AISI** 1055 **ASTM** A510 (1055); A576 (1055); A682 (1055); A713 (1055); A830 **FED** QQ-S-700 (C1055) **MIL SPEC** MIL-S-10520 **SAE** J403 (1055); J412 (1055); J1397 (1055)
G10590	Carbon Steel	**C** 0.55-0.65 **Mn** 0.50-0.80 **P** 0.040 max **S** 0.050 max	**AISI** 1059 **ASTM** A29 (1059); A510 (1059); A713 (1059) **SAE** J412 (1059); J1249 (1059)
G10600	Carbon Steel	**C** 0.55-0.65 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max	**AISI** 1060 **AMS** 7240 **ASTM** A29 (1060); A510 (1060); A513 (1060); A576 (1060); A682 (1060); A713 (1060) **SAE** J403 (1060); J412 (1060); J1397 (1060)
G10640	Carbon Steel	**C** 0.60-0.70 **Mn** 0.50-0.80 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.59-0.70	**AISI** 1064 **ASTM** A29 (1064); A510 (1064); A682 (1064); A713 (1064) **SAE** J412 (1064); J1249 (1064); J1397 (1064)
G10650	Carbon Steel	**C** 0.60-0.70 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.54-0.70	**AISI** 1065 **ASTM** A29 (1065); A510 (1065); A682 (1065); A713 (1065) **FED** QQ-S-700 (C1065) **MIL SPEC** MIL-S-46049 (1065); MIL-S-46409 (1065) **SAE** J403 (1065); J412 (1065); J1397 (1065)
G10690	Carbon Steel	**C** 0.65-0.75 **Mn** 0.40-0.70 **P** 0.040 max **S** 0.050 max	**AISI** 1069 **ASTM** A29 (1069); A510 (1069); A713 (1069) **MIL SPEC** MIL-S-11713 **SAE** J403 (1069); J412 (1069)
G10700	Carbon Steel	**C** 0.65-0.75 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Plates, C 0.65-0.76	**AISI** 1070 **AMS** 5115 **ASTM** A29 (1070); A510 (1070); A576 (1070); A682 (1070); A713 (1070); A830 **MIL SPEC** MIL-S-11713 (2); MIL-S-12504 **SAE** J403 (1070); J412 (1070); J1397 (1070)
G10740	Carbon Steel	**C** 0.70-0.80 **Mn** 0.50-0.80 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.69-0.80	**AISI** 1074 **AMS** 5120 **ASTM** A29 (1074); A510 (1074); A682 (1074); A713 (1074); A830 **FED** QQ-S-700 (C1074) **MIL SPEC** MIL-S-46049 (1074) **SAE** J403 (1074); J412 (1074); J1397 (1074)
G10750	Carbon Steel	**C** 0.70-0.80 **Mn** 0.40-0.70 **P** 0.040 max **S** 0.050 max	**AISI** 1075 **ASTM** A29 (1075); A510 (1075); A713 (1075) **AWS** A5.33 (W-FeC-4) **SAE** J403 (1075); J412 (1075)
G10780	Carbon Steel	**C** 0.72-0.85 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.050 max **Other** Plates, C 0.72-0.86	**AISI** 1078 **ASTM** A29 (1078); A510 (1078); A576 (1078); A713 (1078); A830 **SAE** J403 (1078); J412 (1078); J1397 (1078)
G10800	Carbon Steel	**C** 0.75-0.88 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Plates, C 0.74-0.88	**AISI** 1080 **AMS** 5110 **ASTM** A29 (1080); A510 (1080); A576 (1080); A682 (1080); A713 (1080); A830 **AWS** A5.33 (W-FeC-5) **FED** QQ-S-700 (C1080) **SAE** J403 (1080); J412 (1080); J1397 (1080)
G10840	Carbon Steel	**C** 0.80-0.93 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Plates, C 0.80-0.94	**AISI** 1084 **ASTM** A29 (1084); A510 (1084); A576 (1084); A713 (1084); A830 **FED** QQ-S-700 (C1084) **SAE** J403 (1084); J412 (1084); J1397 (1084)
G10850	Carbon Steel	**C** 0.80-0.94 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.050 max	**AISI** 1085 **ASTM** A510 (1085); A682 (1085); A830 **FED** QQ-S-700 (C1085) **SAE** J403 (1085); J412 (1085); J1397 (1085)
G10860	Carbon Steel	**C** 0.80-0.93 **Mn** 0.30-0.50 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.80-0.94	**AISI** 1086 **ASTM** A29 (1086); A510 (1086); A682 (1086); A713 (1086); A830 **FED** QQ-S-700 (C1086) **SAE** J403 (1086); J412 (1086); J1397 (1086)
G10900	Carbon Steel	**C** 0.85-0.98 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Other** Plates, C 0.84-0.98	**AISI** 1090 **AMS** 5112 **ASTM** A29 (1090); A510 (1090); A576 (1090); A713 (1090); A830 **SAE** J403 (1090); J412 (1090); J1397 (1090)
G10950	Carbon Steel	**C** 0.90-1.03 **Mn** 0.30-0.50 **P** 0.040 max **S** 0.050 max **Other** Plates, C 0.90-1.04	**AISI** 1095 **AMS** 5121; 5122; 5132; 7304 **ASTM** A29 (1095); A510 (1095); A576 (1095); A682 (1095); A713 (1095); A830 **FED** QQ-S-700 (C1095) **MIL SPEC** MIL-S-7947; MIL-S-8559; MIL-S-16788 (C10) **SAE** J403 (1095); J412 (1095); J1397 (1095)
G11080	Resulfurized Carbon Steel	**C** 0.08-0.13 **Mn** 0.50-0.80 **P** 0.040 max **S** 0.08-0.13	**AISI** 1108 **ASTM** A29 (1108); A510 (1108); A544 (1108); A549 (1108) **SAE** J403 (1108); J412 (1108)
G11090	Resulfurized Carbon Steel	**C** 0.08-0.13 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.08-0.13	**AISI** 1109 **ASTM** A29 (1109); A510 (1109); A544 (1109); A549 (1109); A576 (1109) **SAE** J412 (1109); J1249 (1109); J1397 (1109)
G11100	Resulfurized Carbon Steel	**C** 0.08-0.13 **Mn** 0.30-0.60 **P** 0.040 max **S** 0.08-0.13	**AISI** 1110 **ASTM** A29 (1110); A510 (1110); A512 (1110); A544 (1110); A549 (1110); A576 (1110) **SAE** J403 (1110); J412 (1110)

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G11160	Resulfurized Carbon Steel	**C** 0.14-0.20 **Mn** 1.10-1.40 **P** 0.040 max **S** 0.16-0.23	**AISI** 1116 **ASTM** A29 (1116); A510 (1116) **SAE** J412 (1116)
G11170	Resulfurized Carbon Steel	**C** 0.14-0.20 **Mn** 1.00-1.30 **P** 0.040 max **S** 0.08-0.13	**AISI** 1117 **AMS** 5022 **ASTM** A29 (1117); A108 (1117); A510 (1117); A512 (1117); A576 (1117) **SAE** J403 (1117); J412 (1117); J1397 (1117)
G11180	Resulfurized Carbon Steel	**C** 0.14-0.20 **Mn** 1.30-1.60 **P** 0.040 max **S** 0.08-0.13	**AISI** 1118 **ASTM** A29 (1118); A510 (1118); A576 (1118) **SAE** J403 (1118); J412 (1118); J1397 (1118)
G11190	Resulfurized Carbon Steel	**C** 0.14-0.20 **Mn** 1.00-1.30 **P** 0.040 max **S** 0.24-0.33	**AISI** 1119 **ASTM** A29 (1119); A183 (1-Bolts, 1-Nuts); A510 (1119); A576 (1119) **SAE** J412 (1119); J1249 (1119); J1397 (1119)
G11230	Resulfurized Carbon Steel	**C** 0.20-0.27 **Mn** 1.20-1.50 **P** 0.040 max **S** 0.06-0.09	**AISI** 1123 **SAE** J403 (1123)
G11320	Resulfurized Carbon Steel	**C** 0.27-0.34 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.09-0.13	**AISI** 1132 **ASTM** A29 (1132); A510 (1132); A576 (1132) **SAE** J412 (1132); J1249 (1132); J1397 (1132)
G11370	Resulfurized Carbon Steel	**C** 0.32-0.39 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.08-0.13	**AISI** 1137 **AMS** 5024 **ASTM** A29 (1137); A311 (1137); A510 (1137); A576 (1137) **SAE** J403 (1137); J412 (1137); J1397 (1137)
G11374	Steel, Free Machining	**C** 0.32-0.39 **Mn** 1.35-1.65 **P** 0.040 max **Pb** 0.15-0.35 **S** 0.08-0.15	**AMS** 5020
G11390	Resulfurized Carbon Steel	**C** 0.35-0.43 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.13-0.20	**AISI** 1139 **ASTM** A29 (1139); A510 (1139); A576 (1139) **SAE** J403 (1139)
G11400	Resulfurized Carbon Steel	**C** 0.37-0.44 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.08-0.13	**AISI** 1140 **ASTM** A29 (1140); A510 (1140); A576 (1140) **SAE** J403 (1140); J412 (1140); J1397 (1140)
G11410	Resulfurized Carbon Steel	**C** 0.37-0.45 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.08-0.13	**AISI** 1141 **ASTM** A29 (1141); A108 (1141); A311 (1141); A510 (1141); A576 (1141) **SAE** J403 (1141); J412 (1141); J1397 (1141)
G11440	Resulfurized Carbon Steel	**C** 0.40-0.48 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.24-0.33	**AISI** 1144 **ASTM** A29 (1144); A311 (1144); A510 (1144) **SAE** J403 (1144); J412 (1144); J1397 (1144)
G11450	Resulfurized Carbon Steel	**C** 0.41-0.49 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.08-0.13	**AISI** 1145 **ASTM** A29 (1145); A510 (1145) **SAE** J412 (1145); J1249 (1145); J1397 (1145)
G11460	Resulfurized Carbon Steel	**C** 0.42-0.49 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.08-0.13	**AISI** 1146 **ASTM** A29 (1146); A510 (1146); A576 (1146) **SAE** J403 (1146); J412 (1146); J1397 (1146)
G11510	Resulfurized Carbon Steel	**C** 0.48-0.55 **Mn** 0.70-1.00 **P** 0.040 max **S** 0.08-0.13	**AISI** 1151 **ASTM** A29 (1151); A108 (1151); A510 (1151); A576 (1151) **SAE** J403 (1151); J412 (1151); J1397 (1151)
G12110	Rephosphorized and Resulfurized Carbon Steel	**C** 0.13 max **Mn** 0.60-0.90 **P** 0.07-0.12 **S** 0.10-0.15	**AISI** 1211 **ASTM** A29 (1211); A108 (1211); A576 (1211) **SAE** J403 (1211)
G12120	Rephosphorized and Resulfurized Carbon Steel	**C** 0.13 max **Mn** 0.70-1.00 **P** 0.07-0.12 **S** 0.16-0.23	**AISI** 1212 **AMS** 5010 **ASTM** A29 (1212); A108 (1212); A576 (1212) **SAE** J403 (1212)
G12130	Rephosphorized and Resulfurized Carbon Steel	**C** 0.13 max **Mn** 0.70-1.00 **P** 0.07-0.12 **S** 0.24-0.33	**AISI** 1213 **ASTM** A29 (1213); A108 (1213); A576 (1213) **SAE** J403 (1213)
G12134	Rephosphorized, Resulphurized and Leaded Carbon Steel	**C** 0.13 max **Mn** 0.70-1.00 **P** 0.07-0.12 **Pb** 0.15-0.35 **S** 0.24-0.33	**AISI** 12L13 **ASTM** A29 (12L13) **SAE** J403 (12L13)
G12144	Rephosphorized and Resulfurized Carbon Steel	**C** 0.15 max **Mn** 0.85-1.15 **P** 0.04-0.09 **Pb** 0.15-0.35 **S** 0.26-0.35	**AISI** 12L14 **ASTM** A576 (12L14) **SAE** J403 (12L14); J412 (12L14); J1397 (12L14)
G12150	Rephosphorized and Resulfurized Carbon Steel	**C** 0.09 max **Mn** 0.75-1.05 **P** 0.04-0.09 **S** 0.26-0.35	**AISI** 1215 **AMS** 5010 **ASTM** A29 (1215); A108 (1215); A576 (1215) **SAE** J403 (1215); J412 (1215)
G13300	Mn Alloy Steel	**C** 0.28-0.33 **Mn** 1.60-1.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1330 **ASTM** A322 (1330); A331 (1330); A519 (1330); A711; A752 (1330); A829 **SAE** J404 (1330); J412 (1330); J1397 (1330)
G13350	Mn Alloy Steel	**C** 0.33-0.38 **Mn** 1.60-1.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1335 **ASTM** A331 (1335); A519 (1335); A547 (1335); A711 (1335); A752 (1335); A829 **SAE** J404 (1335); J412 (1335); J1397 (1335)
G13400	Mn Alloy Steel	**C** 0.38-0.43 **Mn** 1.60-1.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1340 **ASTM** A322 (1340); A331 (1340); A513 (1340); A519 (1340); A547 (1340); A752 (1340); A829 **SAE** J404 (1340); J412 (1340); J1397 (1340)

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G13450	Mn Alloy Steel	**C** 0.43-0.48 **Mn** 1.60-1.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1345 **ASTM** A322 (1345); A331 (1345); A519 (1345); A752 (1345); A829 **SAE** J404 (1345); J412 (1345); J1397 (1345)
G15116	Alloy Steel replaced by G51986		
G15130	Carbon Steel	**C** 0.10-0.16 **Mn** 1.10-1.40 **P** 0.040 max **S** 0.050 max	**AISI** 1513 **ASTM** A29 (1513); A510 (1513) **SAE** J403 (1513); J412 (1513)
G15180	Carbon Steel	**C** 0.15-0.21 **Mn** 1.10-1.40 **P** 0.040 max **S** 0.050 max	**AISI** 1518 **ASTM** A29 (1518); A510 (1518); A519 (1518) **SAE** J412 (1518); J1249 (1518)
G15216	Alloy Steel replaced by G52986		
G15220	Carbon Steel	**C** 0.18-0.24 **Mn** 1.10-1.40 **P** 0.040 max **S** 0.050 max	**AISI** 1522 **ASTM** A29 (1522); A510 (1522) **SAE** J403 (1522); J412 (1522)
G15240	Carbon Steel	**C** 0.19-0.25 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.18-0.25; ERW Tubing, C 0.18-0.25 Mn 1.30-1.65	**AISI** 1024; 1524 **ASTM** A29 (1524); A510 (1524); A513 (1524); A519 (1524); A545 (1524); A635 (1524); A830 **SAE** J403 (1524); J412 (1524); J1397 (1524)
G15250	Carbon Steel	**C** 0.23-0.29 **Mn** 0.80-1.10 **P** 0.040 max **S** 0.050 max	**AISI** 1525 **ASTM** A29 (1525); A510 (1525) **SAE** J412 (1525); J1249 (1525)
G15260	Carbon Steel	**C** 0.22-0.29 **Mn** 1.10-1.40 **P** 0.040 max **S** 0.050 max	**AISI** 1526 **ASTM** A29 (1526); A510 (1526) **SAE** J403 (1526); J412 (1526)
G15270	Carbon Steel	**C** 0.22-0.29 **Mn** 1.20-1.50 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, Mn 1.20-1.55; ERW Tubing, C 0.21-0.29 Mn 1.20-1.55	**AISI** 1027; 1527 **ASTM** A29 (1527); A510 (1527); A513 (1027); A830 **SAE** J403 (1527); J412 (1527)
G15330	Carbon Steel	**C** 0.30-0.37 **Mn** 1.20-1.50 **P** 0.040 max **S** 0.050 max	**AISI** 1533 **SAE** J403 (1533)
G15340	Carbon Steel	**C** 0.30-0.37 **Mn** 1.20-1.50 **P** 0.040 max **S** 0.050 max	**AISI** 1534 **SAE** J403 (1534)
G15360	Carbon Steel	**C** 0.30-0.37 **Mn** 1.20-1.50 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.30-0.38 Mn 1.20-1.55	**AISI** 1036; 1536 **ASTM** A29 (1536); A510 (1536); A830 **SAE** J403 (1536); J412 (1536); J1397 (1536)
G15410	Carbon Steel	**C** 0.36-0.44 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.36-0.45 Mn 1.30-1.65	**AISI** 1041; 1541 **ASTM** A29 (1541); A510 (1541); A519 (1541); A545 (1541); A546 (1541); A830 **SAE** J403 (1541); J412 (1541); J1397 (1541)
G15470	Carbon Steel	**C** 0.43-0.51 **Mn** 1.35-1.65 **P** 0.040 max **S** 0.050 max	**AISI** 1547 **ASTM** A29 (1547); A510 (1547) **SAE** J403 (1547); J412 (1547); J775 (NV-2); J1249 (1547); J1397 (1547)
G15480	Carbon Steel	**C** 0.44-0.52 **Mn** 1.10-1.40 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.43-0.52 Mn 1.05-1.40	**AISI** 1048; 1548 **ASTM** A29 (1548); A510 (1548); A830 **SAE** J403 (1548); J412 (1548); J1397 (1548)
G15510	Carbon Steel	**C** 0.45-0.56 **Mn** 0.85-1.15 **P** 0.040 max **S** 0.050 max	**AISI** 1051; 1551 **ASTM** A29 (1551); A510 (1551) **SAE** J403 (1551); J412 (1551)
G15520	Carbon Steel	**C** 0.47-0.55 **Mn** 1.20-1.50 **P** 0.040 max **S** 0.050 max **Other** Sheets and Plates, C 0.46-0.55 Mn 1.20-1.55	**AISI** 1052; 1552 **ASTM** A29 (1552); A510 (1552); A830 **SAE** J403 (1552); J412 (1552); J1397 (1552)
G15530	Carbon Steel	**C** 0.48-0.56 **Mn** 0.80-1.10 **P** 0.040 max **S** 0.050 max	**AISI** 1553 **SAE** J403 (1553)
G15610	Carbon Steel	**C** 0.55-0.65 **Mn** 0.75-1.05 **P** 0.040 max **S** 0.050 max	**AISI** 1061; 1561 **ASTM** A29 (1561); A510 (1561); A713 (1561) **SAE** J403 (1561); J412 (1561)
G15660	Carbon Steel	**C** 0.60-0.71 **Mn** 0.85-1.15 **P** 0.040 max **S** 0.050 max	**AISI** 1066; 1566 **ASTM** A29 (1566); A510 (1566); A713 (1566) **SAE** J403 (1566); J412 (1566)
G15700	Carbon Steel	**C** 0.65-0.75 **Mn** 0.80-1.10 **P** 0.040 max **S** 0.050 max	**AISI** 1570 **SAE** J403 (1570)
G15720	Carbon Steel	**C** 0.65-0.76 **Mn** 1.00-1.30 **P** 0.040 max **S** 0.050 max	**AISI** 1072; 1572 **ASTM** A29 (1572); A510 (1572); A713 (1572) **SAE** J403 (1572); J412 (1572)
G15800	Carbon Steel	**C** 0.75-0.85 **Mn** 0.80-1.10 **P** 0.040 max **S** 0.050 max	**AISI** 1580 **SAE** J403 (1580)

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G15900	Carbon Steel	**C** 0.85-0.98 **Mn** 0.80-1.10 **P** 0.040 max **S** 0.050 max	**AISI** 1590 **SAE** J403 (1590)
G31400	Alloy Steel	**C** 0.38-0.43 **Cr** 0.55-0.75 **Mn** 0.70-0.90 **Ni** 1.10-1.40 **P** 0.040 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 3140 **ASTM** A331 (3140); A519 (3140) **SAE** J775 (NV 4); J1249 (3140)
G33106	Alloy Steel	**C** 0.08-0.13 **Cr** 1.40-1.75 **Mn** 0.45-0.60 **Ni** 3.25-3.75 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.30	**AISI** E3310 **ASTM** A331 (E3310); A519 (E3310); A646 (3310-1) **MIL SPEC** MIL-S-7393; MIL-S-8503 **SAE** J1249 (3310)
G40120	Mo Alloy Steel	**C** 0.09-0.14 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4012 **ASTM** A331 (4012); A519 (4012); A752 (4012) **SAE** J412 (4012); J1249 (4012); J1397 (4012)
G40230	Mo Alloy Steel	**C** 0.20-0.25 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4023 **ASTM** A29 (4023); A322 (4023); A331 (4023); A519 (4023); A752 (4023) **SAE** J404 (4023); J412 (4023); J1397 (4023)
G40240	Mo Alloy Steel	**C** 0.20-0.25 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.035-0.050 **Si** 0.15-0.35	**AISI** 4024 **ASTM** A29 (4024); A322 (4024); A331 (4024); A519 (4024); A752 (4024) **SAE** J404 (4024); J412 (4024); J1397 (4024)
G40270	Mo Alloy Steel	**C** 0.25-0.30 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4027 **ASTM** A29 (4027); A322 (4027); A331 (4027); A519 (4027); A752 (4027) **SAE** J404 (4027); J412 (4027); J1397 (4027)
G40280	Mo Alloy Steel	**C** 0.25-0.30 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.035-0.050 **Si** 0.15-0.35	**AISI** 4028 **ASTM** A29 (4028); A322 (4028); A331 (4028); A519 (4028); A752 (4028) **SAE** J404 (4028); J412 (4028); J1397 (4028)
G40320	Mo Alloy Steel	**C** 0.30-0.35 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4032 **SAE** J404 (4032); J412 (4032); J1397 (4032)
G40370	Mo Alloy Steel	**C** 0.35-0.40 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4037 **AMS** 6300 **ASTM** A29 (4037); A320 (L7A, L71); A322 (4037); A331 (4037); A519 (4037); A752 (4037) **SAE** J404 (4037); J412 (4037); J1397 (4037)
G40420	Mo Alloy Steel	**C** 0.40-0.45 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.30	**AISI** 4042 **ASTM** A29 (4042); A194 (4042-7); A331 (4042); A519 (4042) **SAE** J404 (4042); J412 (4042); J1397 (4042)
G40470	Mo Alloy Steel	**C** 0.45-0.50 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4047 **ASTM** A29 (4047); A322 (4047); A331 (4047); A519 (4047); A752 (4047) **SAE** J404 (4047); J412 (4047); J1397 (4047)
G40630	Mo Alloy Steel	**C** 0.60-0.67 **Mn** 0.75-1.00 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4063 **ASTM** A331 (4063); A519 (4063) **SAE** J1249 (4063)
G41180	Cr-Mo Alloy Steel	**C** 0.18-0.23 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.08-0.15 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4118 **ASTM** A29 (4118); A322 (4118); A331 (4118); A506 (4118); A507 (4118); A513 (4118); A519 (4118); A752 (4118); A829 **SAE** J404 (4118); J412 (4118); J1397 (4118)
G41200	Cr-Mo Alloy Steel	**C** 0.18-0.23 **Cr** 0.40-0.60 **Mn** 0.80-1.20 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4120 **SAE** J403 (EX15)
G41210	Cr-Mo Alloy Steel	**C** 0.18-0.23 **Cr** 0.45-0.65 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4121 **SAE** J403 (EX24)
G41300	Cr-Mo Alloy Steel	**C** 0.28-0.33 **Cr** 0.80-1.10 **Mn** 0.40-0.60 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4130 **AMS** 6348; 6350; 6351; 6360; 6361; 6362; 6370; 6371; 6373; 6374; 6528; 7496 **ASTM** A29 (4130); A322 (4130); A331 (4130); A506 (4130); A507 (4130); A513 (4130); A519 (4130); A646 (4130); A752 (4130); A829 **MIL SPEC** MIL-S-6758; MIL-S-18729 **SAE** J404 (4130); J412 (4130); J1397 (4130)
G41350	Cr-Mo Alloy Steel	**C** 0.33-0.38 **Cr** 0.80-1.10 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4135 **AMS** 6352; 6365; 6372 **ASTM** A29 (4135); A331 (4135); A372 (V-2); A519 (4135); A829 **SAE** J404 (4135); J412 (4135); J1397 (4135)
G41370	Cr-Mo Alloy Steel	**C** 0.35-0.40 **Cr** 0.80-1.10 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4137 **ASTM** A29 (4137); A320 (L7B, L72); A322 (4137); A331 (4137); A372 (VIII); A519 (4137); A752 (4137); A829 **SAE** J404 (4137); J412 (4137); J1397 (4137)

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G41400	Cr-Mo Alloy Steel	**C** 0.38-0.43 **Cr** 0.80-1.10 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4140 **AMS** 6349; 6381; 6382; 6390; 6395; 6529 **ASTM** A29 (4140); A193 (B7, B7M); A194 (7, 7M); A320 (L7, L7M, L7D); A322 (4140); A331 (4140); A506 (4140); A513 (4140); A519 (4140); A646 (4140); A711; A752 (4140); A829 **MIL SPEC** MIL-S-5626 **SAE** J404 (4140); J412 (4140); J1397 (4140)
G41420	Cr-Mo Alloy Steel	**C** 0.40-0.45 **Cr** 0.80-1.10 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4142 **ASTM** A29 (4142); A322 (4142); A331 (4142); A372 (VIII); A519 (4142); A547 (4142); A711; A752 (4142); A829 **SAE** J404 (4142); J412 (4142); J1397 (4142)
G41450	Cr-Mo Alloy Steel	**C** 0.43-0.48 **Cr** 0.80-1.10 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4145 **ASTM** A29 (4145); A322 (4145); A331 (4145); A519 (4145); A711; A752 (4145); A829 **SAE** J404 (4145); J412 (4145); J1397 (4145)
G41470	Cr-Mo Alloy Steel	**C** 0.45-0.50 **Cr** 0.80-1.10 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4147 **ASTM** A29 (4147); A322 (4147); A331 (4147); A372 (VIII); A519 (4147); A752 (4147) **SAE** J404 (4147); J412 (4147); J1397 (4147)
G41500	Cr-Mo Alloy Steel	**C** 0.48-0.53 **Cr** 0.80-1.10 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4150 **ASTM** A29 (4150); A322 (4150); A331 (4150); A519 (4150); A711; A752 (4150) **MIL SPEC** MIL-S-11595 (ORD4150) **SAE** J404 (4150); J412 (4150); J1397 (4150)
G41610	Cr-Mo Alloy Steel	**C** 0.56-0.64 **Cr** 0.70-0.90 **Mn** 0.75-1.00 **Mo** 0.25-0.35 **P** 0.035 max **S** 0.40 max **Si** 0.15-0.35	**AISI** 4161 **ASTM** A29 (4161); A322 (4161); A331 (4161); A752 (4161) **SAE** J404 (4161); J412 (4161); J1397 (4161)
G43200	Ni-Cr-Mo Alloy Steel	**C** 0.17-0.22 **Cr** 0.40-0.60 **Mn** 0.45-0.65 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4320 **ASTM** A29 (4320); A322 (4320); A331 (4320); A519 (4320); A535 (4320); A752 (4320) **SAE** J404 (4320); J412 (4320); J1397 (4320)
G43370	Ni-Cr-Mo Alloy Steel	**C** 0.35-0.40 **Cr** 0.70-0.90 **Mn** 0.60-0.80 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4337 **AMS** 6412; 6413; 7496 **ASTM** A519 (4337) **SAE** J1249 (4337)
G43376	Ni-Cr-Mo Alloy Steel	**C** 0.35-0.40 **Cr** 0.70-0.90 **Mn** 0.65-0.85 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AISI** E4337 **ASTM** A519 (E4337)
G43400	Ni-Cr-Mo Alloy Steel	**C** 0.38-0.43 **Cr** 0.70-0.90 **Mn** 0.60-0.80 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.30	**AISI** 4340 **AMS** 6359; 6409; 6414; 6415; 6454 **ASTM** A29 (4340); A320 (L43); A322 (4340); A331 (4340); A506 (4340); A519 (4340); A646 (4340-7); A711; A752 (4340); A829 **MIL SPEC** MIL-S-5000 **SAE** J404 (4340); J412 (4340); J1397 (4340)
G43406	Ni-Cr-Mo Alloy Steel	**C** 0.38-0.43 **Cr** 0.70-0.90 **Mn** 0.65-0.85 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AISI** E4340 **AMS** 6415 **ASTM** A331 (E4340); A519 (E4340); A752 (E4340); A829 **MIL SPEC** MIL-S-5000; MIL-S-83135 **SAE** J404 (E4340); J1397 (E4340)
G44190	Mo Alloy Steel	**C** 0.18-0.23 **Mn** 0.45-0.65 **Mo** 0.45-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4419 **ASTM** A29 (4419); A331 (4419); A752 (4419) **SAE** J404 (4419); J412 (4419); J1397 (4419)
G44220	Mo Alloy Steel	**C** 0.20-0.25 **Mn** 0.70-0.90 **Mo** 0.35-0.45 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4422 **ASTM** A29 (4422); A331 (4422); A519 (4422) **SAE** J404 (4422); J412 (4422); J1397 (4422)
G44270	Mo Alloy Steel	**C** 0.24-0.29 **Mn** 0.70-0.90 **Mo** 0.35-0.45 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4427 **ASTM** A29 (4427); A331 (4427); A519 (4427) **SAE** J404 (4427); J412 (4427); J1397 (4427)
G45200	Mo Alloy Steel	**C** 0.18-0.23 **Mn** 0.45-0.65 **Mo** 0.45-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4520 **ASTM** A519 (4520)
G46150	Ni-Mo Alloy Steel	**C** 0.13-0.18 **Mn** 0.45-0.65 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4615 **AMS** 6290 **ASTM** A29 (4615); A322 (4615); A331 (4615); A752 (4615); A829 **SAE** J404 (4615); J412 (4615); J1397 (4615)
G46170	Ni-Mo Alloy Steel	**C** 0.15-0.20 **Mn** 0.45-0.65 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4617 **AMS** 6292 **ASTM** A519 (4617); A829 **SAE** J404 (4617); J412 (4617); J1397 (4617)
G46200	Ni-Mo Alloy Steel	**C** 0.17-0.22 **Mn** 0.45-0.65 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4620 **AMS** 6294 **ASTM** A29 (4620); A322 (4620); A331 (4620); A519 (4620); A535 (4620); A646 (4620-3); A752 (4620); A829 **SAE** J404 (4620); J412 (4620); J1397 (4620)

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G46210	Ni-Mo Alloy Steel	**C** 0.18-0.23 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4621 **ASTM** A322 (4621); A331 (4621); A519 (4621); A752 (4621) **SAE** J404 (4621); J412 (4621); J1397 (4621)
G46260	Ni-Mo Alloy Steel	**C** 0.24-0.29 **Mn** 0.45-0.65 **Mo** 0.15-0.25 **Ni** 0.70-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4626 **ASTM** A29 (4626); A322 (4626); A331 (4626); A752 (4626) **SAE** J404 (4626); J412 (4626); J1397 (4626)
G47150	Ni-Cr-Mo Alloy Steel	**C** 0.13-0.18 **Cr** 0.45-0.65 **Mn** 0.70-0.90 **Mo** 0.45-0.65 **Ni** 0.70-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4715 **SAE** J403 (EX30)
G47180	Ni-Cr-Mo Alloy Steel	**C** 0.16-0.21 **Cr** 0.35-0.55 **Mn** 0.70-0.90 **Mo** 0.30-0.40 **Ni** 0.90-1.20 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4718 **ASTM** A29 (4718); A331 (4718); A519 (4718); A752 (4718) **SAE** J404 (4718); J412 (4718); J1397 (4718)
G47200	Ni-Cr-Mo Alloy Steel	**C** 0.17-0.22 **Cr** 0.35-0.55 **Mn** 0.50-0.70 **Mo** 0.15-0.25 **Ni** 0.90-1.20 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4720 **ASTM** A29 (4720); A322 (4720); A331 (4720); A519 (4720); A535 (4720); A711; A752 (4720) **SAE** J404 (4720); J412 (4720); J1397 (4720)
G48150	Ni-Mo Alloy Steel	**C** 0.13-0.18 **Mn** 0.40-0.60 **Mo** 0.20-0.30 **Ni** 3.25-3.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4815 **ASTM** A29 (4815); A322 (4815); A331 (4815); A519 (4815); A752 (4815) **SAE** J404 (4815); J412 (4815); J1397 (4815)
G48170	Ni-Mo Alloy Steel	**C** 0.15-0.20 **Mn** 0.40-0.60 **Mo** 0.20-0.30 **Ni** 3.25-3.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4817 **ASTM** A29 (4817); A322 (4817); A331 (4817); A519 (4817); A752 (4817) **SAE** J404 (4817); J412 (4817); J1397 (4817)
G48200	Ni-Mo Alloy Steel	**C** 0.18-0.23 **Mn** 0.50-0.70 **Mo** 0.20-0.30 **Ni** 3.25-3.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4820 **ASTM** A29 (4820); A322 (4820); A331 (4820); A519 (4820); A535 (4820); A752 (4820) **SAE** J404 (4820); J412 (4820); J1397 (4820)
G50150	Cr Alloy Steel	**C** 0.12-0.17 **Cr** 0.30-0.50 **Mn** 0.30-0.50 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5015 **ASTM** A29 (5015); A331 (5015); A519 (5015); A752 (5015) **SAE** J404 (5015); J412 (5015); J1397 (5015)
G50401	Cr-B Alloy Steel	**B** 0.0005-0.003 **C** 0.38-0.42 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B40 **ASTM** A519 (50B40) **SAE** J404 (50B40); J412 (50B40); J1397 (50B40)
G50441	Cr-B Alloy Steel	**B** 0.0005-0.003 **C** 0.43-0.48 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B44 **ASTM** A322 (50B44); A331 (50B44); A519 (50B44); A752 (50B44) **SAE** J404 (50B44); J412 (50B44); J1397 (50B44)
G50460	Cr Alloy Steel	**C** 0.43-0.50 **Cr** 0.20-0.35 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5046 **ASTM** A29 (5046); A519 (5046) **SAE** J404 (5046); J412 (5046); J1397 (5046)
G50461	Cr-B Alloy Steel	**B** 0.0005-0.003 **C** 0.44-0.49 **Cr** 0.20-0.35 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B46 **ASTM** A322 (50B46); A331 (50B46); A519 (50B46); A752 (50B46) **SAE** J404 (50B46); J412 (50B46); J1397 (50B46)
G50501	Cr-B Alloy Steel	**B** 0.0005-0.003 **C** 0.48-0.53 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B50 **ASTM** A322 (50B50); A331 (50B50); A519 (50B50); A752 (50B50) **SAE** J404 (50B50); J412 (50B50); J1397 (50B50)
G50600	Cr Alloy Steel	**C** 0.56-0.64 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5060 **SAE** J404 (5060); J1397 (5060)
G50601	Cr-B Alloy Steel	**B** 0.0005-0.003 **C** 0.56-0.64 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B60 **ASTM** A322 (50B60); A331 (50B60); A519 (50B60); A752 (50B60) **SAE** J404 (50B60); J412 (50B60); J1397 (50B60)
G50986	Cr Alloy Steel	**C** 0.95-1.10 **Cr** 0.40-0.60 **Mn** 0.25-0.45 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AISI** E50100 **AMS** 6442 **ASTM** A29 (E50100); A295 (50100); A519 (E50100) **SAE** J404 (50100); J412 (50100); J1397 (50100)
G51150	Cr Alloy Steel	**C** 0.13-0.18 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5115 **ASTM** A29 (5115); A519 (5115) **SAE** J404 (5115); J1397 (5115)
G51170	Cr Alloy Steel	**C** 0.15-0.20 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5117 **ASTM** A322 (5117); A331 (5117) **SAE** J404 (5117)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
G51190	Alloy Steel	**C** 0.16-0.21 **Cr** 0.70-0.90 **Mn** 1.00-1.30 **P** 0.035 max **S** 0.040 max **Si** 0.15 max	**SAE** J1081 (PS 64)
G51200	Cr Alloy Steel	**C** 0.17-0.22 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5120 **ASTM** A29 (5120); A322 (5120); A331 (5120); A519 (5120) **SAE** J404 (5120); J1397 (5120)
G51210	Alloy Steel	**C** 0.18-0.23 **Cr** 0.70-0.90 **Mn** 1.00-1.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**SAE** J1081 (PS 59)
G51240	Alloy Steel	**C** 0.21-0.26 **Cr** 0.70-0.90 **Mn** 1.00-1.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**SAE** J1081 (PS 65)
G51300	Cr Alloy Steel	**C** 0.28-0.33 **Cr** 0.80-1.10 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5130 **ASTM** A29 (5130); A322 (5130); A331 (5130); A513 (5130); A752 (5130) **SAE** J404 (5130); J412 (5130); J1397 (5130)
G51320	Cr Alloy Steel	**C** 0.30-0.35 **Cr** 0.75-1.00 **Mn** 0.60-0.80 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5132 **ASTM** A29 (5132); A322 (5132); A331 (5132); A519 (5132); A752 (5132) **SAE** J404 (5132); J412 (5132); J1397 (5132)
G51350	Cr Alloy Steel	**C** 0.33-0.38 **Cr** 0.80-1.05 **Mn** 0.60-0.80 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5135 **ASTM** A29 (5135); A322 (5135); A331 (5135); A519 (5135); A752 (5135) **SAE** J404 (5135); J412 (5135); J1397 (5135)
G51400	Cr Alloy Steel	**C** 0.38-0.43 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5140 **ASTM** A29 (5140); A322 (5140); A331 (5140); A506 (5140); A519 (5140); A752 (5140) **SAE** J404 (5140); J412 (5140); J1397 (5140)
G51450	Cr Alloy Steel	**C** 0.43-0.48 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5145 **ASTM** A29 (5145); A331 (5145); A519 (5145); A752 (5145) **SAE** J404 (5145); J412 (5145); J1397 (5145)
G51470	Cr Alloy Steel	**C** 0.46-0.51 **Cr** 0.85-1.15 **Mn** 0.70-0.95 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5147 **ASTM** A29 (5147); A331 (5147); A519 (5147); A752 (5147) **SAE** J404 (5147); J412 (5147); J1397 (5147)
G51500	Cr Alloy Steel	**C** 0.48-0.53 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5150 **ASTM** A29 (5150); A322 (5150); A331 (5150); A506 (5150); A519 (5150); A752 (5150) **SAE** J404 (5150); J412 (5150); J1397 (5150)
G51550	Cr Alloy Steel	**C** 0.51-0.59 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5155 **ASTM** A29 (5155); A322 (5155); A331 (5155); A519 (5155); A752 (5155) **SAE** J404 (5155); J412 (5155); J1397 (5155)
G51600	Cr Alloy Steel	**C** 0.56-0.64 **Cr** 0.70-0.90 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5160 **ASTM** A29 (5160); A322 (5160); A331 (5160); A506 (5160); A519 (5160); A752 (5160); A829 **SAE** J404 (5160); J412 (5160); J1397 (5160)
G51601	Cr-B Alloy Steel	**B** 0.0005 min **C** 0.56-0.64 **Cr** 0.70-0.90 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 51B60 **ASTM** A322 (51B60); A331 (51B60); A519 (51B60); A752 (51B60) **SAE** J404 (51B60); J412 (51B60); J1397 (51B60)
G51986	Cr Alloy Steel	**C** 0.98-1.10 **Cr** 0.90-1.15 **Mn** 0.25-0.45 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AISI** E51100 **AMS** 6443; 6446; 6449 **ASTM** A29 (E51100); A295 (E51100); A322 (E51100); A519 (E51100); A711; A752 (E51100) **SAE** J404 (51100); J412 (51100); J1397 (51100)
G52986	Cr Alloy Steel	**C** 0.98-1.10 **Cr** 1.30-1.60 **Mn** 0.25-0.45 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AISI** E52100 **AMS** 6440; 6444; 6447 **ASTM** A29 (E52100); A322 (E52100); A331 (E52100); A519 (E52100); A535 (E52100); A646 (E52100); A752 (E52100) **MIL SPEC** MIL-S-980 (52100); MIL-S-7420; MIL-S-22141 (52100) **SAE** J404 (52100); J412 (52100); J1397 (52100)
G61180	Cr-V Alloy Steel	**C** 0.16-0.21 **Cr** 0.50-0.70 **Mn** 0.50-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.10-0.15	**AISI** 6118 **ASTM** A29 (6118); A322 (6118); A331 (6118); A519 (6118); A752 (6118) **SAE** J404 (6118); J1397 (6118)
G61200	Cr-V Alloy Steel	**C** 0.17-0.22 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.10 min	**AISI** 6120 **ASTM** A331 (6120); A519 (6120); A711 **SAE** J1249 (6120)
G61500	Cr-V Alloy Steel	**C** 0.48-0.53 **Cr** 0.80-1.10 **Mn** 0.70-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.15 min	**AISI** 6150 **AMS** 6448; 6450; 6455; 7301 **ASTM** A29 (6150); A322 (6150); A331 (6150); A519 (6150); A752 (6150); A829 **MIL SPEC** MIL-S-8503 **SAE** J404 (6150); J412 (6150); J1397 (6150)
G71406	Replaced by K24065		

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
G81150	Ni-Cr-Mo Alloy Steel	**C** 0.13-0.18 **Cr** 0.30-0.50 **Mn** 0.70-0.90 **Mo** 0.08-0.15 **Ni** 0.20-0.40 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8115 **ASTM** A29 (8115); A519 (8115) **SAE** J404 (8115); J1397 (8115)
G81451	Ni-Cr-Mo-B Alloy Steel	**B** 0.0005 min **C** 0.43-0.48 **Cr** 0.35-0.55 **Mn** 0.75-1.00 **Mo** 0.08-0.15 **Ni** 0.20-0.40 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 81B45 **ASTM** A322; A331 (81B45); A519 (81B45); A752 (81B45) **SAE** J404 (81B45); J412 (81B45); J1397 (81B45)
G86150	Ni-Cr-Mo Alloy Steel	**C** 0.13-0.18 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8615 **AMS** 6270 **ASTM** A29 (8615); A322 (8615); A331 (8615); A506 (8615); A507 (8615); A519 (8615); A752 (8615); A829 **SAE** J404 (8615); J1397 (8615)
G86170	Ni-Cr-Mo Alloy Steel	**C** 0.15-0.20 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8617 **AMS** 6272 **ASTM** A29 (8617); A322 (8617); A331 (8617); A519 (8617); A752 (8617); A829 **SAE** J404 (8617); J1397 (8617)
G86200	Ni-Cr-Mo Alloy Steel	**C** 0.18-0.23 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8620 **AMS** 6274; 6276; 6277; 6375 **ASTM** A29 (8620); A322 (8620); A331 (8620); A506 (8620); A507 (8620); A513 (8620); A519 (8620); A646 (8620-4); A752 (8620); A829 **MIL SPEC** MIL-S-8690 **SAE** J404 (8620); J1397 (8620)
G86220	Ni-Cr-Mo Alloy Steel	**C** 0.20-0.25 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8622 **ASTM** A331 (8622); A519 (8622); A752 (8622); A829 **SAE** J404 (8622); J1397 (8622)
G86250	Ni-Cr-Mo Alloy Steel	**C** 0.23-0.28 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8625 **ASTM** A29 (8625); A322 (8625); A331 (8625); A519 (8625); A752 (8625); A829 **SAE** J404 (8625); J1397 (8625)
G86270	Ni-Cr-Mo Alloy Steel	**C** 0.25-0.30 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8627 **ASTM** A29 (8627); A322 (8627); A331 (8627); A519 (8627); A752 (8627); A829 **SAE** J404 (8627); J1397 (8627)
G86300	Ni-Cr-Mo Alloy Steel	**C** 0.28-0.33 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8630 **AMS** 6280; 6281; 6530; 6535; 7496 **ASTM** A29 (8630); A322 (8630); A331 (8630); A513 (8630); A519 (8630); A752 (8630); A829 **MIL SPEC** MIL-S-6050; MIL-S-18728 **SAE** J404 (8630); J412 (8630); J1397 (8630)
G86370	Ni-Cr-Mo Alloy Steel	**C** 0.35-0.40 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8637 **ASTM** A29 (8637); A322 (8637); A331 (8637); A519 (8637); A689 (8637); A752 (8637); A829 **SAE** J404 (8637); J412 (8637); J1397 (8637)
G86400	Ni-Cr-Mo Alloy Steel	**C** 0.38-0.43 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8640 **ASTM** A29 (8640); A322 (8640); A331 (8640); A519 (8640); A752 (8640); A829 **SAE** J404 (8640); J412 (8640); J1397 (8640)
G86420	Ni-Cr-Mo Alloy Steel	**C** 0.40-0.45 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.40 max **Si** 0.15-0.35	**AISI** 8642 **ASTM** A29 (8642); A322 (8642); A331 (8642); A519 (8642); A752 (8642) **SAE** J404 (8642); J412 (8642); J1397 (8642)
G86450	Ni-Cr-Mo Alloy Steel	**C** 0.43-0.48 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8645 **ASTM** A29 (8645); A322 (8645); A331 (8645); A519 (8645); A752 (8645) **SAE** J404 (8645); J412 (8645); J775 (NV 5); J1397 (8645)
G86451	Ni-Cr-Mo-B Alloy Steel	**B** 0.0005-0.003 **C** 0.43-0.48 **Cr** 0.40-.060 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 86B45 **ASTM** A519 (86B45) **SAE** J404 (86B45); J412 (86B45); J1397 (86B45)
G86500	Ni-Cr-Mo Alloy Steel	**C** 0.48-0.53 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8650 **ASTM** A29 (8650); A331 (8650); A519 (8650); A689 **SAE** J404 (8650); J412 (8650); J1397 (8650)
G86550	Ni-Cr-Mo Alloy Steel	**C** 0.51-0.59 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8655 **ASTM** A29 (8655); A322 (8655); A331 (8655); A519 (8655); A689; A752 (8655); A829 **SAE** J404 (8655); J412 (8655); J1397 (8655)

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G86600	Ni-Cr-Mo Alloy Steel	**C** 0.55-0.65 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8660 **ASTM** A322 (8660); A519 (8660); A689; A711 **SAE** J404 (8660); J412 (8660); J1397 (8660)
G87200	Ni-Cr-Mo Alloy Steel	**C** 0.18-0.23 **Cr** 0.40-0.60 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8720 **ASTM** A29 (8720); A322 (8720); A331 (8720); A519 (8720); A752 (8720) **SAE** J404 (8720); J1397 (8720)
G87350	Ni-Cr-Mo Alloy Steel	**C** 0.33-0.38 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.20-0.30 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8735 **AMS** 6282; 6320; 6331; 6357; 7496 **ASTM** A519 (8735) **MIL SPEC** MIL-S-6098 **SAE** J1249 (8735)
G87400	Ni-Cr-Mo Alloy Steel	**C** 0.38-0.43 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.20-0.30 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8740 **AMS** 6322; 6323; 6325; 6327; 6358; 7496 **ASTM** A29 (8740); A320 (L7C, L73); A322 (8740); A331 (8740); A519 (8740); A752 (8740) **MIL SPEC** MIL-S-6049 **SAE** J404 (8740); J412 (8740); J1397 (8740)
G87420	Ni-Cr-Mo Alloy Steel	**C** 0.40-0.45 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.20-0.30 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8742 **ASTM** A331 (8742); A519 (8742); A829 **SAE** J1249 (8742)
G88220	Ni-Cr-Mo Alloy Steel	**C** 0.20-0.25 **Cr** 0.40-0.60 **Mn** 0.75-1.00 **Mo** 0.30-0.40 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8822 **ASTM** A29 (8822); A322 (8822); A331 (8822); A519 (8822) **SAE** J404 (8822); J1397 (8822)
G92540	Cr-Si Alloy Steel	**C** 0.51-0.59 **Cr** 0.60-0.80 **Mn** 0.60-0.80 **P** 0.035 max **S** 0.040 max **Si** 1.20-1.60	**AISI** 9254 **AMS** 6451 **ASTM** A29 (9254); A401; A752 (9254); A877 **SAE** J157; J404 (9254); J412 (9254); J1397 (9254)
G92550	Si-Mn Alloy Steel	**C** 0.51-0.59 **Mn** 0.70-0.95 **P** 0.035 max **S** 0.040 max **Si** 1.80-2.20	**AISI** 9255 **ASTM** A29 (9255); A519 (9255); A752 (9255) **SAE** J404 (9255); J412 (9255); J1397 (9255)
G92600	Si-Mn Alloy Steel	**C** 0.56-0.64 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 1.80-2.20	**AISI** 9260 **ASTM** A29 (9260); A322 (9260); A331 (9260); A519 (9260); A689; A752 (9260) **SAE** J404 (9260); J412 (9260); J1397 (9260)
G92620	Si-Cr Alloy Steel	**C** 0.55-0.65 **Cr** 0.25-0.40 **Mn** 0.75-1.00 **P** 0.035 max **S** 0.040 max **Si** 1.80-2.20	**AISI** 9262 **ASTM** A519 (9262) **SAE** J1249 (9262)
G93106	Ni-Cr-Mo Alloy Steel	**C** 0.08-0.13 **Cr** 1.00-1.40 **Mn** 0.45-0.65 **Mo** 0.08-0.15 **Ni** 3.00-3.50 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AISI** E9310 **AMS** 6260; 6265; 6267 **ASTM** A29 (E9310); A331 (E9310); A646 (9310-2) A519 (E9310) **SAE** J404 (9310); J1397 (9310)
G94151	Ni-Cr-Mo-B Alloy Steel	**B** 0.0005 min **C** 0.13-0.18 **Cr** 0.30-0.50 **Mn** 0.75-1.00 **Mo** 0.08-0.15 **Ni** 0.30-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 94B15 **ASTM** A519 (94B15) **SAE** J404 (94B15); J1397 (94B15)
G94171	Ni-Cr-Mo-B Alloy Steel	**B** 0.0005-0.003 **C** 0.15-0.20 **Cr** 0.30-0.50 **Mn** 0.75-1.00 **Mo** 0.08-0.15 **Ni** 0.30-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 94B17 **AMS** 6275 **ASTM** A519 (94B17); A752 (94B17) **SAE** J404 (94B17); J1397 (94B17)
G94301	Ni-Cr-Mo-B Alloy Steel	**B** 0.0005-0.003 **C** 0.28-0.33 **Cr** 0.30-0.50 **Mn** 0.75-1.00 **Mo** 0.08-0.15 **Ni** 0.30-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 94B30 **ASTM** A322 (94B30); A331 (94B30); A519 (94B30); A752 (94B30) **SAE** J404 (94B30); J412 (94B30); J1397 (94B30)
G94401	Ni-Cr-Mo-B Alloy Steel	**B** 0.0005-0.003 **C** 0.38-0.43 **Cr** 0.30-0.50 **Mn** 0.75-1.00 **Mo** 0.08-0.15 **Ni** 0.30-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 94B40 **ASTM** A519 (94B40) **SAE** J1249 (94B40)
G98400	Ni-Cr-Mo Alloy Steel	**C** 0.38-0.43 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **Ni** 0.85-1.15 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 9840 **AMS** 6342 **ASTM** A519 (9840); A711 **SAE** J1249 (9840)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
G98500	Ni-Cr-Mo Alloy Steel	**C** 0.48-0.53 **Cr** 0.70-0.90 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **Ni** 0.85-1.15 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 9850 **ASTM** A519 (9850) **MIL SPEC** MIL-S-19434 **SAE** J1249 (9850)

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Hxxxxx Number Series
AISI and SAE H-Steels

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AISI AND SAE H-STEELS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
H10380	H-Carbon Steel	**C** 0.34-0.43 **Mn** 0.50-1.00 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 1038 H **ASTM** A304 (1038H) **SAE** J1268 (1038 H)
H10450	H-Carbon Steel	**C** 0.42-0.51 **Mn** 0.50-1.00 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 1045 H **ASTM** A304 (1045H) **SAE** J1268 (1045 H)
H13300	C-Mn H-Alloy Steel	**C** 0.27-0.33 **Mn** 1.45-2.05 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1330 H **ASTM** A304 (1330 H) **SAE** J1268 (1330 H)
H13350	C-Mn H-Alloy Steel	**C** 0.32-0.38 **Mn** 1.45-2.05 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1335 H **ASTM** A304 (1335 H); A547 (1335 H) **SAE** J1268 (1335 H)
H13400	C-Mn H-Alloy Steel	**C** 0.37-0.44 **Mn** 1.45-2.05 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1340 H **ASTM** A304 (1340 H); A547 (1340 H) **SAE** J1268 (1340 H)
H13450	C-Mn H-Alloy Steel	**C** 0.42-0.49 **Mn** 1.45-2.05 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 1345 H **ASTM** A304 (1345 H) **SAE** J1268 (1345 H)
H15211	C-B H-Carbon Steel	**B** 0.0005-0.003 **C** 0.17-0.24 **Mn** 0.70-1.20 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 15B21 H **SAE** J1268 (15B21 H)
H15220	Mn H-Carbon Steel	**C** 0.17-0.25 **Mn** 1.00-1.50 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 1522 H **ASTM** A304 (1522H) **AWS** A5.33 (W-FeC-2) **SAE** J1268 (1522 H)
H15240	Mn H-Carbon Steel	**C** 0.18-0.26 **Mn** 1.25-1.75 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 1524 H **ASTM** A304 (1526H) **SAE** J1268 (1524 H)
H15260	Mn H-Carbon Steel	**C** 0.21-0.30 **Mn** 1.00-1.50 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 1526 H **ASTM** A304 (1526H) **SAE** J1268 (1526 H)
H15351	B-Mn H-Carbon Steel	**B** 0.0005-0.003 **C** 0.31-0.39 **Mn** 0.70-1.20 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 15B35 H **ASTM** A304 (15B35H) **SAE** J1268 (15B35 H)
H15371	B-Mn H-Carbon Steel	**B** 0.0005-0.003 **C** 0.30-0.39 **Mn** 1.00-1.50 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 15B37 H **ASTM** A304 (15B37H) **SAE** J1268 (15B37 H)
H15410	Mn H-Carbon Steel	**C** 0.35-0.45 **Mn** 1.25-1.75 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 1541 H **ASTM** A304 (1541H) **SAE** J775 (NV 1); J1268 (1541 H)
H15411	C-B H-Carbon Steel	**B** 0.0005-0.003 **C** 0.35-0.45 **Mn** 1.25-1.75 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 15B41 H **ASTM** A304 (15B41H) **SAE** J1268 (15B41 H)
H15481	C-B H-Carbon Steel	**B** 0.0005-0.003 **C** 0.43-0.55 **Mn** 1.00-1.50 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**AISI** 15B48 H **ASTM** A304 (15B48H) **SAE** J1268 (15B48 H)
H15621	C-B H-Carbon Steel	**B** 0.0005-0.003 **C** 0.54-0.67 **Mn** 1.00-1.50 **P** 0.040 max **S** 0.050 max **Si** 0.40-0.60	**AISI** 15B62 H **ASTM** A304 (15B62H) **SAE** J1268 (15B62 H)
H40270	C-Mo H-Alloy Steel	**C** 0.24-0.30 **Mn** 0.60-1.00 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4027 H **ASTM** A304 (4027 H) **SAE** J1268 (4027 H)
H40280	C-Mo H-Alloy Steel	**C** 0.24-0.30 **Mn** 0.60-1.00 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.035-0.050 **Si** 0.15-0.35	**AISI** 4028 H **ASTM** A304 (4028 H) **SAE** J1268 (4028 H)
H40320	C-Mo H-Alloy Steel	**C** 0.29-0.35 **Mn** 0.60-1.00 **Mo** 0.20-0.30 **Si** 0.15-0.35	**AISI** 4032H **ASTM** A304 (4032 H) **SAE** J1268 (4032 H)
H40370	C-Mo H-Alloy Steel	**C** 0.34-0.41 **Mn** 0.60-1.00 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4037 H **ASTM** A304 (4037 H); A547 (4037 H) **SAE** J1268 (4037 H)
H40420	C-Mo H-Alloy Steel	**C** 0.39-0.46 **Mn** 0.60-1.00 **Mo** 0.20-0.30 **Si** 0.15-0.35	**AISI** 4042 H **ASTM** A304 (4042 H) **SAE** J1268 (4042 H)
H40470	C-Mo H-Alloy Steel	**C** 0.44-0.51 **Mn** 0.60-1.00 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4047 H **ASTM** A304 (4047 H) **SAE** J1268 (4047 H)
H41180	Cr-Mo H-Alloy Steel	**C** 0.17-0.23 **Cr** 0.30-0.70 **Mn** 0.60-1.00 **Mo** 0.08-0.15 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4118 H **ASTM** A304 (4118 H) **SAE** J1268 (4118 H)

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H41300	Cr-Mo H-Alloy Steel	**C** 0.27-0.33 **Cr** 0.75-1.20 **Mn** 0.30-0.70 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4130 H **ASTM** A304 (4130 H) **SAE** J1268 (4130 H)
H41350	Cr-Mo H-Alloy Steel	**C** 0.32-0.38 **Cr** 0.75-1.20 **Mn** 0.60-1.00 **Mo** 0.15-0.25 **Si** 0.15-0.35	**AISI** 4135 H **ASTM** A304 (4135 H) **SAE** J1268 (4135 H)
H41370	Cr-Mo H-Alloy Steel	**C** 0.34-0.41 **Cr** 0.75-1.20 **Mn** 0.60-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4137 H **ASTM** A304 (4137 H) **SAE** J1268 (4137 H)
H41400	Cr-Mo H-Alloy Steel	**C** 0.37-0.44 **Cr** 0.75-1.20 **Mn** 0.65-1.10 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4140 H **ASTM** A304 (4140 H) **SAE** J775 (NV 7); J1268 (4140 H)
H41420	Cr-Mo H-Alloy Steel	**C** 0.39-0.46 **Cr** 0.75-1.20 **Mn** 0.65-1.10 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4142 H **ASTM** A304 (4142 H); A540 (B22) **SAE** J1268 (4142 H)
H41450	Cr-Mo H-Alloy Steel	**C** 0.42-0.49 **Cr** 0.75-1.20 **Mn** 0.65-1.10 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4145 H **ASTM** A304 (4145 H) **SAE** J1268 (4145 H)
H41470	Cr-Mo H-Alloy Steel	**C** 0.44-0.51 **Cr** 0.75-1.20 **Mn** 0.65-1.10 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4147 H **ASTM** A304 (4147 H) **SAE** J1268 (4147 H)
H41500	Cr-Mo H-Alloy Steel	**C** 0.47-0.54 **Cr** 0.75-1.20 **Mn** 0.65-1.10 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4150 H **ASTM** A304 (4150 H) **SAE** J1268 (4150 H)
H41610	Cr-Mo H-Alloy Steel	**C** 0.55-0.65 **Cr** 0.65-0.95 **Mn** 0.65-1.10 **Mo** 0.25-0.35 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4161 H **ASTM** A304 (4161 H) **SAE** J1268 (4161 H)
H43200	Ni-Cr-Mo H-Alloy Steel	**C** 0.17-0.23 **Cr** 0.35-0.65 **Mn** 0.40-0.70 **Mo** 0.20-0.30 **Ni** 1.55-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4320 H **AMS** 6299 **ASTM** A304 (4320 H) **SAE** J1268 (4320 H)
H43400	Ni-Cr-Mo H-Alloy Steel	**C** 0.37-0.44 **Cr** 0.65-0.95 **Mn** 0.55-0.90 **Mo** 0.20-0.30 **Ni** 1.55-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4340H **ASTM** A304 (4340 H); A540 (B23); A547 (4340 H) **SAE** J1268 (4340 H)
H43406	Ni-Cr-Mo H-Alloy Steel	**C** 0.37-0.44 **Cr** 0.65-0.95 **Mn** 0.60-0.95 **Mo** 0.20-0.30 **Ni** 1.55-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**ASTM** A304 (E4340 H) **SAE** J1268 (E4340 H)
H44190	C-Mo H-Alloy Steel	**C** 0.17-0.23 **Mn** 0.35-0.75 **Mo** 0.45-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4419 H **ASTM** A304 (4419 H) **SAE** J1268 (4419 H)
H46200	Ni-Mo H-Alloy Steel	**C** 0.17-0.23 **Mn** 0.35-0.75 **Mo** 0.20-0.30 **Ni** 1.55-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4620 H **ASTM** A304 (4620 H) **SAE** J1268 (4620 H)
H46210	Ni-Mo H-Alloy Steel	**C** 0.17-0.23 **Mn** 0.60-1.00 **Mo** 0.20-0.30 **Ni** 1.55-2.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4621 H **ASTM** A304 (4621 H) **SAE** J1268 (4621 H)
H46260	Ni-Mo H-Alloy Steel	**C** 0.23-0.29 **Mn** 0.40-0.70 **Mo** 0.15-0.25 **Ni** 0.65-1.05 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4626 H **ASTM** A304 (4626H)
H47180	Ni-Cr-Mo H-Alloy Steel	**C** 0.15-0.21 **Cr** 0.30-0.60 **Mn** 0.60-0.95 **Mo** 0.30-0.40 **Ni** 0.85-1.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4718 H **ASTM** A304 (4718 H) **SAE** J1268 (4718 H)
H47200	Ni-Cr-Mo H-Alloy Steel	**C** 0.17-0.23 **Cr** 0.30-0.60 **Mn** 0.45-0.75 **Mo** 0.15-0.25 **Ni** 0.85-1.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4720 H **ASTM** A304 (4720 H) **SAE** J1268 (4720 H)
H48150	Ni-Mo H-Alloy Steel	**C** 0.12-0.18 **Mn** 0.30-0.70 **Mo** 0.20-0.30 **Ni** 3.20-3.80 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4815 H **ASTM** A304 (4815 H) **SAE** J1268 (4815 H)

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H48170	Ni-Mo H-Alloy Steel	**C** 0.14-0.20 **Mn** 0.30-0.70 **Mo** 0.20-0.30 **Ni** 3.20-3.80 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4817 H **ASTM** A304 (4817 H) **SAE** J1268 (4817 H)
H48200	Ni-Mo H-Alloy Steel	**C** 0.17-0.23 **Mn** 0.40-0.80 **Mo** 0.20-0.30 **Ni** 3.20-3.80 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 4820 H **ASTM** A304 (4820 H) **SAE** J1268 (4820 H)
H50401	C-Cr-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.37-0.44 **Cr** 0.30-0.70 **Mn** 0.65-1.10 **Si** 0.15-0.35	**AISI** 50B40 H **ASTM** A304 (50B40 H) **SAE** J1268 (50B40 H)
H50441	C-Cr-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.42-0.49 **Cr** 0.30-0.70 **Mn** 0.65-1.10 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B44 H **ASTM** A304 (50B44 H) **SAE** J1268 (50B44 H)
H50460	C-Cr H-Alloy Steel	**C** 0.43-0.50 **Cr** 0.13-0.43 **Mn** 0.65-1.10 **Si** 0.15-0.35	**AISI** 5046 H **ASTM** A304 (5046 H) **SAE** J1268 (5046 H)
H50461	C-Cr-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.43-0.50 **Cr** 0.13-0.43 **Mn** 0.65-1.10 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B46 H **ASTM** A304 (50B46 H) **SAE** J1268 (50B46 H)
H50501	C-Cr-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.47-0.54 **Cr** 0.30-0.70 **Mn** 0.65-1.10 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B50 H **ASTM** A304 (50B50 H) **SAE** J1268 (50B50 H)
H50601	C-Cr-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.55-0.65 **Cr** 0.30-0.70 **Mn** 0.65-1.10 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 50B60 H **ASTM** A304 (50B60 H) **SAE** J1268 (50B60 H)
H51200	C-Cr H-Alloy Steel	**C** 0.17-0.23 **Cr** 0.60-1.00 **Mn** 0.60-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5120 H **ASTM** A304 (5120 H) **SAE** J1268 (5120 H)
H51300	C-Cr H-Alloy Steel	**C** 0.27-0.33 **Cr** 0.75-1.20 **Mn** 0.60-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5130 H **ASTM** A304 (5130 H) **SAE** J1268 (5130 H)
H51320	C-Cr H-Alloy Steel	**C** 0.29-0.35 **Cr** 0.65-1.10 **Mn** 0.50-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5132 H **ASTM** A304 (5132 H) **SAE** J1268 (5132 H)
H51350	C-Cr H-Alloy Steel	**C** 0.32-0.38 **Cr** 0.70-1.15 **Mn** 0.50-0.90 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5135 H **ASTM** A304 (5135 H) **SAE** J1268 (5135 H)
H51400	C-Cr H-Alloy Steel	**C** 0.37-0.44 **Cr** 0.60-1.00 **Mn** 0.60-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5140 H **ASTM** A304 (5140 H) **SAE** J1268 (5140 H)
H51450	C-Cr H-Alloy Steel	**C** 0.42-0.49 **Cr** 0.60-1.00 **Mn** 0.60-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5145 H **ASTM** A304 (5145 H)
H51470	C-Cr H-Alloy Steel	**C** 0.45-0.52 **Cr** 0.80-1.25 **Mn** 0.60-1.05 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5147 H **ASTM** A304 (5147 H) **SAE** J1268 (5147 H)
H51500	C-Cr H-Alloy Steel	**C** 0.47-0.54 **Cr** 0.60-1.00 **Mn** 0.60-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5150 H **ASTM** A304 (5150 H) **SAE** J775 (NV 6); J1268 (5150 H)
H51550	C-Cr H-Alloy Steel	**C** 0.50-0.60 **Cr** 0.60-1.00 **Mn** 0.60-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5155 H **ASTM** A304 (5155 H) **SAE** J1268 (5155 H)
H51600	C-Cr H-Alloy Steel	**C** 0.55-0.65 **Cr** 0.60-1.00 **Mn** 0.65-1.10 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 5160 H **ASTM** A304 (5160 H) **SAE** J1268 (5160 H)
H51601	C-Cr-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.55-0.65 **Cr** 0.60-1.00 **Mn** 0.65-1.10 **Si** 0.15-0.35	**AISI** 51B60 H **ASTM** A304 (51B60 H) **SAE** J1268 (51B60 H)
H61180	Cr-V H-Alloy Steel	**C** 0.15-0.21 **Cr** 0.40-0.80 **Mn** 0.40-0.80 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.10-0.15	**AISI** 6118 H **ASTM** A304 (6118 H) **SAE** J1268 (6118 H)

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H61500	Cr-V H-Alloy Steel	**C** 0.47-0.54 **Cr** 0.75-1.20 **Mn** 0.60-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.15 min	**AISI** 6150 H **ASTM** A304 (6150 H) **SAE** J1268 (6150 H)
H81451	Ni-Cr-Mo-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.42-0.49 **Cr** 0.30-0.60 **Mn** 0.70-1.05 **Mo** 0.08-0.15 **Ni** 0.15-0.45 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 81B45 H **ASTM** A304 (81B45 H) **SAE** J1268 (81B45 H)
H86170	Ni-Cr-Mo H-Alloy Steel	**C** 0.14-0.20 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.30	**AISI** 8617 H **ASTM** A304 (8617 H) **SAE** J1268 (8617 H)
H86200	Ni-Cr-Mo H-Alloy Steel	**C** 0.17-0.23 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8620 H **ASTM** A304 (8620 H) **SAE** J1268 (8620 H)
H86220	Ni-Cr-Mo H-Alloy Steel	**C** 0.19-0.25 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8622 H **ASTM** A304 (8622 H) **SAE** J1268 (8622 H)
H86250	Ni-Cr-Mo H-Alloy Steel	**C** 0.22-0.28 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8625 H **ASTM** A304 (8625 H) **SAE** J1268 (8625 H)
H86270	Ni-Cr-Mo H-Alloy Steel	**C** 0.24-0.30 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8627 H **ASTM** A304 (8627 H) **SAE** J1268 (8627 H)
H86300	Ni-Cr-Mo H-Alloy Steel	**C** 0.27-0.33 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8630 H **ASTM** A304 (8630 H) **SAE** J1268 (8630 H)
H86301	Ni-Cr-Mo-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.27-0.33 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **Si** 0.15-0.35	**AISI** 86B30 H **ASTM** A304 (86B30 H) **SAE** J1268 (86B30 H)
H86370	Ni-Cr-Mo H-Alloy Steel	**C** 0.34-0.41 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8637 H **ASTM** A304 (8637 H); A547 (8637 H) **SAE** J1268 (8637 H)
H86400	Ni-Cr-Mo H-Alloy Steel	**C** 0.37-0.44 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8640 H **ASTM** A304 (8640 H); A547 (8640 H) **SAE** J1268 (8640 H)
H86420	Ni-Cr-Mo H-Alloy Steel	**C** 0.39-0.46 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8642 H **ASTM** A304 (8642 H); A547 (8642 H) **SAE** J1268 (8642 H)
H86450	Ni-Cr-Mo H-Alloy Steel	**C** 0.42-0.49 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8645 H **ASTM** A304 (8645 H) **SAE** J1268 (8645 H)
H86451	Ni-Cr-Mo-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.42-0.49 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **Si** 0.15-0.35	**AISI** 86B45 H **ASTM** A304 (86B45 H) **SAE** J1268 (86B45 H)
H86500	Ni-Cr-Mo H-Alloy Steel	**C** 0.47-0.54 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **Si** 0.15-0.35	**AISI** 8650 H **ASTM** A304 (8650 H) **SAE** J1268 (8650 H)
H86550	Ni-Cr-Mo H-Alloy Steel	**C** 0.50-0.60 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8655 H **ASTM** A304 (8655 H) **SAE** J1268 (8655 H)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
H86600	Ni-Cr-Mo H-Alloy Steel	**C** 0.55-0.65 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.35-0.75 **Si** 0.15-0.35	**AISI** 8660 H **ASTM** A304 (8660 H) **SAE** J1268 (8660 H)
H87200	Ni-Cr-Mo H-Alloy Steel	**C** 0.17-0.23 **Cr** 0.35-0.65 **Mn** 0.60-0.95 **Mo** 0.20-0.30 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8720 H **ASTM** A304 (8720 H) **SAE** J1268 (8720 H)
H87400	Ni-Cr-Mo H-Alloy Steel	**C** 0.37-0.44 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.20-0.30 **Ni** 0.35-0.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 8740 H **ASTM** A304 (8740 H) **SAE** J1268 (8740 H)
H88220	Ni-Cr-Mo H-Alloy Steel	**C** 0.19-0.25 **Cr** 0.35-0.65 **Mn** 0.70-1.05 **Mo** 0.30-0.40 **Ni** 0.35-0.75 **Si** 0.15-0.35	**AISI** 8822 H **ASTM** A304 (8822 H) **SAE** J1268 (8822 H)
H92600	C-Si H-Alloy Steel	**C** 0.55-0.65 **Mn** 0.65-1.10 **Si** 1.70-2.20	**AISI** 9260 H **ASTM** A304 (9260 H) **SAE** J1268 (9260 H)
H93100	Ni-Cr-Mo H-Alloy Steel	**C** 0.07-0.13 **Cr** 1.00-1.45 **Mn** 0.40-0.70 **Mo** 0.08-0.15 **Ni** 2.95-3.55 **Si** 0.15-0.35	**AISI** 9310 H **ASTM** A304 (9310 H) **SAE** J1268 (9310 H)
H94151	Ni-Cr-Mo-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.12-0.18 **Cr** 0.25-0.55 **Mn** 0.70-1.05 **Mo** 0.08-0.15 **Ni** 0.25-0.65 **Si** 0.15-0.35	**AISI** 94B15 H **ASTM** A304 (94B15 H) **SAE** J1268 (94B15 H)
H94171	Ni-Cr-Mo-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.14-0.20 **Cr** 0.25-0.55 **Mn** 0.70-1.05 **Mo** 0.08-0.15 **Ni** 0.25-0.65 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 94B17 H **ASTM** A304 (94B17 H) **SAE** J1268 (94B17 H)
H94301	Ni-Cr-Mo-B H-Alloy Steel	**B** 0.0005-0.003 **C** 0.27-0.33 **Cr** 0.25-0.55 **Mn** 0.70-1.05 **Mo** 0.08-0.15 **Ni** 0.25-0.65 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**AISI** 94B30 H **ASTM** A304 (94B30 H) **SAE** J1268 (94B30 H)

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Jxxxxx Number Series
Cast Steels (Except Tool Steels)

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CAST STEELS (EXCEPT TOOL STEELS)

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
J01700	Carbon Steel Casting	**C** 0.12-0.22 **Mn** 0.50-0.90 **P** 0.040 max **S** 0.045 max **Si** 0.60 max	**SAE** J435 (0022)
J02000	Carbon Steel Casting	**C** 0.15-0.25 **Mn** 0.30-0.60 **P** 0.04 **S** 0.04 **Si** 0.20-1.00	**MIL SPEC** MIL-S-81591 (1020)
J02001	Carbon Steel Casting	**C** 0.15-0.25 **Mn** 0.30-0.60 **P** 0.025 max **S** 0.025 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-22141 (1020)
J02002	Carbon Steel Casting	**C** 0.15-0.25 **Cu** 0.50 max **Mn** 0.20-0.60 **P** 0.04 max **S** 0.045 max **Si** 0.20-1.00 **Other** Mo+W 0.25 max	**ASTM** A732 (1A)
J02003	Carbon Steel Casting (Grade SC1020)	**C** 0.18-0.23 **Mn** 0.40-0.80 **P** 0.040 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 1020); A 958 (Grade SC 1020)
J02500	Carbon Steel Casting	**C** 0.25 max **Mn** 0.75 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	**ASTM** A27 (N1, U-60-30)
J02501	Carbon Steel Casting	**C** 0.25 max **Mn** 1.20 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	**ASTM** A27 (70-40)
J02502	Carbon Steel Casting	**C** 0.25 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 0.70 max **Mo** 0.20 max **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.03 max **Other** Cr+Cu+Mo+Ni+V 1.00 max	**ASTM** A216 (WCA)
J02503	Carbon Steel Casting	**C** 0.25 max **Cr** 0.50 max **Cu** 0.30 max **Mn** 1.20 max **Mo** 0.20 max **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.03 max **Other** Cr+Cu+Mo+Ni+V 1.00 max	**ASTM** A216 (WCC); A757 (A2Q)
J02504	Carbon Steel Casting	**C** 0.25 max **Mn** 0.70 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max	**ASTM** A352 (LCA); A660 (WCA)
J02505	Carbon Steel Casting	**C** 0.25 max **Mn** 1.20 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max	**ASTM** A352 (LCC); A660 (WCC)
J02506	Carbon Steel Casting replaced by J22500		
J02507	Carbon Steel Casting	**C** 0.25 max **Mn** 0.75 max **P** 0.040 max **S** 0.045 max **Si** 0.80 max	**SAE** J435 (0025)
J02508	Carbon Steel Casting (Grade SC 1025)	**C** 0.22-O.28 **Mn** 0.40-0.80 **P** 0.040 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 1025); A 958 (Grade SC 1025)
J03000	Carbon Steel Casting	**C** 0.30 max **Mn** 0.60 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	**ASTM** A27 (60-30)
J03001	Carbon Steel Casting	**C** 0.30 max **Mn** 0.70 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	**ASTM** A27 (65-35)
J03002	Carbon Steel Casting	**C** 0.30 max **Cr** 0.50 max **Cu** 0.30 max **Mn** 1.00 max **Mo** 0.20 max **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.03 max **Other** total Cr+Cu+Mo+Ni+V 1.00 max	**ASTM** A216 (WCB); A757 (A1Q)
J03003	Carbon Steel Casting	**C** 0.30 max **Mn** 1.00 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max	**ASTM** A352 (LCB); A660 (WCB)
J03004	Carbon Steel Casting replaced by J13002		
J03005	Carbon Steel Casting	**C** 0.25-0.35 **Mn** 0.70-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-22141 (IC-1030)
J03006	Carbon Steel Casting	**C** 0.25-0.35 **Mn** 0.70-1.00 **P** 0.04 max **S** 0.04 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-81591 (IC-1030)
J03007	Carbon Steel Casting	**C** 0.30 max **Mn** 0.70 max **P** 0.07 max **S** 0.06 max	
J03008	Carbon Steel Casting	**C** 0.30 max **Cr** 0.20 max **Cu** 0.30 max **Mn** 0.60 max **Mo** 0.20 max **Ni** 0.50 max **P** 0.05 max **S** 0.05 max **Si** 0.20-0.60	

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J03009	Carbon Steel Casting	**C** 0.30 max **Cr** 0.35 max **Cu** 0.30 max **Mn** 0.70 max **Mo** 0.20 max **Ni** 0.50 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max **Other** total Cu+Mo+Ni 1.00 max	
J03010	Carbon Steel Casting	**C** 0.30 max **Mn** 0.70 max **P** 0.040 max **S** 0.045 max **Si** 0.80 max	**SAE** J435 (0030)
J03011	Carbon Steel Casting	**C** 0.25-0.35 **Cr** 0.35 max **Cu** 0.50 max **Mn** 0.70-1.00 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.20-1.00 **W** 0.10 max	**ASTM** A732 (2A, 2Q)
J03012	Carbon Steel Casting (Grade SC 1030)	**C** 0.28-0.34 **Mn** 0.50-0.90 **P** 0.040 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 1030); A 958 (Grade SC 1030)
J03500	Carbon Steel Casting	**C** 0.35 max **Mn** 0.60 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	**ASTM** A27 (N2)
J03501	Carbon Steel Casting	**C** 0.35 max **Mn** 0.70 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	**ASTM** A27 (70-36)
J03502	Carbon Steel Casting	**C** 0.35 max **Mn** 0.70 max **P** 0.035 max **S** 0.030 max **Si** 0.60 max	**ASTM** A356 (1)
J03503	Carbon Steel Casting	**C** 0.35 max **Mn** 0.90 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	**ASTM** A486 (70)
J03504	Carbon Steel Casting	**C** 0.35 max **P** 0.05 max **S** 0.05 max	
J04000	Carbon Steel Casting	**C** 0.35-0.45 **Mn** 0.70-1.00 **P** 0.04 max **S** 0.04 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-81591 (1040)
J04001	Carbon Steel Casting	**C** 0.35-0.45 **Mn** 0.70-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-22141 (1040)
J04002	Carbon Steel Casting	**C** 0.35-0.45 **Cr** 0.30 max **Cu** 0.50 max **Mn** 0.70-1.00 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.20-1.00 **W** 0.10 max	**ASTM** A732 (3A, 3Q)
J04003	Carbon Steel Casting (Grade SC 1040)	**C** 0.37-0.44 **Mn** 0.50-0.90 **P** 0.040 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 1040); A 958 (Grade SC 1040)
J04500	Carbon Steel Casting	**C** 0.40-0.50 **Cr** 0.35 max **Cu** 0.35 max **Mn** 0.50-0.90 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03 max **W** 0.10 max **Other** Mo+W 0.10 max	
J04501	Carbon Steel Casting	**C** 0.40-0.50 **Mn** 0.50-0.90 **P** 0.040 max **S** 0.045 max **Si** 0.80 max	**SAE** J435 (0050A, 0050B)
J04502	Carbon Steel Casting (Grade SC 1045)	**C** 0.43-0.50 **Mn** 0.50-0.90 **P** 0.040 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 1045); A 958 (Grade SC 1045)
J05000	Carbon Steel Casting	**C** 0.45-0.55 **Mn** 0.70-1.00 **P** 0.04 max **S** 0.04 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-81591 (1050)
J05001	Carbon Steel Casting	**C** 0.45-0.55 **Mn** 0.70-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-22141 (1050)
J05002	Carbon Steel Casting	**C** 0.50 max **Mn** 0.90 max **P** 0.05 max **S** 0.06 max **Si** 0.80 max	
J05003	Carbon Steel Casting	**C** 0.30 max **Cu** 0.50 max **Mn** 0.70-1.00 **P** 0.04 max **S** 0.045 max **Si** 0.80 max **W** 0.10 max	
J11442	Alloy Steel Casting (8615)	**C** 0.11-0.17 **Cr** 0.35-0.65 **Cu** 0.35 max **Mn** 0.65-1.00 **Mo** 0.15-0.35 **Ni** 0.35-0.75 **P** 0.04 max **S** 0.04 max **Si** 0.50-1.00	**AMS** 5333
J11522	Alloy Steel Casting	**C** 0.15 max **Cr** 0.35 max **Cu** 0.50 max **Mn** 0.30-0.60 **Mo** 0.44-0.65 **Ni** 0.50 max **P** 0.040 max **S** 0.045 max **Si** 0.15-1.65 **W** 0.10 max	**ASTM** A426 (CP15)

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J11547	Alloy Steel Casting	**C** 0.10-0.20 **Cr** 0.50-0.81 **Cu** 0.50 max **Mn** 0.30-0.61 **Mo** 0.44-0.65 **Ni** 0.50 max **P** 0.040 max **S** 0.045 max **Si** 0.10-0.50 **W** 0.10 max	**ASTM** A426 (CP2)
J11562	Alloy Steel Casting	**C** 0.15 max **Cr** 0.80-1.25 **Cu** 0.50 max **Mn** 0.30-0.61 **Mo** 0.44-0.65 **Ni** 0.50 max **P** 0.040 max **S** 0.045 max **Si** 0.50 max **W** 0.10 max	**ASTM** A426 (CP12)
J11697	Alloy Steel Casting	**C** 0.13-0.20 **Cr** 1.00-1.50 **Mn** 0.50-0.90 **Mo** 0.90-1.20 **P** 0.035 max **S** 0.030 max **Si** 0.20-0.60 **V** 0.05-0.15	**ASTM** A356 (8)
J11872	Alloy Steel Casting	**Al** 0.01 max **C** 0.15-0.21 **Cr** 1.00-1.50 **Cu** 0.35 max **Mn** 0.50-0.80 **Mo** 0.45-0.65 **Ni** 0.50 max **P** 0.020 max **S** 0.015 max **Si** 0.30-0.60 **V** 0.03 max	**ASTM** A217 (WC11)
J11875	Alloy Steel Casting	**C** 0.18 max **Cr** 1.00-1.60 max **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.40-0.60 **Ni** 0.60 max **P** 0.05 max **S** 0.05 max **Si** 0.60 max **V** 0.10-0.20	
J12047	Alloy Steel Casting	**C** 0.15-0.25 **Cr** 0.40-0.60 **Mn** 0.65-0.95 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (8620)
J12048	Alloy Steel Casting	**C** 0.15-0.25 **Cr** 0.40-0.70 **Cu** 0.50 max **Mn** 0.65-0.95 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (13Q)
J12070	Alloy Steel Casting	**C** 0.20 max **Cr** 1.00-1.60 max **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.40-0.60 **Ni** 0.60 max **P** 0.05 max **S** 0.05 max **Si** 0.20-0.60	
J12072	Alloy Steel Casting	**C** 0.20 max **Cr** 1.00-1.50 **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.45-0.65 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max **W** 0.10 max	**ASTM** A217 (WC 6); A426 (CP11)
J12073	Alloy Steel Casting	**C** 0.20 max **Cr** 1.00-1.50 **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.45-0.65 **Ni** 0.50 max **P** 0.035 max **S** 0.030 max **Si** 0.60 max **W** 0.10 max	**ASTM** A356 (6)
J12080	Alloy Steel Casting	**C** 0.20 max **Cr** 1.00-1.50 **Mn** 0.30-0.80 **Mo** 0.45-0.65 **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.15-0.25	**ASTM** A389 (C23)
J12082	Alloy Steel Casting	**C** 0.20 max **Cr** 0.50-0.80 **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.45-0.65 **Ni** 0.70-1.10 **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.03 max **W** 0.10 max	**ASTM** A217 (WC 4); A487 (11)
J12084	Alloy Steel Casting	**B** 0.002-0.006 **C** 0.20 max **Cr** 0.40-0.80 **Cu** 0.15-0.50 **Mn** 0.60-1.00 **Mo** 0.40-0.60 **Ni** 0.70-1.00 **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03-0.10 **W** 0.10 max	**ASTM** A487 (7)
J12092	Alloy Steel Casting	**C** 0.20 max **Cr** 0.80-1.25 **Mn** 0.30-0.80 **Mo** 0.90-1.20 **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.15-0.25	**ASTM** A389 (C24)
J12093	Alloy Steel Casting (4620)	**C** 0.15-0.25 **Mn** 0.40-0.70 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (4620)
J12094	Alloy Steel Casting	**C** 0.15-0.25 **Cr** 0.35 max **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (11Q)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
J12095	Alloy Steel Casting (Grade SC 8620)	**C** 0.18-0.23 **Cr** 0.40-0.60 **Mn** 0.60-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 8620); A 958 (Grade SC 8620)
J12520	Alloy Steel Casting	**C** 0.25 max **Cr** 0.35 max **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.45-0.65 **Ni** 0.50 max **P** 0.04 max **S** 0.45 max **Si** 0.60	**MIL SPEC** MIL-S-870
J12521	Alloy Steel Casting	**C** 0.25 max **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.040 max **S** 0.045 max **Si** 0.10-0.50	**ASTM** A426 (CP1)
J12522	Alloy Steel Casting	**C** 0.25 max **Mn** 0.50-0.80 **Mo** 0.45-0.65 **P** 0.04 max **S** 0.045 max **Si** 0.60 max	**ASTM** A352 (LC1)
J12523	Alloy Steel Casting	**C** 0.25 max **Mn** 0.70 max **Mo** 0.45-0.65 **P** 0.035 max **S** 0.030 max **Si** 0.60 max	**ASTM** A356 (2)
J12524	Alloy Steel Casting	**C** 0.25 max **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.45-0.65 **N** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max **W** 0.10 max	**ASTM** A217 (WC1)
J12540	Alloy Steel Casting	**C** 0.25 max **Cr** 0.40-0.70 **Mn** 0.70 max **Mo** 0.40-0.60 **P** 0.035 max **S** 0.030 max **Si** 0.60 max	**ASTM** A356 (5)
J12545	Alloy Steel Casting	**C** 0.25 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 1.15-1.50 **Mo** 0.45-0.60 **Ni** 0.45-1.00 **P** 0.035 max **S** 0.035 max **Si** 0.60 max **V** 0.03 max	
J12582	Alloy Steel Casting	**C** 0.25 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 1.20 max **Ni** 1.5-2.0 **P** 0.025 max **S** 0.025 max **Si** 0.60 max **V** 0.03 max	**ASTM** A757 (C1Q)
J12595	Alloy Steel Casting (Grade SC 8625)	**C** 0.23-0.28 **Cr** 0.40-0.60 **Mn** 0.60-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 8625); A 958 (Grade SC 8625)
J13002	Alloy Steel Casting	**C** 0.30 max **Cr** 0.35 max **Cu** 0.50 max **Mn** 1.00 max **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.04-0.12 **Other** Mo+W 0.25 max	**ASTM** A487 (1)
J13005	Alloy Steel Casting	**C** 0.30 max **Cr** 0.35 max **Cu** 0.50 max **Mn** 1.00-1.40 **Mo** 0.10-0.30 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (2)
J13025	Alloy Steel Casting	**C** 0.30 max **Cr** 0.50-0.70 **Mn** 0.30-0.50 **Mo** 0.20 max **Ni** 0.70 max **Si** 0.50 max **V** 0.10 max **Other** P+S 0.07 max	**MIL SPEC** MIL-A-11356
J13042	Alloy Steel Casting	**C** 0.25-0.35 **Cr** 0.35-0.65 **Cu** 0.35 max **Mn** 0.60-0.95 **Mo** 0.15-0.30 **Ni** 0.35-0.75 **P** 0.04 max **S** 0.04 max **Si** 1.00 max	**AMS** 5334
J13045	Alloy Steel Casting	**C** 0.25-0.35 **Cr** 0.80-1.10 **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.15-0.25 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (7Q)
J13046	Alloy Steel Casting	**C** 0.25-0.35 **Cr** 0.80-1.10 **Cu** 0.35 max **Mn** 0.40-0.80 **Mo** 0.15-0.25 **Ni** 0.25 max **P** 0.04 max **S** 0.04 max **Si** 1.00 max	**AMS** 5336

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J13047	Alloy Steel Casting	**C** 0.30 max **Cr** 0.40-0.80 **Cu** 0.50 max **Mn** 1.00 max **Mo** 0.15-0.30 **Ni** 0.40-0.80 **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (4)
J13048	Alloy Steel Casting (4130)	**C** 0.25-0.35 **Cr** 0.80-1.10 **Mn** 0.40-0.70 **Mo** 0.15-0.25 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (4130)
J13049	Alloy Steel Casting (8630)	**C** 0.25-0.35 **Cr** 0.40-0.60 **Mn** 0.65-0.95 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (8630)
J13050	Alloy Steel Casting (8630 Modified)	**C** 0.25-0.33 **Cr** 0.40-0.90 **Cu** 0.35 max **Mn** 0.60-0.95 **Mo** 0.15-0.25 **Ni** 0.40-1.10 **P** 0.025 max **S** 0.025 max **Si** 0.50-0.90	**AMS** 5335
J13051	Alloy Steel Casting	**C** 0.25-0.35 **Cr** 0.40-0.70 **Cu** 0.50 max **Mn** 0.65-0.95 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (14Q)
J13052	Alloy Steel Casting	**C** 0.30 max **Cr** 0.35 max **Cu** 0.50 max **Mn** 0.70-1.00 **Mo** 0.15-0.25 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (5N)
J13080	Alloy Steel Casting	**C** 0.30 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 0.80-1.10 **Mo** 0.20-0.30 **Ni** 1.40-1.75 **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (13)
J13095	Alloy Steel Casting (Grade SC 8630)	**C** 0.28-0.33 **Cr** 0.40-0.60 **Mn** 0.60-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 8630); A 958 (Grade SC 8630)
J13345	Alloy Steel Casting	**C** 0.33 max **Cr** 0.75-1.10 **Cu** 0.50 max **Mn** 0.60-0.90 **Mo** 0.15-0.30 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (9)
J13432	Alloy Steel Casting (4335M)	**Al** 0.05 max **C** 0.30-0.38 **Mn** 0.60-1.00 **Mo** 0.65-1.00 **P** 0.04 max **S** 0.04 max **Si** 0.50-1.00 **V** 0.14 max	**MIL SPEC** MIL-S-22141 (4335M)
J13442	Alloy Steel Casting (8735)	**C** 0.30-0.38 **Cr** 0.35-0.90 **Mn** 0.30-0.70 **Mo** 0.15-0.40 **Ni** 0.35-0.75 **P** 0.04 max **S** 0.04 max **Si** 0.20-1.00	**MIL SPEC** MIL-S-22141 (8735)
J13502	Alloy Steel Casting (Grade SC 4130)	**C** 0.28-0.33 **Cr** 0.80-1.10 **Mn** 0.40-0.80 **Mo** 0.15-0.25 **P** 0.035 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 4130); A 958 (Grade SC 4130)
J13512	Alloy Steel Casting	**C** 0.35 max **Mn** 1.35-1.75 **Mo** 0.25-0.55 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80	**ASTM** A732 (6N)
J13855	Alloy Steel Casting	**C** 0.38 max **Cr** 0.40-0.80 **Cu** 0.50 max **Mn** 1.30-1.70 **Mo** 0.30-0.40 **Ni** 0.40-0.80 **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (6)
J14045	Alloy Steel Casting (Grade SC 4140)	**C** 0.38-0.40 **Cr** 0.80-1.10 **Mn** 0.70-1.10 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max	**ASTM** A 915 (Grade SC 4140); A 958 (Grade SC 4140)
J14046	Alloy Steel Casting	**C** 0.35-0.45 **Cr** 0.80-1.10 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.25 max **P** 0.04 max **S** 0.04 max **Si** 1.00 max	**AMS** 5338
J14047	Alloy Steel Casting (4140)	**C** 0.35-0.45 **Cr** 0.80-1.10 **Mn** 0.70-1.35 **Mo** 0.15-0.25 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (4140)

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J14048	Alloy Steel Casting (8640)	**C** 0.35-0.45 **Cr** 0.40-0.60 **Mn** 0.70-1.05 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (8640)
J14049	Alloy Steel Casting	**C** 0.35-0.45 **Cr** 0.80-1.10 **Cu** 0.50 max **Mn** 0.70-1.00 **Mo** 0.15-0.25 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (8Q)
J15047	Alloy Steel Casting (6150)	**C** 0.45-0.55 **Cr** 0.80-1.10 **Mn** 0.65-0.95 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80 **V** 0.15 min	**MIL SPEC** MIL-S-22141 (6150)
J15048	Alloy Steel Casting	**C** 0.45-0.55 **Cr** 0.80-1.10 **Cu** 0.50 max **Mn** 0.65-0.95 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **V** 0.15 min **W** 0.10 max **Other** Mo+W 0.10 max	**ASTM** A732 (12Q)
J15580	Alloy Steel Casting	**C** 0.55 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 0.80-1.10 **Mo** 0.20-0.30 **Ni** 1.40-1.75 **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (14)
J19965	Alloy Steel Casting (52100)	**C** 0.95-1.10 **Cr** 1.30-1.60 **Mn** 0.25-0.55 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (52100)
J19966	Alloy Steel Casting	**C** 0.95-1.10 **Cr** 1.30-1.60 **Cu** 0.50 max **Mn** 0.25-0.55 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (15A)
J21610	Alloy Steel Casting	**C** 0.13-0.20 **Cr** 1.00-1.50 **Mn** 0.50-0.90 **Mo** 0.90-1.20 **P** 0.035 max **S** 0.030 max **Si** 0.20-0.60 **V** 0.20-0.35	**ASTM** A356 (9)
J21880	Alloy Steel Casting	**C** 0.18 max **Cr** 2.00-2.75 **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.80-1.10 **Ni** 0.60 max **P** 0.05 max **S** 0.05 max **Si** 0.20-0.60	
J21890	Alloy Steel Casting	**C** 0.18 max **Cr** 2.00-2.75 **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.90-1.20 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.60 max **W** 0.10 max	**ASTM** A217 (WC9); A426 (CP22)
J22000	Alloy Steel Casting	**C** 0.20 max **Cr** 0.50-0.90 **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.90-1.20 **Ni** 0.60-1.00 **P** 0.04 max **S** 0.045 max **Si** 0.60 max **V** 0.03 max **W** 0.10 max	**ASTM** A217 (WC5); A487 (12)
J22090	Alloy Steel Casting	**C** 0.20 max **Cr** 2.00-2.75 **Mn** 0.50-0.80 **Mo** 0.90-1.20 **P** 0.035 max **S** 0.030 max **Si** 0.60 max	**ASTM** A356 (10)
J22091	Alloy Steel Casting	**C** 0.20 max **Cr** 2.00-2.75 **Cu** 0.50 max **Mn** 0.50-0.90 **Mo** 0.90-1.10 **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (8)
J22092	Alloy Steel Casting	**C** 0.20 max **Cr** 2.00-2.75 **Cu** 0.50 max **Mn** 0.40-0.80 **Mo** 0.90-1.20 **Ni** 0.50 max **P** 0.035 max **S** 0.035 max **Si** 0.60 max **V** 0.03 max **W** 0.10 max	**ASTM** A643 (C); A757 (D1N, D1Q, D1N1, D1Q1, D1N2, D1Q2, D1N3, D1Q3)
J22500	Alloy Steel Casting	**C** 0.25 max **Mn** 0.50-0.80 **Ni** 2.0-3.0 **P** 0.04 max **S** 0.045 max **Si** 0.60 max	**ASTM** A352 (LC2)
J22501	Alloy Steel Casting	**C** 0.25 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.25 max **Ni** 2.0-3.0 **P** 0.025 max **S** 0.025 max **Si** 0.60 max **V** 0.03 max	**ASTM** A757 (B2N, B2Q)

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J23015	Alloy Steel Casting	**C** 0.30 max **Cr** 0.55-0.90 **Cu** 0.50 max **Mo** 0.20-0.40 **Ni** 1.40-2.00 **P** 0.04 max **S** 0.045 max **Si** 0.80 max **V** 0.03 max **W** 0.10 max	**ASTM** A487 (10)
J23055	Alloy Steel Casting	**C** 0.25-0.35 **Cr** 0.70-0.90 **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (9Q)
J23259	Alloy Steel Casting (Grade SC 4330)	**C** 0.28-0.33 **Cr** 0.70-0.90 **Mn** 0.60-0.90 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 4330); A 958 (Grade SC 4330)
J23260	Alloy Steel Casting (4330 Modified)	**C** 0.28-0.36 **Cr** 0.65-1.00 **Mn** 0.60-0.90 **Mo** 0.30-0.45 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.50-1.00	**AMS** 5328; 5329
J24053	Alloy Steel Casting (Grade SC 4340)	**C** 0.38-0.43 **Cr** 0.70-0.90 **Mn** 0.60-0.90 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 **Si** 0.30-0.60 **S** 0.040 max	**ASTM** A 915 (Grade SC 4340); A 958 (Grade SC 4340)
J24054	Alloy Steel Casting	**C** 0.35-0.45 **Cr** 0.70-0.90 **Cu** 0.50 max **Mn** 0.70-1.00 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.04 max **S** 0.045 max **Si** 0.20-0.80 **W** 0.10 max	**ASTM** A732 (10Q)
J24055	Alloy Steel Casting (4340)	**C** 0.36-0.44 **Cr** 0.70-0.90 **Mn** 0.60-0.90 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.04 max **S** 0.04 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (4340)
J24056	Alloy Steel Casting (Nitralloy)	**Al** 0.85-1.20 **C** 0.35-0.45 **Cr** 1.40-1.80 **Mn** 0.40-0.70 **Mo** 0.30-0.45 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.80	**MIL SPEC** MIL-S-22141 (Nitralloy)
J24060	Combined With J23260		**AMS** 5330; 5331
J31200	Alloy Steel Casting (Grade 16	**Class** A) **C** 0.12 max **Cr** 0.20 max **Cu** 0.20 max **Mn** 2.10 max **Mo** 0.10 max **Ni** 1.00-1.40 **P** 0.02 max **Si** 0.50 max **S** 0.02 max **W** 0.10 max **V** 0.02 max	**ASTM** A 487 (Grade 16, Class A)
J31300	9% Ni Steel Casting (Grade LC9)	**C** 0.13 max **Cr** 0.50 max **Mn** 0.90 max **Mo** 0.20 max **Ni** 8.50-10.0 **P** 0.04 max **Si** 0.45 max **S** 0.045 max V 0.03 max	**ASTM** A 352 (Grade LC9)
J31500	Alloy Steel Casting	**C** 0.15 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.25 max **Ni** 3.0-4.0 **P** 0.025 max **S** 0.025 max **Si** 0.60 max **V** 0.03 max	**ASTM** A757 (B3N, B3Q)
J31545	Alloy Steel Casting	**C** 0.15 max **Cr** 2.65-3.35 **Cu** 0.50 max **Mn** 0.30-0.60 **Mo** 0.80-1.06 **Ni** 0.50 max **P** 0.040 max **S** 0.045 max **Si** 0.50 max **W** 0.10 max	**ASTM** A426 (CP21)
J31550	Alloy Steel Casting	**C** 0.15 max **Mn** 0.50-0.80 **Ni** 3.00-4.00 **P** 0.04 max **S** 0.045 max **Si** 0.60 max	**ASTM** A352 (LC3)
J31575	Alloy Steel Casting	**C** 0.43 **Cr** 1.10 **Mn** 1.00 **Mo** 0.25 max **P** 0.04 max **S** 0.05 max **Si** 0.50 max **Other** total 1.70 max	**ASTM** A148 (105-85)
J31670	Cast Austenitic Cr-Ni-Mo Stainless Steel (Surgical Implant Cast 316)	**C** 0.06 max **Cr** 17.00-19.00 **Mn** 2.0 max **Mo** 2.00-3.00 **Ni** 11.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.0 max	**ASTM** F745
J32075	Alloy Steel Casting	**C** 0.20 max **Cr** 1.15-1.65 **Cu** 0.20 max **Mn** 0.55-0.75 **Mo** 0.10-0.60 **Ni** 2.50-3.25 **P** 0.02 max **S** 0.015 max **Si** 0.50 max	
J41500	Alloy Steel Casting	**C** 0.15 max **Mn** 0.50-0.80 **Ni** 4.00-5.00 **P** 0.04 max **S** 0.045 max **Si** 0.60 max	**ASTM** A352 (LC4)

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J41501	Alloy Steel Casting	**C** 0.15 max **Cr** 0.40 max **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.25 max **Ni** 4.0-5.0 **P** 0.025 max **S** 0.025 max **Si** 0.60 max **V** 0.03 max	**ASTM** A757 (B4N, B4Q)
J42015	Alloy Steel Casting (HY80)	**C** 0.20 max **Cr** 1.35-1.65 **Mn** 0.55-0.75 **Mo** 0.30-0.60 **Ni** 2.50-3.25 **P** 0.02 max **S** 0.015 max **Si** 0.50 max	**MIL SPEC** MIL-S-16216 (HY80); MIL-S-23008 (HY80); MIL-S-23009 (HY80)
J42045	Alloy Steel Casting	**C** 0.20 max **Cr** 4.00-6.50 **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.45-0.65 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 0.75 max **W** 0.10 max	**ASTM** A217 (C5); A426 (CP5)
J42065	Alloy Steel Casting	**C** 0.20 max **Cr** 1.50-2.00 **Cu** 0.50 max **Mn** 0.40-0.70 **Mo** 0.40-0.60 **Ni** 2.75-3.90 **P** 0.020 max **S** 0.020 max **Si** 0.60 max **V** 0.03 max **W** 0.10 max	**ASTM** A757 (E2N, E2Q)
J42215	Alloy Steel Casting	**C** 0.22 max **Cr** 1.35-1.85 **Mn** 0.55-0.75 **Mo** 0.30-0.60 **Ni** 2.50-3.50 **P** 0.04 max **S** 0.045 max **Si** 0.50 max	**ASTM** A352 (LC2-1)
J42220	Alloy Steel Casting	**C** 0.22 max **Cr** 1.35-1.85 **Cu** 0.50 max **Mn** 0.50-0.80 **Mo** 0.35-0.60 **Ni** 2.5-3.5 **P** 0.025 max **S** 0.025 max **Si** 0.60 max **V** 0.03 max	**ASTM** A757 (E1Q)
J42240	Alloy Steel Casting (HY100)	**C** 0.22 max **Cr** 1.35-1.85 **Mn** 0.55-0.75 **Mo** 0.30-0.60 **Ni** 2.75-3.50 **P** 0.02 max **S** 0.015 max **Si** 0.50 max	**MIL SPEC** MIL-S-16216 (HY100); MIL-S-23008 (HY100); MIL-S-23009 (HY100)
J51545	Alloy Steel Casting	**C** 0.15 max **Cr** 4.00-6.00 **Cu** 0.50 max **Mn** 0.30-0.60 **Mo** 0.45-0.65 **Ni** 0.50 max **P** 0.040 max **S** 0.045 max **Si** 1.00-2.00 **W** 0.10 max	**ASTM** A426 (CP5b)
J61594	Alloy Steel Casting	**C** 0.15 max **Cr** 6.00-8.00 **Cu** 0.50 max **Mn** 0.30-0.60 **Mo** 0.44-0.65 **Ni** 0.50 max **P** 0.040 max **S** 0.045 max **Si** 0.50-1.00 **W** 0.10 max	**ASTM** A426 (CP7)
J80490	Alloy Steel Casting (Grade 12)	**Al** 0.04 max **C** 0.08-0.12 **Cr** 8.0-9.5 **Cb** 0.06-0.10 **Mn** 0.30-0.60 **Mo** 0.85-1.05 **Ni** 0.40 max **N** 0.03-0.07 **P** 0.02 max **Si** 0.20-0.50 **S** 0.010 max **V** 0.18-0.25	**ASTM** A 356 (Grade 12)
J82090	Alloy Steel Casting	**C** 0.20 max **Cr** 8.00-10.00 **Cu** 0.50 max **Mn** 0.35-0.65 **Mo** 0.90-1.20 **Ni** 0.50 max **P** 0.04 max **S** 0.045 max **Si** 1.00 max **W** 0.10 max	**ASTM** A217 (C12); A426 (CP9)
J84090	Alloy Steel Casting (Grade C12A)	**Al** 0.040 max **C** 0.12 max **Cr** 8.0-9.5 **Cb** 0.060-0.10 **Mn** 0.30-0.60 **Mo** 0.85-1.05 **Ni** 0.40 max **N** 0.030-0.070 **P** 0.020 max **Si** 0.20-0.50 **S** 0.018 max **V** 0.18-0.25	**ASTM** A 217 (Grade C12A)
J91109	Austenitic Manganese Steel Casting	**C** 1.05-1.35 **Mn** 11.0 min **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (A)
J91119	Austenitic Manganese Steel Casting	**C** 0.9-1.05 **Mn** 11.5-14.0 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (B-1)
J91129	Austenitic Manganese Steel Casting	**C** 1.05-1.2 **Mn** 11.5-14.0 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (B-2)
J91139	Austenitic Manganese Steel Casting	**C** 1.12-1.28 **Mn** 11.5-14.0 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (B-3)
J91149	Austenitic Manganese Steel Casting	**C** 1.2-1.35 **Mn** 11.5-14.0 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (B-4)
J91150	Alloy Steel Casting (CA-15)	**C** 0.15 max **Cr** 11.5-14.0 **Mn** 1.00 max **Mo** 0.50 max **Ni** 1.00 max **P** 0.040 max **S** 0.040 max **Si** 1.50 max	**ACI** CA-15 **AMS** 5351 **ASTM** A217 (CA-15); A426 (CPCA-15); A743 (CA-15)

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J91151	Alloy Steel Casting (CA-15M)	**C** 0.15 max **Cr** 11.5-14.0 **Mn** 1.00 max **Mo** 0.15-1.0 **Ni** 1.0 max **P** 0.040 max **S** 0.040 max **Si** 0.65 max	**ACI** CA-15M **ASTM** A487 (CA-15M); A743 (CA-15M)
J91152	Alloy Steel Casting (410)	**C** 0.05-0.15 **Cr** 11.5-13.5 **Cu** 0.50 max **Mn** 1.00 max **Mo** 0.50 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**AMS** 5350 **MIL SPEC** MIL-S-81591 (410)
J91153	Alloy Steel Casting (CA-40)	**C** 0.20-0.40 **Cr** 11.5-14.0 **Mn** 1.00 max **Mo** 0.5 max **Ni** 1.0 max **P** 0.04 max **S** 0.04 max **Si** 1.50 max	**ACI** CA-40 **ASTM** A743 (CA-40)
J91154	Alloy Steel Casting (CA40F)	**C** 0.20-0.40 **Cr** 11.5-14.0 **Fe** rem **Mn** 1.00 max **Mo** 0.5 max **Ni** 1.00 max **P** 0.04 max **S** 0.20-0.40 **Si** 1.50 max	**ACI** CA40F **AISI** 420F **ASTM** A743
J91161	Alloy Steel Casting (60416)	**C** 0.15 max **Cr** 11.5-14.0 **Cu** 0.5 max **Mn** 1.25 max **Mo** 0.5 max **Ni** 0.5 max **P** 0.05 max **S** 0.15-0.35 **Si** 1.5 max **Zr** 0.5 max	**AMS** 5349
J91171	Alloy Steel Casting	**C** 0.15 max **Cr** 11.5-14.0 **Cu** 0.50 max **Mn** 1.00 max **Mo** 0.50 max **N** 1.00 max **P** 0.040 max **S** 0.040 max **Si** 1.50 max **V** 0.03 max **W** 0.10 max	**ASTM** A426 (CPCA-15); A487 (CA-15)
J91201	Alloy Steel Casting (420)	**C** 0.15 min **Cr** 12.0-14.0 **Mn** 1.00 max **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (420)
J91209	Austenitic Manganese Steel Casting	**C** 1.00-1.35 **Cr** 0.75 max **Mn** 12.00-14.00 **Mo** 0.50 max **Ni** 1.00 max **P** 0.060 max **Si** 0.40-1.00	
J91249	Austenitic Manganese Steel Casting	**C** 0.7-1.3 **Mn** 11.5-14.0 **Mo** 0.9-1.2 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (E-1)
J91261	Alloy Steel Casting	**C** 0.15 max **Cr** 11.50-14.00 **Mn** 1.00 max **Mo** 0.50-0.70 **Ni** 0.65-1.00 **P** 0.05 max **S** 0.05 max **Si** 0.50 max	
J91309	Austenitic Manganese Steel Casting	**C** 1.05-1.35 **Cr** 1.5-2.5 **Mn** 11.5-14.0 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (C)
J91339	Austenitic Manganese Steel Casting	**C** 1.05-1.45 **Mn** 11.5-14.0 **Mo** 1.8-2.1 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (E-2)
J91340	Austenitic Manganese Steel Casting (Grade F)	**C** 1.05-1.35 **Mn** 6.0-8.0 **Mo** 0.9-1.2 **P** 0.07 max **Si** 1.00max	**ASTM** A 128 (Grade F)
J91422	Alloy Steel Casting (CA28MWV)	**C** 0.20-0.28 **Cr** 11.0-12.5 **Fe** rem **Mn** 0.50-1.00 **Mo** 0.90-1.25 **Ni** 0.50-1.00 **P** 0.030 max **S** 0.030 max **Si** 1.0 max **V** 0.20-0.30 **W** 0.90-1.25	**ACI** CA28MWV **AISI** 422 **ASTM** A743
J91459	Austenitic Manganese Steel Casting	**C** 0.7-1.3 **Mn** 11.5-14.0 **Ni** 3.0-4.0 **P** 0.07 max **Si** 1.00 max	**ASTM** A128 (D)
J91540	Alloy Steel Casting (CA-6NM)	**C** 0.06 max **Cr** 11.5-14.0 **Mn** 1.00 max **Mo** 0.40-1.0 **Ni** 3.5-4.5 **P** 0.04 max **S** 0.03 max	**ACI** CA-6NM **ASTM** A352 (CA-6NM); A356 (CA-6NM); A487 (CA-15, CA-6NM); A743
J91550	Alloy Steel Casting	**C** 0.06 max **Cr** 11.5-14.0 **Cu** 0.50 max **Mn** 1.00 max **Mo** 0.40-1.0 **Ni** 3.5-4.5 **P** 0.030 max **S** 0.030 max **Si** 1.00 max **W** 0.10 max	**ASTM** A757 (E3N)
J91601	Alloy Steel Casting	**C** 0.12-0.20 **Cr** 14.5-17.0 **Cu** 0.50 max **Mn** 1.0 max **Mo** 0.50 max **Ni** 1.5-2.25 **P** 0.04 max **S** 0.04 max **Si** 1.0 max	**AMS** 5372
J91606	Alloy Steel Casting (440A)	**C** 0.60-0.75 **Cr** 16.0-18.0 **Mn** 1.00 max **Mo** 0.75 max **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (440A)

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J91631	Alloy Steel Casting	**C** 0.12-0.20 **Cr** 12.0-14.0 **Cu** 0.50 max **Mn** 1.0 max **Mo** 0.50 max **Ni** 1.8-2.2 **P** 0.04 max **S** 0.03 max **Si** 1.0 max **W** 2.5-3.5	**AMS** 5354
J91639	Alloy Steel Casting (440C)	**C** 0.95-1.20 **Cr** 16.0-18.0 **Mn** 1.00 max **Mo** 0.35-0.75 **Ni** 0.75 max **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**AMS** 5352 **MIL SPEC** MIL-S-81591 (440C)
J91650	Alloy Steel Casting	**C** 0.06 max **Cr** 10.5-12.5 **Mn** 0.50 max **Ni** 6.0-8.0 **P** 0.02 max **S** 0.02 max **Si** 1.00 max	**ACI** CA-6N **ASTM** A743
J91651	Alloy Steel Casting (431)	**C** 0.08-0.15 **Cr** 15.0-17.0 **Mn** 1.0 max **N** 0.03-0.12 **Ni** 1.5-2.2 **P** 0.04 max **S** 0.04 max **Si** 1.0 max	**AMS** 5353 **MIL SPEC** MIL-S-81591 (431)
J91803	Alloy Steel Casting (CB-30)	**C** 0.30 max **Cr** 18.0-21.0 **Mn** 1.00 max **Ni** 2.00 max **P** 0.04 max **S** 0.04 max **Si** 1.50 max	**ACI** CB-30 **ASTM** A743 (CB-30)
J91804	*Cast Cr-Ni Stainless Steel* (CB-6)	**C** 0.06 max **Cr** 15.5-17.5 **Mn** 1.00 max **Mo** 0.5 max **Ni** 3.5-5.5 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**ACI** CB-6 **ASTM** A 743
J92001	Alloy Steel Casting	**C** 0.08-0.15 **Cr** 14.5-15.5 **Mn** 0.40-1.10 **Mo** 2.0-2.6 **N** 0.05-0.13 **Ni** 3.5-4.5 **P** 0.04 max **S** 0.03 max **Si** 0.75 max	**AMS** 5359; 5368
J92110	Alloy Steel Casting, Precipitation Hardening (15-5 PH)	**C** 0.07 max **Cb** 0.15-0.35 **Cr** 14.0-15.50 **Cu** 2.50-3.20 **Mn** 0.70 max **N** 0.05 max **Ni** 4.20-5.50 **P** 0.035 max **S** 0.03 max **Si** 1.00 max	**AMS** 5346; 5347; 5348; 5356; 5357; 5400 **ASTM** A747 (CB7Cu-2)
J92130	Alloy Steel Casting (15-5 PH) combined with J92110		
J92150	Alloy Steel Casting (17-4)	**C** 0.08 max **Cr** 15.5-17.5 **Cu** 3.0-5.0 **Mn** 1.00 max **Ni** 3.0-5.0 **P** 0.04 max **S** 0.04 max **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (17-4)
J92170	Alloy Steel Casting, Precipitation Hardening	**C** 0.06 max **Cr** 15.5-16.7 **Cu** 2.5-3.2 **Mn** 0.70 max **Ni** 3.6-4.6 **P** 0.04 max **S** 0.03 max **Si** 0.50-1.0	
J92180	Alloy Steel Casting, Precipitation Hardening	**C** 0.07 max **Cb** 0.15-0.35 **Cr** 15.50-17.70 **Cu** 2.50-3.20 **Mn** 0.70 max **N** 0.05 max **Ni** 3.60-4.60 **P** 0.035 max **S** 0.03 max **Si** 1.00 max	**ASTM** A747 (CB7Cu-1)
J92200	Alloy Steel Casting (17-4)	**C** 0.06 max **Cr** 15.5-16.7 **Cu** 2.8-3.5 **Mn** 0.70 max **N** 0.05 max **Ni** 3.6-4.6 **P** 0.04 max **S** 0.03 max **Si** 0.5-1.0 **Other** Cb+Ta 0.15-0.40	**AMS** 5342; 5343; 5344; 5355; 5398
J92205	Duplex Alloy Steel Casting (2205)	**C** 0.03 max **Cr** 21.0-23.5 **Cu** 1.00 max **Mn** 1.50 max **Mo** 2.5-3.5 **Ni** 4.5-6.5 **N** 0.10-0.30 **P** 0.04 max **S** 0.020 max **Si** 1.00 max	**ACI** CD-3MN **ASTM** A890 (4A)
J92240	Alloy Steel Casting (14-4PH)	**C** 0.06 max **Cr** 13.5-14.7 **Cu** 3.0-3.5 **Mn** 0.7 max **Mo** 2.0-2.75 **N** 0.05 max **Ni** 3.75-4.75 **P** 0.02 max **S** 0.025 max **Si** 0.5-1.0 **Other** Cb+Ta 0.15-0.35	**AMS** 5340
J92500	*Alloy Steel Casting (CF-3)*	**C** 0.03 max **Cr** 17.0-21.0 **Mn** 1.50 max **Ni** 8.0-12.0 **P** 0.040 max **S** 0.040 max **Si** 2.00 max	**ACI** CF-3 **ASTM** A351 (CF-3, CF-3A); A451 (CPF3, CPF3A); A743 (CF-3); A744 (CF-3)
J92501	Alloy Steel Casting (302)	**C** 0.15 max **Cr** 17.0-19.0 **Mn** 2.00 max **Ni** 8.0-10.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (302)
J92502	Alloy Steel Casting	**C** 0.15-0.30 **Cr** 17.00-20.00 **Mn** 1.50 max **Mo** 0.50 max **Ni** 8.00-11.00 **P** 0.05 max **S** 0.05 max **Si** 1.50 max	

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J92511	Alloy Steel Casting (303)	**C** 0.12 max **Cr** 17.0-20.0 **Cu** 0.50 max **Mn** 2.00 max **Mo** 0.60 max **Ni** 8.0-10.0 **P** 0.17 max **S** 0.15-0.35 **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (IC-303)
J92512	Alloy Steel Casting	**C** 0.25 max **Cr** 17.0-19.0 **Cu** 0.5 max **Mn** 2.0 max **Mo** 0.5 max **Ni** 8.0-10.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	
J92590	Alloy Steel Casting (304H)	**C** 0.04-0.10 **Cr** 18.0-20.0 **Mn** 2.00 max **Ni** 8.00-11.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**ASTM** A351 (CF-10); A452 (TP304H)
J92600	Alloy Steel Casting (CF-8)	**C** 0.08 max **Cr** 18.0-21.0 **Mn** 1.50 max **Ni** 8.0-11.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CF-8 **ASTM** A351 (CF-8, CF-8A); A451 (CPF8, CPF8A); A743 (CF-8); A744 (CF-8)
J92602	Alloy Steel Casting (CF-20)	**C** 0.20 max **Cr** 18.0-21.0 **Mn** 1.50 max **Ni** 8.0-11.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CF-20 **AMS** 5358 **ASTM** A743 (CF-20)
J92603	Alloy Steel Casting (HF)	**C** 0.20-0.40 **Cr** 18.0-23.0 **Mn** 2.00 max **Mo** 0.50 max **Ni** 8.0-12.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HF **ASTM** A297 (HF)
J92605	Alloy Steel Casting (HC)	**C** 0.50 max **Cr** 26.0-30.0 **Mn** 1.00 max **Mo** 0.50 max **Ni** 4.00 max **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HC **ASTM** A297 (HC)
J92610	Alloy Steel Casting (304)	**C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **Ni** 8.0-12.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (304)
J92613	Alloy Steel Casting (HC-30)	**C** 0.25-0.35 **Cr** 26.0-30.0 **Mn** 0.5-1.0 **Mo** 0.50 max **Ni** 4.0 max **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ACI** HC-30 **ASTM** A608 (HC-30)
J92615	Alloy Steel Casting (CC-50)	**C** 0.50 max **Cr** 26.0-30.0 **Mn** 1.00 max **Ni** 4.00 max **P** 0.04 max **S** 0.04 max **Si** 1.50 max	**ACI** CC-50 **ASTM** A743 (CC-50)
J92620	Alloy Steel Casting (304L)	**C** 0.05 max **Cr** 18.0-21.0 **Cu** 0.50 max **Mn** 1.00-2.00 **Mo** 0.50 max **Ni** 8.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**AMS** 5370; 5371 **MIL SPEC** MIL-S-81591 (304L)
J92630	Alloy Steel Casting (321)	**C** 0.08 max **Cr** 17.0-19.0 **Mn** 2.00 max **Ni** 9.0-12.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max **Other** Ti 5xC min	**MIL SPEC** MIL-S-81591 (321)
J92640	Alloy Steel Casting (347)	**C** 0.08 max **Cr** 17.0-19.5 **Mn** 2.00 max **Ni** 9.0-13.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max **Other** Cb+Ta 10xC min, 1.5 max	**MIL SPEC** MIL-S-81591 (347)
J92641	Alloy Steel Casting	**C** 0.10 max **Cr** 17.00-20.00 **Cu** 0.50 max **Mn** 2.00 max **Mo** 0.50 max **Ni** 9.00-12.00 **P** 0.04 max **S** 0.04 max **Si** 1.50 max **Other** Cb+Ta 10xC min-1.35 max	**AMS** 5363; 5364
J92650	Alloy Steel Casting	**C** 0.08 max **Cr** 18.00-21.00 **Mn** 1.50 max **Ni** 8.00-11.00 **P** 0.05 max **S** 0.05 max **Si** 2.00 max	
J92660	Alloy Steel Casting (347H)	**C** 0.04-0.10 **Cr** 17.0-20.0 **Mn** 2.00 max **Ni** 9.00-13.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max **Other** (Cb+Ta) 8xC min-1.0 max	**ASTM** A452 (TP347H)
J92700	Alloy Steel Casting (modified CF-3)	**C** 0.03 max **Cr** 17.0-21.0 **Mn** 1.50 max **Mo** 2.0-3.0 **Ni** 8.0-12.0 **P** 0.04 max **S** 0.04 max **Si** 1.50 max	**ASTM** A351
J92701	Alloy Steel Casting (CF-16F)	**C** 0.16 max **Cr** 18.0-21.0 **Mn** 1.50 max **Ni** 9.0-12.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CF-16F **ASTM** A743 (CF-16F)

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J92710	Alloy Steel Casting (CF-8C)	**C** 0.08 max **Cr** 18.0-21.0 **Mn** 1.50 max **Ni** 9.0-12.0 **Nb** 8 x C min - 1.00 max, or Nb+Ta 9 x C min 1.1 max **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CF-8C **ASTM** A351 (CF-8C); A451 (CPF8C); A743 (CF-8C); A744 (CF-8C)
J92711	Alloy Steel Casting (60303)	**C** 0.16 max **Cr** 18.00-21.00 **Cu** 0.50 max **Mn** 2.00 max **Mo** 0.80 max **Ni** 9.00-12.00 **P** 0.04 max **S** 0.15-0.35 **Si** 2.00 max	**AMS** 5341
J92720	Alloy Steel Casting	**C** 0.08 max **Cr** 17.00-20.00 **Mn** 1.50 max **Mo** 0.50 max **Ni** 10.00 min **P** 0.05 max **S** 0.05 max **Si** 1.50 max	
J92730	Alloy Steel Casting	**C** 0.08 max **Cr** 18.00-21.00 **Mn** 1.50 max **Ni** 9.00-12.00 **P** 0.05 max **S** 0.05 max **Si** 2.00 max	
J92740	Alloy Steel Casting (Durcomet 101)	**C** 0.07 max **Cr** 22.00-24.00 **Cu** 0.50 max **Mn** 0.50 max **Mo** 0.85-1.15 **Ni** 4.50-5.50 **P** 0.04 max **S** 0.04 max **Si** 1.70 max	
J92800	Alloy Steel Casting (CF-3M)	**C** 0.03 max **Cr** 17.0-21.0 **Mn** 1.50 max **Mo** 2.0-3.0 **Ni** 9.0-13.0 **P** 0.04 max **S** 0.04 max **Si** 1.50 max	**ACI** CF-3M **ASTM** A351 (CF-3M, CF-3MA); A451 (CPF-3M); A744 (CF-3M)
J92801	Alloy Steel Casting	**C** 0.10 max **Cr** 17.00-20.00 **Mn** 1.50 max **Mo** 0.50 max **Ni** 11.00 min **P** 0.05 max **S** 0.05 max **Si** 1.50 max	
J92802	Alloy Steel Casting (CE20N)	**C** 0.20 max **Cr** 23.0-36.0 **Mn** 1.50 max **Ni** 8.0-11.0 **N** 0.08-0.20 **P** 0.040 max **S** 0.040 max **Si** 1.50 max	**ACI** CE20N
J92803	Alloy Steel Casting (HF-30)	**C** 0.25-0.35 **Cr** 19.0-23.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 9.0-12.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HF30)
J92804	Alloy Steel Casting (CF3MN)	**C** 0.03 max **Cr** 17.0-22.0 **Fe** rem **Mn** 1.50 max **Mo** 2.0-3.0 **N** 0.10-0.20 **Ni** 9.0-13.0 **P** 0.040 max **S** 0.040 max **Si** 1.50 max	**ACI** CF3MN **AISI** 316N **ASTM** A743
J92805	Alloy Steel Casting (CE-8N)	**C** 0.08 max **Cr** 23.0-26.0 **Mn** 1.50 max **Mo** 0.50 max **N** 0.20-0.30 **Ni** 8.0-11.0 **P** 0.040 max **S** 0.040 max **Si** 1.50 max	**ACI** CE-8N
J92810	Alloy Steel Casting (316)	**C** 0.08 max **Cr** 16.0-18.0 **Mn** 2.00 max **Mo** 2.0-3.0 **Ni** 10.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (316)
J92811	Alloy Steel Casting	**C** 0.12 max **Cr** 18.0-19.5 **Cu** 0.5 max **Mn** 2.0 max **Mo** 0.5 max **Ni** 10.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.5 max **Other** Cb+Ta 10xC min-1.5 max	**AMS** 5362
J92843	Alloy Steel Casting	**C** 0.28-0.35 **Cr** 18.00-21.00 **Cu** 0.50 max **Mn** 0.75-1.50 **Mo** 1.00-1.75 **Ni** 8.00-11.00 **P** 0.04 max **S** 0.04 max **Si** 1.00 max **Ti** 0.15-0.50 **W** 1.00-1.75 **Other** Cb+Ta 0.30-0.70	**AMS** 5369
J92900	Alloy Steel Casting (CF-8M)	**C** 0.08 max **Cr** 18.0-21.0 **Mn** 1.50 max **Mo** 2.0-3.0 **Ni** 9.0-12.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CF-8M **ASTM** A351 (CF-8M); A451 (CPF8M); A743 (CF-8M); A744 (CF-8M)
J92901	Cast Cr-Ni-Mo Stainless Steel (CF-10M)	**C** 0.04-0.10 **Cr** 18.0-21.0 **Mn** 1.50 max **Mo** 2.0-3.0 **Ni** 9.0-12.0 **P** 0.040 max **S** 0.040 max **Si** 1.50 max	**ACI** CF-10M **ASTM** A 351
J92910	Alloy Steel Casting	**C** 0.08 max **Cr** 18.00-21.00 **Mn** 1.50 max **Mo** 2.00-3.00 **Ni** 9.00-12.00 **P** 0.05 max **S** 0.05 max **Si** 2.00 max	
J92920	Alloy Steel Casting (316H)	**C** 0.04-0.10 **Cr** 16.0-18.0 **Mn** 2.00 max **Mo** 2.00-3.00 **Ni** 11.0-14.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**ASTM** A452 (TP316H)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
J92951	Alloy Steel Casting	**C** 0.15 max **Cr** 16.0-18.0 **Cu** 0.50 max **Mn** 2.0 max **Mo** 1.5-2.25 **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.75 max	**AMS** 5360
J92971	Alloy Steel Casting (CF-10MC)	**C** 0.10 max **Cr** 15.0-18.0 **Mn** 1.50 max **Mo** 1.75-2.25 **Ni** 13.0-16.0 **P** 0.040 max **S** 0.040 max **Si** 1.50 max **Other** Cb 10xC min, 1.20 max	**ACI** CF-10MC **ASTM** A351 (CF-10MC)
J92972	Alloy Steel Casting	**C** 0.10 max **Cr** 16.0-18.0 **Fe** rem **Mn** 7.00-9.00 **N** 0.08-0.18 **Ni** 8.0-9.0 **P** 0.060 max **S** 0.030 max **Si** 3.50-4.50	**ACI** CF10SMnN **ASTM** A743
J92999	Cast Cr-Ni-Mo Stainless Steel (CG-3M)	**C** 0.03 max **Cr** 18.0-21.0 **Mn** 1.50 max **Mo** 3.0-4.0 **Ni** 9.0-13.0 **P** 0.04 max **S** 0.04 max **Si** 1.50 max	**ACI** CG-3M **ASTM** A 743; A 744; A 351
J93000	Alloy Steel Casting (CG-8M)	**C** 0.08 max **Cr** 18.0-21.0 **Mn** 1.50 max **Mo** 3.0-4.0 **Ni** 9.0-13.0 **P** 0.04 max **S** 0.04 max **Si** 1.50 max	**ASTM** A351 (CG-8M); A743 (CG-8M); A744 (CG-8M)
J93001	Alloy Steel Casting (CG-12)	**C** 0.12 max **Cr** 20.0-23.0 **Mn** 1.50 max **Ni** 10.0-13.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CG-12 **ASTM** A743 (CG-12)
J93005	Alloy Steel Casting (HD)	**C** 0.50 max **Cr** 26.0-30.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 4.0-7.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HD **ASTM** A297 (HD)
J93010	Alloy Steel Casting, Maraging	**Al** 0.02-0.10 **C** 0.03 max **Co** 9.50-11.00 **Mn** 0.10 max **Mo** 4.40-4.80 **Ni** 16.00-17.50 **P** 0.01 maX **S** 0.01 max **Si** 0.10 max **Ti** 0.15-0.45	**AMS** 5339
J93015	Alloy Steel Casting (HD-50)	**C** 0.45-0.55 **Cr** 26.0-30.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 4.0-7.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HD-50)
J93072	Alloy Steel Casting	**C** 0.15-0.25 **Cr** 17.0-20.0 **Mn** 2.0 max **Mo** 1.75-2.5 **Ni** 12.0-15.0 **P** 0.04 max **S** 0.04 max **Si** 1.0 max	**AMS** 5361
J93150	Alloy Steel Casting, Maraging	**Al** 0.05-0.20 **C** 0.03 max **Co** 8.50-9.50 **Mn** 0.10 max **Mo** 4.50-5.50 **Ni** 18.0-19.0 **P** 0.010 max **S** 0.010 max **Si** 0.10 max **Ti** 0.55-0.85	**AMS** 5337
J93183	Cast Ferritic-Austenitic Stainless Steel (KCR-D183)	**C** 0.03 max **Co** 0.5-1.5 **Cr** 20.0-23.0 **Cu** 1.0 max **Mn** 2.0 max **Mo** 2.0-4.0 **N** 0.08-0.25 **Ni** 4.0-6.0 **P** 0.040 max **S** 0.03 max **Si** 2.0 max	**ASTM** A872
J93254	Austenitic Cr-Ni-Mo-Cu-N Stainless Steel Casting (CK-3MCuN, 254 SMO)	**C** 0.025 max **Cr** 19.5-20.5 **Cu** 0.50-1.0 **Mn** 1.20 max **Mo** 6.0-7.0 **N** 0.180-0.240 **Ni** 17.5-19.7 **P** 0.045 max **Si** 1.0 max **S** 0.010 max	**ACI** CK-3MCuN **ASTM** A351; A743; A744
J93303	Alloy Steel Casting	**C** 0.20-0.45 **Cr** 23.00-28.00 **Mn** 2.50 max **N** 0.20 max **Ni** 10.0-14.0 **P** 0.05 max **S** 0.05 max **Si** 1.75 max	**ASTM** A447
J93345	Cast Duplex (Austenitic-Ferritic) Cr-Ni-Mo-N Stainless Steel (ESCOLOY 45 D)	**C** 0.08 max **Cr** 22.5-25.5 **Mn** 1.00 max **Mo** 3.0-4.5 **Ni** 8.0-11.0 **N** 0.10-0.30 **P** 0.04 max **S** 0.025 max **Si** 1.50 max	**ASTM** A890 (2A)
J93370	Alloy Steel Casting	**C** 0.04 max **Cr** 24.5-26.5 **Cu** 2.75-3.25 **Mn** 1.00 max **Mo** 1.75-2.25 **Ni** 4.75-6.00 **P** 0.04 max **S** 0.04 max **Si** 1.00 max	**ASTM** A744 (CD-4MCu); A890 (1A)
J93371	Duplex Alloy Steel Casting (3A)	**C** 0.06 max **Cr** 24.0-27.0 **Fe** rem **Mn** 1.00 max **Mo** 1.75-2.50 **N** 0.15-0.25 **Ni** 4.00-6.00 **P** 0.040 max **S** 0.040 max **Si** 1.00 max	**ASTM** A890 (3A)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
J93372	Cast Duplex (Austenitic-Ferritic) Cr-Ni-Cu-Mo-N Stainless Steel (CD-4MCuN)	**C** 0.04 max **Cr** 24.5-26.5 **Cu** 2.7-3.3 **Mn** 1.0 max **Mo** 1.7-2.3 **N** 0.10-0.25 **Ni** 4.7-6.0 **P** 0.04 max **S** 0.04 max **Si** 1.0 max	**ACI** *CD-4MCuN* **ASTM** A890 Grade 1B
J93380	Ferritic - Austenitic Cr-Ni-Mo-W-N Stainless Steel Casting (Zeron 100)	**C** 0.03 max **Cr** 24.0-26.0 **Cu** 0.5-1.0 **Mn** 1.0 max **Mo** 3.0-4.0 **Ni** 6.5-8.5 **N** 0.2-0.3 **P** 0.030 max **S** 0.025 max **Si** 1.0 max **W** 0.5-1.0 **Other** %Cr + 3.3 x %Mo + 16 x $\%N_2$ — 40 min	**ASTM** A351; A743
J93400	Alloy Steel Casting (CH-8)	**C** 0.08 max **Cr** 22.0-26.0 **Mn** 1.50 max **Ni** 12.0-15.0 **P** 0.040 max **S** 0.040 max **Si** 1.50 max	**ACI** CH-8 **ASTM** A351 (CH-8); A451 (CPH-8)
J93401	Alloy Steel Casting (CH-10)	**C** 0.10 max **Cr** 22.0-26.0 **Mn** 1.50 max **Ni** 12.0-15.0 **P** 0.040 max **S** 0.040 max **Si** 2.00 max	**ACI** CH-10 **ASTM** A351 (CH-10)
J93402	Alloy Steel Casting (CH-20)	**C** 0.20 max **Cr** 22.0-26.0 **Mn** 1.50 max **Ni** 12.0-15.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CH-20 **ASTM** A351 (CH-20); A451 (CH-2, CPH-10, CPH-20); A743 (CH-20)
J93403	Alloy Steel Casting (HE)	**C** 0.20-0.50 **Cr** 26.0-30.0 **Mn** 2.00 max **Mo** 0.50 max **Ni** 8.0-11.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HE **ASTM** A297 (HE)
J93404	Cast Ferritic-Austenitic Stainless Steel (Alloy 958)	**C** 0.03 max **Cr** 24.0-26.0 **Mn** 1.50 max **Mo** 4.0-5.0 **Ni** 6.0-8.0 **N** 0.10-0.30 **Si** 1.00 max	**ASTM** A890 (5A)
J93413	Alloy Steel Casting (HE-35)	**C** 0.30-0.40 **Cr** 26.0-30.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 8.0-11.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ACI** HE-35 **ASTM** A608 (HE-35)
J93423	Alloy Steel Casting (CE-30)	**C** 0.30 max **Cr** 26.0-30.0 **Mn** 1.50 max **Ni** 8.0-11.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CE-30 **ASTM** A743 (CE-30)
J93503	Alloy Steel Casting (HH)	**C** 0.20-0.50 **Cr** 24.0-28.0 **Mn** 2.00 max **Mo** 0.50 max **Ni** 11.0-14.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HH **ASTM** A297 (HH)
J93513	Alloy Steel Casting (HH-30)	**C** 0.25-0.35 **Cr** 24.0-28.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 11.0-14.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ACI** HH-30 **ASTM** A608 (HH30)
J93550	Cast Ferritic-Austenitic Stainless Steel (KCR-D283)	**C** 0.03 max **Co** 0.5-1.5 **Cr** 23.0-26.0 **Cu** 1.0 max **Mn** 2.0 max **Mo** 5.0-8.0 **N** 0.08-0.25 **P** 0.040 max **S** 0.03 max **Si** 2.0 max	**ASTM** A872
J93633	Alloy Steel Casting (HH-33)	**C** 0.28-0.38 **Cr** 24.0-26.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HH33)
J93790	Alloy Steel Casting (CG6MMN)	**C** 0.06 max **Cb** 0.10-0.30 **Cr** 20.50-23.50 **Mn** 4.00-6.00 **Mo** 1.50-3.00 **N** 0.20-0.40 **Ni** 11.50-13.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **V** 0.10-0.30	**ASTM** A351 (CG6MMN)
J93900	Stainless Steel Casting (Durcomet 5)	**C** 0.025 max **Cr** 20.0-22.0 **Mn** 1.50 max **N** 0.08-0.20 **Ni** 15.0-17.0 **P** 0.040 max **S** 0.040 max **Si** 4.00-6.00	
J94003	Alloy Steel Casting (HI)	**C** 0.20-0.50 **Cr** 26.0-30.0 **Mn** 2.00 max **Mo** 0.50 max **Ni** 14.0-18.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HI **ASTM** A297 (HI)
J94013	Alloy Steel Casting (HI-35)	**C** 0.30-0.40 **Cr** 26.0-30.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 14.0-18.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HI35)
J94202	Alloy Steel Casting (CK-20)	**C** 0.20 max **Cr** 23.0-27.0 **Mn** 2.00 max **Ni** 19.0-22.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** CK-20 **ASTM** A351 (CK-20); A451 (CPK20); A743 (CK-20)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
J94203	Alloy Steel Casting (HK-30)	**C** 0.25-0.35 **Cr** 23.0-27.0 **Mn** 1.50 max **Ni** 19.0-22.0 **P** 0.040 max **S** 0.040 max **Si** 1.75 max	**ACI** HK-30 **ASTM** A351 (HK-30); A608 (HK-30)
J94204	Alloy Steel Casting (HK-40)	**C** 0.35-0.45 **Cr** 23.0-27.0 **Mn** 1.50 max **Ni** 19.0-22.0 **P** 0.040 max **S** 0.040 max **Si** 1.75 max	**ACI** HK-40 **ASTM** A351 (HK-40); A608 (HK40)
J94211	Alloy Steel Casting	**C** 0.10-0.18 **Cr** 23.0-26.0 **Cu** 0.50 max **Mn** 2.0 max **Mo** 0.50 max **Ni** 19.0-22.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-1.50	**AMS** 5365; 5366
J94213	Alloy Steel Casting (HN)	**C** 0.20-0.50 **Cr** 19.0-23.0 **Mn** 2.00 max **Mo** 0.50 max **Ni** 23.0-27.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HN **ASTM** A297 (HN)
J94214	Alloy Steel Casting (HN-40)	**C** 0.35-0.45 **Cr** 19.0-23.0 **Mn** 1.50 max **Mo** 0.50 max **Ni** 23.0-27.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HN40)
J94224	Alloy Steel Casting (HK)	**C** 0.20-0.60 **Cr** 24.0-28.0 **Mn** 2.00 max **Mo** 0.50 max **Ni** 18.0-22.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HK **ASTM** A297 (HK)
J94302	Alloy Steel Casting (310)	**C** 0.25 max **Cr** 24.0-26.0 **Mn** 2.00 max **Ni** 19.0-22.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**MIL SPEC** MIL-S-81591 (310)
J94603	Replaced by N08030		
J94604	Replaced by N08604		
J94605	Replaced by N08002		
J94613	Replaced by N08613		
J94614	Replaced by N08614		
J94650	Alloy Steel Casting (CN-7MS)	**C** 0.07 max **Cr** 18.0-20.0 **Cu** 1.5-2.0 **Mn** 1.00 max **Mo** 2.5-3.0 **Ni** 22.0-25.0 **P** 0.04 max **S** 0.03 max **Si** 2.50-3.50	**ASTM** A744 (CN-7MS)
J94651	Austenitic Cr-Ni-Mo-N Stainless Steel Casting (CN-3MN, AL-6XN)	**C** 0.03 max **Cr** 20.0-22.0 **Cu** 0.75 max **Fe** rem **Mn** 2.00 max **Mo** 6.0-7.0 **N** 0.18-0.26 **Ni** 23.5-25.5 **P** 0.040 max **S** 0.010 max **Si** 1.00 max	**ACI** CN3MN **ASTM** A351; A743; A744
J94652	Cast Cr-Ni-Mo Stainless Steel (CN-3M)	**C** 0.03 max **Cr** 20.0-22.0 **Mn** 2.0 max **Mo** 4.5-5.5 **Ni** 23.0-27.0 **P** 0.03 max **S** 0.03 max **Si** 1.0 max	**ACI** CN-3M **ASTM** A 743
J94653	Austenitic Cr-Ni-Mo-N Stainless Steel Casting (CK-3MN, cast SR50A)	**C** 0.035 max **Cr** 22.0-24.0 **Cu** 0.40 max **Mn** 2.00 max **Mo** 6.0-6.8 **N** 0.21-0.32 **Ni** 20.0-22.0 **P** 0.035 max **S** 0.020 max **Si** 1.00 max	**ACI** CK-3MN **ASTM** A 743; A 744
J94805	Replaced by N08050		
J95150	Replaced by N08007		
J95151	Replaced by N08151		
J95404	Replaced by N08005		
J95405	Replaced by N08004		
J95705	Replaced by N08705		

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With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Kxxxxx Number Series
Miscellaneous Steels and Ferrous Alloys

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MISCELLANEOUS STEELS AND FERROUS ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K00040	Carbon Steel, Special Killed, Deep Drawing	**C** 0.10 max **Mn** 0.50 max **P** 0.025 max **S** 0.035 max	**ASTM** A620
K00045	Steel Welding Rod (RG45)	**Al** 0.02 max **C** 0.08 max **Cu** 0.25 max **Mn** 0.50 max **P** 0.040 max **S** 0.040 max **Si** 0.10 max	**ASME** SFA5.2 (RG45) **AWS** A5.2 (RG45)
K00060	Steel Welding Rod (RG60)	**Al** 0.02 max **C** 0.15 max **Cu** 0.25 max **Mn** 0.90-1.40 **P** 0.040 max **S** 0.040 max **Si** 0.10-0.35	**ASME** SFA5.2 (RG60) **AWS** A5.2 (RG60)
K00065	Steel Welding Rod (RG65)	**Al** 0.02 max **P** 0.040 max **S** 0.040 max	**ASME** SFA5.2 (RG65) **AWS** A5.2 (RG65)
K00095	Commercially Pure Iron	**Cu** 0.15 max **P** 0.010 max **S** 0.030 max **Other** C + Mn + Si + P + S 0.10 max	**AMS** 7706; 7707
K00100	Enameling Steel	**C** 0.008 max **Mn** 0.60 max **S** 0.040 max	**ASTM** A424 (I)
K00400	Enameling Steel	**C** 0.04 max **Mn** 0.12 max **P** 0.015 max **S** 0.040 max	**ASTM** A424 (IIA)
K00600	Carbon Steel, Special Magnetic Properties	**Al** 0.015 max **C** 0.06 max **Mn** 0.40 max **P** 0.015 max **S** 0.015 max **Si** 0.20 max	
K00606	Carbon Steel Welding Wire	**C** 0.06 max **Cu** 0.15 max **Mn** 0.25 max **P** 0.040 max **S** 0.040 max **Si** 0.08 max	**AMS** 5030
K00800	Carbon Steel, Special Magnetic Properties	**Al** 0.02 max **C** 0.08 max **Mn** 0.40 max **P** 0.025 max **S** 0.025 max **Si** 0.20 max	
K00801	Enameling Steel	**C** 0.08 max **Mn** 0.20 max **P** 0.015 max **S** 0.040 max	**ASTM** A424 (IIB)
K00802	Low Carbon Steel	**C** 0.08-0.20 **Mn** 0.40-0.80 **P** 0.040 max **S** 0.050 max	**AMS** 5061
K00912	Steel Electrode (EL12N)	**C** 0.04-0.14 **Cu** 0.08 max **Mn** 0.25-0.60 **P** 0.012 max **S** 0.030 max **Si** 0.10 max **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EL12N) **AWS** A5.23 (EL12N)
K01000	Carbon Steel, Special Magnetic Properties	**Al** 0.02 max **C** 0.10 max **Mn** 0.60 max **P** 0.04 max **S** 0.04 max **Si** 0.20 max	
K01001	Carbon Steel	**C** 0.05-0.15 **Mn** 0.27-0.63 **P** 0.050 max **S** 0.060 max	**ASTM** A254
K01008	Steel Electrode (EL8)	**C** 0.10 max **Cu** 0.35 max **Mn** 0.25-0.60 **P** 0.030 max **S** 0.030 max **Si** 0.07 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EL8) **AWS** A5.17 (EL8) **MIL SPEC** MIL-E-23765/4 (MIL-EL8)
K01009	Steel Electrode (EL8K)	**C** 0.10 max **Cu** 0.35 max **Mn** 0.25-0.60 **P** 0.030 max **S** 0.030 max **Si** 0.10-0.25 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EL8K) **AWS** A5.17 (EL8K)
K01010	Steel Electrode (EH10K-EW)	**C** 0.06-0.14 **Mn** 1.40-2.0 **P** 0.025 max **S** 0.030 max **Si** 0.15-0.30 **Other** total other elements 0.50 max	**ASME** SFA5.25 (EH10K-EW) **AWS** A5.25 (EH10K-EW)
K01012	Steel Electrode (EL12)	**C** 0.04-0.14 **Cu** 0.35 max **Mn** 0.25-0.60 **P** 0.030 max **S** 0.030 max **Si** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EL12); SFA5.23 (EL12) **AWS** A5.17 (EL12); A5.23 (EL12) **MIL SPEC** MIL-E-23765/4 (MIL-EL12)
K01013	Steel Electrode (EM12KN)	**C** 0.05-0.15 **Cu** 0.08 max **Mn** 0.80-1.25 **P** 0.012 max **S** 0.030 max **Si** 0.10-0.35 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EM12KN) **AWS** A5.23 (EM12KN)

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K01111	Steel Electrode (EM11K)	**C** 0.07-0.15 **Cu** 0.35 max **Mn** 1.00-1.50 **P** 0.025 max **S** 0.03 max **Si** 0.65-0.85	**ASME** SFA5.17 (EM11K) **AWS** A5.17 (EM11K)
K01112	Steel Electrode (EM12)	**C** 0.06-0.15 **Cu** 0.35 max **Mn** 0.80-1.25 **P** 0.030 max **S** 0.030 max **Si** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EM12); SFA5.25 (EM12-EW) **AWS** A5.17 (EM12); A5.25 (EM12-EW) **MIL SPEC** MIL-E-23765/4 (MIL-EM12)
K01113	Steel Electrode (EM12K) (EM12K-EW)	**C** 0.05-0.15 **Cu** 0.35 max **Mn** 0.80-1.25 **P** 0.030 max **S** 0.030 max **Si** 0.10-0.35 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EM12K); SFA5.23 (EM12K); SFA5.25 (EM12K-EW) **AWS** A5.17 (EM12K); A5.23 (EM12K); A5.25 (EM12K-EW) **MIL SPEC** MIL-E-23765/4 (MIL-EM12K)
K01200	Carbon Steel	**C** 0.06-0.18 **Mn** 0.27-0.63 **P** 0.050 max **S** 0.060 max	**ASTM** A178 (A); A179
K01201	Carbon Steel	**C** 0.06-0.18 **Mn** 0.27-0.63 **P** 0.048 max **S** 0.058 max **Si** 0.25 max	**ASTM** A179; A192; A226
K01210	Steel Electrode (EH10K)	**C** 0.07-0.15 **Cu** 0.35 max **Mn** 1.30-1.70 **P** 0.025 max **S** 0.025 max **Si** 0.05-0.25	**ASME** SFA5.17 (EH10K) **AWS** A5.17 (EH10K)
K01213	Steel Electrode (EH12K)	**C** 0.06-0.15 **Cu** 0.35 max **Mn** 1.50-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.25-0.65	**ASME** SA5.17 (EH12K) **AWS** A5.17 (EH12K)
K01313	Steel Electrode (EM13K)	**C** 0.06-0.16 **Cu** 0.35 max **Mn** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.35-0.75 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EM13K); SFA5.25 (EM13K-EW); SFA5.26 (EGxxS-1); SFA5.30 (INMs2) **AWS** A5.17 (EM13K); A5.25 (EM13K-EW); A5.26 (EGxxS-1); A5.30 (INMs2)
K01314	Steel Electrode (EM14K)	**C** 0.06-0.19 **Cu** 0.35 max **Mn** 0.90-1.40 **P** 0.025 max **S** 0.025 max **Si** 0.35-0.75 **Ti** 0.03-0.17	**ASME** SFA5.17 (EM14K) **AWS** A5.17 (EM14K)
K01500	Carbon Steel, Special Magnetic Properties	**Al** 0.02 max **C** 0.15 max **Mn** 0.50 max **P** 0.04 max **S** 0.04 max **Si** 0.20 max	
K01501	Carbon Steel	**C** 0.15 max **Mn** 0.90 max **P** 0.035 max **S** 0.040 max **Other** Cu 0.20 min (when specified)	**ASTM** A414 (A)
K01502	Carbon Steel	**C** 0.15 max **Mn** 0.30-0.60 **P** 0.045 max **S** 0.050 max	**ASTM** A730 (A)
K01503	Carbon Steel	**C** 0.15 min	**ASTM** A194 (1)
K01504	Carbon Steel	**C** 0.10-0.20 **Mn** 0.30-0.80 **P** 0.048 max **S** 0.058 max **Si** 0.25 max	**ASTM** A161 (LCST)
K01505	Carbon Steel	**C** 0.15 min **P** 0.05 max **Other** Cu 0.20 min (when specified)	**ASTM** A67
K01506	Carbon Steel	**C** 0.15 max **Mn** 0.63 max **P** 0.050 max **S** 0.060 max	**ASTM** A539
K01507	Carbon Steel	**C** 0.15 max **Mn** 0.60 max **P** 0.035 max **S** 0.04 max **Other** CU0.20 min (when specified)	**ASTM** A109 (4,5)
K01515	Steel Electrode (EM15K) (EM15K-EW)	**C** 0.10-0.20 **Cu** 0.35 max **Mn** 0.80-1.25 **P** 0.030 max **S** 0.030 max **Si** 0.10-0.35 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EM15K); SFA5.25 (EM15K-EW) **AWS** A5.17 (EM15K); A5.25 (EM15K-EW) **MIL SPEC** MIL-E-23765/1 (MIL-70S-1)
K01520	Steel Electrode	**C** 0.15 max **Mn** 0.30-0.60 **P** 0.04 max **S** 0.04 max **Si** 0.03 max	**AWS** A5.15 (ESt)
K01600	Carbon Steel	**C** 0.16 max **Mn** 0.90-1.50 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.50 **Other** Cu 0.20 min (when specified)	**ASTM** A678 (A)
K01601	Carbon Steel	**C** 0.16 max **Mn** 1.00-1.35 **P** 0.04 max **S** 0.04 max **Si** 0.10-0.35	**ASTM** A131 (CS, DS)
K01602	Carbon Steel	**C** 0.13-0.19 **Mn** 0.30-0.60 **P** 0.04 max **S** 0.05 max **Si** 0.10 max	**MIL SPEC** MIL-S-645

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K01700	Carbon Steel	**C** 0.17 max **Mn** 0.90 max **P** 0.035 max **S** 0.045 max	**ASTM** A285/A285M (A)
K01701	Carbon Steel	**C** 0.17 max **Mn** 0.84-1.46 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A662 (A)
K01800	Carbon Steel	**C** 0.18 max **Mn** 0.55-0.98 **P** 0.035 max **S** 0.04 max **Si** 0.13-0.45	**ASTM** A516 (55)
K01801	Carbon Steel	**C** 0.18 max **Mn** 0.70-1.35 **P** 0.04 max **S** 0.04 max **Si** 0.10-0.35	**ASTM** A131 (E)
K01802	Carbon Steel	**C** 0.18 max **Cb** 0.05 max **Mn** 1.00-1.35 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.50	**ASTM** A633 (A)
K01803	Carbon Steel	**C** 0.18 max **Mn** 1.00-1.35 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.50 **V** 0.10 max	**ASTM** A633
K01804	Carbon Steel	**C** 0.18 max **Mn** 0.90 max **P** 0.04 max **S** 0.05 max **Si** 0.10-0.30	**ASTM** A284
K01807	Carbon Steel	**C** 0.18 max **Mn** 0.27-0.63 **P** 0.048 max **S** 0.058 max	**ASTM** A214; A556 (A2); A557 (A2)
K01900	Carbon Steel	**C** 0.11-0.27 **Mn** 0.27-0.93 **P** 0.048 max **S** 0.058 max **Other** Cu 0.18 min (when specified)	**ASTM** A502 (1)
K01907	Alloy Steel (C-110)	**C** 0.16-0.22 **Mn** 1.40-1.80 **P** 0.025 max **S** 0.025 max **Si** 0.25-0.45 **V** 0.07-0.18	
K02000	Carbon Steel	**C** 0.15-0.25 **Mn** 0.30-0.60 **P** 0.045 max **S** 0.050 max	**ASTM** A730 (B)
K02001	Carbon Steel	**C** 0.20 max **Mn** 0.90 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.30	**ASTM** A284; A515 (55)
K02002	Carbon Steel	**C** 0.20 max **Mn** 0.70-1.35 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.50 **Other** Cu 0.20 min (when specified)	**ASTM** A678 (B)
K02003	Steel, High Strength Low Alloy, replaced by K12037		
K02004	Carbon Steel	**C** 0.12-0.29 **Mn** 0.26-0.94 **P** 0.05 max **S** 0.06 max	**ASTM** A595 (A)
K02005	Carbon Steel	**C** 0.12-0.29 **Mn** 0.35-1.40 **P** 0.05 max **S** 0.06 max	**ASTM** A595 (B)
K02006	Carbon Steel	**C** 0.20 max **Mn** 0.90-1.45 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	
K02007	Carbon Steel	**C** 0.20 max **Mn** 1.00-1.60 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.50	**ASTM** A662 (C)
K02100	Carbon Steel	**C** 0.21 max **Mn** 0.55-0.98 **P** 0.035 max **S** 0.04 max **Si** 0.13-0.45	**ASTM** A516 (60)
K02101	Carbon Steel	**C** 0.21 max **Mn** 0.70-1.35 **P** 0.04 max **S** 0.04 max **Si** 0.10-0.35	**ASTM** A131 (D)
K02102	Carbon Steel	**C** 0.21 max **Mn** 0.80-1.10 **P** 0.04 max **S** 0.04 max **Si** 0.35 max	**ASTM** A131 (B) **MIL SPEC** MIL-S-22698
K02104	Carbon Steel	**C** 0.21 max **Mn** 0.90-1.35 **P** 0.048 max **S** 0.058 max **Si** 0.10-0.40	**ASTM** A524
K02200	Carbon Steel	**C** 0.22 max **Mn** 0.90 max **P** 0.035 max **S** 0.045 max	**ASTM** A285/A285M (B)
K02201	Carbon Steel	**C** 0.22 max **Mn** 0.90 max **P** 0.035 max **S** 0.040 max **Other** Cu 0.20 min (when specified)	**ASTM** A414 (B)
K02202	Carbon Steel	**C** 0.22 max **Mn** 0.80-1.10 **P** 0.035 max **S** 0.04 max **Si** 0.13-0.40	**ASTM** A442 (55)

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K02203	Carbon Steel	**C** 0.22 max **Mn** 0.80-1.55 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.33	**ASTM** A662 (B)
K02204	Carbon Steel	**C** 0.22 max **Mn** 1.00-1.60 **P** 0.04 max **S** 0.05 max **Si** 0.20-0.50 **Other** Cu 0.20 min (when specified)	**ASTM** A678 (C)
K02300	Carbon Steel	**C** 0.23 max **P** 0.05 max **S** 0.05 max	**ASTM** A131 (A)
K02301	Carbon Steel	**C** 0.23 max **Mn** 0.60-0.90 **P** 0.04 max **S** 0.05 max **Si** 0.10-0.35	**ASTM** A573 (58)
K02302	Carbon Steel	**C** 0.23 max **Mn** 1.60 max **P** 0.035 max **S** 0.040 max **Si** 0.37 max	**ASTM** A707 (L1)
K02303	Carbon Steel	**C** 0.23 max **Cb** 0.005-0.05 **Cu** 0.20 min **Mn** 1.35 max **P** 0.04 max **S** 0.05 max **Si** 0.40 max	**ASTM** A572 (50-1)
K02304	Carbon Steel	**C** 0.23 max **Cu** 0.20 min **Mn** 1.35 max **P** 0.04 max **S** 0.05 max **Si** 0.04 max **V** 0.01-0.15	**ASTM** A572 (50-2)
K02305	Carbon Steel	**C** 0.23 max **Cb** 0.05 max **Cu** 0.20 min **Mn** 1.35 max **P** 0.04 max **S** 0.05 max **Si** 0.40 max **Other** Cb+V 0.02-0.15	**ASTM** A572 (50-3)
K02306	Carbon Steel	**C** 0.23 max **Cu** 0.20 min **Mn** 1.35 max **N** 0.015 max **P** 0.04 max **S** 0.05 max **Si** 0.40 max **V** 4xN min	**ASTM** A572 (50-4)
K02400	Carbon Steel	**C** 0.24 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 0.65-1.40 **Mo** 0.08 max **Ni** 0.25 max **P** 0.035 max **S** 0.040 max **Si** 0.13-0.55	
K02401	Carbon Steel	**C** 0.24 max **Mn** 0.90 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.30	**ASTM** A283 (C); A284 (C); A515 (60)
K02402	Carbon Steel	**C** 0.24 max **Mn** 0.80-1.10 **P** 0.35 max **S** 0.04 max **Si** 0.15-0.40	**ASTM** A442 (60)
K02403	Carbon Steel	**C** 0.24 max **Mn** 0.79-1.30 **P** 0.035 max **S** 0.04 max **Si** 0.13-0.45	**ASTM** A516 (65)
K02404	Carbon Steel	**C** 0.24 max **Mn** 0.85-1.20 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.40	**ASTM** A573 (65)
K02405	Carbon Steel	**C** 0.16-0.33 **Mn** 1.14-1.71 **P** 0.048 max **S** 0.058 max **Si** 0.08-0.32 **Other** Cu 0.18 min (when specified)	**ASTM** A502 (2)
K02500	Carbon Steel	**C** 0.25 max **Mn** 0.60 max **P** 0.035 max **S** 0.04 max **Other** Cu 0.20 min (when specified)	**ASTM** A109 (1, 2, 3)
K02501	Carbon Steel	**C** 0.25 max **Mn** 0.27-0.93 **P** 0.048 max **S** 0.058 max **Si** 0.10 min	**ASTM** A106 (A); A369 (FPA)
K02502	Carbon Steel	**C** 0.25 max **Mn** 0.90 max **P** 0.04 max **S** 0.05 max **Other** Cu 0.20 min (when specified)	**ASTM** A570 (30, 33, 36, 40)
K02503	Carbon Steel	**C** 0.25 max **Mn** 0.90 max **P** 0.035 max **S** 0.040 max **Other** Cu 0.20 min (when specified)	**ASTM** A414 (C)
K02504	Carbon Steel	**C** 0.25 max **Mn** 0.95 max **P** 0.05 max **S** 0.06 max	**ASTM** A53 (E-A, S-A); A523 (A)
K02505	Carbon Steel	**C** 0.25 max **Mn** 1.20 max **P** 0.035 max **S** 0.040 max **Other** Cu 0.20 min (when specified)	**ASTM** A414 (D)
K02506	Carbon Steel	**C** 0.25 max **Mn** 0.90-1.35 **P** 0.035 max **S** 0.025 max **Si** 0.15-0.30	**ASTM** A727
K02507	Carbon Steel	**C** 0.25 max **Mn** 1.35 max **P** 0.040 max **S** 0.05 max **Other** Cu 0.20 min (when specified)	**ASTM** A570 (45, 50, 55); A857

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K02508	Carbon Steel	**C** 0.25 max **Mn** 1.00 max **P** 0.040 max **S** 0.050 max	**AMS** 5062; 7496
K02595	Carbon Steel Structural Plate (greater than 4 in.)	**C** 0.29 max **Fe** rem **Mn** 0.85-1.20 **P** 0.04 max **S** 0.05 max	**ASTM** A36
K02596	Carbon Steel Structural Plate (greater than 2.5 in., less than or equal to 4 in.)	**C** 0.27 max **Fe** rem **Mn** 0.85-1.20 **P** 0.04 max **S** 0.05 max	**ASTM** A36
K02597	Carbon Steel Structural Plate (greater than 1.5 in., less than or equal to 2.5 in.)	**C** 0.26 max **Fe** rem **Mn** 0.80-1.20 **P** 0.04 max **S** 0.05 max	**ASTM** A36
K02598	Carbon Steel Structural Plate (greater than 0.75 in., less than or equal to 1.5 in.)	**C** 0.25 max **Fe** rem **Mn** 0.80-1.20 **P** 0.04 max **S** 0.05 max	**ASTM** A36
K02599	Carbon Steel Structural Plate (to 0.75 in.)	**C** 0.25 max **Fe** rem **P** 0.04 max **S** 0.05 max	**ASTM** A36
K02600	Carbon Steel	**C** 0.26 max **P** 0.04 max **S** 0.05 max **Other** Cu 0.20 min (when Copper Steel is specified)	**ASTM** A36 (SHAPES)
K02601	Carbon Steel	**C** 0.26 max **Mn** 1.30 max **S** 0.063 max	**ASTM** A618 (Ib)
K02603	Carbon Steel	**C** 0.26 max **Mn** 0.60-0.90 **P** 0.035 max **S** 0.040 max	
K02700	Carbon Steel	**C** 0.27 max **Mn** 0.79-1.30 **P** 0.035 max **S** 0.04 max **Si** 0.13-0.45	**ASTM** A516 (70)
K02701	Carbon Steel	**C** 0.27 max **Mn** 0.85-1.20 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.40	**ASTM** A573 (70)
K02702	Carbon Steel	**C** 0.27 max **Mn** 0.90 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.40	**ASTM** A283 (D); A284 (C, D)
K02703	Carbon Steel	**C** 0.27 max **Mn** 1.20 max **P** 0.04 max **S** 0.05 max **Other** Cu 0.20 min (when specified)	**ASTM** A529
K02704	Carbon Steel	**C** 0.27 max **Mn** 1.20 max **P** 0.035 max **S** 0.040 max **Other** Cu 0.20 min (when specified)	**ASTM** A414 (E)
K02705	Carbon Steel	**C** 0.27 max **Mn** 1.40 max **P** 0.05 max **S** 0.063 max **Other** Cu 0.18 min (when specified)	**ASTM** A500 (C)
K02706	Carbon Steel	**C** 0.27 min **Mn** 0.47 min **P** 0.048 max **S** 0.058 max	**ASTM** A325 (1)
K02707	Carbon Steel	**C** 0.27 max **Mn** 0.93 max **P** 0.048 max **S** 0.058 max **Si** 0.10 min	**ASTM** A210 (A-1); A556 (B2)
K02708	Carbon Steel	**C** 0.24-0.30 **Mn** 0.60-0.90 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.30	**MIL SPEC** MIL-S-22698
K02741	Carbon Steel	**C** 0.27 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 0.85-1.20 **Mo** 0.08 max **Ni** 0.25 max **P** 0.035 max **Pb** 0.05 max **S** 0.035 max **Si** 0.15-0.30 **V** 0.05 max	**ASTM** A758
K02800	Carbon Steel	**C** 0.28 max **Mn** 0.90 max **P** 0.035 max **S** 0.04 max **Si** 0.13-0.45	**ASTM** A515 (65)
K02801	Carbon Steel	**C** 0.28 max **Mn** 0.90 max **P** 0.035 max **S** 0.040 max	**ASTM** A285 (C)
K02802	Carbon Steel	**C** 0.28 max **Mn** 0.81-1.25 **P** 0.040 max **S** 0.050 max **Si** 0.13-0.33	
K02803	Carbon Steel	**C** 0.28 max **Mn** 0.84-1.52 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A299
K02900	Carbon Steel	**C** 0.29 max **Mn** 0.92-1.46 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A612

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K02901	Carbon Steel	**C** 0.26-0.33 **Mn** 0.60-0.90 **P** 0.040 max **S** 0.040 max **Si** 0.10 max	**MIL SPEC** MIL-S-3289
K03000	Carbon Steel	**C** 0.30 max **P** 0.05 max **S** 0.063 max **Other** Cu 0.18 min (when Copper Steel is specified)	**ASTM** A500 (A, B); A501
K03002	Carbon Steel	**C** 0.30 max **Mn** 1.00 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.30	**ASTM** A372 (I)
K03003	Carbon Steel	**C** 0.30 max **Mn** 1.00 max **P** 0.040 max **S** 0.050 max	**ASTM** A139 (B)
K03004	Carbon Steel	**C** 0.30 max **Mn** 1.20 max **P** 0.040 max **S** 0.050 max	**ASTM** A139 (C)
K03005	Carbon Steel	**C** 0.30 max **Mn** 1.20 max **P** 0.05 max **S** 0.06 max	**ASTM** A53 (E-B, S-B); A523 (B)
K03006	Carbon Steel	**C** 0.30 max **Mn** 0.29-1.06 **P** 0.048 max **S** 0.058 max **Si** 0.10 min	**ASTM** A106 (B); A234 (WPB); A333 (6); A334 (6); A369 (FPB); A556 (C2)
K03007	Carbon Steel	**C** 0.30 max **Mn** 0.27-0.93 **P** 0.050 max **S** 0.060 max	**ASTM** A557 (B2)
K03008	Carbon Steel	**C** 0.30 max **Mn** 0.40-1.06 **P** 0.05 max **S** 0.06 max	**ASTM** A333 (1); A334 (1)
K03009	Carbon Steel	**C** 0.30 max **Mn** 1.35 max **P** 0.035 max **S** 0.040 max **Si** 0.15-0.30	**ASTM** A350 (LF1)
K03010	Carbon Steel	**C** 0.30 max **Mn** 1.30 max **P** 0.040 max **S** 0.050 max	**ASTM** A139 (D)
K03011	Carbon Steel	**C** 0.30 max **Mn** 1.35 max **P** 0.035 max **S** 0.040 max **Si** 0.15-0.30	**ASTM** A350 (LF2); A706
K03012	Carbon Steel	**C** 0.30 max **Mn** 1.40 max **P** 0.040 max **S** 0.050 max	**ASTM** A139 (E)
K03013	Carbon Steel	**C** 0.30 max **Mn** 1.50 max **P** 0.050 max **S** 0.060 max	**ASTM** A381
K03014	Carbon Steel	**C** 0.30 max **Mn** 1.50 max **P** 0.050 max **S** 0.060 max **Si** 0.13-0.37	**ASTM** A694
K03015	Carbon Steel	**C** 0.30 min **P** 0.04 max **S** 0.06 max	**ASTM** A183
K03016	Carbon Steel	**C** 0.30 max **Mn** 0.60-0.90 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.30	
K03017	Carbon Steel	**C** 0.30 max **Mn** 0.80-1.35 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**ASTM** A266 (4)
K03046	Carbon Steel	**Al** 0.05 max **C** 0.30 max **Cr** 0.40 max **Cu** 0.35 max **Mn** 0.60-1.05 **Mo** 0.25 max **Ni** 0.50 max **P** 0.020 max **S** 0.020 max **Si** 0.15-0.35 **V** 0.05 max	**ASTM** A765 (I)
K03047	Carbon Steel	**Al** 0.05 max **C** 0.30 max **Cr** 0.40 max **Cu** 0.35 max **Mn** 0.60-1.35 **Mo** 0.25 max **Ni** 0.50 max **P** 0.020 max **S** 0.020 max **Si** 0.15-0.35 **V** 0.05 max	**ASTM** A765 (II)
K03100	Carbon Steel	**C** 0.31 max **Mn** 0.27-0.83 **P** 0.048 max **S** 0.058 max	**ASTM** A31 (B)
K03101	Carbon Steel	**C** 0.31 max **Mn** 0.90 max **P** 0.035 max **S** 0.04 max **Si** 0.13-0.33	**ASTM** A515 (70)
K03102	Carbon Steel	**C** 0.31 max **Mn** 1.20 max **P** 0.035 max **S** 0.040 max **Other** Cu 0.20 min (when specified)	**ASTM** A414 (F)
K03103	Carbon Steel	**C** 0.31 max **Mn** 1.35 max **P** 0.035 max **S** 0.040 max **Other** Cu 0.20 min (when specified)	**ASTM** A414 (G)
K03104	Carbon Steel	**C** 0.31 min **P** 0.045 max **S** 0.040 max	**ASTM** A574

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K03200	Carbon Steel	**C** 0.32 max **Mn** 1.04 max **P** 0.035 max **S** 0.045 max **Si** 0.15-0.30	**ASTM** A696 (B, C)
K03201	Carbon Steel	**C** 0.25-0.40 **Mn** 1.15-1.55 **P** 0.040 max **S** 0.08-0.13 **Si** 0.10-0.20	
K03300	Carbon Steel	**C** 0.33 max **Mn** 0.81-1.25 **P** 0.040 max **S** 0.050 max **Si** 0.13 max	**ASTM** A455 (I)
K03301	Carbon Steel	**C** 0.33 max **Mn** 1.45 max **P** 0.035 max **S** 0.040 max **Si** 0.37 max	**ASTM** A707 (L2)
K03500	Carbon Steel	**C** 0.35 max **P** 0.040 max **S** 0.045 max	
K03501	Carbon Steel	**C** 0.35 max **Mn** 0.29-1.06 **P** 0.048 max **S** 0.058 max **Si** 0.10 min	**ASTM** A106 (C); A210 (C); A234 (WPC)
K03502	Carbon Steel	**C** 0.35 max **Mn** 1.10 max **P** 0.05 max **S** 0.05 max	**ASTM** A181
K03503	Carbon Steel	**C** 0.35 max **Mn** 0.80 max **P** 0.050 max **S** 0.060 max	**ASTM** A178 (C)
K03504	Carbon Steel	**C** 0.35 max **Mn** 0.60-1.05 **P** 0.040 max **S** 0.050 max **Si** 0.35 max	**ASTM** A105; A695 (B)
K03505	Carbon Steel	**C** 0.35 max **Mn** 0.27-1.06 **P** 0.050 max **S** 0.060 max	**ASTM** A557 (C2)
K03506	Carbon Steel	**C** 0.35 max **Mn** 0.40-1.05 **P** 0.040 max **S** 0.040 max **Si** 0.15-0.35	**ASTM** A266 (1, 2); A541 (1)
K03700	Carbon Steel	**C** 0.37 max **P** 0.048 max **S** 0.058 max	**ASTM** A413
K03800	Carbon Steel	**C** 0.18-0.58 **Mn** 0.57 min **P** 0.048 max **S** 0.058 max	**ASTM** A563 (DH)
K03810	Carbon Steel	**B** 0.0005-0.005 **C** 0.38-0.43 **Cr** 0.30-0.55 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.08-0.15 **Ni** 0.20-0.40 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AMS** 6321
K03900	Carbon Steel	**C** 0.28-0.50 **P** 0.045 max **S** 0.045 max	**ASTM** A490
K04000	Carbon Steel	**C** 0.35-0.45 **Cr** 0.25 max **Cu** 0.35 **Mn** 0.60-0.90 **Mo** 0.10 max **Ni** 0.30 max **P** 0.040 max **S** 0.040 max **Si** 0.15-0.30 **V** 0.06 max	**ASTM** A290 (A, B)
K04001	Carbon Steel	**C** 0.35 max **Mn** 1.35 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.35	**ASTM** A372 (II)
K04002	Carbon Steel	**C** 0.40 min **P** 0.040 max **S** 0.050 max	**ASTM** A194 (2, 2HM, 2H)
K04100	Carbon Steel	**C** 0.28-0.55 **P** 0.040 max **S** 0.045 max	**ASTM** A354
K04200	Carbon Steel	**C** 0.25-0.58 **Mn** 0.57 min **P** 0.048 max **S** 0.058 max	**ASTM** A449
K04500	Carbon Steel	**C** 0.40-0.50 **Cr** 0.25 max **Cu** 0.35 **Mn** 0.60-0.90 **Mo** 0.10 max **Ni** 0.30 max **P** 0.040 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.06 max	**ASTM** A290 (C, D)
K04600	Carbon Steel	**C** 0.43-0.50 **Mn** 0.45-0.75 **P** 0.030 max **S** 0.035 max **Si** 0.15-0.35	**MIL SPEC** MIL-S-3039
K04700	Carbon Steel	**C** 0.40-0.55 **Mn** 0.60-0.90 **P** 0.045 max **S** 0.050 max **Si** 0.15 min	**ASTM** A21 (U); A383; A730 (C, D, E)
K04701	Carbon Steel	**C** 0.35-0.60 **Mn** 1.00 max **P** 0.04 max	**ASTM** A49
K04800	Carbon Steel	**C** 0.48 max **Mn** 1.00 max **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35	**ASTM** A489
K04801	Carbon Steel	**C** 0.48 max **Mn** 1.65 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.35	**ASTM** A372 (III)

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K05000	Carbon Steel	**C** 0.50 max **Cu** 0.35 **Mn** 0.40-0.90 **P** 0.040 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.10 max	**ASTM** A291 (2)
K05001	Carbon Steel	**C** 0.50 max **Mn** 0.50-0.90 **P** 0.040 max **S** 0.040 max **Si** 0.35 max	**ASTM** A266 (3); A649 (2)
K05002	Carbon Steel	**C** 0.50 max **Mn** 0.60-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.30	**ASTM** A288 (1)
K05003	Carbon Steel	**C** 0.50 max **P** 0.05 max **S** 0.05 max	
K05200	Carbon Steel	**C** 0.45-0.59 **Mn** 0.60-0.90 **P** 0.045 max **S** 0.050 max **Si** 0.15 min	**ASTM** A21 (F, G, H); A730 (F)
K05500	Carbon Steel	**C** 0.55 max **Cr** 0.25 **Cu** 0.35 **Mn** 0.60-0.90 **Mo** 0.10 max **Ni** 0.30 max **P** 0.040 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.06	**ASTM** A291 (1)
K05501	Carbon Steel	**C** 0.55 max **Mn** 0.60-0.90 **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35 **Other** Pb 0.15-0.35 (when specified)	**ASTM** A321
K05700	Carbon Steel	**C** 0.57 max **Mn** 0.60-0.85 **P** 0.05 max **S** 0.05 max **Si** 0.15 min	**ASTM** A25 (A); A504 (A, L); A631 (A)
K05701	Carbon Steel	**C** 0.50-0.65 **Mn** 0.60-0.90 **P** 0.050 max **S** 0.050 max **Si** 0.15-0.35	**ASTM** A551 (A, AHT)
K05800	Carbon Steel	**C** 0.35-0.82 **P** 0.050 max **Other** Cu 0.20 min (when specified)	
K05801	Carbon Steel	**C** 0.58 max **Mn** 0.27 min **P** 0.048 max **S** 0.058 max	**ASTM** A563 (D)
K05802	Carbon Steel	**C** 0.58 max **P** 0.13 max **S** 0.15 max	**ASTM** A563 (O, A, B, C)
K06000	Carbon Steel	**C** 0.45-0.75 **Mn** 0.60-1.10 **P** 0.040 max **S** 0.050 max **Si** 0.10-0.35	**MIL SPEC** MIL-W-21425 (II)
K06001	Carbon Steel	**C** 0.60 max **Mn** 1.30-1.70 **P** 0.045 max **S** 0.050 max **Si** 0.15 min	**ASTM** A729
K06002	Carbon Steel	**C** 0.35-0.85 **P** 0.05 max **Other** Cu 0.20 min (when specified)	**ASTM** A67 (2)
K06100	Carbon Steel	**C** 0.55-0.68 **Mn** 0.60-0.90 **P** 0.04 max **S** 0.05 **Si** 0.10-0.25	**ASTM** A1 (61-80)
K06200	Carbon Steel	**C** 0.57-0.67 **Mn** 0.60-0.85 **P** 0.05 max **S** 0.05 max **Si** 0.15 min	**ASTM** A25 (B); A504 (B); A631 (B)
K06201	Carbon Steel	**C** 0.50-0.75 **Mn** 0.60-1.20 **P** 0.040 max **S** 0.050 max	**ASTM** A417
K06500	Carbon Steel	**C** 0.55-0.75 **Mn** 0.60-1.20 **P** 0.04 max **S** 0.05 max **Si** 0.10-0.30	**MIL SPEC** MIL-W-21425 (I, III)
K06501	Carbon Steel	**C** 0.45-0.85 **Mn** 0.30-1.30 **P** 0.040 max **S** 0.050 max **Si** 0.10-0.35	**ASTM** A227 **SAE** J113
K06700	Carbon Steel	**C** 0.50-0.85 **Mn** 0.60-1.10 **P** 0.040 max **S** 0.050 max **Si** 0.10-0.35	**ASTM** A648 (II); A821
K06701	Carbon Steel	**C** 0.60-0.75 **Mn** 0.60-0.90 **P** 0.025 max **S** 0.030 max **Si** 0.15-0.35	**ASTM** A230 **SAE** J172; J316 (B)
K06702	Carbon Steel	**C** 0.60-0.75 **Mn** 0.60-0.90 **P** 0.050 max **S** 0.050 max **Si** 0.15-0.35	**ASTM** A551 (B, BHT)
K06703	Carbon Steel	**C** 0.60-0.75 **Mn** 0.60-0.90 **P** 0.04 max **Si** 0.10-0.40	**ASTM** A2 (A)
K07000	Carbon Steel	**C** 0.64-0.77 **Mn** 0.60-0.90 **P** 0.04 max **S** 0.05 **Si** 0.10-0.25	**ASTM** A1 (81-89)
K07001	Carbon Steel	**C** 0.55-0.85 **Mn** 0.60-1.20 **P** 0.040 max **S** 0.050 max **Si** 0.10-0.35	**ASTM** A229 **FED** QQ-W-428 **SAE** J316 (A)

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K07100	Carbon Steel	**C** 0.55-0.88 **Mn** 0.60-1.10 **P** 0.040 max **S** 0.050 max **Si** 0.10-0.35	**ASTM** A648 (III)
K07200	Carbon Steel	**C** 0.65-0.80 **Mn** 0.60-0.85 **P** 0.05 max **S** 0.05 max **Si** 0.15 min	**ASTM** A25 (U); A504 (U); A631 (U)
K07201	Carbon Steel	**C** 0.67-0.77 **Mn** 0.60-0.85 **P** 0.05 max **S** 0.05 max **Si** 0.15 min	**ASTM** A25 (C); A504 (C); A631 (C)
K07301	Carbon Steel	**C** 0.67-0.80 **Mn** 0.70-1.00 **P** 0.04 max **S** 0.05 **Si** 0.10-0.25	**ASTM** A1 (90-114)
K07500	Carbon Steel	**C** 0.69-0.82 **Mn** 0.70-1.00 **P** 0.04 max **S** 0.05 max **Si** 0.10-0.25	**ASTM** A1 (115 and over); A759
K07700	Carbon Steel	**C** 0.70-0.85 **Mn** 0.60-0.90 **P** 0.04 max **Si** 0.10-0.40	**ASTM** A2 (B)
K07701	Carbon Steel	**C** 0.70-0.85 **Mn** 0.60-0.90 **P** 0.050 max **S** 0.050 max **Si** 0.15-0.35	**ASTM** A551 (C, CHT, DHT)
K08501	Carbon Steel Wire, Spring Quality Music Wire•	**C** 0.70-1.00 **Mn** 0.20-0.60 **P** 0.025 max **Si** 0.10-0.30 **S** 0.030 max	**ASTM** A 228 **SAE** J178 **AMS** 5112
K08200	Carbon Steel	**C** 0.65-1.00 **Mn** 0.20-1.30 **P** 0.040 max **S** 0.050 max **Si** 0.10-0.40	**ASTM** A679
K08201	Carbon Steel	**C** 0.75-0.90 **Mn** 0.60-0.90 **P** 0.04 max **Si** 0.10-0.40	**ASTM** A2 (C)
K08500	Carbon Steel	**C** 0.70-1.00 **Mn** 0.20-0.60 **P** 0.025 max **S** 0.03 max **Si** 0.12-0.30	**AMS** 5112 **ASTM** A228 **SAE** J178
K08700	Carbon Steel	**C** 0.85-0.90 **Cr** 0.04 max **Cu** 0.08 max **Mn** 0.25-0.40 **Mo** 0.04 max **Ni** 0.03 max **P** 0.025 max **S** 0.020 max **Si** 0.15-0.25	**MIL SPEC** MIL-W-8957
K10614	Alloy Steel	**C** 0.06 max **Cb** 0.03-0.09 **Mn** 1.20-1.90 **Mo** 0.25-0.35 **P** 0.04 max **S** 0.025 max **Si** 0.40 max	
K10623	Alloy Steel	**C** 0.06 max **Cb** 0.03-0.09 **Cu** 0.20-0.35 **Mn** 1.20-1.90 **Mo** 0.23-0.47 **P** 0.04 max **S** 0.025 max **Si** 0.40 max	**ASTM** A735
K10726	Steel Electrode	**Al** 0.05-0.15 **C** 0.07 max **Cu** 0.50 max **Mn** 0.90-1.40 **P** 0.025 max **S** 0.035 max **Si** 0.40-0.70 **Ti** 0.05-0.15 **Zr** 0.02-0.12	**ASME** SFA5.18 (ER70S-2); SFA5.25 (EM5K-EW); SFA5.26 (EGxxS-2); SFA5.30 (INMs1) **AWS** A5.18 (ER70S-2); A5.25 (EM5K-EW); A5.26 (EGxxS-2); A5.30 (INMs1) **MIL SPEC** MIL-I-23413 (MIL-MS-1); MIL-E-23765/1 (MIL-70S-2)
K10882	Alloy Steel Electrode (ER100S-1)	**Al** 0.10 max **C** 0.08 max **Cr** 0.30 max **Cu** 0.25 max **Mn** 1.25-1.80 **Mo** 0.25-0.55 **Ni** 1.40-2.10 **P** 0.010 max **S** 0.010 max **Si** 0.20-0.50 **Ti** 0.10 max **V** 0.05 max **Zr** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EM2); SFA5.28 (ER100S-1) **AWS** A5.28 (ER100S-1) **MIL SPEC** MIL-E-23765/2 (MIL-100S-1)
K10940	Alloy Steel Electrode (ENi1N)	**C** 0.12 max **Cr** 0.15 max **Cu** 0.08 max **Mn** 0.75-1.25 **Mo** 0.30 max **Ni** 0.75-1.25 **P** 0.012 max **S** 0.010 max **Si** 0.05-0.30 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENi1N) **AWS** A5.23 (ENi1N)
K10943	Alloy Steel Electrode (EB1N)	**C** 0.10 max **Cr** 0.40-0.75 **Cu** 0.08 max **Mn** 0.40-0.80 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.025 max **Si** 0.05-0.30 **V** 0.05 max	**ASME** SFA5.23 (EB1N) **AWS** A5.23 (EB1N)
K10945	Alloy Steel Electrode	**C** 0.07-0.12 **Cu** 0.15 max **Mn** 1.60-2.10 **Mo** 0.40-0.60 **P** 0.03 max **S** 0.035 max **Si** 0.50-0.80 **Other** total other elements 0.50 max	**ASME** SFA5.25 (EA3K-EW); SFA5.26 (EGxxS-D2); SFA5.28 (ER80S-D2) **AWS** A5.25 (EA3K-EW); A5.26 (EGxxS-D2); A5.28 (ER80S-D2, ER90S-D2)
K10958	Alloy Steel Electrode (ENi1KN)	**C** 0.12 max **Cu** 0.08 max **Mn** 0.80-1.40 **Ni** 0.75-1.25 **P** 0.012 max **S** 0.020 max **Si** 0.40-0.80 **V** 0.05 max	**ASME** SFA5.23 (ENi1KN) **AWS** A5.23 (ENi1KN)

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K10982	Alloy Steel Electrode (EM2N)	**Al** 0.10 max **C** 0.10 max **Cr** 0.30 max **Cu** 0.08 max **Mn** 1.25-1.80 **Mo** 0.25-0.55 **Ni** 1.40-2.10 **P** 0.012 max **S** 0.010 max **Si** 0.20-0.60 **Ti** 0.10 max **V** 0.05 max **Zr** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EM2N)
K11022	Steel Electrode	**C** 0.06-0.15 **Cu** 0.50 max **Mn** 0.90-1.40 **P** 0.025 max **S** 0.035 max **Si** 0.45-0.70	**ASME** SFA5.18 (ER70S-3); SFA5.26 (EGxxS-3) **AWS** A5.18 (ER70S-3); A5.26 (EGxxS-3) **MIL SPEC** MIL-E-23765/1 (MIL-70S-3)
K11040	Alloy Steel Electrode (ENil)	**C** 0.12 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 0.75-1.25 **Mo** 0.30 max **Ni** 0.75-1.25 **P** 0.020 max **S** 0.020 max **Si** 0.05-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENil) **AWS** A5.23 (ENil)
K11043	Alloy Steel Electrode (EB1)	**C** 0.10 max **Cr** 0.40-0.75 **Cu** 0.35 max **Mn** 0.40-0.80 **Mo** 0.45-0.65 **P** 0.025 max **S** 0.025 max **Si** 0.05-0.30	**ASME** SFA5.23 (EB1) **AWS** A5.23 (EB1)
K11058	Alloy Steel Electrode (ENi1K)	**C** 0.18 max **Cu** 0.35 max **Mn** 0.80-1.40 **Ni** 0.75-1.25 **P** 0.020 max **S** 0.020 max **Si** 0.40-0.80	**ASME** SFA5.23 (ENi1K) **AWS** A5.23 (ENi1K)
K11060	Alloy Steel Electrode (EF1N)	**C** 0.07-0.15 **Cu** 0.08 max **Mn** 0.90-1.70 **Mo** 0.25-0.55 **Ni** 0.95-1.60 **P** 0.012 max **S** 0.025 max **Si** 0.15-0.35 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF1N) **AWS** A5.23 (EF1N)
K11072	Alloy Steel Electrode (EB2N)	**C** 0.07-0.15 **Cr** 1.00-1.75 **Cu** 0.08 max **Mn** 0.45-1.00 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.030 max **Si** 0.05-0.30 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB2N) **AWS** A5.23 (EB2N)
K11122	Alloy Steel Electrode (EA1N)	**C** 0.07-0.17 **Cu** 0.08 max **Mn** 0.65-1.00 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.030 max **Si** 0.20 max **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA1N) **AWS** A5.23 (EA1N)
K11123	Alloy Steel Electrode (EA2N)	**C** 0.07-0.17 **Cu** 0.08 max **Mn** 0.95-1.35 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.030 max **Si** 0.20 max **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA2N) **AWS** A5.23 (EA2N) **MIL SPEC** MIL-E-23765/1 (MIL-70S-8)
K11125	Steel Electrode (ER70S-7)	**C** 0.07-0.15 **Cu** 0.50 max **Mn** 1.50-2.00 **P** 0.025 max **S** 0.035 max **Si** 0.50-0.80	**ASME** SFA5.18 (ER70S-7) **AWS** A5.18 (ER70S-7)
K11132	Steel Electrode (ER70S-4)	**C** 0.07-0.15 **Cu** 0.50 max **Mn** 1.00-1.50 **P** 0.025 max **S** 0.035 max **Si** 0.65-0.85	**ASME** SFA5.18 (ER70S-4) **AWS** A5.18 (ER70S-4) **MIL SPEC** MIL-E-23765/1 (MIL-70S-4)
K11140	Steel Electrode (EH 11K)	**C** 0.07-0.15 **Cu** 0.35 max **Mn** 1.40-1.85 **P** 0.030 max **S** 0.030 max **Si** 0.80-1.15	**ASME** SFA5.17 (EH11K); SFA5.18 (ER70S-6); SFA5.25 (EH11K-EW); SFA5.26 (EGxxS-6); SFA5.30 (INMs3) **AWS** A5.17 (EH11K); A5.18 (ER70S-6); A5.25 (EH11K-EW); A5.26 (EGxxS-6); A5.30 (INMs3) **MIL SPEC** MIL-E-23765/1 (MIL-70S-6)
K11160	Alloy Steel Electrode (EF1)	**C** 0.07-0.15 **Cu** 0.35 max **Mn** 0.90-1.70 **Mo** 0.25-0.55 **Ni** 0.95-1.60 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF1) **AWS** A5.23 (EF1)
K11172	Alloy Steel Electrode (EB2)	**C** 0.07-0.15 **Cr** 1.00-1.75 **Cu** 0.35 max **Mn** 0.45-1.00 **Mo** 0.45-0.65 **P** 0.025 max **S** 0.030 max **Si** 0.05-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB2) **AWS** A5.23 (EB2)
K11173	Alloy Steel Electrode (EB2RR)	**As** 0.005 max **C** 0.07-0.15 **Cr** 1.00-1.75 **Mn** 0.40-0.80 **Mo** 0.45-0.65 **P** 0.10 max **S** 0.010 max **Sb** 0.005 max **Si** 0.05-0.30 **Ti** 0.005 max	**ASME** SFA5.23 (EB2RR) **AWS** A5.23 (EB2RR)

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K11201	Alloy Steel	**C** 0.12 max **Mn** 1.30 max **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 max **V** 0.020 min	
K11210	Alloy Steel	**C** 0.12 min **Cu** 0.20 min	**ASTM** A65
K11222	Alloy Steel Electrode (EA1)	**C** 0.07-0.17 **Cu** 0.35 max **Mn** 0.65-1.00 **Mo** 0.45-0.65 **P** 0.025 max **S** 0.030 max **Si** 0.20 max **Other** total of all other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA1) **AWS** A5.23 (EA1) **MIL SPEC** MIL-E-23765/4 (MIL-EA1)
K11223	Alloy Steel Electrode (EA2)	**C** 0.07-0.17 **Cu** 0.35 max **Mn** 0.95-1.35 **Mo** 0.45-0.65 **P** 0.025 max **S** 0.030 max **Si** 0.20 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA2) **AWS** A5.23 (EA2) **MIL SPEC** MIL-E-23765/1 (MIL-70S-8)
K11224	Alloy Steel	**C** 0.12 max **Cu** 0.15 max **Mn** 1.20 max **P** 0.035 max **S** 0.04 max **Si** 0.15-0.50 **Other** Ti 4xC min	**ASTM** A562
K11235	Alloy Steel Electrode (ER70S-A1)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.3 max **Mo** 0.4-0.65 **Ni** 0.20 max **P** 0.025 max **S** 0.025 max **Si** 0.3-0.7	**ASME** SFA5.28 (ER70S-A1) **AWS** A5.28 (ER70S-A1)
K11240	Alloy Steel Electrode (ENi5)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.20-1.60 **Mo** 0.15-0.30 **Ni** 0.75-1.25 **P** 0.020 max **S** 0.020 max **Si** 0.05-0.30	**ASME** SFA5.23 (ENi5) **AWS** A5.23 (ENi5)
K11241	Alloy Steel Electrode (ENi5N)	**C** 0.12 max **Cu** 0.08 max **Mn** 1.20-1.60 **Mo** 0.15-0.30 **Ni** 0.75-1.25 **P** 0.012 max **S** 0.020 max **Si** 0.05-0.30 **V** 0.05 max	**ASME** SFA5.23 (ENi5N) **AWS** A5.23 (ENi5N)
K11245	Alloy Steel Electrode (EW, EWS)	**C** 0.12 max **Cr** 0.50-0.80 **Cu** 0.30-0.80 **Mn** 0.35-0.65 **Ni** 0.40-0.80 **P** 0.030 max **S** 0.040 max **Si** 0.20-0.35 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EW); SFA5.25 (EWS-EW) **AWS** A5.23 (EW); A5.25 (EWS-EW)
* **K11250**	Alloy Steel Electrode (ER100S-2)	**Al** 0.10 max **C** 0.12 max **Cr** 0.30 max **Cu** 0.35-0.65 **Mn** 1.25-1.80 **Mo** 0.20-0.55 **Ni** 0.80-1.25 **P** 0.010 max **S** 0.010 max **Si** 0.20-0.60 **Ti** 0.10 max **V** 0.05 max **Zr** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER100S-2)
K11260	Alloy Steel Electrode (ER80S-Nil)	**C** 0.12 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 1.25 max **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.025 max **S** 0.025 max **Si** 0.40-0.80 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER80S-Nil) **AWS** A5.28 (ER80S-Nil)
K11267	High Strength, Low Alloy, Precipitation Hardening Steel	**Al** 0.04-0.30 **C** 0.12 max **Cr** 0.44-1.01 **Cu** 0.40-0.75 **Mn** 0.50-1.05 **Ni** 0.47-0.98 **P** 0.04 max **S** 0.04 max **Si** 0.08-0.37	**ASTM** A333 (4)
K11268	High Strength, Low Alloy, Precipitation Hardening Steel	**Al** 0.02-0.23 **C** 0.12 max **Cu** 0.85-1.30 **Mn** 0.50-1.00 **Mo** 0.25 max **Ni** 0.50-1.00 **P** 0.05 max **S** 0.05 max **Si** 0.15 max	
K11323	Alloy Steel Electrode Nuclear Grade (EA3N)	**C** 0.07-0.17 **Cu** 0.08 max **Mn** 1.65-2.20 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.030 max **Si** 0.20 max **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA3N) **AWS** A5.23 (EA3N)
K11324	Alloy Steel Electrode Nuclear Grade (EA4N)	**C** 0.07-0.17 **Cu** 0.08 max **Mn** 1.20-1.70 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.030 max **Si** 0.20 max **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA4N) **AWS** A5.23 (EA4N)

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* **K11325**	Steel Electrode	**Al** 0.50-0.90 **C** 0.07-0.19 **Mn** 0.90-1.40 **P** 0.025 max **S** 0.035 max **Si** 0.30-0.60	**ASME** SFA5.26 (EGxxS-5) **AWS** A5.26 (EGxxS-5)
K11356	Alloy Steel	**C** 0.13 max **Cr** 0.74-1.26 **Cu** 0.22-0.48 **Mn** 0.65 max **Ni** 0.17-0.53 **S** 0.06 max	**ASTM** A714 (IV)
K11357	Steel Electrode (ER70S-5)	**Al** 0.50-0.90 **C** 0.07-0.19 **Cu** 0.50 max **Mn** 1.00-1.50 **P** 0.025 **S** 0.035 **Si** 0.65-0.85	**ASME** SFA5.18 (ER70S-5) **AWS** A5.18 (ER70S-5) **MIL SPEC** MIL-E-23765/1 (MIL-70S-5)
K11365	Alloy Steel Welding Wire	**C** 0.10-0.17 **Cr** 0.50-0.75 **Cu** 0.35 max **Mn** 0.50-0.80 **Mo** 0.15-0.25 **Ni** 0.25 max **P** 0.040 max **S** 0.040 max **Si** 0.60-0.90 **Zr** 0.05-0.15	**AMS** 6460
K11385	Alloy Steel Electrode (ENi4N)	**C** 0.12-0.19 **Cu** 0.08 max **Mn** 0.60-1.00 **Mo** 0.10-0.30 **Ni** 1.60-2.10 **P** 0.012 max **S** 0.020 max **Si** 0.10-0.30 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENi4N) **AWS** A5.23 (ENi4N)
K11422	Alloy Steel	**C** 0.14 max **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.10-0.50	**ASTM** A209 (T1b); A250 (T1b)
K11423	Alloy Steel Electrode (EA3)	**C** 0.07-0.17 **Cu** 0.35 max **Mn** 1.65-2.20 **Mo** 0.45-0.65 **P** 0.025 max **S** 0.030 max **Si** 0.20 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA3) **AWS** A5.23 (EA3) **MIL SPEC** MIL-E-23765/1 (MIL-706-9); MIL-E-23765/2 (MIL-80S-2)
K11424	Alloy Steel Electrode (EA4)	**C** 0.07-0.17 **Cu** 0.35 max **Mn** 1.20-1.70 **Mo** 0.45-0.65 **P** 0.025 max **S** 0.030 max **Si** 0.20 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EA4) **AWS** A5.23 (EA4)
K11430	Alloy Steel	**C** 0.09-0.20 **Cr** 0.37-0.68 **Cu** 0.22-0.43 **Mn** 0.86-1.24 **P** 0.045 max **S** 0.055 max **Si** 0.13-0.32 **V** 0.01-0.11	**ASTM** A502 (3A); A588 (A)
K11485	Alloy Steel Electrode (ENi4)	**C** 0.12-0.19 **Cu** 0.35 max **Mn** 0.60-1.00 **Mo** 0.10-0.30 **Ni** 1.60-2.10 **P** 0.015 max **S** 0.020 max **Si** 0.10-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENi4) **AWS** A5.23 (ENi4)
K11500	Alloy Steel	**Al** 0.02 min **C** 0.15 max **Mn** 0.27-0.63 **P** 0.048 max **S** 0.058 max	**ASTM** A587
K11501	High-Strength Low-Alloy Steel	**C** 0.15 max **Mn** 1.65 max **P** 0.025 max **S** 0.035 max **Si** 0.10 max **Ti** 0.05 min	**ASTM** A715
K11502	High-Strength Low-Alloy Steel	**C** 0.15 max **Mn** 1.65 max **N** 0.005 min **P** 0.025 max **S** 0.035 max **Si** 0.60 max **V** 0.02 min	
K11503	Number changed to K11509		
K11504	High-Strength Low-Alloy Steel	**B** 0.0025 max **C** 0.15 max **Cb** 0.005-0.06 **Cr** 0.80 max **Mn** 1.65 max **P** 0.025 max **S** 0.035 max **Si** 0.90 max **Ti** 0.10 max **Zr** 0.05 min	
K11505	High-Strength Low-Alloy Steel	**C** 0.15 max **Cb** 0.03 min **Mn** 1.65 max **Mo** 0.20 min **P** 0.025 max **S** 0.035 max **Si** 0.30 max	
K11506	High-Strength Low-Alloy Steel	**C** 0.15 max **Cb** 0.005-0.10 **Mn** 1.65 max **P** 0.025 max **S** 0.035 max **Si** 0.90 max	

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K11507	High-Strength Low-Alloy Steel	**C** 0.15 max **Mn** 1.65 max **N** 0.020 max **P** 0.025 max **S** 0.035 max **Si** 0.60 max **Other** Cb or V 0.005 min; or Cb 0.005 min and V 0.005 min	
K11508	High-Strength Low-Alloy Steel	**C** 0.15 max **Cb** 0.005-0.15 **Mn** 1.65 max **P** 0.025 max **S** 0.035 max **Zr** 0.05 min	
K11509	High-Strength Low-Alloy Steel	**C** 0.18 max **Mn** 1.65 max **P** 0.025 max **S** 0.035 max **Si** 0.30 max **Ti** 0.05-0.40	**ASTM** A656 (2)
K11510	Alloy Steel	**C** 0.15 max **Cu** 0.20 min **Mn** 1.00 max **P** 0.15 max **S** 0.05 max	**ASTM** A242 (1)
K11511	Alloy Steel	**B** 0.001-0.005 **C** 0.10-0.20 **Mn** 1.10-1.50 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.30	**AMS** 6386 (3) **ASTM** A514 (C); A517 (C)
K11522	Alloy Steel	**C** 0.10-0.20 **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.10-0.50	**ASTM** A161 (T1); A209 (T1); A250 (T1); A335 (P1); A369 (FP1)
K11523	Alloy Steel	**B** 0.001-0.005 **C** 0.10-0.20 **Mn** 1.10-1.50 **Mo** 0.45-0.55 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.30	
K11526	Alloy Steel	**C** 0.15 max **Cr** 0.24-1.31 **Cu** 0.22-0.58 **Mn** 0.17-0.53 **Ni** 0.68 max **P** 0.06-0.16 **S** 0.06 max **Si** 0.19-0.81	**ASTM** A595 (C)
K11535	Alloy Steel	**C** 0.15 max **Cr** 0.24-1.31 **Cu** 0.20-0.60 **Mn** 0.55 max **Ni** 0.20-0.70 **P** 0.06-0.16 **S** 0.060 max **Si** 0.10 min	**ASTM** A423 (1)
K11538	Alloy Steel	**C** 0.15 max **Cr** 0.30-0.50 **Cu** 0.20-0.50 **Mn** 0.80-1.35 **Ni** 0.25-0.50 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.30 **V** 0.01-0.10	**ASTM** A588 (C)
K11540	Alloy Steel	**C** 0.15 max **Cu** 0.30-1.00 **Mn** 0.50-1.00 **Mo** 0.10 min **Ni** 0.40-1.10 **P** 0.04 **S** 0.05 max	**ASTM** A423 (2)
K11541	Alloy Steel	**C** 0.10-0.20 **Cr** 0.30 max **Cu** 0.30-1.00 **Mn** 0.50-1.00 **Mo** 0.10-0.20 **Ni** 0.40-1.10 **P** 0.04 max **S** 0.05 max **Si** 0.30 max **V** 0.01-0.10	
K11542	Alloy Steel	**C** 0.38-0.45 **Cr** 0.80-1.10 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.25 max **P** 0.040 max **S** 0.040 max **Si** 0.20-0.35 **Te** 0.035-0.060	**AMS** 6378
K11546	Alloy Steel (4140 Modified)	**C** 0.40-0.53 **Cr** 0.80-1.10 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.15-0.25 **Ni** 0.25 max **P** 0.040 max **S** 0.040 max **Si** 0.20-0.35 **Te** 0.035-0.060	**AMS** 6379
K11547	Alloy Steel	**C** 0.10-0.20 **Cr** 0.50-0.81 **Mn** 0.30-0.61 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.10-0.30	**ASTM** A213 (T2); A250 (T2); A335 (P2); A369 (FP2)
K11552	Alloy Steel	**C** 0.10-0.20 **Cb** 0.04 max **Cr** 0.50-0.90 **Cu** 0.30 max **Mn** 0.75-1.25 **P** 0.04 max **S** 0.05 max **Si** 0.50-0.90 **Zr** 0.05-0.15	
K11562	Ferritic Cr-Mo Steel (T12)	**C** 0.15 max **Cr** 0.80-1.25 **Mn** 0.30-0.61 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.50 max	**ASTM** A182 (F12-1); A213 (T12); A250 (T12); A335 (P12); A369 (FP12)
K11564	Alloy Steel	**C** 0.10-0.20 **Cr** 0.80-1.10 **Mn** 0.30-0.80 **Mo** 0.45-0.65 **P** 0.040 max **S** 0.040 max **Si** 0.10-0.60	**ASTM** A182 (F12-2); A336 (F12)

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K11567	Alloy Steel	**C** 0.15 max **Cu** 0.50-0.80 **Mn** 1.20 max **Mo** 0.08-0.25 **Ni** 0.75-1.25 **P** 0.04 max **S** 0.05 max **Si** 0.30 max **V** 0.05 max	
K11572	Alloy Steel	**C** 0.10-0.20 **Cr** 1.00-1.50 **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.040 max **S** 0.040 max **Si** 0.50-1.00	**ASTM** A182 (F11-2); A336 (FN, F11A); A541 (11C)
K11576	Alloy Steel	**B** 0.0005-0.006 **C** 0.10-0.20 **Cr** 0.40-0.65 **Cu** 0.15-0.50 **Mn** 0.60-1.00 **Mo** 0.40-0.60 **Ni** 0.70-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.03-0.08	**ASTM** A514 (F); A517 (F); A592 (F)
K11578	Alloy Steel	**C** 0.15 max **Mn** 0.30-0.60 **Mo** 0.44-0.65 **P** 0.030 max **S** 0.030 max **Si** 1.15-1.65	**ASTM** A335 (P15)
K11585	Alloy Steel Electrode (EH-14)	**C** 0.10-0.20 **Cu** 0.35 max **Mn** 1.70-2.20 **P** 0.030 max **S** 0.030 max **Si** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.17 (EH14); SFA5.25 (EH14-EW) **AWS** A5.17 (EH14); A5.25 (EH14-EW) **MIL SPEC** MIL-E-23765/1 (MIL-70S-7)
K11591	Alloy Steel	**C** 0.15 max **Cr** 0.80-1.25 **Mn** 0.30-0.60 **Mo** 0.87-1.13 **P** 0.030 max **S** 0.030 max **Si** 0.10-0.35 **V** 0.15-0.25	**ASTM** A405 (P24)
K11597	Alloy Steel	**C** 0.15 max **Cr** 1.00-1.50 **Mn** 0.30-0.60 **Mo** 0.44-0.65 **P** 0.030 max **S** 0.030 max **Si** 0.50-1.00	**ASTM** A182 (F11-1); A199 (T11); A200 (T11); A213 (T11); A250 (T11); A335 (P11); A336 (F11B); A369 (FP11)
K11598	Alloy Steel	**C** 0.10-0.20 **Cr** 1.00-1.50 **Mn** 0.30-0.80 **Mo** 0.45-0.65 **P** 0.035 max **S** 0.040 max **Si** 0.50-1.00	
K11625	Alloy Steel	**B** 0.001-0.005 **C** 0.12-0.21 **Mn** 0.45-0.70 **Mo** 0.50-0.65 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35	**AMS** 6386 (5) **ASTM** A514 (J); A517 (J)
K11630	Alloy Steel	**B** 0.0005-0.005 **C** 0.12-0.21 **Cr** 0.40-0.65 **Mn** 0.70-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35 **Ti** 0.01-0.03 **V** 0.03-0.08	**AMS** 6386 (2) **ASTM** A514 (B); A517 (B)
K11640	Alloy Steel	**C** 0.38-0.43 **Cr** 0.55-0.75 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.20-0.30 **Ni** 0.55-0.85 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**AMS** 6324
K11646	Alloy Steel	**B** 0.0005-0.005 **C** 0.12-0.21 **Cr** 0.40-0.65 **Mn** 0.95-1.30 **Mo** 0.20-0.30 **Ni** 0.30-0.70 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35 **V** 0.03-0.08	**ASTM** A514 (H); A517 (H)
K11662	Alloy Steel	**B** 0.0015-0.005 **C** 0.13-0.20 **Cr** 0.85-1.20 **Cu** 0.20-0.40 **Mn** 0.40-0.70 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35 **Ti** 0.04-0.10	**AMS** 6386 (4)
K11682	Alloy Steel	**B** 0.0015-0.005 **C** 0.13-0.20 **Cr** 1.15-1.65 **Cu** 0.20-0.40 **Mn** 0.40-0.70 **Mo** 0.25-0.40 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35 **Ti** 0.04-0.10	
K11683	Alloy Steel	**B** 0.001-0.005 **C** 0.12-0.21 **Mn** 0.45-0.70 **Mo** 0.45-0.60 **Ni** 1.20-1.50 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35	**ASTM** A514 (M); A517 (M)
K11695	Alloy Steel	**B** 0.0015-0.005 **C** 0.10-0.22 **Cr** 1.34-2.06 **Cu** 0.17-0.43 **Mn** 0.37-0.74 **Mo** 0.36-0.64 **P** 0.035 max **S** 0.040 max **Si** 0.18-0.37 **Ti** 0.03-0.11	**ASTM** A592 (E)
K11711	Leaded-Resulfurized Steel	**C** 0.14-0.20 **Mn** 1.00-1.30 **P** 0.04 max **Pb** 0.15-0.35 **S** 0.08-0.13 **Si** 0.35 max	**ASTM** A766

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K11720	High-Strength Low-Alloy Steel	**Al** 0.06 max **C** 0.17 max **Cb** 0.050 max **Cu** 0.35 max **Mn** 1.60 max **P** 0.035 max **S** 0.015 max **Si** 0.40 max **V** 0.11 max	**ASTM** A734 (B)
K11742	Alloy Steel	**C** 0.17 max **Cr** 0.31-0.64 **Mn** 0.97-1.52 **P** 0.035 max **S** 0.040 max **Si** 0.54-0.96	**ASTM** A202 (A)
K11757	Alloy Steel	**C** 0.17 max **Cr** 0.74-1.21 **Mn** 0.35-0.73 **Mo** 0.40-0.65 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32	**ASTM** A387 (12)
K11789	Alloy Steel	**C** 0.17 max **Cr** 0.94-1.56 **Mn** 0.35-0.73 **Mo** 0.40-0.70 **P** 0.035 max **S** 0.040 max **Si** 0.44-0.86	**ASTM** A387 (11)
K11797	Alloy Steel	**C** 0.20 max **Cr** 1.00-1.50 **Mn** 0.40-0.65 **Mo** 0.45-0.65 **P** 0.035 max **S** 0.040 max **Si** 0.50-0.80	**ASTM** A739 (B11)
K11800	Alloy Steel	**C** 0.18 max **Cr** 0.15 max **Mn** 1.30 max **Mo** 0.05 max **Ni** 0.25 max **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.02-0.12	**ASTM** A541 (4)
K11801	Alloy Steel	**C** 0.18 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 1.30 max **Mo** 0.06 max **Ni** 0.25 max **P** 0.040 max **S** 0.050 max **Si** 0.15-0.35 **Ti** 0.005 min **V** 0.02 min	
K11802	Alloy Steel	**C** 0.18 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 1.30 max **Mo** 0.06 max **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **Ti** 0.005 max **V** 0.02-0.13	
K11803	Alloy Steel	**C** 0.18 max **Mn** 1.45 max **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32 **V** 0.07-0.16	
K11804	Alloy Steel	**C** 0.18 max **Mn** 1.60 max **N** 0.005-0.030 **P** 0.025 max **S** 0.035 max **Si** 0.60 max **V** 0.030-0.20	**ASTM** A656 (1)
K11805	Alloy Steel	**C** 0.18 max **Mn** 1.30 max **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.02 min	
K11820	Alloy Steel	**C** 0.18 max **Mn** 0.90 max **Mo** 0.41-0.64 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32	**ASTM** A204 (A)
K11831	High-Strength Low-Alloy Steel	**C** 0.18 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 1.00-1.60 **Mo** 0.08 max **Ni** 0.25 max **P** 0.035 max **S** 0.040 max **Si** 0.55 max **V** 0.08 max	**ASTM** A724 (A)
K11835	Alloy Steel	**C** 0.18 max **Cr** 0.33 max **Cu** 0.27-1.03 **Mn** 0.45-1.05 **Mo** 0.09-0.21 **Ni** 0.35-1.15 **P** 0.045 max **S** 0.055 max	**ASTM** A714 (VI)
K11846	High-Strength Low-Alloy Steel	**Al** 0.065 max **C** 0.18 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 0.90-1.60 **Mo** 0.08 max **Ni** 0.40 max **P** 0.04 max **S** 0.04 max **Si** 0.10-0.50	**ASTM** A131 (AH32, DH32, EH32)
K11847	Alloy Steel	**B** 0.0005-0.0025 **C** 0.15-0.21 **Cr** 0.50-0.80 **Mn** 0.80-1.10 **Mo** 0.25 max **P** 0.035 max **S** 0.04 max **Si** 0.40-0.90 **Zr** 0.05-0.15	
K11852	High-Strength Low-Alloy Steel	**C** 0.18 max **Cb** 0.05 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 0.90-1.60 **Mo** 0.08 max **Ni** 0.40 max **P** 0.04 max **S** 0.04 max **Si** 0.10-0.50 **V** 0.10 max	**ASTM** A131 (AH36, DH36, EH36); A808

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K11856	Alloy Steel	**B** 0.0025 max **C** 0.15-0.21 **Cr** 0.50-0.80 **Mn** 0.80-1.10 **Mo** 0.18-0.28 **P** 0.035 max **S** 0.04 max **Si** 0.40-0.80 **Zr** 0.05-0.15	**AMS** 6386 (1) **ASTM** A514 (A); A517 (A); A592 (A)
K11872	Alloy Steel	**B** 0.0025 max **C** 0.15-0.21 **Cr** 0.50-0.90 **Mn** 0.80-1.10 **Mo** 0.40-0.60 **P** 0.035 max **S** 0.04 max **Si** 0.50-0.90 **Zr** 0.05-0.15	
K11900	Alloy Steel	**B** 0.0005 min **C** 0.13-0.25 **Mn** 0.67 min **P** 0.048 max **S** 0.058 max	**ASTM** A325 (2)
K11914	Alloy Steel (NAX 9115-AC)	**C** 0.10-0.17 **Cr** 0.50-0.75 **Cu** 0.35 max **Mn** 0.50-0.80 **Mo** 0.15-0.25 **Ni** 0.25 max **P** 0.025 max **S** 0.035 max **Si** 0.60-0.90 **Zr** 0.05-0.10	**AMS** 6354
*K11918	Alloy Steel	**C** 0.10-0.28 **Cr** 0.30-0.40 **Mn** 0.30-0.40 **Mo** 0.07-0.15 **Ni** 0.50 max **Si** 0.20-0.40 **V** 0.10 max	**MIL SPEC** MIL-A-12560
K11940	Alloy Steel	**B** 0.0005-0.005 **C** 0.38-0.43 **Cr** 0.70-0.90 **Cu** 0.35 max **Mn** 0.65-0.85 **Mo** 0.15-0.25 **Ni** 0.70-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35 **V** 0.01-0.06	**AMS** 6422
K11948	Alloy Steel Electrode (EF4N)	**C** 0.16-0.23 **Cr** 0.40-0.60 **Cu** 0.08 max **Mn** 0.60-0.90 **Mo** 0.15-0.30 **Ni** 0.40-0.80 **P** 0.012 max **S** 0.035 max **Si** 0.15-0.35 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF4N) **AWS** A5.23 (EF4N)
K12000	High-Strength Low-Alloy Steel	**C** 0.20 max **Cb** 0.01-0.05 **Mn** 1.15-1.50 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.50	**ASTM** A633 (C)
K12001	High-Strength Low-Alloy Steel	**C** 0.20 max **Cb** 0.05 max **Mn** 1.15-1.50 **P** 0.035 max **S** 0.030 max **Si** 0.15-0.50	**ASTM** A737 (B); A738 (B); A812 (65, 80)
K12003	Alloy Steel	**C** 0.20 max **Mn** 1.45 max **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32 **V** 0.07-0.16	
K12010	High-Strength Low-Alloy Steel	**C** 0.20 max **Cu** 0.20 min **Mn** 1.35 max **P** 0.04 max **S** 0.05 max	
K12020	Alloy Steel	**C** 0.20 max **Mn** 0.90 max **Mo** 0.41-0.64 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A204 (B)
K12021	Alloy Steel	**C** 0.20 max **Mn** 0.87-1.41 **Mo** 0.41-0.64 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A302 (A)
K12022	Alloy Steel	**C** 0.20 max **Mn** 1.07-1.62 **Mo** 0.41-0.64 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A302 (B)
K12023	Alloy Steel	**C** 0.15-0.25 **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.10-0.50	**ASTM** A209 (T1a); A250 (T1a)
K12031	High-Strength Low-Alloy Steel	**C** 0.20 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 1.00-1.60 **Mo** 0.08 max **Ni** 0.25 max **P** 0.035 max **Si** 0.50 max **V** 0.08 max	**ASTM** A724 (B)
K12032	Alloy Steel	**C** 0.20 max **Cr** 0.10-0.25 **Cu** 0.20-0.35 **Mn** 1.25 max **Mo** 0.15 max **Ni** 0.30-0.60 **P** 0.035 max **S** 0.040 max **Si** 0.25-0.75 **Ti** 0.005-0.030 **V** 0.02-0.10	

*Boxed entries are no longer active and are retained for reference purposes only.

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K12033	Alloy Steel	**C** 0.14-0.26 **Cr** 0.27-0.53 **Cu** 0.17-0.53 **Mn** 0.76-1.39 **Ni** 0.22-0.53 **P** 0.040 max **S** 0.045 max **Si** 0.13-0.32 **V** 0.010 min	**ASTM** A325 (C); A563 (C3C)
K12037	High-Strength Low-Alloy Steel	**C** 0.20 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 0.70-1.35 **Mo** 0.08 max **Ni** 0.25 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.50	**ASTM** A633 (D); A724 (C)
K12039	Alloy Steel	**C** 0.20 max **Mn** 1.07-1.62 **Mo** 0.41-0.64 **Ni** 0.37-0.73 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A302 (C)
K12040	Alloy Steel	**C** 0.20 max **Cr** 0.50-1.00 **Cu** 0.30-0.50 **Mn** 1.20 max **Mo** 0.10 max **Ni** 0.80 max **P** 0.04 max **S** 0.05 max **Si** 0.25-0.70 **Ti** 0.07 max	
K12042	Alloy Steel	**C** 0.25 max **Cr** 0.25 max **Mn** 1.20-1.50 **Mo** 0.45-0.60 **Ni** 0.40-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.40 **V** 0.05 max	**ASTM** A508 (3 and 3a) **MIL SPEC** MIL-S-24238 (A)
K12043	Alloy Steel	**C** 0.20 max **Cr** 0.40-0.70 **Cu** 0.20-0.40 **Mn** 0.75-1.25 **Ni** 0.50 max **P** 0.04 max **S** 0.05 max **Si** 0.15-0.30 **V** 0.01-0.10	**ASTM** A588 (B); A852
K12044	Alloy Steel	**C** 0.20 max **Cu** 0.30 min **Mn** 0.60-1.00 **Ni** 0.50-0.70 **P** 0.04 max **S** 0.05 max **Si** 0.30-0.50 **Ti** 0.05	
K12045	Alloy Steel	**C** 0.25 max **Mn** 1.20-1.50 **Mo** 0.45-0.60 **Ni** 0.40-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.05 max	**ASTM** A541 (3 and 3a)
K12047	Alloy Steel	**C** 0.15-0.25 **Cr** 0.80-1.25 **Mn** 0.30-0.61 **P** 0.045 max **S** 0.045 max **Si** 0.15-0.35 **V** 0.15 min	**ASTM** A213 (T17)
K12048	Alloy Steel Electrode (EF4)	**C** 0.16-0.23 **Cr** 0.40-0.60 **Cu** 0.35 max **Mn** 0.60-0.90 **Mo** 0.15-0.30 **Ni** 0.40-0.80 **P** 0.025 max **S** 0.035 max **Si** 0.15-0.35 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF4) **AWS** A5.23 (EF4)
K12054	Alloy Steel	**C** 0.20 max **Mn** 1.07-1.62 **Mo** 0.41-0.64 **Ni** 0.67-1.03 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A302 (D)
K12059	Alloy Steel	**C** 0.14-0.26 **Cr** 0.45-1.05 **Cu** 0.27-0.53 **Mn** 0.36-1.24 **Mo** 0.11 max **Ni** 0.47-0.83 **P** 0.045 max **S** 0.055 max **Si** 0.20-0.55 **Ti** 0.05 max	**ASTM** A325 (D); A563 (C3D)
K12062	Alloy Steel	**C** 0.20 max **Cr** 0.80-1.25 **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.60 max	**ASTM** A234 (WP12)
K12087	Alloy Steel Electrode (EB5N)	**C** 0.18-0.23 **Cr** 0.45-0.65 **Cu** 0.08 max **Mn** 0.40-0.70 **Mo** 0.90-1.10 **P** 0.012 max **S** 0.025 max **Si** 0.40-0.60 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB5N) **AWS** A5.23 (EB5N)
K12089	Alloy Steel	**C** 0.20 max **Mn** 0.40-0.70 **Mo** 0.19-0.33 **Ni** 1.60-2.05 **P** 0.030 max **S** 0.035 max **Si** 0.37 max	**ASTM** A707 (L4)
K12103	Alloy Steel	**C** 0.10-0.32 **Cr** 0.30-0.40 **Mn** 0.30-0.40 **Mo** 0.07-0.15 **Ni** 0.50 max **P** 0.04 max **S** 0.04 max **Si** 0.20-0.40 **V** 0.10 max	
K12121	Alloy Steel	**C** 0.17-0.26 **Mn** 0.46-0.94 **Mo** 0.42-0.68 **P** 0.045 max **S** 0.045 max **Si** 0.18-0.37	**ASTM** A692

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K12122	Alloy Steel	**C** 0.21 max **Cr** 0.50-0.81 **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.040 max **S** 0.040 max **Si** 0.10-0.60	**ASTM** A182 (F2)
K12125	Cr-Mo Alloy Steel	**C** 0.16-0.26 **Cr** 0.40-0.60 **Mn** 1.10-1.60 **Mo** 0.10-0.25 **P** 0.025 max **S** 0.025 max **Si** 0.10-0.40 **Note:** Steel is Boron treated	
K12143	Alloy Steel	**C** 0.21 max **Cr** 0.46-0.85 **Mn** 0.50-0.88 **Mo** 0.40-0.65 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A387 (2)
K12147	Steel Welding Rod (R100)	**Al** 0.02 max **C** 0.18-0.23 **Cr** 0.40-0.60 **Cu** 0.15 max **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**ASME** SFA5.2 (R100) **AWS** A5.2 (R100)
K12187	Alloy Steel Electrode (EB5)	**C** 0.18-0.23 **Cr** 0.45-0.65 **Cu** 0.30 max **Mn** 0.40-0.70 **Mo** 0.90-1.10 **P** 0.025 max **S** 0.025 max **Si** 0.40-0.60 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB5) **AWS** A5.23 (EB5)
K12202	Alloy Steel	**C** 0.22 max **Mn** 1.15-1.50 **N** 0.01-0.03 **P** 0.04 max **S** 0.05 max **Si** 0.15-0.50 **V** 0.04-0.11	**ASTM** A350 (LF6); A633 (E); A678 (D); A737 (C)
K12211	Alloy Steel	**C** 0.22 max **Cu** 0.20 min **Mn** 0.85-1.25 **P** 0.04 max **S** 0.05 max **Si** 0.40 max **V** 0.02 min	**ASTM** A441
K12220	Alloy Steel	**C** 0.22 max **Cr** 0.25 max **Cu** 0.25 max **Mn** 0.80 max **Mo** 0.40-0.60 **Ni** 0.25 max **P** 0.04 max **S** 0.04 max **Si** 0.15-0.40	
K12238	Alloy Steel	**C** 0.19-0.26 **Cr** 0.42-0.68 **Cu** 0.17-0.43 **Mn** 0.86-1.24 **Ni** 0.17-0.43 **P** 0.045 max **S** 0.045 max **Si** 0.13-0.32	**ASTM** A325 (F); A563 (C3F)
K12244	Alloy Steel	**C** 0.21 max **Cr** 0.37-0.73 **Cu** 0.17-0.43 **Mn** 0.71-1.29 **Ni** 0.22-0.53 **P** 0.045 max **S** 0.055 max **Si** 0.13-0.32 **V** 0.11 max	**ASTM** A502 (3B)
K12249	Alloy Steel	**C** 0.22 max **Cu** 0.50 min **Mn** 0.60-0.90 **Ni** 0.40-0.75 **P** 0.08-0.15 **S** 0.05 max **Si** 0.10 max	**ASTM** A690
K12254	Alloy Steel	**C** 0.18-0.27 **Cr** 0.55-0.95 **Cu** 0.27-0.63 **Mn** 0.56-1.04 **Ni** 0.27-0.63 **P** 0.045 max **S** 0.045 max **Si** 0.13-0.32	**ASTM** A325 (E); A563 (C3E)
K12320	Alloy Steel	**C** 0.23 max **Mn** 0.90 max **Mo** 0.41-0.64 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A204 (C)
K12437	High-Strength Low-Alloy Steel	**C** 0.24 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 0.70-1.35 **Mo** 0.08 max **Ni** 0.25 max **P** 0.035 max **S** 0.040 max **Si** 0.13-0.55	**ASTM** A537
K12447	Carbon-Manganese-Silicon Steel	**C** 0.24 max **Cr** 0.25 max **Cu** 0.35 max **Mn** 1.50 max **Mo** 0.08 max **Ni** 0.50 max **P** 0.035 max **S** 0.040 max **Si** 0.15-0.50	**ASTM** A738 (A)
K12510	Alloy Steel	**C** 0.25 max **Cu** 0.18 min **Mn** 1.05-1.60 **N** 0.005-0.035 **P** 0.030 max **S** 0.035 max **Si** 0.32 max **V** 0.03-0.13	**ASTM** A707 (L3)
K12520	Alloy Steel	**C** 0.20-0.30 **Mn** 0.60-0.80 **Mo** 0.40-0.60 **P** 0.040 max **S** 0.040 max **Si** 0.20-0.35	**ASTM** A336 (F1)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K12521	Alloy Steel	**C** 0.25 max **Mn** 1.07-1.62 **Mo** 0.41-0.64 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A533 (A)
K12524	Alloy Steel	**C** 0.25 max **Mn** 1.60 max **Ni** 0.37-0.73 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45 **V** 0.11-0.20	**ASTM** A225/A225M (C)
K12529	Alloy Steel	**C** 0.25 max **Mn** 1.07-1.62 **Mo** 0.41-0.64 **Ni** 0.17-0.43 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A533 (D)
K12539	Alloy Steel	**C** 0.25 max **Mn** 1.07-1.62 **Mo** 0.41-0.64 **Ni** 0.37-0.73 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A533 (B)
K12542	Alloy Steel	**C** 0.25 max **Cr** 0.31-0.64 **Mn** 0.97-1.52 **P** 0.035 max **S** 0.040 max **Si** 0.54-0.96	**ASTM** A202 (B)
K12554	Alloy Steel	**C** 0.25 max **Mn** 1.07-1.62 **Mo** 0.41-0.64 **Ni** 0.67-1.03 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A533 (C)
K12608	Alloy Steel	**C** 0.26 max **Cu** 0.18 min **Mn** 1.30 max **S** 0.063 max	**ASTM** A714 (I)
K12609	High-Strength Low-Alloy Steel	**C** 0.26 max **Cu** 0.18 min **Mn** 1.30 max **P** 0.05 max **S** 0.063 max **Si** 0.33 max **V** 0.01 min	**ASTM** A618 (II); A714 (II)
K12700	High-Strength Low-Alloy Steel	**C** 0.27 max **Mn** 1.40 max **P** 0.05 max **S** 0.06 max **Si** 0.35 max **V** 0.01 min	**ASTM** A618 (III)
K12709	High-Strength Low-Alloy Steel	**C** 0.27 max **Cu** 0.18 min **Mn** 1.40 max **P** 0.05 max **S** 0.06 max **Si** 0.35 max **V** 0.01 min	**ASTM** A714 (III)
K12765	Alloy Steel	**C** 0.27 max **Cr** 0.25-0.45 **Mn** 0.50-0.90 **Mo** 0.55-0.70 **Ni** 0.50-1.00 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.05 max	**ASTM** A541 (2, 2A)
K12766	Alloy Steel	**C** 0.27 max **Cr** 0.25-0.45 **Mn** 0.50-1.00 **Mo** 0.55-0.70 **Ni** 0.50-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.40 **V** 0.05 max	**ASTM** A508 (2, 2a)
K12810	Alloy Steel	**C** 0.28 max **Cu** 0.20 min **Mn** 1.10-1.60 **P** 0.04 max **S** 0.05 max **Si** 0.30 max	
K12821	Alloy Steel	**C** 0.28 max **Mn** 0.30-0.90 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.10-0.50	**ASTM** A234 (WP1)
K12822	Alloy Steel	**C** 0.28 max **Mn** 0.60-0.90 **Mo** 0.44-0.65 **P** 0.045 max **S** 0.045 max **Si** 0.15-0.35	**ASTM** A182 (F1)
K13020	Alloy Steel	**C** 0.30 max **Cr** 0.25 max **Cu** 0.25 max **Mn** 0.80 max **Mo** 0.40-0.60 **Ni** 0.25 max **P** 0.04 max **S** 0.04 max **Si** 0.15-0.40	
K13047	Alloy Steel	**C** 0.26-0.34 **Cr** 0.80-1.15 **Mn** 0.40-0.70 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.35	**ASTM** A372 (V-1); A649 (3)
K13048	Alloy Steel	**C** 0.28-0.33 **Cr** 0.40-0.60 **Cu** 0.35 max **Mn** 0.70-0.90 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**AMS** 6550
K13049	Alloy Steel	**C** 0.26-0.34 **Cr** 0.40-0.65 **Mn** 0.70-1.00 **Mo** 0.15-0.25 **Ni** 0.40-0.70 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.35	

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K13050	Alloy Steel	**C** 0.30 max **Mn** 1.35 max **Ni** 1.0-2.0 **P** 0.035 max **S** 0.040 max **Si** 0.20-0.35	**ASTM** A350 (LF5)
K13051	Alloy Steel, Superstrength	**C** 0.27-0.33 **Cr** 0.80-1.10 **Mn** 0.40-0.60 **Mo** 0.15-0.25 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35 **V** 0.05-0.10	**ASTM** A579 (13)
K13147	Alloy Steel Welding Wire	**C** 0.28-0.33 **Cr** 0.80-1.10 **Cu** 0.10 max **H** 0.0010 max **Mn** 0.40-0.60 **Mo** 0.15-0.25 **N** 0.005 max **Ni** 0.25 max **O** 0.0025 max **P** 0.008 max **S** 0.008 max **Si** 0.15-0.35 **V** 0.06 max **Other** S + P 0.012 max	**AMS** 6457
K13148	Alloy Steel Welding Wire	**C** 0.28-0.33 **Cr** 0.80-1.10 **Cu** 0.35 max **H** 0.0025 max **Mn** 0.60-0.90 **Mo** 0.06 max **N** 0.005 max **Ni** 0.25 max **O** 0.0025 max **P** 0.008 max **S** 0.008 max **Si** 0.15-0.35 **V** 0.15-0.25 **Other** S + P 0.012 max	**AMS** 6461
K13149	Alloy Steel Welding Wire	**C** 0.28-0.33 **Cr** 0.80-1.10 **Cu** 0.35 max **Mn** 0.70-0.90 **Mo** 0.06 max **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35 **V** 0.15-0.25	**AMS** 6462
K13247	Alloy Steel	**C** 0.30-0.35 **Cr** 0.80-1.10 **Cu** 0.35 max **Mn** 0.40-0.60 **Mo** 0.15-0.25 **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.20-0.50	**AMS** 6356
K13262	Alloy Steel	**C** 0.32 max **Cr** 0.40 min **Mn** 1.00 max **Mo** 0.15 min **Ni** 0.70 min **P** 0.025 max **S** 0.025 max **Si** 0.75 max	
K13502	Alloy Steel	**C** 0.35 max **Cr** 0.25 max **Mn** 0.40-1.05 **Mo** 0.10 max **Ni** 0.40 max **P** 0.025 max **S** 0.025 max **Si** 0.15-0.40 **V** 0.05 max	**ASTM** A508 (1, 1A)
K13521	Alloy Steel	**C** 0.31-0.40 **Cr** 0.22-0.43 **Mn** 0.91-1.29 **Mo** 0.04-0.11 **Ni** 0.17-0.43 **P** 0.040 max **S** 0.045 max **Si** 0.18-0.37	**ASTM** A687 (I)
K13547	Alloy Steel	**C** 0.31-0.39 **Cr** 0.40-0.65 **Mn** 0.75-1.05 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.35	**ASTM** A372 (V-4)
K13548	Alloy Steel	**C** 0.31-0.39 **Cr** 0.80-1.15 **Mn** 0.70-1.00 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.35	**ASTM** A372 (V-5)
K13550	Alloy Steel	**C** 0.48-0.53 **Cr** 0.40-0.60 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.20-0.30 **Ni** 0.40-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AMS** 6328
K13586	Alloy Steel	**C** 0.35 max **Cr** 0.70 max **Mn** 0.60-0.90 **Mo** 0.20 min **Ni** 1.50-3.50 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35 **V** 0.03-0.12	
K13643	Alloy Steel	**C** 0.31-0.42 **Cr** 0.42-0.68 **Cu** 0.22-0.48 **Mn** 0.86-1.24 **Ni** 0.22-0.48 **P** 0.045 max **S** 0.055 max **Si** 0.13-0.32	**ASTM** A325 (A); A563 (C3A)
K13650	Alloy Steel	**C** 0.20-0.53 **Cr** 0.45 min **Cu** 0.20 min **Mn** 0.40 min **Mo** 0.15 min **Ni** 0.20 min **P** 0.046 max **S** 0.050 max	**ASTM** A563 (DH3)
K14044	Alloy Steel	**C** 0.36-0.45 **Cr** 0.75-1.15 **Mn** 0.71-1.04 **Mo** 0.13-0.27 **P** 0.040 max **S** 0.045 max **Si** 0.18-0.37	**ASTM** A687 (II)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K14047	Alloy Steel	**C** 0.38-0.43 **Cr** 0.80-1.10 **Mn** 0.75-1.00 **Mo** 0.15-0.25 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	
K14048	Alloy Steel	**C** 0.35-0.45 **Cr** 0.80-1.15 **Mn** 0.70-1.00 **Mo** 0.15-0.25 **P** 0.040 max **S** 0.040 max **Si** 0.20-0.35 **V** 0.06 max	**ASTM** A290 (E, F)
K14072	Alloy Steel	**C** 0.36-0.44 **Cr** 0.80-1.15 **Mn** 0.45-0.70 **Mo** 0.50-0.65 **P** 0.04 max **S** 0.04 max **Si** 0.15-0.35 **V** 0.25-0.35	**ASTM** A193 (B16); A437 (B4D) **SAE** J775 (K14072)
K14073	Alloy Steel	**C** 0.36-0.44 **Cr** 0.80-1.15 **Mn** 0.45-0.70 **Mo** 0.50-0.65 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35 **V** 0.25-0.35	**ASTM** A540 (B21)
K14185	Alloy Steel	**C** 0.38-0.45 **Cr** 0.95-1.35 **Mn** 0.75-1.00 **Mo** 0.55-0.70 **P** 0.025 max **S** 0.020 max **Si** 0.20-0.35 **V** 0.20-0.30	**MIL SPEC** MIL-S-46047
K14245	Alloy Steel	**C** 0.35-0.50 **Cr** 0.75-1.50 **Mn** 0.60-1.00 **Mo** 0.15 min **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	
K14247	Alloy Steel	**C** 0.35-0.55 **Cr** 0.80-1.15 **Mn** 0.55-1.05 **Mo** 0.15-0.50 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**ASTM** A649 (1A)
K14248	Alloy Steel	**C** 0.35-0.50 **Cr** 0.80-1.15 **Mn** 0.75-1.05 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.35	**ASME** A372 (5E, 8)
K14358	Alloy Steel	**C** 0.36-0.50 **Cr** 0.47-0.83 **Cu** 0.17-0.43 **Mn** 0.67-0.93 **Mo** 0.07 max **Ni** 0.47-0.83 **P** 0.06-0.125 **S** 0.055 max **Si** 0.25-0.55	**ASTM** A325 (B); A563 (C3B)
K14394	Alloy Steel	**C** 0.41-0.46 **Mn** 0.75-1.00 **Mo** 0.45-0.60 **P** 0.025 max **S** 0.025 max **Si** 1.40-1.75 **V** 0.03-0.08	**ASTM** A579 (33)
K14501	Alloy Steel	**C** 0.45 max **Mn** 0.90 max **P** 0.035 max **S** 0.035 max **Si** 0.15-0.35 **V** 0.03-0.12	**ASTM** A469 (1); A470 (1)
K14507	Alloy Steel	**C** 0.45 max **Cr** 1.25 max **Cu** 0.35 **Mn** 0.40-0.90 **Mo** 0.15 min **Ni** 0.50 **P** 0.040 max **S** 0.040 max **Si** 0.15-0.30 **V** 0.10 max	**ASTM** A291 (3)
K14508	Alloy Steel	**C** 0.40-0.50 **Mn** 1.40-1.80 **Mo** 0.17-0.27 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.35	**ASTM** A372 (IV)
K14510	Alloy Steel	**C** 0.40-0.50 **Mn** 0.70-0.90 **Mo** 0.20-0.30 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**ASTM** A194 (4)
K14520	Alloy Steel	**C** 0.45 max **Mn** 0.50-0.90 **Mo** 0.30-0.60 **P** 0.040 max **S** 0.040 max **Si** 0.15-0.45 **V** 0.10-0.25	
K14542	Alloy Steel	**C** 0.45 max **Cr** 0.70-1.25 **Mn** 0.60-1.00 **Mo** 0.15 min **P** 0.025 max **S** 0.020 max **Si** 0.15-0.35	**ASTM** A288 (2, 3)
K14557	Alloy Steel	**C** 0.45 max **Cr** 1.50 max **Cu** 0.35 **Mn** 0.40-0.90 **Mo** 0.15 min **Ni** 1.00-3.00 **P** 0.040 max **S** 0.040 max **Si** 0.15-0.30 **V** 0.10 max	**ASTM** A291 (3A)
K14675	Alloy Steel (17-22A)	**C** 0.42-0.50 **Cr** 0.80-1.10 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 0.45-0.65 **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35 **V** 0.25-0.35	**AMS** 6304; 6305 **MIL SPEC** MIL-S-24502
K15047	Alloy Steel	**C** 0.48-0.53 **Cr** 0.80-1.10 **Mn** 0.70-0.90 **P** 0.020 max **S** 0.035 max **Si** 0.20-0.35 **V** 0.15 min	**ASTM** A232 **SAE** J132

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K15048	Alloy Steel	**C** 0.48-0.53 **Cr** 0.80-1.10 **Mn** 0.70-0.90 **P** 0.040 max **S** 0.040 max **Si** 0.20-0.35 **V** 0.15 min	**ASTM** A231; A372 (IV)
K15590	Combined with G92540		
K15747	Alloy Steel	**C** 0.52-0.62 **Cr** 0.80-1.15 **Mn** 0.75-1.05 **Mo** 0.15-0.25 **P** 0.04 max **S** 0.04 max **Si** 0.20-0.35	**MIL SPEC** MIL-S-12504 (Mn-Cr-Mo)
K17145	Alloy Steel	**C** 0.65-0.77 **Mn** 0.75-1.05 **Mo** 0.90-1.10 **P** 0.04 max **S** 0.04 max **Si** 0.20-0.35	**MIL SPEC** MIL-S-12504 (Mn-Mo)
K18597	Alloy Steel	**C** 0.80-0.90 **Cr** 0.85-1.15 **Cu** 0.15 max **Mn** 0.20-0.50 **Mo** 0.50-0.65 **Ni** 0.15 max **P** 0.015 max **S** 0.015 max **Si** 0.60-0.90	**AMS** 6426
K19195	Alloy Steel (Bearing Steel)	**C** 0.85-1.00 **Cr** 1.40-1.80 **Cu** 0.35 max **Mn** 1.40-1.70 **Mo** 0.10 max **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.50-0.80	**ASTM** A485 (2)
K19667	Alloy Steel (Bearing Steel)	**C** 0.90-1.05 **Cr** 0.90-1.20 **Cu** 0.35 max **Mn** 0.95-1.25 **Mo** 0.10 max **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.45-0.75	**ASTM** A485 (1)
K19964	Alloy Steel (Bearing Steel)	**C** 0.95-1.10 **Cr** 1.30-1.60 **Cu** 0.25 max **Mn** 0.25-0.45 **Mo** 0.08 max **Ni** 0.35 max **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**MIL SPEC** MIL-S-980
K19965	Alloy Steel (Bearing Steel)	**C** 0.95-1.0 **Cr** 1.10-1.50 **Cu** 0.35 max **Mn** 0.65-0.90 **Mo** 0.20-0.30 **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**ASTM** A485 (3)
K19990	Alloy Steel (Bearing Steel)	**C** 0.95-1.10 **Cr** 1.10-1.50 **Cu** 0.35 max **Mn** 1.05-1.35 **Mo** 0.45-0.60 **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**ASTM** A485 (4)
K20500	Alloy Steel Electrode (ER80S-BL2)	**C** 0.05 max **Cr** 1.20-1.50 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 0.40-0.65 **Ni** 0.20 max **P** 0.025 max **S** 0.025 max **Si** 0.40-0.70 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER80S-B2L) **AWS** A5.28 (ER80S-B2L)
K20622	Alloy Steel	**C** 0.06 max **Cb** 0.02 min **Cu** 1.00-1.30 **Mn** 0.40-0.65 **Ni** 1.20-1.50 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.40	**ASTM** A710 (B)
K20747	Alloy Steel	**C** 0.07 max **Cb** 0.02 min **Cr** 0.60-0.90 **Cu** 1.00-1.30 **Mn** 0.40-0.70 **Mo** 0.15-0.25 **Ni** 0.70-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.40 max	**ASTM** A710 (A); A736
K20900	Alloy Steel Electrode (ER80S-B2)	**C** 0.07-0.12 **Cr** 1.20-1.50 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 0.40-0.65 **Ni** 0.20 max **P** 0.025 max **S** 0.025 max **Si** 0.40-0.70 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER80S-B2); SFA5.30 (IN515) **AWS** A5.28 (ER80S-B2); A5.30 (IN515) **MIL SPEC** MIL-I-23413 (MIL-515)
K20902	Alloy Steel	**C** 0.09 max **Cb** 0.05-0.11 **Mn** 1.75-2.30 **Mo** 0.22-0.38 **P** 0.030 max **S** 0.035 max **Si** 0.17 max	**ASTM** A707 (L6)
K20910	Alloy Steel Electrode (ENi2N)	**C** 0.12 max **Cu** 0.08 max **Mn** 0.75-1.25 **Ni** 2.10-2.90 **P** 0.012 max **S** 0.020 max **Si** 0.05-0.25 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENi2N) **AWS** A5.23 (ENi2N)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K20915	Alloy Steel Electrode (EM3N)	**Al** 0.10 max **C** 0.10 max **Cr** 0.55 max **Cu** 0.08 max **Mn** 1.40-1.80 **Mo** 0.25-0.65 **Ni** 1.90-2.60 **P** 0.012 max **S** 0.010 max **Si** 0.20-0.60 **Ti** 0.10 max **V** 0.05 max **Zr** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EM3N)
K20930	Alloy Steel Electrode (EM4N)	**Al** 0.10 max **C** 0.10 max **Cr** 0.60 max **Cu** 0.08 max **Mn** 1.40-1.80 **Mo** 0.30-0.65 **Ni** 2.00-2.80 **P** 0.012 max **S** 0.010 max **Si** 0.20-0.60 **Ti** 0.10 max **V** 0.05 max **Zr** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EM4N) **AWS** A5.23 (EM4N)
K20934	Alloy Steel	**C** 0.09 max **Cb** 0.02 min **Cr** 0.56-0.94 **Cu** 0.95-1.35 **Mn** 0.35-0.75 **Mo** 0.14-0.28 **Ni** 0.67-1.03 **P** 0.030 max **S** 0.035 max **Si** 0.37 max	**ASTM** A707 (L5)
K21010	Alloy Steel Electrode (ENi2)	**C** 0.12 max **Cu** 0.35 max **Mn** 0.75-1.25 **Ni** 2.10-2.90 **P** 0.020 max **S** 0.020 max **Si** 0.05-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENi2) **AWS** A5.23 (ENi2)
K21015	Alloy Steel Electrode (EM3)	**Al** 0.10 max **C** 0.10 max **Cr** 0.55 max **Cu** 0.25 max **Mn** 1.40-1.80 **Mo** 0.25-0.65 **Ni** 1.90-2.60 **P** 0.010 max **S** 0.010 max **Si** 0.20-0.60 **Ti** 0.10 max **V** 0.04 max **Zr** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EM3); SFA5.28 (ER110S-1) **AWS** A5.28 (ER110S-1) **MIL SPEC** MIL-E-23765/2 (MIL-110S-1)
K21028	Alloy Steel	**B** 0.007 max **C** 0.08-0.13 **Cr** 0.40-0.60 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.40 **V** 0.03-0.08	**AMS** 6266
K21030	Alloy Steel Electrode (EM4)	**Al** 0.10 max **C** 0.10 max **Cr** 0.60 max **Cu** 0.25 max **Mn** 1.40-1.80 **Mo** 0.30-0.65 **Ni** 2.00-2.80 **P** 0.010 max **S** 0.010 max **Si** 0.20-0.60 **Ti** 0.10 max **V** 0.03 max **Zr** 0.10 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EM4); SFA5.28 (ER120S-1) **AWS** A5.28 (ER120S-1) **MIL SPEC** MIL-E-23765/2 (MIL-120S-1), (MIL-120S-2)
K21035	Alloy Steel Electrode (EF6N)	**C** 0.07-0.15 **Cr** 0.20-0.55 **Cu** 0.08 max **Mn** 1.45-1.90 **Mo** 0.40-0.65 **Ni** 1.75-2.25 **P** 0.012 max **S** 0.015 max **Si** 0.10-0.30 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF6N) **AWS** A5.23 (EF6N)
K21135	Alloy Steel Electrode (EF6)	**C** 0.07-0.15 **Cr** 0.20-0.55 **Cu** 0.35 max **Mn** 1.45-1.90 **Mo** 0.40-0.65 **Ni** 1.75-2.25 **P** 0.015 max **S** 0.015 max **Si** 0.10-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF6) **AWS** A5.23 (EF6)
K21205	Alloy Steel	**Al** 0.06 max **C** 0.12 max **Cr** 0.90-1.20 **Mn** 0.45-0.75 **Mo** 0.25-0.40 **Ni** 0.90-1.20 **P** 0.035 max **S** 0.015 max **Si** 0.40 max	**ASTM** A734 (A)
K21240	Alloy Steel Electrode (ER80S-Ni2)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.25 max **Ni** 2.00-2.75 **P** 0.025 max **S** 0.025 max **Si** 0.40-0.80 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER80S-Ni2) **AWS** A5.28 (ER80S-Ni2)
K21350	Alloy Steel Electrode (EF2N)	**C** 0.10-0.18 **Cu** 0.08 max **Mn** 1.70-2.40 **Mo** 0.40-0.65 **Ni** 0.40-0.80 **P** 0.012 max **S** 0.025 max **Si** 0.20 max **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF2N) **AWS** A5.23 (EF2N)
K21351	Alloy Steel Electrode (EA3KN)	**C** 0.07-0.12 **Cu** 0.08 max **Mn** 1.60-2.10 **Mo** 0.40-0.60 **P** 0.012 max **S** 0.025 max **Si** 0.50-0.80 **V** 0.05 max	**ASME** SFA5.23(EA3KN) **AWS** A5.23(EA3KN)

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K21370	Alloy Steel Electrode	**Al** 0.10 max **C** 0.13 max **Cr** 0.60 max **Mn** 1.40-2.35 **Mo** 0.30-0.60 **Ni** 1.00-2.80 **P** 0.012 max **Si** 0.25-0.65 **S** 0.008 max **Ti** 0.10 max **V** 0.03 max **Zr** 0.10 max	
K21385	Alloy Steel Electrode (EF3N)	**C** 0.10-0.18 **Cu** 0.08 max **Mn** 1.70-2.40 **Mo** 0.40-0.65 **Ni** 0.70-1.10 **P** 0.012 max **S** 0.025 max **Si** 0.30 max **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF3N) **AWS** A5.23 (EF3N)
K21390	Alloy Steel	**C** 0.15 max **Cr** 2.00-2.50 **Mn** 0.30-0.60 **Mo** 0.90-1.10 **P** 0.035 max **S** 0.040 max **Si** 0.50 max	**ASTM** A541 (22B, 22C, 22D); A739 (B22)
K21450	Alloy Steel Electrode (EF2)	**C** 0.10-0.18 **Cu** 0.35 max **Mn** 1.70-2.40 **Mo** 0.40-0.65 **Ni** 0.40-0.80 **P** 0.025 max **S** 0.025 max **Si** 0.20 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF2) **AWS** A5.23 (EF2)
K21451	Alloy Steel Electrode (EA3K)	**C** 0.07-0.12 **Cu** 0.35 max **Mn** 1.60-2.10 **Mo** 0.40-0.60 **P** 0.025 max **S** 0.025 max **Si** 0.50-0.80	**ASME** SFA5.23(EA3K) **AWS** A5.23(EA3K) **MIL SPEC** MIL-23765/2 (MIL-80S-3)
K21485	Alloy Steel Electrode (EF3)	**C** 0.10-0.18 **Cu** 0.35 max **Mn** 1.70-2.40 **Mo** 0.40-0.65 **Ni** 0.70-1.10 **P** 0.025 max **S** 0.025 max **Si** 0.30 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF3) **AWS** A5.23 (EF3) **MIL SPEC** MIL-E-23765/2 (MIL-80S-1)
K21509	Alloy Steel	**C** 0.15 max **Cr** 1.65-2.35 **Mn** 0.30-0.60 **Mo** 0.44-0.65 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**ASTM** A369 (FP3b)
K21590	Alloy Steel	**C** 0.15 max **Cr** 2.00-2.50 **Mn** 0.30-0.60 **Mo** 0.90-1.10 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**ASTM** A182 (F22-1); A199 (T22); A200 (T22); A213 (T22); A234 (WP22); A250 (T22); A335 (P22); A336 (F22, F22a); A369 (FP22); A387 (22, 22L); A508 (22B); A542 (A, B); A989
K21604	Alloy Steel	**B** 0.0015-0.005 **C** 0.12-0.20 **Cr** 1.40-2.00 **Cu** 0.20-0.40 **Mn** 0.40-0.70 **Mo** 0.40-0.60 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35 **Ti** 0.04-0.10	**ASTM** A514 (E); A517 (E)
K21650	Alloy Steel	**B** 0.001-0.005 **C** 0.12-0.21 **Cr** 0.85-1.20 **Mn** 0.45-0.70 **Mo** 0.45-0.60 **Ni** 1.20-1.50 **P** 0.035 max **S** 0.04 max **Si** 0.20-0.35	**ASTM** A514 (P); A517 (P)
K21703	Alloy Steel	**C** 0.17 max **Mn** 0.70 max **Ni** 2.03-2.57 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32	**ASTM** A203 (A)
K21903	Alloy Steel	**C** 0.19 max **Mn** 0.90 max **Ni** 2.03-2.57 **P** 0.04 max **S** 0.05 max **Si** 0.13-0.32	**ASTM** A333 (7); A334 (7)
K21940	Alloy Steel (CBS600)	**Al** 0.03-0.12 **C** 0.16-0.22 **Cr** 1.25-1.65 **Cu** 0.35 max **Mn** 0.45-0.75 **Mo** 0.90-1.10 **Ni** 0.25 max **P** 0.010 max **S** 0.010 max **Si** 0.90-1.25	**AMS** 6255
K22033	Alloy Steel	**C** 0.33-0.38 **Cr** 0.55-0.75 **Cu** 0.35 max **Mn** 0.60-0.80 **Mo** 0.06 max **Ni** 1.10-1.40 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**AMS** 6330
K22035	Alloy Steel	**C** 0.20 max **Cu** 0.75-1.25 **Mn** 0.40-1.06 **Ni** 1.60-2.24 **P** 0.045 max **S** 0.050 max	**ASTM** A182 (FR); A234 (WPR); A333 (9); A334 (9); A714 (V)
K22036	Alloy Steel	**C** 0.20 max **Cu** 0.75-1.25 **Mn** 0.40-1.06 **Ni** 1.60-2.24 **P** 0.035 max **S** 0.040 max	**ASTM** A350 (LF9)

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K22094	Alloy Steel	**C** 0.20 max **Cr** 1.00-1.50 **Mn** 0.30-0.80 **Mo** 0.44-0.65 **P** 0.040 max **S** 0.040 max **Si** 0.50-1.00	
K22097	Alloy Steel	**C** 0.92-1.02 **Cr** 0.90-1.15 **Cu** 0.35 max **Mn** 0.95-1.25 **Mo** 0.08 max **Ni** 0.25 max **P** 0.015 max **S** 0.015 max **Si** 0.50-0.70	**AMS** 6445
K22103	Alloy Steel	**C** 0.21 max **Mn** 0.70 max **Ni** 2.03-2.57 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.45	**ASTM** A203 (B)
K22375	Alloy Steel	**C** 0.23 max **Cr** 1.50-2.00 **Mn** 0.20-0.40 **Mo** 0.40-0.60 **Ni** 2.75-3.90 **P** 0.020 max **S** 0.020 max **Si** 0.15-0.40 **V** 0.03 max	**ASTM** A508 (4, 4a, 4b)
K22440	Alloy Steel	**C** 0.38-0.43 **Cr** 0.20 max **Cu** 0.35 max **Mn** 0.60-0.80 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AMS** 6312; 6317
K22573	Alloy Steel	**C** 0.25 max **Cr** 0.50 max **Mn** 0.60 max **Mo** 0.20-0.50 **Ni** 2.50 min **P** 0.015 max **S** 0.018 max **Si** 0.15-0.30 **V** 0.03 min	**ASTM** A469 (2)
K22578	Alloy Steel	**C** 0.25 max **Cr** 0.75 max **Mn** 0.020-0.60 **Mo** 0.25 min **Ni** 2.50 min **P** 0.015 max **S** 0.018 max **Si** 0.15-0.30 **V** 0.03 min	**ASTM** A470 (2)
K22720	Alloy Steel	**C** 0.18-0.23 **Cr** 0.80-1.20 **Cu** 0.50 max **H** 0.0010 max **Mn** 0.40-0.60 **Mo** 0.80-1.20 **N** 0.005 max **O** 0.0025 max **P** 0.015 max **S** 0.008 max **Si** 0.60-0.90 **V** 0.08-0.15	**AMS** 6459
K22770	Alloy Steel	**C** 0.25-0.30 **Cr** 1.00-1.50 **Cu** 0.50 max **Mn** 0.60-0.90 **Mo** 0.40-0.60 **Ni** 0.50 max **P** 0.025 max **S** 0.025 max **Si** 0.55-0.75 **V** 0.75-0.95	**AMS** 6303; 6436; 7496
K22773	Alloy Steel	**C** 0.27 max **Cr** 0.50 max **Mn** 0.60 max **Mo** 0.20-0.50 **Ni** 2.50 min **P** 0.015 max **S** 0.018 max **Si** 0.15-0.30 **V** 0.03 min	**ASTM** A469 (3)
K22878	Alloy Steel	**C** 0.28 max **Cr** 0.75 max **Mn** 0.20-0.60 **Mo** 0.25 min **Ni** 2.50 min **P** 0.015 max **S** 0.018 max **Si** 0.15-0.30 **V** 0.03 min	**ASTM** A470 (3, 4)
K22925	Alloy Steel Welding Wire	**C** 0.26-0.32 **Cr** 0.90-1.20 **Cu** 0.35 max **H** 0.0010 max **Mn** 0.60-0.90 **Mo** 0.90-1.10 **N** 0.0050 max **Ni** 0.40-0.70 **O** 0.0025 max **P** 0.010 max **S** 0.010 max **Si** 0.10-0.30 **V** 0.05-0.10	**AMS** 5027
K22950	Alloy Steel	**C** 0.49-0.55 **Cr** 0.70-0.90 **Cu** 0.35 max **Mn** 0.65-0.85 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AMS** 6396; 6424
K23010	Alloy Steel	**C** 0.25-0.35 **Cr** 0.90-1.50 **Mn** 1.00 max **Mo** 1.00-1.50 **Ni** 0.75 max **P** 0.015 max **S** 0.018 max **Si** 0.15-0.35 **V** 0.20-0.30	**ASTM** A470 (8)
K23015	Alloy Steel	**C** 0.27-0.33 **Cr** 1.00-1.50 **Cu** 0.35 max **Mn** 0.45-0.65 **Mo** 0.40-0.60 **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.55-0.75 **V** 0.20-0.30	**AMS** 6302; 6385; 6458; 7496

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K23016	Alloy Steel Electrode (EB2H)	**C** 0.28-0.33 **Cr** 1.00-1.50 **Cu** 0.30 max **Mn** 0.45-0.65 **Mo** 0.40-0.65 **P** 0.015 max **S** 0.015 max **Si** 0.55-0.75 **V** 0.20-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB2H) **AWS** A5.23 (EB2H)
K23028	Alloy Steel	**C** 0.30 max **Cr** 0.75 max **Mn** 0.70 max **Mo** 0.25 min **Ni** 2.00 min **P** 0.035 max **S** 0.035 max **Si** 0.15-0.35 **V** 0.03-0.12	
K23080	Alloy Steel	**C** 0.28-0.33 **Cr** 0.75-1.00 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.35-0.50 **Ni** 1.65-2.00 **P** 0.015 max **S** 0.015 max **Si** 0.20-0.35 **V** 0.05-0.10	**AMS** 6411; 6427 **ASTM** A646 (4330 Mod.-5) **MIL SPEC** MIL-S-8699; MIL-S-46128
K23116	Alloy Steel Welding Wire	**C** 0.28-0.33 **Cr** 1.00-1.50 **Cu** 0.08 max **Mn** 0.45-0.65 **Mo** 0.40-0.65 **P** 0.012 max **S** 0.015 max **Si** 0.55-0.75 **V** 0.20-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB2HN) **AWS** A5.23 (EB2HN)
K23205	Alloy Steel	**C** 0.27-0.37 **Cr** 0.85-1.25 **Mn** 0.70-1.00 **Mo** 1.00-1.50 **Ni** 0.50 max **P** 0.015 max **S** 0.015 max **Si** 0.20 min **V** 0.20-0.30	**ASTM** A471 (10)
K23477	Alloy Steel	**C** 0.31-0.38 **Cr** 0.65-0.90 **Mn** 0.60-0.90 **Mo** 0.30-0.60 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35 **V** 0.17-0.23	**ASTM** A579 (21); A646 (4335 Mod.-6) **AMS** 6428
K23505	Tool Steel, Non-Tempering	**C** 0.32-0.39 **Cr** 0.55-0.75 **Cu** 0.50-0.70 **Mn** 0.35-0.50 **Mo** 0.50-0.70 **P** 0.025 max **S** 0.025 max **Si** 0.50-0.70	
K23510	Nitriding Steel	**Al** 0.95-1.30 **C** 0.33-0.38 **Cr** 1.00-1.30 **Mn** 0.50-0.70 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**ASTM** A355 (D)
K23545	Alloy Steel	**C** 0.35 max **Mn** 0.50-0.90 **Mo** 0.20-0.50 **Ni** 2.25-3.00 **P** 0.040 max **S** 0.040 max **Si** 0.10-0.40 **V** 0.15 max	
K23550	Alloy Steel	**C** 0.35 max **Cr** 0.80-2.00 **Mn** 0.90 max **Mo** 0.20-0.40 **Ni** 1.5-2.25 **P** 0.015 max **S** 0.015 max **Si** 0.35 max **V** 0.20 max	**ASTM** A723 (1)
K23577	Alloy Steel Welding Wire	**C** 0.33-0.38 **Cr** 0.65-0.90 **H** 0.0010 max **Mn** 0.60-0.90 **Mo** 0.30-0.40 **N** 0.0050 max **Ni** 1.65-2.00 **O** 0.0025 max **P** 0.008 max **S** 0.008 max **Si** 0.25 max **V** 0.17-0.23	**AMS** 5029
K23578	Alloy Steel	**C** 0.35 max **Cr** 0.75 max **Mn** 0.70 max **Mo** 0.25 min **Ni** 2.50 min **P** 0.035 max **S** 0.035 max **Si** 0.15-0.35 **V** 0.03-0.12	
K23579	Alloy Steel	**C** 0.35 max **Cr** 1.25 max **Mn** 0.70 max **Mo** 0.25 min **Ni** 2.50 min **P** 0.035 max **S** 0.035 max **Si** 0.15-0.35 **V** 0.03 min	
K23705	Alloy Steel	**C** 0.37 max **Cr** 0.85-1.25 **Mn** 1.00 max **Mo** 1.00-1.50 **Ni** 0.50 max **P** 0.035 max **S** 0.035 max **Si** 0.15-0.35 **V** 0.20-0.30	
K23725	Alloy Steel Welding Wire	**C** 0.34-0.40 **Cr** 0.90-1.20 **Cu** 0.35 max **H** 0.0010 max **Mn** 0.60-0.90 **Mo** 0.90-1.10 **N** 0.0050 max **Ni** 0.40-0.70 **O** 0.0025 max **P** 0.008 max **S** 0.008 max **Si** 0.15-0.30 **V** 0.05-0.10	**AMS** 5028

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K23745	Nitriding Steel	**Al** 0.95-1.30 **C** 0.35-0.40 **Cr** 1.20-1.50 **Mn** 0.70-0.95 **Mo** 0.15-0.25 **P** 0.035 max **S** 0.060 max **Se** 0.15-0.25 **Si** 0.15-0.35	**ASTM** A355 (B)
K24040	Alloy Steel	**C** 0.37-0.44 **Cr** 0.65-0.95 **Mn** 0.60-0.95 **Mo** 0.20-0.30 **Ni** 1.55-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**ASTM** A649 (1B)
K24045	Alloy Steel	**C** 0.35-0.45 **Cr** 0.60-0.90 **Mn** 0.60-0.90 **Mo** 0.20-0.50 **Ni** 1.65-2.00 **P** 0.040 max **S** 0.040 max **Si** 0.20-0.35 **V** 0.10 max	**ASTM** A290 (G, H, I, J, K, L)
K24055	Alloy Steel	**C** 0.38-0.43 **Cr** 0.70-0.90 **Mn** 0.60-0.80 **Mo** 0.20-0.30 **Ni** 1.65-2.00 **P** 0.035 max **S** 0.04 max **Si** 0.15-0.35	**ASTM** A372 (VII)
K24056	Alloy Steel Welding Wire	**C** 0.35-0.40 **Cr** 0.70-0.90 **Cu** 0.30 max **H** 0.0010 max **Mn** 0.60-0.90 **Mo** 0.20-0.30 **N** 0.0050 max **Ni** 1.65-2.00 **O** 0.0025 max **P** 0.008 max **S** 0.008 max **Si** 0.15-0.35	**AMS** 6456
K24064	Alloy Steel	**C** 0.37-0.44 **Cr** 0.70-0.95 **Mn** 0.70-0.90 **Mo** 0.30-0.40 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**ASTM** A540 (B24)
K24065	Nitriding Steel (135)	**Al** 0.95-1.30 **C** 0.38-0.43 **Cr** 1.40-1.80 **Cu** 0.35 max **Mn** 0.50-0.80 **Mo** 0.30-0.40 **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.20-0.40	**AMS** 6470; 6471; 6472 **ASTM** A355 (A); A519 (E7140) **MIL SPEC** MIL-S-6709
K24070	Alloy Steel	**C** 0.38-0.43 **Cr** 0.70-0.90 **Mn** 0.60-0.90 **Mo** 0.30-0.60 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35 **V** 0.05-0.10	**ASTM** A540 (B24V); A579 (22)
K24245	Alloy Steel	**C** 0.35-0.50 **Cr** 0.60 min **Cu** 0.35 **Mn** 0.40-0.90 **Mo** 0.20-0.60 **Ni** 1.65 min **P** 0.040 max **S** 0.040 max **Si** 0.15-0.35 **V** 0.10 max	**ASTM** A291 (4 to 7)
K24336	Alloy Steel	**B** 0.0005-0.005 **C** 0.40-0.46 **Cr** 0.80-1.05 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.45-0.60 **Ni** 0.60-0.90 **P** 0.025 max **S** 0.025 max **Si** 0.50-0.80 **V** 0.01-0.06	**AMS** 6423
K24340	Cr-O-Mo-V Martensitic Steel	**C** 0.29-0.36 **Cr** 2.80-3.30 **Cu** 0.10 max **Mn** 0.40-0.70 **Mo** 0.70-1.20 **Ni** 0.30 max **P** 0.015 max **S** 0.005 max **Si** 0.10-0.40 **V** 0.15-0.35	**AMS** 6481 **Other:** EN 1.7765
K24535	Alloy Steel	**C** 0.45 max **Cr** 0.50-1.25 **Mn** 0.60-1.00 **Mo** 0.20 min **Ni** 1.65-3.50 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	
K24562	Alloy Steel	**C** 0.45 max **Cr** 0.70-1.25 **Mn** 1.00 max **Mo** 0.20 min **Ni** 1.65-3.50 **P** 0.025 max **S** 0.020 max **Si** 0.15-0.35 **V** 0.07-0.12	**ASTM** A288 (4, 5, 6, 7, 8)
K24628	Alloy Steel combined with K24728		
K24728	Alloy Steel (D-6)	**C** 0.45-0.50 **Cr** 0.90-1.20 **Mn** 0.60-0.90 **Mo** 0.90-1.10 **Ni** 0.40-0.70 **P** 0.010 max **S** 0.010 max **Si** 0.15-0.30 **V** 0.08-0.15	**AMS** 6431; 6432; 6438; 6439 **ASTM** A579 (23) **MIL SPEC** MIL-S-8949
K24729	Alloy Steel combined with K24728		

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K30560	Alloy Steel Electrode (ER90S-B3L)	**C** 0.05 max **Cr** 2.30-2.70 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 0.90-1.20 **Ni** 0.20 max **P** 0.025 max **S** 0.025 max **Si** 0.40-0.70 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER90S-B3L) **AWS** A5.28 (ER80S-D3L)
K30960	Alloy Steel Electrode (ER-90S-B3)	**C** 0.07-0.12 **Cr** 2.30-2.70 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 0.90-1.20 **Ni** 0.20 max **P** 0.025 max **S** 0.025 max **Si** 0.40-0.70 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER90S-B3); SFA5.30 (IN521) **AWS** A5.28 (ER90S-B3); A5.30 (IN521) **MIL SPEC** MIL-I-23413 (MIL-521)
K31015	Alloy Steel Electrode (EB3N)	**C** 0.06-0.15 **Cr** 2.25-3.00 **Cu** 0.08 max **Mn** 0.40-0.80 **Mo** 0.90-1.10 **P** 0.012 max **S** 0.025 max **Si** 0.05-0.30 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB3N) **AWS** A5.23 (EB3N)
K31115	Alloy Steel Electrode (EB3)	**C** 0.06-0.15 **Cr** 2.25-3.00 **Cu** 0.35 max **Mn** 0.40-0.80 **Mo** 0.90-1.10 **P** 0.025 max **S** 0.025 max **Si** 0.05-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EB3) **AWS** A5.23 (EB3)
K31116	Alloy Steel Electrode (EB3RR)	**As** 0.005 max **C** 0.05-0.15 **Cr** 2.25-3.30 **Cu** 0.15 max **Mn** 0.40-0.80 **Mo** 0.90-1.10 **P** 0.010 max **S** 0.010 max **Sb** 0.005 max **Si** 0.05-0.30 **Sn** 0.010 max	**ASME** SFA5.23 (EB3RR) **AWS** A5.23 (EB3RR)
K31117	Alloy Steel Electrode (EB3LRN)	**As** 0.005 max **C** 0.05-0.15 **Cr** 2.25-3.30 **Cu** 0.08 max **Mn** 0.40-0.80 **Mo** 0.90-1.10 **P** 0.010 max **S** 0.010 max **Sb** 0.005 max **Si** 0.05-0.30 **V** 0.05 max	**ASME** SFA5.23 (EB3LRN) **AWS** A5.23 (EB3LRN)
K31200	High Strength Low Alloy Steel Electrode	**Al** 0.04 max **C** 0.12 max **Cr** 0.65-1.05 **Cu** 0.15 max **Mn** 1.50-2.00 **Mo** 0.40-1.00 **Ni** 1.95-3.10 **P** 0.010 max **Si** 0.30-0.50 **S** 0.010 max **Ti** 0.04 max **V** 0.04 max **Zr** 0.04 max	**MIL SPEC** MIL-E-24355 (MIL-140S-1)
K31210	Alloy Steel Electrode (ENi-3N)	**C** 0.13 max **Cr** 0.15 max **Cu** 0.08 max **Mn** 0.60-1.20 **Ni** 3.10-3.80 **P** 0.012 max **S** 0.020 max **Si** 0.05-0.30 **V** 0.05 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENi3N) **AWS** A5.23 (ENi3N)
K31240	Alloy Steel Electrode (ER80S-Ni3)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.25 max **Ni** 3.00-3.75 **P** 0.025 max **S** 0.025 max **Si** 0.40-0.80 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.28 (ER80S-Ni3) **AWS** A5.28 (ER80S-Ni3)
K31310	Alloy Steel Electrode (ENi3)	**C** 0.13 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 0.60-1.20 **Ni** 3.10-3.80 **P** 0.012 max **S** 0.020 max **Si** 0.05-0.30 **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (ENi3) **AWS** A5.23 (ENi3)
K31509	Alloy Steel	**C** 0.15 max **Cr** 2.15-2.85 **Mn** 0.30-0.60 **Mo** 0.44-0.65 **P** 0.030 max **S** *0.030 max* **Si** *0.50-1.00*	**ASTM** A199 (T4); A200 (T4)
K31545	Alloy Steel	**C** 0.15 max **Cr** 2.65-3.35 **Mn** 0.30-0.60 **Mo** 0.80-1.06 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**ASTM** A182 (F21); A199 (T21); A200 (T21); A213 (T21); A335 (P21); A336 (F21, F21a); A369 (FP21); A387 (21); A989
K31718	Alloy Steel	**C** 0.17 max **Mn** 0.70 max **Ni** 3.18-3.82 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32	**ASTM** A203 (D)
K31820	Alloy Steel (HY80)	**C** 0.18 max **Cr** 1.00-1.80 **Mn** 0.10-0.40 **Mo** 0.20-0.60 **Ni** 2.00-3.25 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**ASTM** A372 (VI) **MIL SPEC** MIL-S-16216; MIL-S-21952; MIL-S-22664; MIL-S-23009; MIL-S-24451

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K31830	Alloy Steel	**B** 0.001-0.003 **C** 0.18 max **Cr** 2.75-3.25 **Mn** 0.30-0.60 **Mo** 0.90-1.10 **P** 0.02 max **S** 0.02 max **Si** 0.12 max **Ti** 0.015-0.035 **V** 0.20-0.30	**ASTM** A182 (F21b); A508 (3V); A541 (3V); A542 (C); A832
K31835	2.25% Chromium, 1% Molybdenum, 0.25% Vanadium	**B** 0.0020 max **C** 0.09-0.18 **Ca** 0.015 max **Cb** 0.07 max **Cr** 2.00-2.50 **Cu** 0.20 max **Mn** 0.30-0.60 **Mo** 0.90-1.10 **Ni** 0.25 max **P** 0.015 **S** 0.010 max **Si** 0.10 max **Ti** 0.030 max **V** 0.25-0.35 **Other** rare earth metals 0.020 max	**ASTM** A182/A182M
K31918	Alloy Steel	**C** 0.19 max **Mn** 0.31-0.64 **Ni** 3.18-3.82 **P** 0.05 max **S** 0.05 max **Si** 0.18-0.37	**ASTM** A333 (3); A334 (3)
K32018	Alloy Steel	**C** 0.20 max **Mn** 0.70 max **Ni** 3.18-3.82 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32	**ASTM** A203 (E)
K32025	Alloy Steel	**C** 0.20 max **Mn** 0.90 max **Ni** 3.25-3.75 **P** 0.035 max **S** 0.040 max **Si** 0.20-0.35	**ASTM** A350 (LF3)
K32026	Alloy Steel	**Al** 0.05 max **C** 0.20 max **Cr** 0.20 max **Cu** 0.35 max **Mn** 0.90 max **Mo** 0.06 max **Ni** 3.25-3.75 **P** 0.020 max **S** 0.020 max **Si** 0.15-0.35 **V** 0.05 max	**ASTM** A765 (III)
K32045	Alloy Steel (HY100)	**C** 0.20 max **Cr** 1.00-1.80 **Mn** 0.10-0.40 **Mo** 0.20-0.60 **Ni** 2.25-3.50 **P** 0.25 max **S** 0.25 max **Si** 0.15-0.35	**MIL SPEC** MIL-S-16216; MIL-S-21952; MIL-S-22664; MIL-S-23009; MIL-S-24451
K32218	Alloy Steel	**C** 0.22 max **Mn** 1.00 max **Ni** 3.18-3.82 **P** 0.030 max **S** 0.035 max **Si** 0.37 max	**ASTM** A707 (L7)
K32550	Alloy Steel	**C** 0.23-0.28 **Cr** 0.20-0.40 **Mn** 1.20-1.50 **Mo** 0.35-0.45 **Ni** 1.65-2.00 **P** 0.025 max **S** 0.025 max **Si** 1.30-1.70	**AMS** 6418; 7496 **ASTM** A579 (31) **MIL SPEC** MIL-S-7108
K32723	Alloy Steel	**C** 0.27 max **Cr** 0.50 max **Mn** 0.70 max **Mo** 0.20-0.60 **Ni** 3.00 min **P** 0.015 max **S** 0.018 max **Si** 0.15-0.30 **V** 0.03 min	**ASTM** A469 (4)
K32800	Alloy Steel	**C** 0.28 max **Cr** 0.75-2.00 **Mn** 0.70 max **Mo** 0.20-0.70 **Ni** 2.00-4.00 **P** 0.015 max **S** 0.015 max **Si** 0.15-0.35 **V** 0.05 min	**ASTM** A471 (1-6)
K33020	Alloy Steel	**C** 0.27-0.33 **Cr** 1.00-1.35 **Cu** 0.35 max **Mn** 0.60-0.80 **Mo** 0.35-0.55 **Ni** 1.85-2.25 **P** 0.025 max **S** 0.025 max **Si** 0.40-0.70	**AMS** 6407
K33125	Alloy Steel	**C** 0.31 max **Cr** 0.50 max **Mn** 0.70 max **Mo** 0.20-0.70 **Ni** 3.00 min **P** 0.015 max **S** 0.018 max **Si** 0.15-0.30 **V** 0.05-0.15	**ASTM** A469 (5)
K33370	Alloy Steel	**C** 0.31-0.35 **Cr** 0.65-0.90 **Mn** 0.60-0.90 **Mo** 0.30-0.50 **Ni** 2.75 min **O** 25 ppm max **P** 0.005 max **S** 0.005 max **Si** 0.20-0.30	**MIL SPEC** MIL-A-46173
K33517	Alloy Steel	**C** 0.32-0.38 **Cr** 0.65-0.90 **Mn** 0.60-0.90 **Mo** 0.30-0.40 **Ni** 1.65-2.00 **P** 0.040 max **S** 0.040 max **Si** 0.20-0.60 **V** 0.17-0.23	**AMS** 6429; 6430; 6433; 6434; 6435
K33585	Alloy Steel	**C** 0.35 max **Cr** 3.00-3.60 **Mn** 0.50-0.90 **Mo** 0.30-0.50 **Ni** 0.50-1.00 **P** 0.040 max **S** 0.040 max **Si** 0.15-0.45 **V** 0.05-0.15	

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K34025	Alloy Steel	**C** 0.40 max **Mn** 0.85 max **Ni** 3.25-3.75 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**MIL SPEC** MIL-S-23093A (Type III)
K34035	Alloy Steel	**C** 0.40 max **Cr** 0.80-2.00 **Mn** 0.90 max **Mo** 0.30-0.50 **Ni** 2.25-3.25 **P** 0.015 max **S** 0.015 max **Si** 0.35 max **V** 0.20 max	**ASTM** A723 (2)
K34378	Alloy Steel	**C** 0.41-0.46 **Cr** 1.90-2.25 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.45-0.60 **Ni** 0.25 max **P** 0.015 max **S** 0.015 max **Si** 1.40-1.75 **V** 0.03-0.08	**AMS** 6406
K41245	Alloy Steel	**C** 0.12 max **Cr** 4.00-6.00 **Mn** 0.30-0.60 **Mo** 0.45-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASTM** A213 (T5c); A335 (P5c)
K41370	Alloy Steel Electrode (EF5)	**C** 0.10-0.17 **Cr** 0.25-0.50 **Cu** 0.50 max **Mn** 1.70-2.20 **Mo** 0.45-0.65 **Ni** 2.30-2.80 **P** 0.010 max **S** 0.010 max **Si** 0.20 max **Other** total other elements (except Fe) 0.50 max	**ASME** SFA5.23 (EF5) **AWS** A5.23 (EF5)
K41545	Alloy Steel	**C** 0.15 max **Cr** 4.00-6.00 **Mn** 0.30-0.60 **Mo** 0.45-0.65 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**ASTM** A182 (F5); A199 (T5); A200 (T5); A213 (T5); A234 (WP5); A335 (P5); A336 (F5); A369 (FP5); A387 (5)
K41583	Alloy Steel	**Al** 0.01-0.16 **C** 0.15 max **Mn** 0.25-0.66 **Mo** 0.17-0.38 **N** 0.025 max **Ni** 4.65-5.35 **P** 0.035 max **S** 0.035 max **Si** 0.18-0.37	**ASTM** A645
K41650	Alloy Steel (HCM2S)	**Al** 0.030 max **B** 0.006 max **C** 0.04-0.10 **Cb** 0.02-0.08 **Cr** 1.90-2.60 **Fe** rem **Mn** 0.10-0.60 **Mo** 0.05-0.30 **N** 0.030 max **P** 0.030 max **S** 0.010 max **Si** 0.50 max **V** 0.20-0.30 **W** 1.45-1.75	**ASME** SA213 **ASTM** A213
K42247	Alloy Steel	**C** 0.22 max **Cr** 1.44-2.06 **Mn** 0.15-0.45 **Mo** 0.35-0.65 **Ni** 2.68-3.97 **P** 0.025 max **S** 0.025 max **Si** 0.37 max **V** 0.05 max	**ASTM** A707 (L8)
K42338	Alloy Steel	**C** 0.23 max **Cr** 1.44-2.06 **Mn** 0.40 max **Mo** 0.41-0.64 **Ni** 2.53-3.32 **P** 0.035 max **S** 0.040 max **Si** 0.18 - 0.37 **V** 0.03 max	
K42339	Alloy Steel	**C** 0.23 max **Cr** 1.44-2.06 **Mn** 0.40 max **Mo** 0.41-0.64 **Ni** 2.53-3.32 **P** 0.020 max **S** 0.020 max **V** 0.03 max	**ASTM** A543/A543M(B)
K42343	Alloy Steel	**C** 0.23 max **Cr** 1.25-2.00 **Mn** 0.20-0.40 **Mo** 0.40-0.60 **Ni** 2.75-3.90 **P** 0.035 max **S** 0.040 max **Si** 0.30 max **V** 0.03 max	**ASTM** A541 (7, 7A, 7B)
K42348	Alloy Steel	**C** 0.23 max **Cr** 1.25-2.00 **Mn** 0.20-0.40 **Mo** 0.40-0.60 **Ni** 2.75-3.90 **P** 0.035 max **S** 0.040 max **Si** 0.30 max **V** 0.08 max	**ASTM** A541 (8, 8A)
K42365	Alloy Steel	**C** 0.23 max **Cr** 1.50-2.00 **Mn** 0.20-0.40 **Mo** 0.40-0.60 **Ni** 2.75-3.90 **P** 0.020 max **S** 0.020 max **Si** 0.30 max **V** 0.08 max	**ASTM** A508 (5, 5a)
K42544	Alloy Steel	**C** 0.25 max **Cr** 4.0-6.0 **Mn** 0.60 max **Mo** 0.44-0.65 **Ni** 0.50 max **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**ASTM** A182 (F5a); A336 (F5a)
K42570	Alloy Steel	**C** 0.23-0.27 **Cr** 1.25-1.75 **Mn** 0.70-1.00 **Mo** 0.20-0.30 **Ni** 3.25-3.75 **P** 0.020 max **S** 0.020 **Si** 0.20-0.35	

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K42598	Alloy Steel	**C** 0.23-0.28 **Cb** 0.03-0.07 **Cr** 1.40-1.65 **Mn** 0.20 max **Mo** 0.8-1.0 **Ni** 2.75-3.25 **P** 0.01 max **S** 0.01 max **Si** 0.10 max	**ASTM** A579 (11)
K42885	Alloy Steel	**C** 0.28 max **Cr** 1.25-2.00 **Mn** 0.60 max **Mo** 0.30-0.60 **Ni** 3.25-4.00 **P** 0.015 max **S** 0.018 max **Si** 0.15-0.30 **V** 0.05-0.15	**ASTM** A469 (6, 7, 8); A470 (5, 6, 7)
K43170	Alloy Steel	**C** 0.29-0.33 **Mn** 0.70-1.00 **Mo** 0.20-0.30 **Ni** 3.25-3.75 **P** 0.020 max **S** 0.020 max **Si** 0.20-0.35	
K44045	Alloy Steel	**C** 0.40 max **Cr** 0.80-2.00 **Mn** 0.90 max **Mo** 0.40-0.80 **Ni** 3.25-4.50 **P** 0.015 max **S** 0.015 max **Si** 0.35 max **V** 0.20 max	**ASTM** A723 (3)
K44210	Alloy Steel replaced by K44220		
K44220	Alloy Steel (300M)	**C** 0.38-0.46 **Cr** 0.70-0.95 **Mn** 0.60-0.90 **Mo** 0.30-0.65 **Ni** 1.65-2.00 **P** 0.010 max **S** 0.010 max **Si** 1.45-1.80 **V** 0.05 min	**AMS** 6257; 6417; 6419 **ASTM** A579 (32); A646 (300M-8) **MIL SPEC** MIL-S-8844 (3)
K44315	Alloy Steel (300M) combined with K44220		
K44414	Alloy Steel	**C** 0.11-0.17 **Cr** 1.00-1.40 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 0.08-0.15 **Ni** 3.00-3.50 **P** 0.025 max **S** 0.025 max **Si** 0.15-0.35	**AMS** 6263; 6264
K44910	Alloy Steel	**C** 0.07-0.13 **Cr** 1.25-1.75 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 0.06 max **Ni** 3.25-3.75 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.35	**AMS** 6250
K51210	Alloy Steel, (Krupp)	**C** 0.10-0.15 **Cr** 1.35-1.75 **Mn** 0.45-0.65 **Ni** 3.75-4.25 **Si** 0.15-0.35	
K51255	Alloy Steel (HY30)	**C** 0.12 max **Cr** 0.40-0.70 **Mn** 0.60-0.90 **Mo** 0.30-0.65 **Ni** 4.75-5.25 **P** 0.010 max **S** 0.010 max **Si** 0.20-0.35 **V** 0.05-0.10	**ASTM** A579 (12) **MIL SPEC** MIL-S-24371; MIL-S-24512
K51545	Alloy Steel	**C** 0.15 max **Cr** 4.00-6.00 **Mn** 0.30-0.60 **Mo** 0.45-0.65 **P** 0.03 max **S** 0.03 max **Si** 1.00-2.00	**ASTM** A213 (T5b); A335 (P5b)
K52355	Alloy Steel	**Al** 1.10-1.40 **C** 0.21-0.26 **Cr** 1.00-1.25 **Cu** 0.35 max **Mn** 0.50-0.70 **Mo** 0.20-0.30 **Ni** 3.25-3.75 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.40	**AMS** 6475
K52440	Nitriding Steel	**Al** 0.95-1.30 **C** 0.22-0.27 **Cr** 1.00-1.35 **Mn** 0.50-0.70 **Mo** 0.20-0.30 **Ni** 3.25-3.75 **P** 0.035 max **S** 0.040 max **Si** 0.15-0.35	**ASTM** A355 (C)
K61595	Alloy Steel replaced by S50300		
K63005	Valve Steel (CNS) replaced by S63005		
K63007	Valve Steel (21-55 N) replaced by S63007		
K63008	Valve Steel (21-4 N) replaced by S63008		
K63011	Valve Steel (746) replaced by S63011		
K63012	Valve Steel (21-2 N) replaced by S63012		

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K63013	Valve Steel (Gaman H) replaced by S63013		
K63014	Valve Steel (10) replaced by S63014		
K63015	Valve Steel (10 N) replaced by S63015		
K63016	Valve Steel (21-12) replaced by S63016		
K63017	Valve Steel (21-12 N) replaced by S63017		
K63198	Iron Base Superalloy (19-9-DL) replaced by S63198		
K63199	Iron Base Superalloy (19-9-DX or 19-9-W-Mo) replaced by S63199		
K64005	Valve Steel (2) replaced by S64005		
K64006	Valve Steel (F) replaced by S64006		
K64152	High-Strength Alloy Steel (M152) replaced by S64152		
K64299	Iron Base Superalloy (29-9) replaced by S64299		
K65006	Valve Steel (XB) replaced by S65006		
K65007	Valve Steel (1) replaced by S65007		
K65150	Iron Base Superalloy (Pyromet X-15) replaced by S65150		
K65770	Iron Base Superalloy (AFC77) replaced by S65770		
K66009	Valve Steel (TPA) replaced by S66009		
K66220	Iron Base Superalloy (Discaloy) replaced by S66220		
K66286	Iron Base Superalloy (A286) replaced by S66286		
K66545	Iron Base Superalloy (W545) replaced by S66545		
K66979	Iron-Nickel Base Superalloy (D-979) replaced by N09979		
K70640	Iron, Chromium, Nickel, Titanium Alloy replaced by N09902		
K71040	Steel (Pyrowear Alloy 53)	**C** 0.07-0.13 **Cr** 0.75-1.25 **Cu** 1.80-2.30 **Mn** 0.25-0.50 **Mo** 3.00-3.50 **Ni** 1.60-2.40 **P** 0.015 max **S** 0.010 max **Si** 0.60-1.20 **V** 0.05-0.15	**AMS** 6308
K71340	Alloy Steel	**C** 0.13 max **Mn** 0.90 max **Ni** 7.40-8.60 **P** 0.035 max **S** 0.040 max **Si** 0.13-0.32	**ASTM** A522 (II); A553 (II)
K71350	Cr-Ni-Mo Alloy Steel	**Al** 0.03-0.12 **C** 0.10-0.16 **Cr** 0.90-1.20 **Cu** 0.35 max **Mn** 0.40-0.70 **Mo** 4.00-5.00 **Ni** 2.75-3.25 **P** 0.010 max **S** 0.010 max **Si** 0.40-0.60 **V** 0.25-0.50	**AMS** 6256

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K74015	Alloy Steel replaced by T20811		
K81340	Alloy Steel	**C** 0.13 max **Mn** 0.90 max **Ni** 8.40-9.60 **P** 0.045 max **S** 0.045 max **Si** 0.13-0.32	**ASTM** A333 (8); A334 (8); A353M; A522 (I); A553M (I); A844
K81590	Alloy Steel replaced by S50400		
K88165	Bearing Steel replaced by T11350		
K90901	Ferritic Cr-Mo-V Steel (Grade 91, T91)	**Al** 0.04 max **C** 0.08-0.12 **Cr** 8.00-9.50 **Cb** 0.06-0.1 **Mn** 0.30-0.60 **Mo** 0.85-1.05 **Ni** 0.40 max **N** 0.030-0.070 **P** 0.020 max **Si** 0.20-0.50 **S** 0.010 max **V** 0.18-0.25	**ASME** SA-213 (T91); SA-182 (F91); SA-199 (T91); SA-234 (WP91); SA-335 (P91); SA-336 (F91); SA-369 (FP91); SA-387 (Gr 91) **ASTM** A 213 (T91); A 182 (F91); A199 (T91); A 234 (WP91); A 335 (P91); A 336 (F91); A 369 (FP91); A 387 (Gr 91)
K90941	Alloy Steel	**C** 0.15 max **Cr** 8.00-10.00 **Mn** 0.30-0.60 **Mo** 0.90-1.10 **P** 0.030 max **S** 0.030 max **Si** 0.50-1.00	**ASTM** A182 (F9); A234 (WP9); A369 (FP9); A989
K90987	High-Speed Steel Welding Rod (ERFe-6)	**C** 0.5-0.9 **Cr** 3.0-5.0 **Mn** 0.50 max **Mo** 5.0-9.5 **Si** 0.50 max **V** 0.8-1.3 **W** 1.0-2.5 **Other** total other elements (except Fe) 1.0 max	
K91094	Alloy Steel, Superstrength	**C** 0.42-0.47 **Co** 3.5-4.5 **Cr** 0.20-0.35 **Mn** 0.10-0.35 **Mo** 0.20-0.35 **Ni** 7.0-8.5 **P** 0.01 max **S** 0.01 max **Si** 0.10 max **V** 0.06-0.12	**ASTM** A579 (83)
K91122	Alloy Steel, Superstrength (HP9-4-25)	**C** 0.24-0.30 **Co** 3.50-4.50 **Cr** 0.35-0.60 **Mn** 0.10-0.35 **Mo** 0.35-0.60 **Ni** 7.00-9.00 **P** 0.010 max **S** 0.010 max **Si** 0.10 max **V** 0.06-0.12	**AMS** 6546 **ASTM** A579 (81)
K91151	Alloy Steel replaced by S41000		
K91161	Alloy Steel, Superstrength replaced by S41001		
K91209	Manganese Steel, Non-magnetic	**C** 1.20-1.50 **Cr** 0.60 max **Mn** 12.00-15.00 **Mo** 0.10 max **Ni** 0.75 max **P** 0.08 max **S** 0.04 max **Si** 0.55 max	**MIL SPEC** MIL-A-13259
K91283	Alloy Steel, Superstrength (HP9-4-30)	**C** 0.28-0.34 **Co** 4.0-5.0 **Cr** 0.90-1.10 **Mn** 0.10-0.35 **Mo** 0.90-1.10 **Ni** 7.0-8.5 **P** 0.01 max **S** 0.01 max **Si** 0.10 max **V** 0.06-0.12	**AMS** 6524; 6526 **ASTM** A579 (82)
K91308	High-Speed Steel Welding Rod (RFe5-A)	**C** 0.7-1.0 **Cr** 3.0-5.0 **Fe** rem **Mn** 0.50 max **Mo** 4.0-6.0 **Si** 0.50 max **V** 1.0-2.5 **W** 5.0-7.0 **Other** total other elements (except Fe) 1.0 max	
*K91313	Alloy Steel, Superstrength	**C** 0.29-0.34 **Co** 4.25-4.75 **Cr** 0.90-1.10 **Mn** 0.10-0.35 **Mo** 0.90-1.10 **Ni** 7.00-8.00 **P** 0.010 max **S** 0.010 max **Si** 0.10 max **V** 0.06-0.12	
K91342	Alloy Steel, Superstrength replaced by S42201		
K91352	Alloy Steel, Superstrength	**Al** 0.05 max **C** 0.20-0.25 **Cr** 11.00-12.50 **Mn** 0.50-1.00 **Mo** 0.90-1.25 **Ni** 0.50-1.00 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.50 **Sn** 0.04 max **Ti** 0.05 max **V** 0.20-0.30 **W** 0.90-1.25	**ASTM** A437 (B4B, B4C)

*Boxed entries are no longer active and are retained for reference purposes only.

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K91401	Alloy Steel	**C** 0.16-0.23 **Co** 4.15-5.10 **Cr** 0.61-0.89 **Mn** 0.20-0.40 **Mo** 0.86-1.14 **Ni** 8.40-9.60 **P** 0.010 max **S** 0.010 max **Si** 0.12 max **V** 0.04-0.14	
K91456	Steel, High Expansion	**C** 0.55-0.65 **Mn** 5.00-6.00 **Ni** 8.50-10.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AMS** 5623; 5625
K91461	Nickel-Cobalt Steel Welding Wire	**C** 0.14-0.17 **Co** 3.50-4.00 **Cr** 0.90-1.05 **Cu** 0.10 max **H** 0.0010 max **Mn** 0.40-0.55 **Mo** 0.40-0.50 **N** 0.0080 max **Ni** 9.75-10.25 **O** 0.0050 max **P** 0.008 max **S** 0.008 max **Si** 0.15-0.25 **V** 0.06-0.10	**AMS** 6468
K91470	Iron, Electrical Heating Element Alloy	**Al** 2.75-3.75 **Cr** 12-15	**ASTM** B603 (IV)
K91472	Alloy Steel (HP 9-4-20)	**C** 0.17-0.23 **Co** 4.25-4.75 **Cr** 0.65-0.85 **Cu** 0.35 max **Mn** 0.20-0.40 **Mo** *0.90-1.10* **Ni** *8.50-9.50* **P** 0.010 max **S** 0.010 max **Si** 0.20 max **V** 0.06-0.12	**AMS** 6523; 6525
K91505	Steel, High Expansion	**C** 0.50-0.60 **Cr** 3.00-5.00 **Cu** 0.50 max **Mn** 3.50-5.50 **Mo** 0.50 max **Ni** 11.0-14.0 **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**AMS** 5624
K91555	Alloy Steel, Non-magnetic	**C** 0.40-0.75 **Cr** 3.50-6.00 **Mn** 6.00-10.00 **Ni** 6.00-10.00 **P** 0.05 max **S** 0.045 max **Si** 0.20-0.65	**ASTM** A289 (A)
K91560	Alloy Steel (9Cr-1Mo-V-Cb-N)	**Al** 0.04 max **C** 0.08-0.12 **Cb** 0.06-0.10 **Cr** 8.0-9.5 **Mn** 0.30-0.60 **Mo** 0.85-1.05 **N** 0.03-0.07 **Ni** 0.40 max **P** 0.020 max **S** 0.010 max **Si** 0.20-0.50 **V** 0.18-0.25	**ASTM** A182 (F91); A335 (P91); A989
K91670	Iron, Electrical Heating Element Alloy	**Al** 3.75-4.75 **Cr** 13-16	**ASTM** B603 (III)
K91800	Iron, Chromium Sealing Alloy	**C** 0.08 max **Cr** 18 nom **Fe** rem **Mn** 1.00 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.75 max **Other** Ti 5xC-0.60	**ASTM** F256 (I)
K91870	Iron, Electrical Heating Element Alloy	**Al** 4.75-5.75 **Cr** 14-17	**ASTM** B603 (IIA)
K91890	Alloy Steel	**Al** 0.40 max **C** 0.03 max **Cr** 4.50-5.50 **Mn** 0.10 max **Mo** 2.75-3.25 **Ni** 11.50-12.50 **P** 0.010 max **S** 0.010 max **Si** 0.10 max **Ti** 0.20-0.35	
K91930	Alloy Steel, Superstrength	**Al** 0.25-0.40 **C** 0.03 max **Cr** 4.75-5.25 **Mn** 0.10 max **Mo** 2.75-3.25 **Ni** 11.5-12.5 **P** 0.01 max **S** 0.01 max **Si** 0.12 max **Ti** 0.05-0.15	**ASTM** A579 (74)
K91940	Alloy Steel, Superstrength	**Al** 0.35-0.50 **C** 0.03 max **Cr** 4.75-5.25 **Mn** 0.10 max **Mo** 2.75-3.25 **Ni** 11.5-12.5 **P** 0.01 max **S** 0.01 max **Si** 0.12 max **Ti** 0.10-0.25	**ASTM** A579 (75)
K91955	Alloy Steel, Non-magnetic	**C** 0.40-0.60 **Cr** 3.50-6.00 **Mn** 16.00-20.00 **Ni** 2.00 max **P** 0.08 max **S** 0.025 max **Si** 0.20-0.65	**ASTM** A289 (B)
K91970	Combined with K92571		
K91971	Nickel-Cobalt Steel Welding Wire	**Al** 0.01-0.03 **C** 0.10-0.14 **Co** 7.50-8.50 **Cr** 1.80-2.20 **H** 0.0003 max **Mn** 0.07-0.17 **Mo** 0.90-1.10 **N** 0.005 max **Ni** 9.50-10.50 **O** 0.0025 max **P** 0.006 max **S** 0.006 max **Si** 0.15-0.25 **Ti** 0.02 max **V** 0.04-0.09	**AMS** 6465

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K92100	Iron, Thermostat Alloy	**Cr** 2 **Fe** 79 **Ni** 19	**ASTM** B388
K92350	Iron, Thermostat Alloy	**Cr** 8.5 **Fe** 66.5 **Ni** 25	**ASTM** B388
K92400	Iron, Electrical Heating Element Alloy	**Al** 4.00-5.25 **Cr** 20-24	**ASTM** B603 (IIB)
K92460	Ferritic Cr-Mo-W-V-Cb Steel (T92)	**Al** 0.04 max **B** 0.006 max **C** 0.06-0.13 **Cb** 0.03-0.10 **Cr** 8.00-9.50 **Mn** 0.30-0.60 **Mo** 0.30-0.60 **N** 0.030-0.070 **Ni** 0.40 max **P** 0.020 max **S** 0.010 max **Si** 0.50 max **V** 0.15-0.25 **W** 1.50-2.20	**ASTM** A213; A335
K92500	Iron, Electrical Heating Element Alloy	**Al** 5.00-6.00 **Cr** 20-24	**ASTM** B603 (I)
K92510	Iron, Thermostat Alloy	**Cr** 3 **Fe** 75 **Ni** 22	**ASTM** B388
K92571	Alloy Steel (AF 1410)	**Al** 0.015 max **C** 0.13-0.17 **Co** 13.5-14.5 **Cr** 1.80-2.20 **Mn** 0.10 max **Mo** 0.90-1.10 **N** 0.0015 max **Ni** 9.50-10.50 **O** 0.0015 max **P** 0.008 max **S** 0.005 max **Si** 0.10 max **Ti** 0.015 max	**AMS** 6522; 6527; 6543; 6544
K92580	Martensitic Age-Hardenable Alloy	**Al** 0.015 max **C** 0.21-0.25 **Co** 12.5-14.5 **Cr** 2.85-3.35 **Mn** 0.10 max **N** 0.0015 max **Ni** 10.5-12.5 **O** 0.0015 max **P** 0.008 max **S** 0.005 max **Si** 0.10 max **Ti** 0.015 max	
K92650	Fe-Co Soft Magnetic Alloy	**C** 0.025 max **Co** 26.50-28.50 **Cr** 0.75 max **Fe** rem **Mn** 0.35 max **Ni** 0.75 max **P** 0.015 max **S** 0.015 max **Si** 0.35 max **V** 0.35 max	**ASTM** A 801 (Alloy 2)
K92801	Iron, Chromium Sealing Alloy	**C** 0.12 max **Cr** 28 nom **Fe** rem **Mn** 1.00 max **N** 0.20 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.75 max	**ASTM** F256 (II)
K92810	Alloy Steel, Maraging	**Al** 0.05-0.15 **C** 0.03 max **Co** 7.0-8.5 **Mn** 0.10 max **Mo** 4.0-4.5 **Ni** 17.0-19.0 **P** 0.010 max **S** 0.010 max **Si** 0.10 max **Ti** 0.10-0.25	**ASTM** A538 (A, B) **MIL SPEC** MIL-S-46850
K92820	Alloy Steel, Superstrength	**Al** 0.05-0.15 **C** 0.03 max **Co** 8.0-9.0 **Mn** 0.10 max **Mo** 3.0-3.5 **Ni** 17.0-19.0 **P** 0.01 max **S** 0.01 max **Si** 0.10 max **Ti** 0.15-0.25	**ASTM** A579 (71) **MIL SPEC** MIL-S-46850 **SAE** J1099 (A538A)
K92850	Iron, Thermostat Alloy	**Al** 5 **Fe** 71.5 **Mn** 9.5 **Ni** 14	**ASTM** B388
K92890	Alloy Steel, Maraging	**Al** 0.05-0.15 **C** 0.03 max **Co** 7.0-8.5 **Mn** 0.10 max **Mo** 4.6-5.1 **Ni** 17.0-19.0 **P** 0.010 max **S** 0.010 max **Si** 0.10 max **Ti** 0.30-0.50	**AMS** 6501; 6512; 6520 **ASTM** A538/A538M (B) **MIL SPEC** MIL-S-46850 **SAE** J1099 (A538B)
K92930	Ferritic Alloy Steel	**Al** 0.040 max **B** 0.005 max **C** 0.06-0.14 **Cb** 0.02-0.10 **Cr** 10.0-12.6 **Cu** 0.30-1.70 **Mn** 0.70 max **Mo** 0.20-0.60 **N** 0.020-0.100 **Ni** 0.70 max **P** 0.030 max **S** 0.020 max **Si** 0.70 max **V** 0.15-0.30 **W** 1.50-2.50	**ASME** SA213; SA335 **ASTM** A213; A335
K92940	Alloy Steel, Superstrength	**Al** 0.05-0.15 **C** 0.03 max **Co** 7.5-8.5 **Mn** 0.10 max **Mo** 4.6-5.2 **Ni** 17.0-19.0 **P** 0.01 max **S** 0.01 max **Si** 0.10 max **Ti** 0.30-0.50	**ASTM** A579 (72)
K93050	Fe-Ni Low Expansion Alloy, Free Machining (Invar FC)	**C** 0.15 max **Co** 0.50 max **Cr** 0.25 max **Fe** rem **Mn** 1.00 max **Ni** 34.0-38.0 **P** 0.020 max **S** 0.020 max **Se** 0.15-0.30 **Si** 0.35 max	**ASTM** F1684
K93120	Alloy Steel, Maraging	**Al** 0.05-0.15 **C** 0.03 max **Co** 8.0-9.5 **Mn** 0.10 max **Mo** 4.6-5.2 **Ni** 18.0-19.0 **P** 0.010 max **S** 0.010 max **Si** 0.10 max **Ti** 0.55-0.80	**AMS** 6514; 6521 **ASTM** A538 (C); A579 (73) **MIL SPEC** MIL-S-46850 **SAE** J1099 (A538C)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K93130	Nickel-Cobalt Steel Welding Wire	**Al** 0.05-0.15 **C** 0.010 max **Co** 8.00-9.00 **H** 0.0025 max **Mn** 0.10 max **Mo** 4.50-6.00 **N** 0.005 max **Ni** 18.00-19.00 **O** 0.0025 max **P** 0.010 max **S** 0.010 max **Si** 0.10 max **Ti** 0.65-0.80	**AMS** 6463
K93160	Combined with K93120		
K93500	Fe-Ni-Co Low Expansion Alloy (Super Invar)	**Al** 0.10 max **C** 0.05 max **Co** 4.0-6.5 **Cr** 0.25 max **Fe** rem **Mg** 0.10 max **Mn** 0.60 max **Ni** 30.5-33.5 **P** 0.015 max **S** 0.015 max **Si** 0.25 max **Ti** 0.10 max **Zr** 0.10 max	**ASTM** F1684
K93600	Iron, Thermostat Alloy (Invar)	**Fe** 64 **Ni** 36	**ASTM** B388
K93601	Nickel Steel, 36% Ni	**C** 0.10 max **Co** 0.50 max **Cr** 0.50 max **Mn** 1.00 max **Mo** 0.50 max **Ni** 35.0-37.0 **P** 0.025 max **S** 0.025 max **Si** 0.45 max	
K93602	Nickel Steel, Free Cutting, 36% Ni	**C** 0.15 max **Mn** 1.00 max **Ni** 35.0-36.5 **Se** 0.15-0.25 **Si** 0.35 max	**MIL SPEC** MIL-S-16598
K93603	Fe-Ni Low Expansion Alloy (Invar)	**Al** 0.10 max **C** 0.05 max **Co** 0.50 max **Cr** 0.25 max **Fe** rem **Mg** 0.10 max **Mn** 0.60 max **Ni** 34.0-38.0 **P** 0.015 max **S** 0.015 max **Si** 0.40 max **Ti** 0.10 max **Zr** 0.10 max	**ASTM** F1684
K93800	Iron, Thermostat Alloy	**Co** 7 **Fe** 62 **Ni** 31	**ASTM** B388
K94000	Iron, Thermostat Alloy	**Fe** 60 **Ni** 40	**ASTM** B388
K94100	Iron, Nickel Sealing Alloy	**Al** 0.10 max **C** 0.05 max **Cr** 0.25 max **Mn** 0.80 max **Ni** 41 nom **P** 0.025 max **S** 0.025 max **Si** 0.30 max	**ASTM** F30 (42)
K94101	Iron, Nickel Sealing Alloy (DUMET)	**C** 0.10 max **Fe** rem **Mn** 0.75-1.25 **Ni** 41-43 **P** 0.02 max **S** 0.02 max **Si** 0.30 max	**ASTM** F29 **AMS** 7734
K94200	Iron, Thermostat Alloy	**Fe** 58 **Ni** 42	**ASTM** B388
K94490	Fe-Ni Ferromagnetic Alloy	**C** 0.05 max **Co** 0.50 max **Cr** 0.30 max **Cu** 0.30 max **Fe** rem **Mn** 0.80 max **Mo** 0.30 max **Ni** 43.5-46.5 **P** 0.03 max **S** 0.01 max **Si** 0.50 max	**ASTM** A 753 (Alloy 1)
K94500	Iron, Thermostat Alloy	**Fe** 55 **Ni** 45	**ASTM** B388
K94600	Iron, Nickel Sealing Alloy	**Al** 0.10 max **C** 0.05 max **Cr** 0.25 max **Mn** 0.80 max **Ni** 46 nom **P** 0.025 max **S** 0.025 max **Si** 0.30 max	**ASTM** F30 (46)
K94610	Iron, Nickel-Cobalt Sealing Alloy (KOVAR)	**Al** 0.10 max **C** 0.04 max **Co** 17 nom **Cr** 0.20 max **Cu** 0.20 max **Fe** 53 nom **Mg** 0.10 max **Mn** 0.50 max **Mo** 0.20 max **Ni** 29 nom **Si** 0.20 max **Ti** 0.10 max **Zr** 0.10 max **Other** Al+Mg+Zr+Ti 0.20 max	**AMS** 7726; 7727; 7728 **ASTM** F15
K94620	Fe-Ni-Co, Metal-to-Ceramic Sealing Alloy	**Al** 0.01 max **C** 0.02 max **Cr** 0.03 max **Co** 25 nom **Mg** 0.01 max **Mn** 0.35 max **Mo** 0.06 max **Ni** 27 nom **P** 0.006 max **S** 0.006 max **Si** 0.15 max **Ti** 0.01 max **Zr** 0.01 max	
K94630	Fe-Ni-Co Metal-to-Ceramic Sealing Alloy	**Al** 0.01 max **C** 0.02 max **Co** 17.0 nom **Cr** 0.03 max **Cu** 0.20 max **Mg** 0.01 max **Mn** 0.35 max **Mo** 0.06 max **Ni** 29 nom **P** 0.006 max **S** 0.006 max **Si** 0.15 max **Ti** 0.01 max **Zr** 0.01 max	
K94760	Iron, Nickel-Chromium Sealing Alloy	**Al** 0.20 max **C** 0.07 max **Cr** 5.6 nom **Fe** rem **Mn** 0.25 max **Ni** 42 nom **P** 0.025 max **S** 0.025 max **Si** 0.30 max	**ASTM** F31

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
K94800	Iron, Nickel Sealing Alloy	**Al** 0.10 max **C** 0.05 max **Cr** 0.25 max **Fe** rem **Mn** 0.80 max **Ni** 48 nom **P** 0.025 max **S** 0.025 max **Si** 0.30 max	**ASTM** F30 (48)
K94840	Fe-Ni Ferromagnetic Alloy	**C** 0.05 max **Co** 0.50 max **Cr** 0.30 max **Cu** 0.30 max **Fe** rem **Mn** 0.80 max **Mo** 0.30 max **Ni** 47.0-49.0 **P** 0.03 max **S** 0.01 max **Si** 0.50 max	**ASTM** A 753 (Alloy 2)
K95000	Iron, Nickel Thermostat Alloy	**Fe** 50 **Ni** 50	**AMS** 7717; 7718; 7719 **ASTM** B388
K95050	Iron, Nickel Sealing Alloy replaced by N14052		
K95100	Iron, Cobalt, Vanadium Ferromagnetic Alloy replaced by R30005		

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Lxxxxx Number Series
Low Melting Metals and Alloys

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LOW MELTING METALS AND ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
L01900	Cadmium Metal	**Ag** 0.01 max **As** 0.003 max **Cd** 99.90 min **Cu** 0.015 max **Pb** 0.025 max **Sb** 0.001 max **Sn** 0.01 max **Zn** 0.035 max **Other** Tl 0.003 max	**ASTM** B440
L01950	Cadmium Metal	**Cd** 99.95 min **Zn** 0.020 max	**AWS** A5.33 (W-Cd)
L01951	Cadmium Metal (99.95 Cd)	**Cd** 99.95 min **Cu** 0.0150 max **Pb** 0.0250 max **Zn** 0.0350 max **Other** Tl 0.0030 max	**ASTM** B 440
L01971	Cadmium Metal (99.99 Cd)	**Cd** 99.99 min **Cu** 0.0020 max **Fe** 0.0010 max **Ni** 0.0010 max **Pb** 0.0100 max **Zn** 0.0030 max **Other** Tl 0.0030 max	**ASTM** B 440
L01981	Cadmium Metal (99.995 Cd)	**Ag** 0.001 max **As** 0.001 max **Cd** 99.995 min **Cu** 0.005 max **Fe** 0.005 max **Hg** 0.00001 max **Ni** 0.005 max **Pb** 0.020 max **Sb** 0.00001 max **Sn** 0.001 max **Zn** 0.005 max **Other** Tl 0.005 max	**ASTM** B 440
L05020	Lead-Tin Solder replaced by L54210		
L05021	Lead-Tin Solder replaced by L54211		
L05025	Lead-Silver Solder replaced by L50150		
L05050	Lead-Tin Solder replaced by L54320		
L05051	Lead-Tin Solder replaced by L54321		
L05055	Lead-Silver Solder replaced by L50180		
L05070	Lead Alloy replaced by L53131		
L05090	Lead Die Casting Alloy replaced by L53340		
L05100	Lead-Tin Solder replaced by L54520		
L05110	Lead-Tin Solder replaced by L50151		
L05120	White Metal Bearing Alloy (Babbitt Metal)	**Al** 0.005 max **As** 0.20 max **Cu** 0.50 max **Fe** 0.10 max **Pb** 83.0-88.0 **Sb** 8.0-10.0 **Sn** 4.0-6.0 **Zn** 0.005 max **Other** total 0.75 max	**FED** QQ-T-390
L05150	Lead-Tin Solder replaced by L54560		
L05153	White Metal Bearing Alloy (Babbitt Metal) replaced by L53346		
L05155	White Metal Bearing Alloy (Babbitt Metal) replaced by L53620		
L05180	Lead Die Casting Alloy replaced by L53560		
L05188	White Metal Bearing Alloy (Babbitt Metal) replaced by L53565		
L05201	Lead-Tin Solder replaced by L54711		

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
L05202	Lead-Tin Solder replaced by L54712		
L05237	White Metal Bearing Alloy (Babbitt Metal) replaced by L53585		
L05250	Lead-Tin Solder replaced by L54720		
L05251	Lead-Tin Solder replaced by L54721		
L05252	Lead-Tin Solder replaced by L54722		
L05300	Lead-Tin Solder replaced by L54820		
L05301	Lead-Tin Solder replaced by L54821		
L05302	Lead-Tin Solder replaced by L54822		
L05350	Lead-Tin Solder replaced by L54850		
L05351	Lead-Tin Solder replaced by L54851		
L05352	Lead Tin Solder replaced by L54852		
L05400	Lead-Tin Solder replaced by L54915		
L05401	Lead-Tin Solder replaced by L54916		
L05402	Lead-Tin Solder replaced by L54918		
L05450	Lead-Tin Solder replaced by L54950		
L05451	Lead-Tin Solder replaced by L54951		
L05500	Lead-Tin (50-50) Solder replaced by L55030		
L05501	Lead-Tin (50-50) Solder replaced by L55031		
L06990	Lithium Metal	**Fe** 0.005 max **K** 0.025 max **Li** rem **Na** 0.800 max **Other** Chlorides 0.04 max	
L13002	Pig Tin	**As** 0.0005 max **Bi** 0.001 max **Cd** 0.001 max **Cu** 0.002 max **Fe** 0.005 max **Pb** 0.010 max **S** 0.002 max **Sb** 0.008 max **Sn** 99.98 max **Zn** 0.001 max **Other** Ni + Co 0.005 max	
L13004	Pig Tin	**As** 0.01 max **Bi** 0.01 max **Cd** 0.001 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.02 max **S** 0.01 max **Sb** 0.02 max **Sn** 99.95 max **Zn** 0.005 max **Other** Ni + Co 0.01 max	
L13006	Pig Tin	**As** 0.05 max **Sn** 99.80 min	
L13007	Pig Tin	**Ag** 0.01 max **Al** 0.001 max **As** 0.04 max **Bi** 0.015 max **Cd** 0.001 max **Cu** 0.03 max **Fe** 0.015 max **Pb** 0.05 max **S** 0.003 max **Sb** 0.04 max **Sn** 99.80 min **Zn** 0.001 max **Other** Ni+Co 0.015 max	**FED** QQ-T-371

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
L13008	Pig Tin	**As** 0.05 max **Bi** 0.015 max **Cd** 0.001 max **Cu** 0.04 max **Fe** 0.015 max **Pb** 0.05 max **S** 0.01 max **Sb** 0.04 max **Sn** 99.80 min **Zn** 0.005 max **Other** Ni + Co 0.01 max	**ASTM** B339 (A)
L13010	Pig Tin	**Sn** 99.65 min	
L13012	Pig Tin	**Sn** 99.50 min	**AWS** A5.33 (W-Sn)
L13014	Pig Tin	**Sn** 99.00 min	
L13201	Non-Ferrous Thermal Spray Wire (W-SnZn-1)	**Sn** rem **Zn** 19-21	**AWS** A 5.33(W-SnZn-1)
L13202	Non-Ferrous Thermal Spray Wire (W-SnZn-2)	**Cu** 0.01 max **Sn** rem **Zn** 26-34	**AWS** A 5.33(W-SnZn-2)
L13600	Tin-Lead Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Co** 0.08 max **Fe** 0.02 max **Pb** 40 nom **Sb** 0.12 max **Sn** 60 nom **Zn** 0.005 max	**ASTM** B32 (60A) **FED** QQ-S-571 (Sn60)
L13601	Tin-Lead Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 40 nom **Sb** 0.20-0.50 **Sn** 60 nom **Zn** 0.005 max	**ASTM** B32 (60B)
L13630	Tin-Lead Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 37 nom **Sb** 0.12 max **Sn** 63 nom **Zn** 0.005 max	**AMS** 4751 **ASTM** B32 (63A, Sn63) **FED** QQ-S-571 (Sn63)
L13631	Tin-Lead Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 37 nom **Sb** 0.20-0.50 **Sn** 63 nom **Zn** 0.005 max	**ASTM** B32 (63B)
L13650	Tin Die Casting Alloy	**Al** 0.01 max **As** 0.15 max **Cu** 1.5-2.5 **Fe** 0.08 max **Pb** 17-19 **Sb** 14-16 **Sn** 64-66 **Zn** 0.01 max	**ASTM** B102 (PY1815A)
L13700	Tin-Lead Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 30 nom **Sb** 0.20 nom **Sn** 70 nom **Zn** 0.005 max	**ASTM** B32 (70A, Sn70) **FED** QQ-S-571 (Sn70)
L13701	Tin-Lead Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 30 nom **Sb** 0.20-0.50 **Sn** 70 nom **Zn** 0.005 max	**ASTM** B32 (70B)
L13820	Tin Die Casting Alloy	**Al** 0.01 max **As** 0.08 max **Cu** 4-6 **Fe** 0.08 max **Pb** 0.35 max **Sb** 12-14 **Sn** 80-84 **Zn** 0.01 max	**ASTM** B102 (YC135A)
L13840	White Metal Bearing Alloy (Babbitt Metal)	**Al** 0.005 max **As** 0.10 max **Bi** 0.08 max **Cd** 0.05 max **Cu** 7.5-8.5 **Fe** 0.08 max **Pb** 0.35 max **Sb** 7.5-8.5 **Sn** 83.0-85.0 **Zn** 0.005 max	**ASTM** B23 (3) **FED** QQ-T-390
L13870	White Metal Bearing Alloy (Babbitt Metal)	**Al** 0.005 max **As** 0.10 max **Bi** 0.08 max **Cd** 0.05 max **Cu** 5.0-6.5 **Fe** 0.08 max **Pb** 0.50 max **Sb** 6.0-7.5 **Sn** 86.0-89.0 **Zn** 0.005 max	**ASTM** B23 (11)
L13890	White Metal Bearing Alloy (Babbitt Metal)	**Al** 0.005 max **As** 0.10 max **Bi** 0.08 max **Cd** 0.05 max **Cu** 3.0-4.0 **Fe** 0.08 max **Pb** 0.35 max **Sb** 7.0-8.0 **Sn** 88.0-90.0 **Zn** 0.005 max	**ASTM** B23 (2) **AWS** A5.33 (W-SnSbCu-1) **FED** QQ-T-390
L13892	Non-Ferrous Thermal Spray Wire (W-SnSbCu-2)	**Cu** 3-5 **Pb** 0.5 max **Sb** 6-9 **Sn** rem	**AWS** A 5.33(W-SnSbCu-2)
L13893	Non-Ferrous Thermal Spray Wire (W-SnSbCu-3)	**Cu** 2-4 **Sb** 6-8 **Sn** rem	**AWS** A 5.33(W-SnSbCu-3)

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L13910	White Metal Bearing Alloy (Babbitt Metal)	**Al** 0.005 max **As** 0.10 max **Bi** 0.08 max **Cd** 0.05 max **Cu** 4.0-5.0 **Fe** 0.08 max **Pb** 0.35 max **Sb** 4.0-5.0 **Sn** 90.0-92.0 **Zn** 0.005 max	**AMS** 4800 **ASTM** B23 (1) **AWS** A5.33 (W-SnCuSb) **FED** QQ-T-390
L13911	Modern Pewter Casting Alloys	**As** 0.05 max **Cu** 0.25-2.0 **Fe** 0.015 max **Pb** 0.05 max **Sb** 6-8 **Sn** 90-93 **Zn** 0.005 max	**ASTM** B560 (1)
L13912	Modern Pewter Sheet Alloy	**As** 0.05 max **Cu** 1.5-3.0 **Fe** 0.015 max **Pb** 0.05 max **Sb** 5-7.5 **Sn** 90-93 **Zn** 0.005 max	**ASTM** B560 (2)
L13913	Tin Die-Casting Alloy	**Al** 0.01 max **As** 0.08 max **Cu** 4-5 **Fe** 0.08 max **Pb** 0.35 max **Sb** 4-5 **Sn** 90-92 **Zn** 0.01 max	**ASTM** B102 (CY44A)
L13940	Tin-Antimony Solder	**Al** 0.03 max **As** 0.06 max **Cd** 0.03 max **Cu** 0.08 max **Fe** 0.08 max **Pb** 0.20 max **Sb** 4.0-6.0 **Sn** 94 min **Zn** 0.03 max **Other** total 0.03 max	**FED** QQ-S-571 (Sb5)
L13950	Tin-Antimony Solder	**Al** 0.005 max **As** 0.05 max **Bi** 0.15 max **Cu** 0.08 max **Fe** 0.04 max **Pb** 0.20 max **Sb** 4.5-5.5 **Sn** 95 nom **Zn** 0.005 max	**ASTM** B32 (95TA, Sb5)
L13960	Tin-Silver Solder	**Ag** 3.6-4.4 **Al** 0.005 max **As** 0.05 max **Bi** 0.15 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 0.20 max **Sb** 0.20-0.50 **Sn** 96 nom **Zn** 0.005 max	
L13961	Tin-Silver Solder	**Ag** 3.6-4.4 **As** 0.05 max **Cd** 0.005 max **Cu** 0.20 max **Pb** 0.10 maX **Sn** rem **Zn** 0.005 max	**FED** QQ-S-571 (Sn96)
L13963	Modern Pewter	**As** 0.05 max **Cu** 1.0-2.0 **Fe** 0.015 max **Pb** 0.05 max **Sb** 1.0-3.0 **Sn** 95-98 **Zn** 0.005 max	**ASTM** B560 (3)
L13965	Tin-Silver Solder	**Ag** 3.3-3.7 **Al** 0.005 max **As** 0.05 max **Bi** 0.15 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 0.20 max **Sb** 0.20-0.50 **Sn** 96.5 nom **Zn** 0.005 max	**ASTM** B32 (96.5 TS)
L50001	Zone Refined Lead	**Pb** 99.9999 min	
L50005	Refined Soft Lead	**Pb** 99.999 min	
L50010	Refined Soft Lead	**Pb** 99.99 min	
L50020	Refined Soft Lead	**Pb** 99.985	
L50025	LME Grade Pure Lead	**Pb** 99.97	
L50035	Refined Soft Lead	**Pb** 99.95 min	
L50040	Refined Soft Lead	**Pb** 99.94 min	
L50042	Corroding Lead	**Ag** 0.0015 max **Bi** 0.050 max **Cu** 0.0015 max **Fe** 0.002 max **Pb** 99.94 min **Zn** 0.001 max **Other** Cu+Ag 0.0025 max, As+Sb+Sn 0.002 max	**ASTM** B29 (Corroding Lead); B749
L50045	Common Lead	**Ag** 0.005 max **Bi** 0.050 max **Cu** 0.0015 max **Fe** 0.002 max **Pb** 99.94 min **Zn** 0.001 max **Other** As+Sb+Sn 0.002 max	**ASTM** B29 (Common Lead) **AWS** A5.33 (W-Pb)
L50050	Grade A Lead	**Pb** 99.90 min **Other** total other elements 0.10 max	**FED** QQ-L-171
L50060	Type III Lead	**Pb** 99.85 min	
L50065	Grade AA Lead, Grade C Lead	**Pb** 99.7 min **Sb** 0.02 max	**FED** QQ-C-40 (AA, C)
L50070	Grade B Remelted Lead	**Bi** 0.025 max (Optional) **Pb** 39.5 min	**FED** QQ-L-201

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L50080	Grade B Lead	**Pb** 95.0 min **Other** total other elements 5.0 max	**FED** QQ-L-171
L50090	Chemical B Grade Lead	**Pb** N.S.	
L50101	Cable Sheathing Alloy	**Ag** 0.2 nom **Pb** 99.8 nom	
L50110	Electrowinning Anode Alloy	**Ag** 0.5 nom **Pb** 99.5 nom	
L50113	Solder Alloy	**Ag** 0.5 nom **Pb** 97.0 nom **Sn** 2.5 nom	
L50115	Electrowinning Anode Alloy	**Ag** 0.75 nom **Pb** 99.25 nom	
L50120	Electrowinning Anode Alloy	**Ag** 1.0 nom **Pb** 99.0 nom	
L50121	Solder Alloy	**Ag** 1.0 nom **Pb** 98. nom **Sn** 1.0 nom	
L50122	Electrowinning Anode Alloy	**Ag** 1.0 nom **As** 1.0 nom **Pb** 98. nom	
L50131	Solder Alloy-Grade 1.5S	**Ag** 1.3-1.7 **Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 97.5 nom **Sn** 0.75-1.25 **Zn** 0.005 max	**AMS** 4756 **ASTM** B32 (1.5S)
L50132	Solder Alloy-Grade Ag1.5	**Ag** 1.3-1.7 **Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cd** 0.001 max **Cu** 0.30 max **Fe** 0.02 max **Pb** rem **Sb** 0.40 max **Sn** 0.75-1.25 **Zn** 0.005 max **Other** total of all others 0.08 max	**ASTM** B32 (Ag1.5) **FED** QQ-S-571 (Ag1.5)
L50134	Solder Alloy-Grade 5S	**Ag** 1.5 nom **Pb** 93.5 nom **Sn** 5.0 nom	
L50140	Cathodic Protection Anode Alloy	**Ag** 2.0 nom **Pb** 98.0 nom	
L50150	Solder Alloy-Grade 2.5S	**Ag** 2.3-2.7 **Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 97.5 nom **Sn** 0.25 max **Zn** 0.005 max	**ASTM** B32 (2.5S)
L50151	Solder Alloy-Grade Ag2.5	**Ag** 2.3-2.7 **Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cd** 0.001 max **Cu** 0.30 max **Fe** 0.02 max **Pb** rem **Sb** 0.40 max **Sn** 0.25 max **Zn** 0.005 max **Other** total of all others 0.03 max	**ASTM** B32 (Ag2.5) **FED** QQ-S-571 (Ag2.5)
L50152	Solder Alloy	**Ag** 2.5 nom **Pb** 95.5 nom **Sn** 2.0 nom	
L50170	Solder Alloy	**Ag** 5.0 nom **Pb** 95.0 nom	
L50172	Solder Alloy	**Ag** 5.0 nom **In** 5.0 nom **Pb** 90.0 nom	
L50180	Solder Alloy-Grade Ag5.5	**Ag** 5.0-6.0 **Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cd** 0.001 max **Cu** 0.30 max **Fe** 0.002 max **Pb** rem **Sb** 0.40 max **Sn** 0.25 max **Zn** 0.005 max **Other** total of all others 0.03 max	**AMS** 4755 **FED** QQ-S-571 (Ag5.5)
L50310	Arsenical Lead Cable Sheathing Alloy	**As** 0.15 nom **Bi** 0.10 nom **Pb** 99.6 nom **Sn** 0.10 nom	
L50510	Lead-Barium Alloy	**Pb** 99.9 nom **Other** Ba 0.05 nom	
L50520	Lead-Tin-Barium Alloy	**Pb** 99.0 nom **Sn** 1.0 nom **Other** Ba 0.05 nom	
L50521	Lead-Tin-Barium Alloy	**Pb** 98.5 nom **Sn** 1.5 nom **Other** Ba 0.05 nom	
L50522	Lead-Tin-Barium Alloy	**Pb** 98.0 nom **Sn** 2.0 nom **Other** Ba 0.05 nom	
L50530	Lead-Tin-Barium Alloy	**Pb** 98.9 nom **Sn** 1.0 nom **Other** Ba 0.10 nom	
L50535	Lead-Tin-Barium Alloy	**Pb** 97.9 nom **Sn** 2.0 nom **Other** Ba 0.10 nom	
L50540	Frary Metal	**Pb** 98.8 nom **Other** Ba 0.4 nom, Ca 0.8 nom	

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L50541	Frary Metal	**Pb** 98.5 nom **Other** Ba 1.0 nom, Ca 0.5 nom	
L50542	Frary Metal	**Pb** 98.0 nom **Other** Ba 1.2 nom, Ca 0.8 nom	
L50543	Frary Metal	**Pb** 97.2 nom **Other** Ba 2.0 nom, Ca 0.8 nom	
L50710	Lead-Calcium Alloy	**Pb** 99.9 nom **Other** Ca 0.008 nom	
L50712	Cable Sheathing Alloy	**Pb** 99.9 nom **Other** Ca 0.025 nom	
L50713	Cable Sheathing Alloy	**Pb** 99.7 nom **Sn** 0.3 nom **Other** Ca 0.025 nom	
L50720	Lead-Calcium Alloy	**Pb** 99.9 nom **Other** Ca 0.03 nom	
L50722	Lead-Copper-Calcium Alloy	**Cu** 0.06 nom **Pb** 99.9 nom **Other** Ca 0.03 nom	
L50725	Cable Sheathing Alloy	**Cu** 0.06 nom **Pb** 99.9 nom **Other** Ca 0.035 nom	
L50728	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.5 nom **Sn** 0.5 nom **Other** Ca 0.04 nom	
L50730	Electrowinning Anode Alloy	**Ag** 0.5 nom **Pb** 99.4 nom **Other** Ca 0.06 nom	
L50735	Battery Grid Alloy, Lead-Calcium	**Pb** 99.9 nom **Other** Ca 0.06 nom	
L50736	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.7 nom **Sn** 0.2 nom **Other** Ca 0.065 nom	
L50737	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.4 nom **Sn** 0.5 nom **Other** Ca 0.065 nom	
L50740	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.2 nom **Sn** 0.7 nom **Other** Ca 0.065 nom	
L50745	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 98.9 nom **Sn** 1.0 nom **Other** Ca 0.065 nom	
L50750	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 98.6 nom **Sn** 1.3 nom **Other** Ca 0.065 nom	
L50755	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 98.4 nom **Sn** 1.5 nom **Other** Ca 0.065 nom	
L50760	Battery Grid Alloy, Lead-Calcium	**Pb** 99.9 nom **Other** Ca 0.07 nom	
L50765	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.2 nom **Sn** 0.7 nom **Other** Ca 0.07 nom	
L50770	Battery Grid Alloy, Lead-Calcium	**Pb** 99.9 nom **Other** Ca 0.10 nom	
L50775	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.6 nom **Sn** 0.3 nom **Other** Ca 0.10 nom	
L50780	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.4 nom **Sn** 0.5 nom **Other** Ca 0.10 nom	
L50790	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 98.9 nom **Sn** 1.0 nom **Other** Ca 0.10 nom	
L50795	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.6 nom **Sn** 0.3 nom **Other** Ca 0.12 nom	
L50800	Battery Grid Alloy, Lead-Calcium-Tin	**Pb** 99.5 nom **Sn** 0.3 nom **Other** Ca 0.21 nom	
L50810	Bahnmetal, Bearing Metal	**Al** 0.02 nom **Li** 0.04 nom **Pb** 98.7 nom **Other** Ca 0.7 nom, Na 0.6 nom	
L50820	Bahnmetal, Bearing Metal	**Al** 0.02 nom **Li** 0.04 nom **Pb** 98.7 nom **Other** Ca 0.7 nom, Na 0.2 nom, Ba 0.4 nom	

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L50840	Lead-Calcium Alloy	**Pb** 99.0 nom **Other** Ca 1.0 nom	
L50850	Lead-Calcium Master Alloy	**Pb** 98 nom **Other** Ca 2.0 nom	
L50880	Lead-Calcium Alloy	**Pb** 94.0 nom **Other** Ca 6.0 nom	
L50940	Lead-Cadmium Alloy-Eutectic	**Cd** 17.0 nom **Pb** 83.0 nom	
L51110	Copperized Lead	**Cu** 0.05 nom **Pb** 99.9 nom	
L51120	Chemical Lead	**Ag** 0.002-0.02 **Bi** 0.005 max **Cu** 0.04-0.08 **Fe** 0.002 max **Pb** 99.90 min **Zn** 0.001 max **Other** As + Sb + Sn 0.002 max	**ASTM** B29 (Chemical Lead); B749
L51121	Copper Bearing Lead	**Ag** 0.020 max **Bi** 0.025 max **Cu** 0.04-0.08 **Fe** 0.002 max **Pb** 99.90 min **Zn** 0.001 max **Other** As + Sb + Sn 0.002 max	**ASTM** B29 (Copper Bearing Lead); B749 **FED** QQ-L-171 (C); QQ-L-201 (C)
L51123	Lead Alloy Grade D	**Ag** 0.020 max **Bi** 0.025 max **Cu** 0.04-0.08 **Fe** 0.002 max **Pb** 99.85 min **Te** 0.035-0.060 **Zn** 0.001 max **Other** As + Sb + Sn 0.002 max	**ASTM** B749 **FED** QQ-L-201 (D)
L51124	Lead Alloy Grade D	**Ag** 0.020 max **Bi** 0.025 max **Cu** 0.04-0.08 **Fe** 0.002 max **Pb** 99.82 min **Sn** 0.016 max **Te** 0.035-0.055 **Zn** 0.001 max **Other** Sb + As 0.002 max	**FED** QQ-C-40 (D)
L51125	Pure Copper Lead, Copperized Soft Lead	**Cu** 0.06 **Pb** 99.9 min	
L51180	Copper-Lead Bearing Alloy	**Cu** rem **Fe** 0.35 max **Pb** 44.0-58.0 **Sn** 1.0-5.0 **Other** others, total 0.45 max, others, each 0.15 max	**SAE** J460, No.485
L51510	Lead-Indium-Silver Solder Alloy	**Ag** 2.38 nom **In** 4.76 nom **Pb** 92.8 nom	
L51511	Lead-Indium Solder Alloy	**In** 5.0 nom **Pb** 95.0 nom	
L51512	Lead-Indium-Silver Solder Alloy	**Ag** 2.5 nom **In** 5.0 nom **Pb** 92.5 nom	
L51530	Lead-Indium Alloy	**In** 19.0 nom **Pb** 81.0 nom	
L51532	Lead-Indium Alloy	**In** 20.0 nom **Pb** 80.0 nom	
L51535	Lead-Indium Alloy	**In** 25.0 nom **Pb** 75.0 nom	
L51540	Lead-Indium Alloy	**In** 40.0 nom **Pb** 60.0 nom	
L51550	Lead-Indium Alloy	**In** 50.0 nom **Pb** 50.0 nom	
L51705	Lead-Lithium Alloy	**Li** 0.01 nom **Pb** 99.9 nom	
L51708	Lead-Lithium Alloy	**Li** 0.02 nom **Pb** 99.9 nom	
L51710	Lead-Lithium Alloy	**Li** 0.03 nom **Pb** 99.9 nom	
L51720	Lead-Lithium Alloy	**Li** 0.06 nom **Pb** 99.9 nom	
L51730	Lead-Lithium Alloy	**Li** 0.7 nom **Pb** 99.3 nom	
L51740	Lead-Tin-Lithium Alloy	**Li** 0.02 nom **Pb** 99.6 nom **Sn** 0.35 nom	
L51748	Lead-Tin-Lithium Alloy	**Li** 0.04 nom **Pb** 99.2 nom **Sn** 0.7 nom	
L51770	Lead-Tin-Lithium-Calcium Alloy	**Li** 0.08 nom **Pb** 98.8 **Sn** 1.0 nom **Other** Ca 0.03 nom	
L51775	Lead-Tin-Lithium-Calcium Alloy	**Li** 0.12 nom **Pb** 98.8 nom **Sn** 1.0 nom **Other** Ca 0.03 nom	
L51778	Lead-Tin-Lithium-Calcium Alloy	**Li** 0.15 nom **Pb** 97.8 nom **Sn** 2.0 nom **Other** Ca 0.04 nom	
L51780	Lead-Tin-Lithium-Calcium Alloy	**Li** 0.15 nom **Pb** 99.6 nom **Sn** 0.1 nom **Other** Ca 0.15 nom	

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L51790	Lead-Tin-Lithium-Calcium Alloy	**Li** 0.65 *nom* **Pb** 98.3 *nom* **Sn** 1.0 *nom* **Other** Ca 0.02 nom	
L52505	Lead-Antimony Alloy	**Pb** 99.9 nom **Sb** 0.1 nom	
L52510	99.8 Pb	**Cu** 0.06 **Pb** 99.8 nom **Sb** 0.1 **Sn** 0.1	
L52515	Cable Sheathing Alloy	**As** 0.015 *nom* **Pb** 99.8 *nom* **Sb** 0.2 nom	
L52520	Cable Sheathing Alloy	**Pb** 99.4 **Sb** 0.2 **Sn** 0.4	
L52525	Cable Sheathing Alloy	**As** 0.035 nom **Pb** 99.7 nom **Sb** 0.3 nom **Te** 0.035 nom	
L52530	Lead-Antimony Alloy	**Pb** 99.6 nom **Sb** 0.35 nom	
L52535	Cable Sheathing Alloy	**As** 0.03 nom **Pb** 99.6 nom **Sb** 0.4 nom	
L52540	Cable Sheathing Alloy	**Cd** 0.25 nom **Pb** 99.2 nom **Sb** 0.5 nom	
L52545	Lead-Antimony Alloy	**Pb** 99.4 nom **Sb** 0.6 nom	
L52550	Cable Sheathing Alloy	**Cu** 0.04 nom **Pb** 99.3 nom **Sb** 0.6 nom **Te** 0.04 nom	
L52555	Alloy B per DIN 17640	**Pb** 99.3 **Sb** 0.7	
L52560	Bullet Alloy	**Pb** 99.2 nom **Sb** 0.75 nom	
L52565	Overhead Cable Alloy	**Pb** 99.2 nom **Sb** 0.75 nom	
L52570	Cable Sheathing Alloy, Alloy B	**Cu** 0.06 max **Pb** 99.1 **Sb** 0.85	
L52595	Cable Sheathing Alloy	**Pb** 99.0 nom **Sb** 0.95 nom	
L52605	1% Antimonial Lead	**Pb** 99.0 nom **Sb** 1.0 nom	
L52615	Lead-Base Die Casting Alloy	**As** 0.1 nom **Pb** 98.6 nom **S** 0.003 *nom* **Sb** 1.0 *nom* **Sn** 0.3 *nom*	
L52618	Lead-Antimony-Gallium Alloy	**Pb** 98.0 nom **Sb** 1.2 nom **Other** Ga 0.8 nom	
L52620	Battery Alloy	**Cd** 1.45 nom **Pb** 97.0 nom **Sb** 1.5 nom	
L52625	Shot Alloy	**As** 0.45 nom **Pb** 98.0 nom **Sb** 1.55 nom **Sn** 0.0005 max	
L52630	Battery Alloy	**As** 0.3 **Pb** 98 nom **S** 0.005 **Sb** 1.6 **Se** 0.02 **Sn** 0.1	
L52705	2% Antimonial Lead	**Pb** 98.0 nom **Sb** 2.0 nom	
L52710	Battery Alloy	**As** 0.15 **Pb** 97.5 nom **S** 0.003 **Sb** 2.0 **Sn** 0.3	
L52715	Battery Alloy	**As** 0.25 **Pb** 97.4 nom **Sb** 2.25 **Se** 0.02 **Sn** 0.1	
L52720	Battery Alloy	**As** 0.3 **Pb** 97.2 nom **S** 0.008 **Sb** 2.25 **Se** 0.02 **Sn** 0.2	
L52725	Bullet Alloy	**Pb** 97.5 nom **Sb** 2.5 nom	
L52730	Electrotype-General	**Pb** 95 nom **Sb** 2.5 nom **Sn** 2.5 nom	
L52750	Battery Alloy	**As** 0.4 **Pb** 96.5 nom **S** 0.005 **Sb** 2.75 **Sn** 0.3 **Other** Ca 0.075	
L52755	Battery Alloy	**As** 0.5 **Pb** 96.4 nom **S** 0.007 **Sb** 2.75 **Sn** 0.3 **Other** Ca 0.075	
L52760	Battery Alloy	**As** 0.18 **Cu** 0.075 **Pb** 96.8 nom **S** 0.008 **Sb** 2.75 **Sn** 0.2	
L52765	Battery Alloy	**As** 0.3 **Cu** 0.075 **Pb** 96.6 nom **S** 0.008 **Sb** 2.75 **Sn** 0.3	

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L52770	Battery Alloy	**As** 0.15 **Cu** 0.04 max **Pb** 96.6 nom **S** 0.001 **Sb** 2.9 **Sn** 0.3	
L52775	Battery Alloy	**As** 0.15 **Cu** 0.05 **Pb** 96.6 nom **S** 0.004 **Sb** 2.9 **Sn** 0.3	
L52805	3% Antimonial Lead	**Pb** 97 nom **Sb** 3.0 nom	
L52810	Battery Alloy	**As** 0.15 **Pb** 96.5 nom **S** 0.003 **Sb** 3.0 **Sn** 0.3	
L52815	Shot Alloy	**As** 0.6 **Pb** 96.4 nom **Sb** 3.0 **Sn** 0.0005 max	
L52830	Electrotype-General	**Pb** 94 nom **Sb** 3 nom **Sn** 3 nom	
L52840	Battery Alloy	**As** 0.5 **Cu** 0.12 **Pb** 95.7 nom **Sb** 3.25 **Sn** 0.4 **Other** Ca 0.06	
L52860	Lead-Base Bearing Alloy No. 16 (Overlay)	**Al** 0.005 max **As** 0.05 max **Bi** 0.10 max **Cd** 0.005 max **Cu** 0.10 max **Pb** rem **Sb** 3.0-4.0 **Sn** 3.5-4.7 **Zn** 0.005 max **Other** total of others 0.40 max	
L52901	4% Antimonial Lead	**Pb** 96 nom **Sb** 4 nom	
L52905	Battery Alloy	**As** 0.15 **Pb** 95.5 **S** 0.003 **Sb** 4.0 **Sn** 0.3	
L52910	Lead Antimony Tin Alloy	**Pb** 95 nom **Sb** 4 nom **Sn** 1 nom	
L52915	Type Metal Alloy	**Pb** 93 nom **Sb** 4 nom **Sn** 3 nom	
L52920	4.5% Antimonial Lead	**Pb** 95.5 nom **Sb** 4.5 nom	
L52922	Anode Alloy	**Pb** 95 nom **S** 0.5 nom **Sb** 4.5 nom	
L52930	Battery Alloy	**As** 0.3 **Cu** 0.05 **Pb** 94.6 nom **S** 0.007 **Sb** 4.75 **Sn** 0.3	
L52940	Battery Alloy	**As** 0.15 **Cu** 0.05 **Pb** 94.8 nom **S** 0.004 **Sb** 4.75 **Sn** 0.3	
L53020	Lyman"s 2 Alloy-Bullet Alloy	**Pb** 90.0 nom **Sb** 5.0 nom **Sn** 5.0 nom	
L53105	6% Antimonial Lead	**Pb** 94 nom **Sb** 6.0 nom	**AWS** A5.33 (W-Pb-Sb)
L53110	Rolled Sheet alloy	**Pb** 94 nom **Sb** 6 nom	
L53115	Lead Alloy	**Pb** 93.7 nom **Sb** 6.0 nom **Sn** 0.3 nom	
L53120	Electrowinning Anode Alloy	**As** 0.4 nom **Pb** 93.6 nom **Sb** 6.0 nom	
L53122	High-Strength Sheet Lead	**As** 0.4 nom **Pb** 93.6 nom **Sb** 6.0 nom	
L53125	Creep Resistant Pipe and Sheet Alloy	**As** 0.65 nom **Pb** 93.3 nom **Sb** 6.0 nom	
L53130	Lead Alloy	**As** 0.6 nom **Pb** 92.8 nom **Sb** 6.0 nom **Sn** 0.6 nom	
L53131	Lead Alloy	**Pb** rem **Sb** 6.0-7.0 **Sn** 0.25-0.75	**AMS** 7721
L53135	Battery Alloy	**As** 0.3 **Cu** 0.07 **Pb** 93.4 nom **S** 0.006 **Sb** 6.0 **Sn** 0.3	
L53140	Hard Shot Alloy	**As** 1.2 nom **Pb** 92.6 nom **Sb** 6.2 nom **Sn** 0.0005 max	
L53210	Type Metal Alloy	**Pb** 89 nom **Sb** 7 nom **Sn** 4 nom	
L53220	Lead Alloy	**As** 0.6 **Pb** 91.8 nom **Sb** 7.0 **Sn** 0.6	
L53230	8% Antimonial Lead	**Pb** 92 nom **Sb** 8 nom	
L53235	Hard Shot Alloy	**As** 1.25 nom **Pb** 90.7 nom **Sb** 8.0 nom **Sn** 0.0005 max	
L53238	Hard Shot Alloy	**As** 2 nom **Pb** 90.0 nom **Sb** 8 nom **Sn** 0.0005 max	
L53260	Spin Casting Alloy	**Pb** 88.9 nom **Sb** 8.0 nom **Sn** 3.1 nom	

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L53265	Type Metal Alloy	**Pb** 88 nom **Sb** 8.0 nom **Sn** 4.0 nom	
L53305	9% Antimonial Lead	**Pb** 91 nom **Sb** 9.0 nom	
L53310	Lead Alloy	**Pb** 90 nom **Sb** 9 nom **Sn** 1 nom	
L53320	Whitemetal Bearing Alloy	**Pb** 86 nom **Sb** 9 nom **Sn** 5 nom	
L53340	Lead-Base Die Casting Alloy	**As** 0.15 max **Cu** 0.50 max **Pb** 89-91 **Sb** 9.25-10.75 **Zn** 0.01 max	**ASTM** B102 (Y10A)
L53343	Lead-Base Bearing Alloy	**Al** 0.005 max **As** 0.25 max **Bi** 0.10 max **Cd** 0.05 max **Cu** 0.50 max **Fe** 0.1 max **Pb** rem **Sb** 9.5-10.5 **Sn** 5.5-6.5 **Zn** 0.005 max	
L53345	Lead-Base Bearing Alloy	**Al** 0.005 max **As** 0.25 max **Bi** 0.10 max **Cd** 0.05 max **Cu** 0.50 max **Pb** rem **Sb** 9.0-11.0 **Sn** 5.0-7.0 **Zn** 0.005 max **Other** total of others 0.20 max	**SAE** J460 (13)
L53346	Lead-Base Bearing Alloy	**Al** 0.005 max **As** 0.25 max **Bi** 0.10 max **Cd** 0.05 max **Cu** 0.50 max **Fe** 0.10 max **Pb** rem **Sb** 9.5-10.5 **Sn** 5.5-6.5 **Zn** 0.005 max	**ASTM** B23 (13)
L53405	11% Antimonial Lead	**Pb** 89 nom **Sb** 11 nom	
L53420	Linotype Alloy	**Pb** 86 nom **Sb** 11 nom **Sn** 3 nom	
L53425	Linotype-Special Alloy	**Pb** 84 nom **Sb** 11 nom **Sn** 5 nom	
L53454	Type Metal Alloy	**Pb** 85 nom **Sb** 12 nom **Sn** 3 nom	
L53455	Linotype B (Eutectic) Alloy	**Pb** 84 nom **Sb** 12 nom **Sn** 4 nom	
L53456	Type Metal Alloy	**Pb** 83 nom **Sb** 12 nom **Sn** 5 nom	
L53460	Type Metal Alloy	**Pb** 82 nom **Sb** 12 nom **Sn** 6 nom	
L53465	Lead Alloy	**Cu** 0.05 **Pb** 77.5 nom **Sb** 12.5 nom **Sn** 10.0 nom	**AWS** A5.33 (W-PbSbSn)
L53470	CT Metal	**As** 0.4 nom **Pb** 86 nom **Sb** 12.75 nom **Sn** 0.75 nom	
L53480	Arsenical Lead-G Babbitt	**As** 3.0 nom **Pb** 83.5 nom **Sb** 12.75 nom **Sn** 0.75 nom	
L53505	CT Metal	**As** 1 nom **Pb** 85 nom **Sb** 13 nom **Sn** 1 nom	
L53510	Stereotype-General Alloy	**Pb** 80.5 nom **Sb** 13 nom **Sn** 6.5 nom	
L53530	Stereotype-Flat Alloy	**Pb** 80 nom **Sb** 14 nom **Sn** 6 nom	
L53550	15% Antimonial Lead	**Pb** 85 nom **Sb** 15 nom	
L53555	Lead Alloy	**Pb** 83 nom **Sb** 15 nom **Sn** 2 nom	
L53558	Type Metal Alloy	**Pb** 81 nom **Sb** 15 nom **Sn** 4 nom	
L53560	Lead-Base Die Casting Alloy	**Al** 0.01 max **As** 0.15 max **Cu** 0.50 max **Pb** 79-81 **Sb** 14-16 **Sn** 4-6 **Zn** 0.01 max	**ASTM** B102 (YT155A)
L53565	Lead-Base White Metal Bearing Alloy	**Al** 0.005 max **As** 0.30-0.60 **Bi** 0.10 max **Cd** 0.05 max **Cu** 0.50 max **Fe** 0.10 max **Pb** rem **Sb** 14.0-16.0 **Sn** 4.5-5.5 **Zn** 0.005 max	**ASTM** B23 (8)
L53570	Monotype-Ordinary Alloy	**Pb** 78 nom **Sb** 15 nom **Sn** 7 nom	
L53575	Stereotype-Curved Alloy	**Pb** 77 nom **Sb** 15 nom **Sn** 8 nom	
L53580	Rules Monotype Alloy	**Pb** 75 nom **Sb** 15 nom **Sn** 10 nom	
L53585	Lead-Base Whitemetal Bearing Alloy	**Al** 0.005 max **As** 0.30-0.60 **Bi** 0.10 max **Cd** 0.05 max **Cu** 0.50 max **Fe** 0.10 max **Pb** rem **Sb** 14.0-16.0 **Sn** 9.3-10.7 **Zn** 0.005 max	**ASTM** B23 (7)

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L53620	Lead-Base Bearing Alloy	**Al** 0.005 max **As** 0.8-1.4 **Bi** 0.10 max **Cd** 0.05 max **Cu** 0.6 max **Fe** 0.10 max **Pb** rem **Sb** 14.5-17.5 **Sn** 0.8-1.2 **Zn** 0.005 max	**ASTM** B23 (15)
L53650	Display Monotype Alloy	**Pb** 75 nom **Sb** 17 nom **Sn** 8 nom	
L53655	Type Metal Alloy	**Pb** 74 nom **Sb** 17 nom **Sn** 9 nom	
L53685	Lanston Standard Case Type Monotype Alloy	**Pb** 72 nom **Sb** 19 nom **Sn** 9 nom	
L53710	Hard Foundry Type Alloy	**Cu** 1.5 nom **Pb** 58.5 nom **Sb** 20 nom **Sn** 20 nom	
L53740	Monotype Case Type Alloy	**Pb** 67 nom **Sb** 24 nom **Sn** 9 nom	
L53750	Monotype Case Type Alloy	**Pb** 64 nom **Sb** 24 nom **Sn** 12 nom	
L53780	Hard Foundry Type Alloy	**Cu** 1.5 nom **Pb** 60.5 nom **Sb** 25 nom **Sn** 13 nom	
L53790	Type Metal Alloy	**Pb** 67 nom **Sb** 28 nom **Sn** 5 nom	
L53795	Type Metal Alloy	**Pb** 65.5 nom **Sb** 29 nom **Sn** 5.5 nom	
L54030	Alloy 1/2C-Cable Sheathing Alloy	**Cd** 0.075 nom **Pb** 99.7 nom **Sn** 0.2 nom	
L54050	Alloy C-Cable Sheathing Alloy	**Cd** 0.15 nom **Pb** 99.4 nom **Sn** 0.4 nom	
L54210	2% Tin Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 98 nom **Sb** 0.12 max **Sn** 1.5-2.5 **Zn** 0.005 max	**ASTM** B32 (2A, Sn2)
L54211	2% Tin Antimonial Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 98 nom **Sb** 0.20-0.50 **Sn** 1.5-2.5 **Zn** 0.005 max	**ASTM** B32 (2B)
L54250	Solder Alloy	**Al** 0.005 max **As** 0.40-0.60 **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 4.90-5.40 **Sn** 2.50-2.75 **Zn** 0.005 max **Other** other elements, total 0.08 max	**SAE** J473 (No. 9B)
L54280	Solder Alloy	**Pb** 91.9 nom **Sb** 5.1 nom **Sn** 3.0 nom	
L54310	Electrotype Curved Plate Alloy	**Pb** 93 nom **Sb** 3 nom **Sn** 4 nom	
L54320	5/95 Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 95 nom **Sb** 0.12 max **Sn** 4.5-5.5 **Zn** 0.005 max	**ASTM** B32 (5A)
L54321	5% Tin Antimonial Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 95 nom **Sb** 0.20-0.50 **Sn** 4.5-5.5 **Zn** 0.005 max	**ASTM** B32 (5B)
L54322	SN5 Solder	**Ag** 0.015 max **Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cd** 0.001 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 0.50 max **Sn** 4.5-5.5 **Zn** 0.005 max **Other** total of all others 0.08 max	**ASTM** B32 (Sn5) **FED** QQ-S-571 (Sn5)
L54360	Solder Alloy	**As** 0.5 nom **Pb** 90.5 nom **Sb** 4.0 nom **Sn** 5.0 nom	
L54370	Plated Overlay for Bearings	**Pb** rem **Sn** 5.0-9.0 **Other** other elements, total 3.5 max	**SAE** J460, No. 190
L54410	8% Tin Solder	**Pb** 92 nom **Sb** 0.3 nom **Sn** 8 nom	
L54510	Plated Overlay for Bearings	**Pb** rem **Sn** 8.0-12.0 **Other** other elements, total 3.5 max	**SAE** J460, No. 19

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
L54520	10/90 Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 90 nom **Sb** 0.20-0.50 **Sn** 10 nom **Zn** 0.005 max	**ASTM** B32 (10B, Sn10A)
L54525	88-10-2 Solder	**Ag** 1.7-2.4 **Al** 0.005 max **As** 0.02 max **Bi** 0.03 max **Cd** 0.001 max **Cu** 0.08 max **Pb** rem **Sb** 0.20 max **Sn** 9.0-11.0 **Zn** 0.005 max **Other** total of all others 0.10 max	**ASTM** B32 (Sn10B) **FED** QQ-S-571 (Sn10)
L54530	Solder Alloy	**As** 0.5 nom **Pb** 85.5 nom **Sb** 4 nom **Sn** 10 nom	
L54540	Solder Alloy	**Pb** 87.5 nom **Sb** 0.45 nom **Sn** 12 nom	
L54555	Solder Alloy	**Al** 0.005 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 2.75 max **Sn** 14.0-15.0 **Zn** 0.005 max **Other** other elements, total 0.08 max	**SAE** J473 (No. 6B)
L54560	15/85 Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 85 nom **Sb** 0.20-0.50 **Sn** 15 desired **Zn** 0.005 max	**ASTM** B32 (15B, Sn15)
L54570	Solder Alloy	**Pb** 82.5 nom **Sb** 2.5 nom **Sn** 15 nom	
L54580	Type Metal Alloy	**Pb** 80.5 nom **Sb** 4.5 nom **Sn** 15 nom	
L54610	Solder Alloy	**Al** 0.005 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 1.25-1.75 **Sn** 19.0-20.0 **Zn** 0.005 max **Other** other elements, total 0.08 max	**SAE** J473 (No. 5B)
L54710	20% Tin Solder	**Pb** 80 nom **Sb** 0.2 max **Sn** 20 nom	
L54711	Solder Alloy 20B	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 80 nom **Sb** 0.20-0.50 **Sn** 20 desired **Zn** 0.005 max	**ASTM** B32 (20B, Sn20A) **FED** QQ-S-571 (Pb80)
L54712	Solder Alloy 20C	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 79 nom **Sb** 0.8-1.2 **Sn** 20 desired **Zn** 0.005 max	**ASTM** B32 (20C, Sn20B) **FED** QQ-S-571 (Sn20)
L54713	Solder Alloy	**Pb** 77 nom **Sb** 1.2 nom **Sn** 22 nom	
L54715	Solder Alloy	**Pb** 74 nom **Sb** 3 nom **Sn** 23 nom	
L54720	25/75 Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 75 nom **Sb** 0.25 max **Sn** 25 nom **Zn** 0.005 max	**ASTM** B32 (25A)
L54721	Solder Alloy 25B	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 75 nom **Sb** 0.20-0.50 **Sn** 25 desired **Zn** 0.005 max	**ASTM** B32 (25B, Sn25A)
L54722	Solder Alloy 25C	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 73.7 nom **Sb** 1.1-1.5 **Sn** 25 desired **Zn** 0.005 max	**ASTM** B32 (25C, Sn25B)
L54727	Lead-Base Bearing Alloy	**Cu** 3 nom **Pb** 59 nom **Sb** 13 nom **Sn** 25 nom	
L54750	Silver-Loaded Solder	**Ag** 3 nom **Pb** 70 nom **Sn** 27 nom	
L54755	Fusible Alloy	**Bi** 21.5 nom **Pb** 51.5 nom **Sn** 27 nom	
L54805	Solder Alloy	**Pb** 70.5 nom **Sb** 1.5 nom **Sn** 28 nom	
L54810	Fusible Alloy	**Bi** 28.5 nom **Pb** 43 nom **Sn** 28.5 nom	

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L54815	Solder Alloy	**Al** 0.005 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 0.75-1.25 **Sn** 29.0-30.0 **Zn** 0.005 max **Other** other elements, total 0.08 max	**SAE** J473 (No. 3B)
•**L54820**	30/70 Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 70 nom **Sb** 0.25 max **Sn** 30 desired **Zn** 0.005 max	**ASTM** B32 (30A)
L54821	30/70 Solder Alloy (Sn30A)	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 0.50 max **Sn** 29.5-31.5 **Zn** 0.005 max	**ASTM** B32 (30B, Sn30A) **FED** QQ-S-571 (Pb70)
L54822	30/70 Solder Alloy (Sn30B)	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 1.4-1.8 **Sn** 29.5-31.5 **Zn** 0.005 max	**ASTM** B32 (30C, Sn30B) **FED** QQ-S-571 (Sn30)
L54827	Type Metal Alloy	**Pb** 64 nom **Sb** 6 nom **Sn** 30 nom	
L54829	Fusible Alloy	**Bi** 20 nom **Pb** 50 nom **Sn** 30 nom	
L54830	Fusible Alloy	**Bi** 30.8 nom **Pb** 38.4 nom **Sn** 30.8 nom	
L54832	Solder Alloy	**Pb** 66.7 nom **Sb** 1.8 nom **Sn** 31.5 nom	
L54833	Solder Alloy	**Pb** 65 nom **Sb** 3 nom **Sn** 32 nom	
L54835	Fusible Alloy	**Bi** 33.3 nom **Pb** 33.4 nom **Sn** 33.3 nom	
L54840	Fusible Alloy	**Bi** 32 nom **Pb** 34 nom **Sn** 34 nom	
L54850	35/65 Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 65 nom **Sb** 0.25 max **Sn** 35 nom **Zn** 0.005 max	**ASTM** B32 (35A)
L54851	Solder Alloy	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 65 nom **Sb** 0.20-0.50 **Sn** 35 nom **Zn** 0.005 max	**ASTM** B32 (35B, Sn35A) **FED** QQ-S-571 (Pb65)
L54852	Solder Alloy	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 63.2 nom **Sb** 1.6-2.0 **Sn** 35 nom **Zn** 0.005 max	**ASTM** B32 (35C, Sn35B) **FED** QQ-S-571 (Sn35)
L54855	Silver-Loaded Solder Alloy	**Ag** 3.0 nom **Pb** 61.5 nom **Sn** 35.5 nom	
L54860	Fusible Alloy	**Bi** 21 nom **Pb** 43 nom **Sn** 36 nom	
L54865	Fusible Alloy	**Bi** 21 nom **Pb** 42 nom **Sn** 37 nom	
L54905	Antimonial Solder Alloy	**Al** 0.005 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 1.5-2.00 **Sn** 38.0-38.5 **Zn** 0.005 max **Other** other elements, total 0.08 max	**SAE** J473 (No. 2B)
L54910	Fusible Alloy	**Bi** 12.6 nom **Pb** 47.5 nom **Sn** 39.9 nom	
L54915	40/60 Solder	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 60 nom **Sb** 0.12 max **Sn** 40 nom **Zn** 0.005 max	**ASTM** B32 (40A, Sn40A)
L54916	Solder Alloy	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 60 nom **Sb** 0.20-0.50 **Sn** 40 nom **Zn** 0.005 max	**ASTM** B32 (40B) **FED** QQ-S-571 (Sn40)

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L54918	Solder Alloy	**Al** 0.005 max **As** 0.02 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 58 nom **Sb** 1.8-2.4 **Sn** 40 nom **Zn** 0.005 max	**ASTM** B32 (40C, Sn40B)
L54925	Lead-Base Bearing Alloy	**Cu** 2 nom **Pb** 46 nom **Sb** 12 nom **Sn** 40 nom	
L54930	Fusible Alloy	**Bi** 4 nom **Pb** 55.5 nom **Sn** 40.5 nom	
L54935	Fusible Alloy	**Bi** 14 nom **Pb** 43 nom **Sn** 43 nom	**ASTM** B774 (291-325)
L54940	Solder Alloy	**Al** 0.005 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** rem **Sb** 1.5-2.00 **Sn** 43.0-43.5 **Zn** 0.005 max **Other** other elements, total 0.08 max	**SAE** J473 (No. 1B)
L54945	Silver-Loaded Solder	**Ag** 1 nom **Pb** 55 nom **Sn** 44 nom	
L54950	45/55 Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 55 nom **Sb** 0.12 max **Sn** 45 nom **Zn** 0.005 max	**AMS** 4750 **ASTM** B32 (45A)
L54951	Solder Alloy	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 55 nom **Sb** 0.20-0.50 **Sn** 45 nom **Zn** 0.005 max	**ASTM** B32 (45B, Sn45)
L54955	Solder Alloy	**Pb** 52.5 nom **Sb** 2.5 nom **Sn** 45 nom	
L55005	Solder Alloy	**Pb** 52 nom **Sn** 48 nom	
L55030	50/50 Solder	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 50 nom **Sb** 0.12 max **Sn** 50 nom **Zn** 0.005 max	**ASTM** B32 (50A)
L55031	Solder Alloy	**Al** 0.005 max **As** 0.03 max **Bi** 0.25 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 50 nom **Sb** 0.20-0.50 **Sn** 50 nom **Zn** 0.005 max	**ASTM** B32 (50B, Sn50) **FED** QQ-S-571 (Sn50)
L55210	Battery Alloy	**Pb** 99.6 nom **Sn** 0.3 nom **Other** Ca 0.06 nom; Sr 0.06 nom	
L55230	Battery Alloy	**Al** 0.03 nom **Pb** 99 nom **Sn** 0.8 nom **Other** Sr 0.16 nom	
L55260	Battery Alloy	**Al** 0.03 nom **Pb** 99.8 nom **Other** Sr 0.2 nom	
L55290	Lead-Strontium Alloy	**Pb** 98. nom **Other** Sr 2. nom	
L91090	Aluminum Solder (KAPALLOY)	**Ag** 0.002 max **As** 0.030 max **Bi** 0.030 max **Cd** 0.005 max **Cu** 0.005 max **Fe** 0.004 max **Ni** 0.006 max **Pb** 0.030 max **Sb** 0.025 max **Sn** 90.00-92.00 **Zn** 8.00-10.00	

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Mxxxxx Number Series
Miscellaneous Nonferrous Metals and Alloys

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MISCELLANEOUS NONFERROUS METALS AND ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
M00995	Metallic Antimony	**Ag** 0.10 max **As** 0.10 max **Cu** 0.10 max **Fe** 0.10 max **Ni** 0.10 max **Pb** 0.20 max **S** 0.10 max **Sb** 99.50 min **Sn** 0.10 max	**MIL SPEC** MIL-A-10841
M00998	Metallic Antimony	**Ag** 0.05 max **As** 0.05 max **Cu** 0.05 max **Fe** 0.05 max **Ni** 0.05 max **Pb** 0.15 max **S** 0.10 max **Sb** 99.80 min **Sn** 0.05 max	**MIL SPEC** MIL-A-10841
* **M05995**	Plutonium Nuclear Grade	**Fe** 500 ppm max **Other** plutonium Pu 99.5 min, F+Cl 200 ppm max; Mg+Ca 500 ppm max	
M08990	Depleted Uranium	**C** 0.07 max **U** 99.00 min	**AMS** 7730
M10101	Magnesium Alloy Casting (AM100A)	**Al** 9.4-10.6 **Cu** 0.08 max **Mg** rem **Mn** 0.13-0.35 **Ni** 0.010 max **Si** 0.20 max **Zn** 0.2 max **Other** total 0.30 max	**ASTM** B 93 (AM100A)
M10030	Magnesium Alloy-Casting (A3A)	**Ag** 0.001 max **Al** 2.5-3.5 **Cd** 0.001 max **Cu** 0.005 max **Fe** 0.005 max **Mg** rem **Mn** 0.005 max **Ni** 0.001 max **Zn** 0.10 max **Other** total 0.30 max, Rare Earths 0.001 max	**ASTM** B275 (A3A)
M10100	Magnesium Alloy-Casting (AM100A)	**Al** 9.3-10.7 **Cu** 0.10 max **Mg** rem **Mn** 0.10 min **Ni** 0.01 max **Si** 0.30 max **Zn** 0.30 max **Other** total 0.30 max	**AMS** 4455; 4483 **ASTM** B80 (AM100A); B93 (AM100A); B199 (AM100A); B275 (AM100A); B403 (AM100A) **MIL SPEC** MIL-M-46062B **SAE** J465 (AM100-A)
M10102	Magnesium-Die Alloy Casting (AM100B)	**Al** 9.4-10.6 **Cu** 0.08 max **Mg** rem **Mn** 0.13 min **Ni** 0.01 max **Si** 1.0 max **Other** total 0.30 max	**ASTM** B275 (AM100B)
M10410	Magnesium-Die Alloy Casting (AS41A)	**Al** 3.5-5.0 **Cu** 0.06 max **Mg** rem **Mn** 0.20-0.50 **Ni** 0.03 max **Si** 0.50-1.5 **Zn** 0.12 max	**ASTM** B94 (AS41A); B275 (AS41A) **SAE** J465 (AS41-A)
M10411	Magnesium Alloy-Casting (AS41A)	**Al** 3.7-4.8 **Cu** 0.04 max **Mg** rem **Mn** 0.22-0.48 **Ni** 0.01 max **Si** 0.60-1.4 **Zn** 0.10 max **Other** impurities 0.30 max	**ASTM** B93 (AS41A)
M10412	Magnesium-Die Alloy Casting (AS41B)	**Al** 3.5-5.0 **Cu** 0.02 **Fe** 0.0035 max **Mg** rem **Mn** 0.35-0.4 **Ni** 0.002 **Si** 0.50-1.5 **Zn** 0.12 **Other** metallic impurities 0.02 max each	**ASTM** B94 (AS41B)
M10413	Magnesium Alloy-Casting (AS41B)	**Al** 3.7-4.8 **Cu** 0.015 max **Fe** 0.0035 max **Mg** rem **Mn** 0.35-0.6 **Ni** 0.001 max **Si** 0.60-1.4 **Zn** 0.10 max **Other** metallic impurities 0.01 max each	**ASTM** B93 (AS41B)
M10500	Magnesium Alloy (AM50A)	**Al** 4.4-5.4 **Cu** 0.010 max **Fe** 0.004 max **Mg** rem **Mn** 0.26-0.6 **Ni** 0.002 max **Si** 0.10 max **Zn** 0.22 max **Other** metallic each 0.02 max. If either the minimum Mn limit or maximum Fe limit is not met, then Fe/Mn ratio shall not exceed 0.015.	**ASTM** B94
M10501	Magnesium Alloy (AM50A)	**Al** 4.5-5.3 **Cu** 0.008 max **Fe** 0.004 max **Mg** rem **Mn** 0.28-0.50 **Ni** 0.001 max **Si** 0.05 max **Zn** 0.20 max **Other** metallic each 0.02 max	**ASTM** B93/M93M
M10600	Magnesium-Die-Mold Alloy Casting (AM60A)	**Al** 5.5-6.5 **Cu** 0.35 max **Mg** rem **Mn** 0.13 min **Ni** 0.03 max **Si** 0.50 max **Zn** 0.22 max **Other** total 0.30 max	**ASTM** B94 (AM60A); B275 (AM60A) **SAE** J465 (AM60-A)
M10601	Magnesium Alloy-Casting (AM60A)	**Al** 5.7-6.3 **Cu** 0.25 max **Mg** rem **Mn** 0.15 min **Ni** 0.01 max **Si** 0.20 max **Zn** 0.20 max **Other** impurities 0.30 max	**ASTM** B93 (AM60A)

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M10602	Magnesium Alloy-Casting (AM60B)	**Al** 5.5-6.5 **Cu** 0.010 max **Fe** 0.005 max **Mg** rem **Mn** 0.25 min **Ni** 0.002 max **Si** 0.10 max **Zn** 0.22 max **Other** metallic impurities, each, 0.02 max. If Iron exceeds 0.005%, then the permissable Fe to Mn ratio shall not exceed 0.021.	**ASTM** B94 (AM60B)
M10603	Magnesium Alloy-Casting (AM60B)	**Al** 5.7-6.3 **Cu** 0.008 max **Fe** 0.004 max **Mg** rem **Mn** 0.27 min **Ni** 0.001 max **Si** 0.05 max **Zn** 0.20 max **Other** metallic impurities 0.01 max each	**ASTM** B93 (AM60B)
M10800	Magnesium Alloy-Casting (AM80A)	**Al** 8.0-9.0 **Cu** 0.08 max **Mg** rem **Mn** 0.18 min **Ni** 0.01 max **Si** 0.20 max **Zn** 0.20 max **Other** total 0.30 max	**ASTM** B275 (AM80A)
M10900	Magnesium Alloy-Casting (AM90A)	**Ag** 0.008 max **Al** 8.5-9.5 **Cu** 0.10 max **Fe** 0.008 max **Mg** rem **Mn** 0.15 min **Ni** 0.005 max **Si** 0.15 max **Zn** 0.20 max **Other** total 0.10 max; each 0.02 max	**ASTM** B275 (AM90A)
M11100	Magnesium Alloy-Casting (AZ10A)	**Al** 1.0-1.5 **Cu** 0.10 max **Fe** 0.005 max **Mg** rem **Mn** 0.20 min **N** 0.005 max **Si** 0.10 max **Zn** 0.20-0.6	**ASTM** B275 (AZ10A)
M11101	Magnesium Alloy-Casting (AZ101A)	**Al** 9.5-10.5 **Be** 0.0002-0.0008 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.13 min **Ni** 0.005 max **Si** 0.05 max **Zn** 0.75-1.25 **Other** total 0.30 max	**ASME** SFA5.19 (ER AZ101A) **ASTM** B275 (AZ101A) **AWS** A5.19 (ER AZ101A)
M11125	Magnesium Alloy-Casting (AZ125A)	**Al** 11.0-13.0 **Be** 0.0002-0.0008 **Mg** rem **Zn** 4.5-5.5 **Other** total 0.30 max	**ASTM** B275 (AZ125A)
M11210	Magnesium Alloy-Casting (AZ21A)	**Al** 1.6-2.5 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.15 max **Ni** 0.002 max **Si** 0.05 max **Zn** 0.8-1.6 **Other** total 0.30 max, Ca 0.10-0.25	**ASTM** B275 (AZ21A)
M11310	Magnesium Alloy-Sheet and Plate	**Al** 2.5-3.5 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.20 min **Ni** 0.005 max **Si** 0.30 max **Zn** 0.6-1.4 **Other** total 0.30 max, Ca 0.30 max	**ASTM** B90 (AZ31A); B275 (AZ31A)
M11311	Magnesium Alloy-Wrought-Extruded Shapes-Forgings (AZ31B)	**Al** 2.5-3.5 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.20 min **Ni** 0.005 max **Si** 0.10 max **Zn** 0.6-1.4 **Other** total 0.30 max, Ca 0.04 max	**AMS** 4375; 4376; 4377; 4382 **ASTM** B90 (AZ31B); B91 (AZ31B); B107 (AZ31B); B275 (AZ31B) **FED** QQ-M-40; QQ-M-44 **SAE** J466 (AZ31B)
M11312	Magnesium Alloy-Wrought-Extruded Shapes (AZ31C)	**Al** 2.4-3.6 **Cu** 0.10 max **Mg** rem **Mn** 0.15 min **Ni** 0.03 max **Si** 0.10 max **Zn** 0.50-1.5 **Other** total 0.30 max	**ASTM** B107 (AZ31C); B275 (AZ31C)
M11313	Magnesium Alloy, High Purity, for Anodes (AZ 31D)	**Al** 2.5-3.5 **Cu** 0.04 max **Fe** 0.002 max **Mg** rem **Mn** 0.2-1.0 **Ni** 0.0010 max **Si** 0.05 max **Zn** 0.6-1.4	**ASTM** B275 (AZ 31D); B843 (AZ 31D)
M11610	Magnesium Alloy-Forgings-Extruded Shapes (AZ61A)	**Al** 5.8-7.2 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.15 min **Ni** 0.005 max **Si** 0.10 max **Zn** 0.40-1.5 **Other** total 0.30 max	**AMS** 4350 **ASTM** B90 (AZ61A); B91 (AZ61A); B107 (AZ61A); B275 (AZ61A) **FED** QQ-M-40 **SAE** J466 (AZ61A)
M11611	Magnesium Welding Wire	**Al** 5.8-7.2 **Be** 0.0002-0.0008 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.15 min **Ni** 0.005 max **Si** 0.05 max **Zn** 0.40-1.5 **Other** total 0.30 max	**ASME** SFA5.19 (ER AZ61A) **AWS** A5.19 (ER AZ61A)
M11630	Magnesium Alloy-Casting (AZ63A)	**Al** 5.3-6.7 **Cu** 0.25 nom **Mg** rem **Mn** 0.15 min **Ni** 0.01 max **Si** 0.30 nom **Zn** 2.5-3.5 **Other** total 0.30 max	**AMS** 4420; 4422; 4424 **ASTM** B80 (AZ63A); B93 (AZ63A); B275 (AZ63A) **SAE** J465 (AZ63A)
M11631	Magnesium Alloy-Casting (AZ63A)	**Al** 5.5-6.5 **Cu** 0.20 max **Mg** rem **Mn** 0.15-0.35 **Ni** 0.010 max **Si** 0.20 max **Zn** 2.7-3.3 **Other** impurities 0.30 max	**ASTM** B93 (AZ63A)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
M11632	Magnesium Alloy, High Purity, for Anodes (AZ 63B)	**Al** 5.3-6.7 **Cu** 0.025 max **Fe** 0.003 max **Mg** rem **Mn** 0.15-0.35 **Ni** 0.002 max **Si** 0.10 max **Zn** 2.5-3.5	
M11634	Magnesium Alloy, Moderate Purity, for Anodes (AZ 63C)	**Al** 5.3-6.7 **Cu** 0.05 max **Fe** 0.003 max **Mg** rem **Mn** 0.15-0.7 **Ni** 0.005 max **Si** 0.30 max **Zn** 2.5-3.5 **Other** total 0.30 max	**ASTM** B843
M11636	Magnesium Alloy, Low Purity, for Anodes (AZ 63D)	**Al** 5.0-7.0 **Cu** 0.10 max **Fe** 0.003 max **Mg** rem **Mn** 0.15-0.7 **Ni** 0.003 max **Si** 0.30 max **Zn** 2.0-4.0 **Other** total 0.30 max	**ASTM** B843
M11800	Magnesium Alloy-Forgings-Extrusions (AZ80A)	**Al** 7.8-9.2 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.12 min **Ni** 0.005 max **Si** 0.10 max **Zn** 0.20-0.8 **Other** total 0.30 max	**AMS** 4360 **ASTM** B91 (AZ80A); B107 (AZ80A); B275 (AZ80A) **FED** QQ-M-40 **SAE** J466 (AZ80A)
M11810	Magnesium Alloy-Casting (AZ81A)	**Al** 7.0-8.1 **Cu** 0.10 max **Mg** rem **Mn** 0.13 min **Ni** 0.01 max **Si** 0.30 max **Zn** 0.40-1.0 **Other** total 0.30 max	**ASTM** B80 (AZ81A); B199 (AZ81A); B275 (AZ81A); B403 (AZ81A)
M11811	Magnesium Alloy-Casting (AZ81A)	**Al** 7.2-8.0 **Cu** 0.08 max **Mg** rem **Mn** 0.15-0.35 **Ni** 0.010 max **Si** 0.20 max **Zn** 0.5-0.9 **Other** impurities 0.30 max	**ASTM** B93 (AZ81A)
M11900	Magnesium Alloy-Casting (AZ90A)	**Al** 8.5-9.5 **Cu** 0.02 max **Fe** 0.015 max **Mg** rem **Mn** 0.15 min **Ni** 0.005 max **Si** 0.20 max **Zn** 0.20 max **Other** each 0.07 max; total 0.30 max	**ASTM** B275 (AZ90A)
M11910	Magnesium Alloy-Casting (AZ91A)	**Al** 8.3-9.7 **Cu** 0.10 max **Mg** rem **Mn** 0.13 min **Si** 0.50 max **Zn** 0.35-1.0 **Other** total 0.30 max	**AMS** 4490 **ASTM** B94 (AZ91A); B275 (AZ91A) **FED** QQ-M-38 **SAE** J465 (AZ91A)
M11911	Magnesium Alloy-Casting (AZ91A)	**Al** 8.5-9.5 **Cu** 0.08 max **Mg** rem **Mn** 0.15 min **Ni** 0.01 max **Si** 0.20 max **Zn** 0.45-0.9 **Other** impurities 0.30 max	**ASTM** B93 (AZ91A)
M11912	Magnesium Alloy-Casting	**Al** 8.5-9.5 **Cu** 0.25 max **Mg** rem **Mn** 0.15 min **Ni** 0.01 min **Si** 0.20 max **Zn** 0.45-0.9 **Other** total 0.30 max	**ASTM** B94 (AZ91B); B275 (AZ91B) **SAE** J465 (AZ91B)
M11913	Magnesium Alloy-Casting (AZ91B)	**Al** 8.5-9.5 **Cu** 0.25 max **Mg** rem **Mn** 0.15 min **Ni** 0.01 max **Si** 0.20 max **Zn** 0.45-0.9 **Other** impurities 0.30 max	**ASTM** B93 (AZ91B)
M11914	Magnesium Alloy-Casting (AZ91C)	**Al** 8.1-9.3 **Cu** 0.10 max **Mg** rem **Mn** 0.13 min **Ni** 0.01 max **Si** 0.30 max **Zn** 0.40-1.0 **Other** total 0.30 max	**AMS** 4437; 4452 **ASTM** B80 (AZ91C); B93 (AZ91C); B199 (AZ91C); B275 (AZ91C); B403 (AZ91C) **MIL SPEC** MIL-M-46062B **SAE** J465 (AZ91C)
M11915	Magnesium Alloy-Casting (AZ91C)	**Al** 8.3-9.2 **Cu** 0.08 max **Mg** rem **Mn** 0.15-0.35 **Ni** 0.010 max **Si** 0.20 max **Zn** 0.45-0.9 **Other** impurities 0.30 max	**ASTM** B93 (AZ91C)
M11916	Magnesium Alloy-Casting (AZ91D)	**Al** 8.3-9.7 **Cu** 0.030 max **Fe** 0.005 max **Mg** rem **Mn** 0.15 min **Ni** 0.002 max **Si** 0.10 max **Zn** 0.35-1.0 **Other** Metallic impurities, each 0.20 max. If either the minimum manganese or the maximum iron is not met, then the iron/manganese ratio shall not exceed 0.032.	**ASTM** A275 (AZ91D); B94 (AZ91D)
M11917	Magnesium Alloy-Casting (Ingot) (AZ91D)	**Al** 8.5-9.5 **Cu** 0.015 max **Fe** 0.004 max **Mg** rem **Mn** 0.17 min **Ni** 0.001 max **Si** 0.05 max **Zn** 0.45-0.9 **Other** metallic impurities, each, 0.01 max.	**ASTM** B93 (AZ91D)
M11918	Magnesium Alloy-Casting (AZ91E)	**Al** 8.3-9.2 **Cu** 0.015 max **Fe** 0.005 max **Mg** rem **Mn** 0.17-0.50 **Ni** 0.0010 max **Si** 0.20 max **Zn** 0.45-0.9 **Other** 0.01 max each, impurities 0.30 max	**ASTM** B93 (AZ91E)

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M11919	Magnesium Alloy High Purity Low Fe, Ni, and Cu, Sand Casting (AZ91E)	**Al** 8.1-9.3 **Cu** 0.015 max **Fe** 0.005 max **Mg** rem **Mn** 0.17-0.35 **Ni** 0.001 max **Si** 0.20 max **Zn** 0.40-1.0	**AMS** 4446 **ASTM** B80 (AZ91E); B199 (AZ91E); B275 (AZ91E); B403 (AZ91E)
M11920	Magnesium Alloy-Casting (AZ92A)	**Al** 8.3-9.7 **Cu** 0.25 max **Mg** rem **Mn** 0.10 min **Ni** 0.01 max **Si** 0.30 max **Zn** 1.6-2.4 **Other** total 0.30 max	**AMS** 4434; 4453; 4484 **ASTM** B80 (AZ92A); B93 (AZ92A); B199 (AZ92A); B275 (AZ92A); B403 (AZ92A) **MIL SPEC** MIL-M-46062B **SAE** J465 (AZ92A)
M11921	Magnesium Alloy-Casting (AZ92A)	**Al** 8.5-9.5 **Cu** 0.20 max **Mg** rem **Mn** 0.13-0.35 **Ni** 0.010 max **Si** 0.20 max **Zn** 1.7-2.3 **Other** impurities 0.30 max	**ASTM** B93 (AZ92A)
M11922	Magnesium Alloy Welding Wire (AZ92A)	**Al** 8.3-9.7 **Be** 0.0002-0.0008 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.15 min **Ni** 0.005 max **Si** 0.05 max **Zn** 1.7-2.3 **Other** total 0.30 max	**AMS** 4395 **ASME** SFA5.19 (ER AZ92A) **AWS** A5.19 (ER AZ92A)
M12300	Magnesium Alloy-Casting (EK30A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Zn** 0.30 max **Zr** 0.20 min **Other** total 0.30 max, Rare Earths 2.5-4.0	**ASTM** B275 (EK30A)
M12330	Magnesium Alloy-Sand-Permanent Mold-Investment Casting (EZ33A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Zn** 2.0-3.1 **Zr** 0.50-1.0 **Other** total 0.30 max, Rare Earths 2.5-4.0	**AMS** 4442 **ASTM** B80 (EZ33A); B93 (EZ33A); B199 (EZ33A); B275 (EZ33A); B403 (EZ33A) **SAE** J465 (EZ33A)
M12331	Magnesium Alloy (EZ33A)	**Mg** rem **Re** 2.5-4.0 **Zn** 2.0-3.1 **Zr** 0.45-1.0 **Other** total 0.30 max	**AMS** 4396 **ASME** SFA5.19 (ER EZ33A) **ASTM** B93 (EZ33A) **AWS** A5.19 (ER EZ33A)
M12350	Combined with M18210		
M12410	Magnesium Alloy-Sand Casting (EK41A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Zn** 0.30 max **Zr** 0.40-1.0 **Other** total 0.30 max, Rare Earths 3.0-5.0	**AMS** 4440; 4441 **ASTM** B275 (EK41A)
M13210	Magnesium Alloy-Wrought Products-Forgings (HM21A)	**Mg** rem **Mn** 0.45-1.1 **Th** 1.5-2.5 **Other** total 0.30 max	**AMS** 4363; 4383; 4390 **ASTM** B90 (HM21A); B91 (HM21A); B275 (HM21A) **FED** QQ-M-40 **MIL SPEC** MIL-M-8917 **SAE** J466 (HM21A)
M13310	Magnesium Alloy-Casting (HK31A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Th** 2.5-4.0 **Zn** 0.30 max **Zr** 0.40-1.0 **Other** total 0.30 max	**AMS** 4384; 4385; 4445 **ASTM** B80 (HK31A); B199 (HK31A); B275 (HK31A); B403 (HK31A) **MIL SPEC** MIL-M-46062 **SAE** J465 (HK31A); J466 (HK31A)
M13311	Magnesium Alloy-Casting (HK31B)	**Cu** 0.10 max **Mg** rem **Ni** 0.010 max **Si** 0.01 max **Th** 2.6-3.8 **Zn** 0.25 max **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (HK31B)
M13312	Magnesium Alloy-Casting (HM31A)	**Mg** rem **Mn** 1.2 min **Th** 2.5-3.5 **Other** 0.30 max total	**AMS** 4388; 4389 **ASTM** B275 (HM31A) **MIL SPEC** MIL-M-8916 **SAE** J466 (HM31A)
M13320	Magnesium Alloy-Casting (HZ32A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Th** 2.5-4.0 **Zn** 1.7-2.5 **Zr** 0.50-1.0 **Other** total 0.30 max, Rare Earths 0.10 max	**AMS** 4447 **ASTM** B80 (HZ32A); B93 (HZ32A); B275 (HZ32A) **SAE** J465 (HZ32A)
M13321	Magnesium Alloy-Casting (HZ32A)	**Cu** 0.03 max **Mg** rem **Ni** 0.010 max **Re** 0.10 max **Si** 0.01 max **Th** 2.6-3.8 **Zn** 1.8-2.4 **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (HZ32A)
M14141	Magnesium Alloy-Wrought Products (LA141A)	**Al** 1.0-1.5 **Cu** 0.005 max **Fe** 0.005 max **Li** 13.0-15.0 **Mg** rem **Mn** 0.15 min **Ni** 0.005 max **Si** 0.004 max **Other** total 0.30 max, Na 0.005 max	**AMS** 4386; 4397 **ASTM** B90 (LA141A); B275 (LA141A) **SAE** J466 (LA141A)
M14142	Magnesium Alloy-Wrought Products (LS141A)	**Al** 0.05 max **Cu** 0.05 max **Fe** 0.005 max **Li** 12.0-15.0 **Mg** rem **Mn** 0.15 max **Ni** 0.005 max **Si** 0.50-0.6 **Other** Na 0.005 max	**ASTM** B275 (LS141A) **MIL SPEC** MIL-M-46143
M14145	Magnesium Alloy-Wrought Products (LZ145A)	**Ag** 2.0-3.0 **Al** 0.05 max **Cu** 0.05 max **Fe** 0.005 max **Li** 12.0-15.0 **Mg** rem **Mn** 0.15 max **Ni** 0.005 max **Si** 1.5-2.0 **Zn** 4.5-5.0 **Other** total 0.20 max, Na 0.005 max	**ASTM** B275 (LZ145A) **MIL SPEC** MIL-M-46143
M15100	Magnesium Alloy-Extruded Shapes-Wire (M1A)	**Cu** 0.05 max **Mg** rem **Mn** 1.2-2.0 **Ni** 0.01 max **Si** 0.10 nom **Other** total 0.30 max, Ca 0.30 max	**ASTM** B107 (M1A); B275 (M1A) **FED** QQ-M-40 **SAE** J466 (M1A)

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M15101	Magnesium Alloy- Casting (M1B)	**Cu** 0.08 **Mg** rem **Mn** 1.3 min **Ni** 0.01 max **Si** 0.10 max **Other** total 0.20 max	**ASTM** B275 (M1B)
M15102	Magnesium Alloy- Forgings (M1C)	**Al** 0.01 max **Cu** 0.02 max **Fe** 0.03 max **Mg** rem **Mn** 0.9-1.2 **Ni** 0.001 max **Other** each 0.05 max; total 0.30 max	**ASTM** B275 (M1C); B483
M16100	Magnesium Alloy- Wrought Products (ZE10A)	**Mg** rem **Zn** 1.0-1.5 **Other** total 0.30 max, Rare Earths 0.12-0.22	**ASTM** B90 (ZE10A); B275 (ZE10A) **MIL SPEC** MIL-M-46037 **SAE** J466 (ZE10A)
M16210	Magnesium Alloy (ZK21A)	**Cu** 0.10 **Mg** rem **Ni** 0.01 max **Zn** 2.0-2.6 **Zr** 0.45-0.8 **Other** total 0.30 max	**AMS** 4387 **ASTM** B275 (ZK21A) **MIL SPEC** MIL-M-46039
M16331	Magnesium Alloy-Casting (ZC63A)	**Cu** 2.4-3.00 **Mg** rem **Mn** 0.25-0.75 **Ni** 0.001 max **Si** 0.20 max **Zn** 5.5-6.5 **Other** impurities 0.30 max	**ASTM** B93 (ZC63A)
M16400	Magnesium Alloy- Extruded Shapes (ZK40A)	**Mg** rem **Zn** 3.5-4.5 **Zr** 0.45 min **Other** total 0.30 max	**ASTM** B107 (ZK40A); B275 (ZK40A) **SAE** J466 (ZK40A)
M16410	Magnesium Alloy- Casting (ZE41A)	**Cu** 0.10 max **Mg** rem **Mn** 0.15 max **Ni** 0.01 max **Zn** 3.5-5.0 **Zr** 0.40-1.0 **Other** total 0.30 max, Rare Earths 0.75-1.75	**AMS** 4439 **ASTM** B80 (ZE41A); B93 (ZE41A); B275 (ZE41A) **SAE** J465 (ZE41A)
M16411	Magnesium Alloy-Casting (ZE41A)	**Cu** 0.03 max **Mg** rem **Mn** 0.15 max **Ni** 0.010 max **Re** 1.0-1.75 **Si** 0.01 max **Zn** 3.7-4.8 **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (ZE41A)
M16510	Magnesium Alloy- Casting (ZK51A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Zn** 3.6-5.5 **Zr** 0.50-1.0 **Other** total 0.30 max	**AMS** 4443 **ASTM** B80 (ZK51A); B93 (ZK51A); B275 (ZK51A) **MIL SPEC** MIL-M-46062 **SAE** J465 (ZK51A)
M16511	Magnesium Alloy-Casting (ZK51A)	**Cu** 0.03 max **Mg** rem **Ni** 0.010 max **Si** 0.01 max **Zn** 3.8-5.3 **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (ZK51A)
M16600	Magnesium Alloy-Wrought Products-Forgings (ZK60A)	**Mg** rem **Zn** 4.8-6.2 **Zr** 0.45 min **Other** total 0.30 max	**AMS** 4352; 4362 **ASTM** B91 (ZK60A); B107 (ZK60A); B275 (ZK60A) **FED** QQ-M-40 **SAE** J466 (ZK60A)
M16601	Magnesium Alloy (ZK60B)	**Mg** rem **Zn** 4.8-6.8 **Zr** 0.45 min **Other** total 0.30 max	**ASTM** B275 (ZK60B)
M16610	Magnesium Alloy- Casting (ZK61A)	**Cu** 0.10 **Mg** rem **Ni** 0.01 **Zn** 5.5-6.5 **Zr** 0.6-1.0 **Other** total 0.30 max	**AMS** 4444 **ASTM** B80 (ZK61A); B93 (ZK61A); B275 (ZK61A); B403 (ZK61A) **MIL SPEC** MIL-M-46062 **SAE** J465 (ZK61A)
M16611	Magnesium Alloy-Casting (ZK61A)	**Cu** 0.03 max **Mg** rem **Ni** 0.010 max **Si** 0.01 max **Zn** 5.7-6.3 **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (ZK61A)
M16620	Magnesium Alloy- Casting (ZH62A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Th** 1.4-2.2 **Zn** 5.2-6.2 **Zr** 0.50-1.0 **Other** total 0.30 max	**AMS** 4438 **ASTM** B80 (ZH62A); B93 (ZH62A); B275 (ZH62A) **MIL SPEC** MIL-M-46062 **SAE** J465 (ZH62A)
M16621	Magnesium Alloy-Casting (ZH62A)	**Cu** 0.03 max **Mg** rem **Ni** 0.010 max **Si** 0.01 max **Th** 1.5-2.1 **Zn** 5.3-6.0 **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (ZH62A)
M16630	Magnesium Alloy- Casting (ZE63A)	**Cu** 0.10 **Mg** rem **Ni** 0.01 **Zn** 5.5-6.0 **Zr** 0.40-1.0 **Other** total 0.30 max, Rare Earths 2.1-3.0	**AMS** 4425 **ASTM** B80 (ZE63A); B275 (ZE63A) **MIL SPEC** MIL-M-46062 **SAE** J465 (ZE63A)
M16631	Magnesium Alloy-Casting (ZC63)	**Cu** 2.4-3.0 **Mg** rem **Mn** 0.25-0.75 **Ni** 0.010 max **Si** 0.20 max **Zn** 5.5-6.5 **Other** metallic impurities 0.30 max	**ASTM** B93/B93M (ZC63)
M16710	Magnesium Alloy (Wrought)	**Cu** 0.03 max **Mg** rem **Mn** 0.5-1.0 **Ni** 0.010 max **Si** 0.20 max **Zn** 6.0-7.0 **Other** 0.30 max total	**ASTM** B92; B107; B661
M18010	Magnesium Alloy- Casting (K1A)	**Mg** rem **Zr** 0.40-1.0 **Other** total 0.30 max	**ASTM** B80 (K1A); B93 (K1A); B275 (K1A); B403 (K1A)

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M18011	Magnesium Alloy-Casting (K1A)	**Cu** 0.03 max **Mg** rem **Ni** 0.010 max **Si** 0.01 max **Zn** 1.8-2.4 **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (K1A)
M18210	Magnesium Alloy Casting (QH21A)	**Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Ag** 2.0-3.0 **Th** 0.6-1.6 **Zn** 0.20 max **Zr** 0.40-1.0 **Other** Rare Earths 0.6-1.5 **Other** Metallic Impurities 0.30 max	**AMS** 4419 **ASTM** B80 (QH21A); B93 (QH21A)
M18211	Magnesium Alloy-Casting (QH21A)	**Ag** 2.0-3.0 **Cu** 0.03 max **Mg** rem **Mn** 0.15 max **Ni** 0.010 max **Re** 0.6-1.6 **Si** 0.01 max **Zn** 0.2 max **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (QH21A)
M18220	Magnesium Alloy- Casting (QE22A)	**Ag** 2.0-3.0 **Cu** 0.10 max **Mg** rem **Ni** 0.01 max **Zr** 0.40-1.0 **Other** total 0.30 max, Rare Earths 1.8-2.5	**AMS** 4418 **ASTM** B80 (QE22A); B93 (QE22A); B199 (QE22A); B403 (QE22A) **MIL SPEC** MIL-M-46062 **SAE** J465 (QE22A)
M18221	Magnesium Alloy-Casting (QE22A)	**Ag** 2.0-3.0 **Cu** 0.03 max **Mg** rem **Mn** 0.15 max **Ni** 0.010 max **Re** 1.9-2.4 **Si** 0.01 max **Zn** 0.2 max **Zr** 0.3-1.0 **Other** impurities 0.30 max	**ASTM** B93 (QE22A)
M18330	Magnesium Alloy-Casting (EQ21A)	**Cu** 0.05-0.10 **Mg** rem **Ni** 0.01 max **Ag** 1.3-1.7 **Zr** 0.40-1.0 **Other** Rare Earths 1.5-3.0 (Neodymium rich), Impurities 0.30 max	**ASTM** B80 (EQ21A); B93 (EQ21A); B199 (EQ21A); B403 (EQ21A)
M18410	Magnesium Alloy-Casting (WE54A)	**Cu** 0.03 max **Mg** rem **Mn** 0.15 **Ni** 0.005 max **Si** 0.01 max **Zn** 0.20 **Zr** 0.4-1.0 **Y** 4.75-5.5 **Other** Rare Earth Metals 1.5-4.0 (Neodymium rich), Impurities 0.30 max	**ASTM** B80 (WE54A); B93 (WE54A); F270
M18430	Magnesium Alloy Casting (WE43A)	**Cu** 0.03 max **Mg** rem **Ni** 0.01 max **Si** 0.01 max **V** 3.7-4.3 **Zr** 0.3-1.0 **Other** 0.30 max total, Rare Earths 2.4-4.4 (Neodymium rich)	**ASTM** B80 (WE43A); B93 (WE43A); B275 (WE43A)
M18540	Magnesium Alloy (TA54A)	**Cu** 0.03 max **Li** 0.20 max **Mg** rem **Ni** 0.005 max **Si** 0.01 max **Y** 4.7-5.5 **Zr** 0.40-1.0 **Other** total 0.30 max, Rare Earths 2.0-4.0 (Neodymium rich)	**ASTM** B275 (TA54A) **FED** QQ-M-40
M19001	Magnesium Brazing Filler Metal	**Al** 8.3-9.7 **Be** 0.0002-0.0008 **Cu** 0.05 max **Fe** 0.005 max **Mg** rem **Mn** 0.15-1.5 min **Ni** 0.005 max **Si** 0.05 max **Zn** 1.7-2.3 **Other** 0.30	**ASME** SFA5.8 (BMg-1) **AWS** A5.8 (BMg-1)
M19980	Magnesium Remelt Alloy (9980A)	**Cu** 0.02 max **Mg** 99.80 min **Mn** 0.10 max **Na** 0.006 max **Ni** 0.001 max **Pb** 0.01 max **Sn** 0.01 max **Other** each 0.05 max	**ASTM** B92 (9980A); B275 (9980A)
M19990	Magnesium Remelt Alloy (9990A)	**Al** 0.003 max **B** 0.00007 max or 0.00003 **Cd** 0.0001 max or 0.00005 **Fe** 0.04 max **Mg** 99.90 min **Mn** 0.004 max **Ni** 0.001 max **Si** 0.005 max **Other** each 0.01 max	**ASTM** B92 (9990A); B275 (9990A)
M19991	Magnesium Remelt Alloy (9990B)	**Cu** 0.02 max **Mg** 99.80 min **Ni** 0.005 max **Pb** 0.01 max **Sn** 0.01 max	**ASTM** B92 (9990B); B275 (9990B)
M19995	Magnesium Remelt Alloy (9995A)	**Al** 0.01 max **B** 0.00003 max **Cd** 0.00005 max **Fe** 0.003 max **Mg** 99.95 min **Mn** 0.004 max **Ni** 0.001 max **Si** 0.005 max **Ti** 0.01 max **Other** each 0.005 max	**ASTM** B92 (9995A); B275 (9995A)
M19998	Magnesium Remelt Alloy (9998A)	**Al** 0.004 max **B** 0.00003 max **Cd** 0.00005 max **Cu** 0.0005 max **Fe** 0.002 max **Mg** 99.98 min **Mn** 0.002 max **Ni** 0.0005 max **Pb** 0.001 max **Si** 0.003 max **Ti** 0.001 max **Other** each 0.005 max	**ASTM** B92 (9998A); B275 (9998A)
M26800	Manganese Brazing Alloy (U500)	**B** 0.5-1.1 **C** 0.06 max **Co** 14.0-18.0 **Mn** rem **Ni** 14.0-18.0 **Si** 1.00 max	**AMS** 4780 **MIL SPEC** MIL-B-7883 (Mn-Ni-Co-B)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
M27200	Manganese Thermostat Alloy	**Cu** 18 **Mn** 72 **Ni** 10	**ASTM** B388
M29350	Electrolytic Manganese	**Mn** 93-94 **N** 5.5-6.5 **S** 0.035 max	**ASTM** A601 (E)
M29450	Electrolytic Manganese	**Mn** 94-95 **N** 4.0-5.4 **S** 0.035 max	**ASTM** A601 (D)
M29951	Electrolytic Manganese	**H** 0.015 max **Mn** 99.5 min **S** 0.030 max	**ASTM** A601 (A)
M29952	Electrolytic Manganese	**H** 0.005 max **Mn** 99.5 min **S** 0.030 max	**ASTM** A601 (B)
M29953	Electrolytic Manganese	**H** 0.0010 max **Mn** 99.5 min **S** 0.030 max	**ASTM** A601 (C)
M29954	Electrolytic Manganese	**H** 0.0030 max **Mn** 99.5 max **S** 0.035 max	**ASTM** A601 (F)

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Nxxxxx Number Series
Nickel and Nickel Alloys

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NICKEL AND NICKEL ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N01001	Ni-Al Precipitation *Hardenable Thermal Spray* Wire (W-NiAl-1)	**Al** 4-6 **Ni** rem	**AWS** A5.33 (W-NiAl-1)
N01002	Ni-Al Precipitation Hardenable Thermal Spray Wire (W-NiAl-2)	**Al** 17-27 **Ni** rem **Other** Impurities 1.0 max	**AWS** A5.33 (W-NiAl-2)
N02016	Ni-Mn-Al Thermocouple Alloy (Alumel)	**Al** 1.75-2.25 **C** 0.15 *max* **Fe** 0.50 *max* **Mn** 2.0-3.0 **Ni** rem **Si** 1.6 max	
N02061	Ni Welding Filler Metal (Nickel FM61)	**Al** 1.5 max **C** 0.15 max **Cu** 0.25 max **Fe** 1.0 max **Mn** 1.0 max **Ni** 93.0 min **P** 0.03 max **S** 0.015 max **Si** 0.75 max **Ti** 2.0-3.5	**ASME** SFA5.14 (ERNi-1); SFA5.30 (IN61) **AWS** A5.14 (ERNi-1); A5.30 (IN61) **MIL SPEC** MIL-E-21562 (EN61, RN61); MIL-I-23413 (MIL-61)
N02100	Nickel Alloy (ACI CZ-100)	**C** 1.00 max **Cu** 1.25 max **Fe** 3.00 max **Mn** 1.50 max **Ni** rem **Si** 2.00 max	**ASTM** A494 (CZ-100)
N02200	Commercially Pure Ni Alloy (Nickel 200)	**C** 0.15 max **Cu** 0.25 max **Fe** 0.40 max **Mn** 0.35 max **Ni** 99.0 min **S** 0.010 *max* **Si** 0.35 *max*	**ASME** SB160; SB161; SB162; SB163 **ASTM** B160; B161; B162; B163; B366; B725; B730 **AWS** A5.33 (W-Ni-2)
N02201	Commercially Pure Ni Alloy (Nickel 201)	**C** 0.02 max **Cu** 0.25 max **Fe** 0.40 max **Mn** 0.35 max **Ni** 99.0 min **S** 0.010 max **Si** 0.35 max	
N02202	Ni Thermal Spray Wire (W-Ni-3)	**C** 0.15 max **Cu** 0.25 max **Fe** 0.6 max **Mn** 0.35 *max* **Ni** 97.0 *min* **Si** 0.5 *max* **S** 0.04 max	**AWS** A5.33 (W-Ni-3) **AMS** 5553 **ASME** SB160; SB161; SB162; SB163 **ASTM** B160; B161; B162; B163; B366; B725; B730
N02205	Commercially Pure Ni Alloy (Nickel 205)	**C** 0.15 max **Cu** 0.15 max **Fe** 0.20 max **Mg** 0.01-0.08 **Mn** 0.35 max **Ni** 99.0 min **S** 0.008 max **Si** 0.15 max **Ti** 0.01-0.05	**AMS** 5555 **ASTM** F1; F3 **MIL SPEC** MIL-N-46025
N02211	Nickel Alloy, Solution Strengthened (Nickel 211)	**C** 0.20 max **Cu** 0.25 max **Fe** 0.75 max **Mn** 4.25-5.25 **Ni** 93.7 min **S** 0.015 max **Si** 0.15 max	**ASTM** F290
N02215	Ni-Cr-Fe Weld Filler Metal for Cast Iron (ERNi-CI)	**C** 1.0 max **Cu** 4.0 max **Fe** 4.0 max **Mn** 2.5 max **Ni** rem **S** 0.03 max **Si** 0.75 max **Other** 1.0 max total	**ASME** SFA5.15 (ERNi-CI) **AWS** A5.15 (ERNi-CI)
N02216	Ni-Fe-Mn Weld Filler Metal for Cast Iron (ERNiFeMn-CI)	**Al** 1.0 max **C** 0.50 max **Cu** 2.5 max **Fe** rem **Mn** 10.0-14.0 **Ni** 35.0-45.0 **S** 0.03 max **Si** 1.0 max **Other** 1.0 max total	**ASME** SFA5.15 (ERNiFeMn-CI) **AWS** A5.15 (ERNiFeMn-CI)
N02220	Commercially Pure Ni Alloy (Nickel 220)	**C** 0.15 max **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.01-0.08 **Mn** 0.20 max **Ni** 99.00 min **S** 0.008 max **Si** 0.01-0.05 **Ti** 0.01-0.05	
N02225	Commercially Pure Ni Alloy (Nickel 225)	**C** 0.15 max **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.01-0.08 **Mn** 0.20 max **Ni** 99.00 min **S** 0.008 max **Si** 0.15-0.25 **Ti** 0.01-0.05	
N02230	Commercially Pure Ni Alloy (Nickel 230)	**C** 0.15 max **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.04-0.08 **Mn** 0.15 max **Ni** 99.00 min **S** 0.008 max **Si** 0.010-0.035 **Ti** 0.005 max	
N02233	Commercially Pure Ni Alloy (Nickel 233)	**C** 0.15 max **Cu** 0.10 max **Fe** 0.10 max **Mg** 0.01-0.10 **Mn** 0.30 max **Ni** 99.00 min **S** 0.008 max **Si** 0.10 max **Ti** 0.005 max	**ASTM** F1; F3; F4
N02253	Commercially Pure Ni Alloy	**C** 0.02 max **Co** 0.10 max **Cr** 0.005 max **Cu** 0.01 max **Fe** 0.05 max **Mg** 0.005 max **Mn** 0.003 max **Ni** 99.9 min **S** 0.003 max **Si** 0.005 max **Ti** 0.005 max	**ASTM** F1 (Grade 3); F3 (Grade 3)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N02270	Commercially Pure Ni Alloy (Nickel 270)	**C** 0.02 max **Co** 0.001 max **Cr** 0.001 max **Cu** 0.001 max **Fe** 0.005 max **Mg** 0.001 max **Mn** 0.001 max **Ni** 99.97 min **S** 0.001 max **Si** 0.001 max **Ti** 0.001 max	**ASTM** F1; F3
N02290	Commercially Pure Nickel	**Al** 0.001 max **C** 0.006 max **Cr** 0.001 max **Cu** 0.02 max **Fe** 0.015 max **Mg** 0.001 max **Mn** 0.001 max **N** 0.001 max **Ni** rem **O** 0.025 max **S** 0.0008 max **Si** 0.001 max	
N03220	Beryllium Nickel, Precipitation Hardenable Castings (M220C)	**Be** 1.80-2.30 **C** 0.30-0.50 **Ni** rem	
N03260	Nickel - Thoria Dispersion Strengthened	**C** 0.02 max **Co** 0.20 max **Cr** 0.05 max **Cu** 0.15 max **Fe** 0.05 max **Ni** rem **S** 0.0025 max **Ti** 0.05 max **Other** ThO_2 1.80-2.60	**AMS** 5865; 5890
N03300	Nickel Alloy, Precipitation Hardenable (Permanickel 300)	**C** 0.40 max **Cu** 0.25 max **Fe** 0.60 max **Mg** 0.20-0.50 **Mn** 0.50 max **Ni** 97.0 min **S** 0.01 max **Si** 0.35 max **Ti** 0.20-0.60	**ASTM** F290
N03301	Nickel Alloy, Precipitation Hardenable (Duranickel 301)	**Al** 4.00-4.75 **C** 0.30 max **Cu** 0.25 max **Fe** 0.60 max **Mn** 0.50 max **Ni** 93.0 min **S** 0.01 max **Si** 1.00 max **Ti** 0.25-1.00	
N03360	Commercially Pure Be-Ni Alloy Precipitation Hardenable	**Be** 1.85-2.05 **Ni** rem **Ti** 0.4-0.6	
N04019	Nickel Base Castings	**C** 0.25 max **Cu** 27.0-31.0 **Fe** 2.50 max **Mn** 1.50 max **Ni** 60.0 min **S** 0.015 max **Si** 3.50-4.50 max	**AMS** 4892; 4893
N04020	Ni-Cu Casting Alloy (Weldable Grade)	**Al** 0.50 max **C** 0.35 max **Cu** 26.0-33.0 **Fe** 2.50 max **Mn** 1.5 max **Ni** rem **Si** 2.0 max	**ASTM** A494 (M-35-2)
N04060	Ni-Cu Welding Filler Metal (Monel FM60)	**Al** 1.25 max **C** 0.15 max **Cu** rem **Fe** 2.5 max **Mn** 4.0 max **Ni** 62.0-69.0 **P** 0.02 max **S** 0.015 max **Si** 1.25 max **Ti** 1.5-3.0	**ASME** SFA5.14 (ERNiCu-7); SFA5.30 (IN60) **AWS** A5.14 (ERNiCu-7); A5.30 (IN60) **MIL SPEC** MIL-E-21562 (EN60, RN60); MIL-I-23413 (MIL-60)
N04400	Ni-Cu Alloy Solid Solution Strengthened (Monel 400)	**C** 0.3 max **Cu** rem **Fe** 2.50 max **Mn** 2.00 max **Ni** 63.00-70.00 **S** 0.024 max **Si** 0.50 max	**AMS** 4544; 4574; 4575; 4675; 4730; 4731; AS7233 **ASME** SB127; SB163; SB164; SB165; SB564 **ASTM** B127; B163; B164; B165; B366; B564; F96; F467 (400); F468 (400) **FED** QQ-N-281 **MIL SPEC** MIL-T-1368; MIL-T-23520; MIL-N-24106 **Other:** NACE MR-01-75
N04401	Ni-Cu Alloy, Solid Solution Strengthened (Monel 401)	**C** 0.10 max **Co** 0.25 max **Cu** rem **Fe** 0.75 max **Mn** 2.25 max **Ni** 40.0-45.0 **S** 0.015 max **Si** 0.25 max	
N04402	Ni-Cu Alloy Solid Solution Strengthened (Low Carbon)	**C** 0.04 max **Cu** 28.0-34.0 **Fe** 2.5 max **Mn** 2.0 max **Ni** 63.0 min **S** 0.025 max **Si** 0.5 max	**ISO** 6207, 6208, 9721, 9723
N04404	Ni-Cu Alloy Solid Solution Strengthened (Monel 404)	**Al** 0.05 max **C** 0.15 max **Cu** rem **Fe** 0.50 max **Mn** 0.10 max **Ni** 52.0-57.0 **S** 0.024 max **Si** 0.10 max	**ASTM** F96
N04405	Ni-Cu Alloy Solid Solution Strengthened (Monel R405)	**C** 0.30 max **Cu** rem **Fe** 2.5 max **Mn** 2.0 max **Ni** 63.0-70.0 **S** 0.025-0.060 **Si** 0.50 max	**AMS** 4674; 7234 **ASME** SB164 **ASTM** B164; F467 (405); F468 (405) **AWS** A5.33 (W-NiCrFe-1) **FED** QQ-N-281 **Other:** NACE MR-01-75
N04406	Ni-Cu Thermal Spray Wire (W-NiCu-2)	**Al** 0.1 max **C** 0.25 max **Cu** 26-28 **Fe** 2 max **Mn** 1.5 max **Ni** rem **Si** 0.25 max	**AWS** A5.33 (W-NiCu-2)
N05500	Ni-Cu Alloy Precipitation Hardenable (Monel K500)	**Al** 2.30-3.15 **C** 0.25 max **Cu** rem **Fe** 2.00 max **Mn** 1.50 max **Ni** 63.0-70.0 **S** 0.01 max **Si** 0.50 max **Ti** 0.35-0.85	**AMS** 4676 **ASTM** F467 (500); F468 (500) **FED** QQ-N-286 **MIL SPEC** MIL-N-24549 **Other:** NACE MR-01-75

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N05502	Ni-Cu Alloy Precipitation Hardenable (Monel 502)	**Al** 2.50-3.50 **C** 0.10 max **Cu** rem **Fe** 2.00 max **Mn** 1.50 max **Ni** 63.0-70.0 **S** 0.010 max **Si** 0.5 max **Ti** 0.50 max	**AMS** 4677
N05504	Ni-Cu Welding Filler Metal (ERNiCu-8)	**Al** 2.0-4.0 **C** 0.25 max **Cu** rem **Fe** 2.00 max **Mn** 1.50 max **Ni** 63.0-70.0 **P** 0.030 max **Pb** 0.010 max **S** 0.015 max **Si** 1.00 max **Ti** 0.25-1.00	**ASME** SFA5.14 (ERNiCu-8) **AWS** 5.14 (ERNiCu-8) **MIL SPEC** MIL-E-21562 (EN64, RN64)
* **N06001**	Ni-Cr Alloy Solid Solution Strengthened (Hastelloy F)	**C** 0.05 max **Cb** 1.8-2.5 **Co** 2.5 max **Cr** 21.0-23.0 **Fe** rem **Mn** 1.00-2.00 **Mo** 5.5-7.5 **Ni** 44.0-47.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max **W** 1.00 max	**ASME** SB436 **ASTM** B366
N06002	Ni-Cr Alloy Solid Solution Strengthened (Hastelloy X)	**C** 0.05-0.15 **Co** 0.5-2.5 **Cr** 20.5-23.0 **Fe** 17.0-20.0 **Mn** 1.00 max **Mo** 8.0-10.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.00 max **W** 0.20-1.0	**AMS** 5390; 5536; 5587; 5588; 5754; 5798; 7237 **ASME** SB435; SB572; SB619; SB622; SB626; SB751; SFA5.14 (ERNiCrMo-2) **ASTM** B366; B435; B572; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-2) **Other:** NACE MR-01-75
N06003	Ni-Cr Alloy Solid Solution Strengthened (Nichrome V)	**C** 0.15 max **Cr** 19-21 **Fe** 1.0 max **Mn** 2.5 max **Ni** rem **S** 0.01 max **Si** 0.75-1.6	**AMS** 5676; 5677; 5682 **ASTM** B344
N06004	Ni-Cr Alloy Solid Solution Strengthened (Nichrome)	**C** 0.15 max **Cr** 14-18 **Fe** rem **Mn** 1.0 max **Ni** 57 min **S** 0.01 max **Si** 0.75-1.6	**ASTM** B344 **AWS** A5.33 (W-NiCrFe-3)
N06005	Ni-Cr Alloy Solid Solution Strengthened (Eatonite)	**C** 2.40 nom **Co** 10.00 nom **Cr** 29.00 nom **Fe** 6.5 max **Ni** 39.00 nom **Si** 0.70 nom **W** 15.00 nom	**SAE** J775 (VF3)
N06006	Ni-Cr Alloy Solid Solution Strengthened (ACI HX)	**C** 0.35-0.75 **Cr** 15.0-19.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 64.0-68.0 **P** 0.04 max **S** 0.04 max **Si** 2.50 max	**ASTM** A297 (HX)
N06007	Ni-Cr Alloy (Hastelloy G)	**C** 0.05 max **Cb** 1.75-2.5 **Co** 2.5 max **Cr** 21.0-23.5 **Cu** 1.5-2.5 **Fe** 18.0-21.0 **Mn** 1.0-2.0 **Mo** 5.5-7.5 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 1.0 max **W** 1.0 max	**ASME** SB366; SB619; SFA5.14 (ERNiCrMo-1) **ASTM** B366; B581; B582; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-1) **Other:** NACE MR-01-75
N06008	Ni-Cr 30 Alloy Solid Solution Strengthened	**Al** 0.20 max **C** 0.15 max **Cr** 29.0-31.0 **Fe** 1.0 max **Mn** 0.10 max **Ni** rem **P** 0.030 max **S** 0.010 max **Si** 0.75-1.60	
N06009	Ni-20 Cr, Columbium Stabilized	**C** 0.15 max **Cb** 0.75-1.50 **Cr** 19.0-21.0 **Fe** 1.00 max **Mn** 2.5 max **Ni** rem **S** 0.010 max **Si** 0.75-1.60	
N06010	Ni-Cr 10 Thermocouple Alloy (Chromel)	**Al** 0.20 max **C** 0.15 max **Cr** 9.0-11.0 **Fe** 0.50 max **Mn** 0.10 max **Ni** rem **Si** 1.60 max	
N06013	Ni-Cr-Mo-Fe Hard Facing Alloy (Eatonite 3)	**C** 1.80-2.20 **Cr** 28.0-30.0 **Fe** 1.0-8.0 **Mn** 1.0 max **Mo** 4.00-6.00 **Ni** rem **P** 0.030 max **S** 0.030 max **Si** 0.80-1.20	**SAE** J775 (VF 9)
N06015	Ni-Cr-Mo-Fe Hard Facing Alloy (Eatonite 5)	**C** 1.80-2.20 **Cr** 28.0-30.0 **Fe** 1.0-8.0 **Mn** 1.0 max **Mo** 7.0-9.0 **Ni** rem **P** 0.030 max **S** 0.030 max **Si** 0.80-1.20	**SAE** J775 (VF 10)
N06017	Ni-Cr Alloy ERNiCrMo-9 replaced by N06985		
N06021	Ni-Cr-Mo Thermal Spray Wire (W-NiCrMo)	**Cr** 21-23 **Fe** 1-2 **Mo** 9-11 **Ni** rem **Other** 3-4	**AWS** A5.33 (W-NiCrMo)
N06022	Ni-Cr-Mo Alloy (Hastelloy C-22)	**C** 0.015 max **Co** 2.5 max **Cr** 20.0-22.5 **Fe** 2.0-6.0 **Mn** 0.50 max **Mo** 12.5-14.5 **Ni** rem **P** 0.02 max **S** 0.02 max **Si** 0.08 max **V** 0.35 max **W** 2.5-3.5	**ASME** SB366; SB574; SB575; SB619; SB622; SB626; SFA5.14 (ERNiCrMo-10) **ASTM** B366; B564; B574; B575; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-10) **Other:** NACE MR-01-75

*Boxed entries are no longer active and are retained for reference purposes only.

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N06025	Ni-Cr-Fe-Al Alloy (Nicrofer 6025 HT)	**Al** 1.8-2.4 **C** 0.15-0.25 **Cr** 24.0-26.0 **Cu** 0.1 max **Fe** 8.0-11.0 **Mn** 0.15 max **Ni** rem **P** 0.020 max **S** 0.010 max **Si** 0.5 max **Ti** 0.1-0.2 **Zr** 0.01-0.10 **Y** 0.05-0.12	**ASTM** B163; B166; B167; B168
N06030	Wrought Ni-Cr-Fe-Mo-Cu Alloy Solid Solution Strengthened (Hastelloy G-30)	**C** 0.03 max **Cb** 0.30-1.50 **Co** 5.0 max **Cr** 28.0-31.5 **Cu** 1.0-2.4 **Fe** 13.0-17.0 **Ni** rem **Mn** 1.5 max **Mo** 4.0-6.0 **P** 0.04 max **S** 0.02 max **Si** 0.8 max **W** 1.5-4.0	**ASME** SB366; SB581; SB582; SB619; SB622; SB626; SFA5.14 (ErNiCrMo-11) **ASTM** B366; B581; B582; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-11) **Other:** NACE MR-01-75
N06040	Ni-Cr Alloy Solid Solution Strengthened (ACI CY-40)	**C** 0.40 max **Cr** 14.0-17.0 **Fe** 11.0 max **Mn** 1.50 max **Ni** rem **Si** 3.00 max	**ASTM** A494
N06045	Ni-Cr-Fe-Si Alloy (Nicrofer 45)	**C** 0.05-0.12 **Cr** 26.0-29.0 **Cu** 0.3 max **Fe** 21.0-25.0 **Mn** 1.00 max **N** 0.05-0.12 **Ni** 45.0 min **P** 0.020 max **S** 0.010 max **Si** 2.5-3.0 **Other** total rare earth elements 0.05-0.15, approximately 50% of which is cerium	**ASTM** B163; B166; B167; B168
N06050	Ni-Cr Alloy Solid Solution Strengthened (ACI HX-50)	**C** 0.40-0.60 **Cr** 15.0-19.0 **Fe** rem **Mn** 1.50 max **Mo** 0.50 max **Ni** 64.0-68.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HX-50)
N06052	Ni-Cr Welding Filler Metal (Inconel FM 52)	**Al** 1.10 max **C** 0.04 max **Cr** 28.0-31.5 **Cb** 0.10 max **Cu** 0.30 max **Fe** 7.0-11.0 **Mn** 1.0 max **Mo** 0.50 max **Ni** rem **P** 0.020 max **S** 0.015 max **Si** 0.50 max **Ti** 1.0 max **Other** 0.50 max total, Al+Ti 1.50 max	**ASME** A5.14 (ERNiCrFe-7); SFA5.14 (ERNiCrFe-7); SFA5.30 (IN52) **AWS** A5.14 (ERNiCrFe-7); A5.30 (IN52)
N06059	Low Carbon Ni-Cr-Mo Alloy (Alloy 59)	**Al** 0.1-0.4 **C** 0.010 max **Co** 0.3 max **Cr** 22.0-24.0 **Fe** 1.5 max **Mn** 0.5 max **Mo** 15.0-16.5 **Ni** rem **P** 0.015 max **S** 0.010 max **Si** 0.10 max	**ASME** A5.14 (ERNiCrMo-13) **ASTM** B564; B574; B575; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-13)
N06060	Ni-Cr-Mo-Fe Alloy (SM2060Mo)	**C** 0.03 max **Cr** 19.0-22.0 **Cb** 0.50-1.25 **Cu** 0.25-1.25 **Fe** rem **Mn** 1.50 max **Mo** 12.0-14.0 **Ni** 54.0-60.0 **P** 0.030 max **Si** 0.50 max **S** 0.005 max **W** 0.25-1.25	**ASTM** B622 **Other:** NACE MR-01-75
N06062	Ni-Cr Alloy Solid Solution Strengthened (Inconel FM62)	**C** 0.035 max **Cb** 1.0-3.0 **Cr** 14.0-17.0 **Cu** 0.5 max **Fe** 6.0-10.0 **Mn** 1.0 max **Ni** 72.0 min **P** 0.030 max **S** 0.015 max **Si** 0.5 max	**AMS** 5679 **ASME** SFA5.14 (ERNiCrFe-5); SFA5.30 (IN62) **AWS** A5.14 (ERNiCrFe-5); A5.30 (IN62) **MIL SPEC** MIL-E-21562 (EN62, RN62); MIL-I-23413 (MIL-62)
N06070	Ni-Cr-Ti Thermal Spray Wire (W-NiCrTi)	**Cr** 44-46 **Ni** rem **Ti** 3-4	**AWS** A5.33 (W-NiCrTi)
N06072	Ni-Cr Alloy Filler Metal (Inconel Filler Metal 72)	**C** 0.01-0.10 **Cr** 42.0-46.0 **Cu** 0.50 max **Fe** 0.50 max **Mn** 0.20 max **Ni** rem **P** 0.020 max **S** 0.015 max **Si** 0.20 max **Ti** 0.30-1.00 **Other** 0.50 max total	**ASME** SFA5.14 (ERNiCr-4) **AWS** A5.14 (ERNiCr-4)
N06075	Ni-Cr Alloy Solid Solution Strengthened (Nimonic 75)	**C** 0.08-0.15 **Cr** 18.0-21.0 **Cu** 0.50 max **Fe** 5.00 max **Mn** 1.00 max **Ni** rem **Si** 1.00 max **Ti** 0.20-0.60	**ISO** 6207; 6208; 9721; 9723
N06076	Ni-Cr Welding Filler Metal (ERNiCr-6)	**Al** 0.40 max **C** 0.08-0.15 **Cr** 19.0-21.0 **Cu** 0.50 max **Fe** 2.00 max **Mn** 1.00 max **Ni** 75.0 min **P** 0.030 max **Pb** 0.010 max **S** 0.015 max **Si** 0.30 max **Ti** 0.15-0.50	**ASME** SFA5.14 (ERNiCr-6) **AWS** 5.14 (ERNiCr-6); A5.33 (W-NiCu-1) **MIL SPEC** MIL-E-21562 (EN6N, RN6N)
N06078	Ni-Cr-Fe Thermal Spray Wire (W-NiCrFe-2)	**C** 0.10 max **Cr** 14.0-17.0 **Cu** 0.5 max **Fe** 6.0-10.0 **Mn** 1.0 max **Ni** 72.0 min **Si** 0.5 max **S** 0.02 max	**AWS** A5.33 (W-NiCrFe-2)
N06082	Ni-Cr Welding Filler Metal (Inconel FM82)	**C** 0.10 max **Cb** (incl Ta) 2.0-3.0 **Cr** 18.0-22.0 **Cu** 0.50 max **Fe** 3.0 max **Mn** 2.5-3.5 **Ni** 67.0 min **P** 0.03 max **S** 0.015 max **Si** 0.50 max **Ti** 0.75 max	**ASME** SFA5.14 (ERNiCr-3); SFA5.30 (IN82) **AWS** A5.14 (ERNiCr-3); A5.30 (IN82) **MIL SPEC** MIL-E-21562 (EN82, EN82H, RN82, RN82H); MIL-I-23413 (MIL-82)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N06102	Ni-Cr Alloy Solid Solution Strengthened (IN-102)	**Al** 0.30-0.60 **B** 0.003-0.008 **C** 0.08 max **Cb** 2.75-3.25 **Cr** 14.0-16.0 **Fe** 5.0-9.0 **Mg** 0.01-0.05 **Mn** 0.75 max **Mo** 2.75-3.25 **Ni** rem **P** 0.010 max **S** 0.010 max **Si** 0.40 max **Ti** 0.40-0.70 **W** 2.75-3.25 **Zr** 0.01-0.05	**ASTM** B445; B518; B519
N06110	Austenitic Corrosion Resistant Nickel Alloy (Allcorr)	**Al** 1.50 max **C** 0.15 max **Cb** 2.00 max **Co** 12.0 max **Cr** 27.0-33.0 **Mo** 8.00-12.0 **Ni** rem **Ti** 1.50 max **W** 4.00 max	**ASTM** B564; B755; B756; B757; B758; B759 **Other:** NACE MR-01-75
N06132	Ni-Cr Alloy Solid Solution Strengthened (Inconel WE132) replaced by W86132		
N06200	Ni-Cr-Mo-Cu Alloy Solid Solution Strengthened (HASTELLOY C-2000)	**Al** 0.50 max **C** 0.010 max **Co** 2.0 max **Cr** 22.0-24.0 **Cu** 1.3-1.9 **Fe** 3.0 max **Mn** 0.50 max **Mo** 15.0-17.0 **Ni** rem **P** 0.025 max **S** 0.010 max **Si** 0.08 max	**ASTM** B 366; B 564; B 574; B 575; B 619; B 622; B 626
N06210	Ni-Cr-Mo-Ta Alloy Solid Solution Strengthened (MAT21)	**C** 0.015 max **Co** 1.0 max **Cr** 18.0-20.0 **Fe** 1.0 max **Mn** 0.50 max **Mo** 18.0-20.0 **Ni** rem **P** 0.02 max **S** 0.02 max **Si** 0.08 max **Ta** 1.5-2.2 **V** 0.35 max	**ASME** SB-564; SB-574; SB-575; SB-619; SB-622; SB-625 **ASTM** B 564; B 574; B 575; B 619; B 622; B 626
N06230	Ni-Cr-W-Mo Alloy, Solid Solution Strengthened (Alloy No. 230)	**Al** 0.20-0.50 **B** 0.015 max **C** 0.05-0.15 **Cr** 20.0-24.0 **Co** 5.0 max **Fe** 3.0 max **La** 0.005-0.05 **Mn** 0.30-1.00 **Mo** 1.0-3.0 **Ni** rem **P** 0.03 max **S** 0.015 max **Si** 0.25-0.75 **W** 13.0-15.0	**ASTM** B435; B572; B619; B622; B626
N06231	Ni-Cr-W-Mo Welding Filler Metal (Haynes 230-W)	**Al** 0.2-0.5 **B** 0.003 max **C** 0.05-0.15 **Cr** 20.0-24.0 **Co** 3.0 max **Cu** 0.5 max **Fe** 3.0 max **La** 0.050 max **Mn** 0.3-1.0 **Mo** 1.0-3.0 **Ni** rem **P** 0.030 max **S** 0.015 max **Si** 0.25-0.75 **W** 13.0-15.0	**ASME** SFA5.14 (ERNiCrWMo-1) **AWS** A5.14 (ERNiCrWMo-1)
N06250	Ni-Cr-Fe-Mo Alloy (SM2050)	**C** 0.020 max **Cr** 20.0-23.0 **Cu** 0.25-1.25 **Fe** rem **Mn** 1.0 max **Mo** 10.1-12.0 **Ni** 50.0-54.0 **P** 0.030 max **S** 0.005 max **Si** 0.09 max **W** 0.25-1.25	**ASTM** B622
N06255	Ni-Cr-Fe-Mo-W Alloy (SM2550)	**C** 0.03 max **Cr** 23.0-26.0 **Cu** 1.20 max **Fe** rem **Mn** 1.00 max **Mo** 6.0-9.0 **Ni** 47.0-52.0 **P** 0.03 max **S** 0.03 max **Si** 1.0 max **Ti** 0.69 max **W** 3.0 max	**ASTM** B622
N06333	Ni-Cr Alloy Solid Solution Strengthened (RA333)	**C** 0.08 max **Co** 2.50-4.00 **Cr** 24.00-27.00 **Cu** 0.50 max **Fe** rem **Mn** 2.00 max **Mo** 2.50-4.00 **Ni** 44.00-47.00 **P** 0.030 max **Pb** 0.025 max **S** 0.030 max **Si** 0.75-1.50 **Sn** 0.025 max **W** 2.50-4.00	**AMS** 5593; 5717 **ASTM** B718; B719; B722; B723; B726
N06455	Ni-Cr Alloy (Hastelloy C-4)	**C** 0.015 max **Co** 2.0 max **Cr** 14.0-18.0 **Fe** 3.0 max **Mn** 1.0 max **Mo** 14.0-17.0 **Ni** *rem* **P** 0.04 *max* **S** 0.03 max **Si** 0.08 max **Ti** 0.70 max	**ASME** SB366; SB574; SB575; SB619; SB622; SB626; SFA5.14 (ERNiCrMo-7) **ASTM** B574; B575; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-7)
N06600	Ni-Cr Alloy Solid Solution Strengthened (Inconel 600)	**C** 0.15 max **Cr** 14.00-17.00 **Cu** 0.50 max **Fe** 6.00-10.00 **Mn** 1.00 max **Ni** 72.0 min **S** 0.015 max **Si** 0.50 max	**AMS** 5540; 5580; 5665; 5687; 7232 **ASME** SB163; SB166; SB167; SB168; SB564 **ASTM** B163; B166; B167; B168; B366; B516; B517; B564; B751 **FED** QQ-W-390 **MIL SPEC** MIL-T-23227; MIL-N-23228; MIL-N-23229 **Other:** NACE MR-01-75
N06601	Ni-Cr Alloy Solid Solution Strengthened (Inconel 601)	**Al** 1.0-1.7 **C** 0.1 max **Cr** 21.0-25.0 **Cu** 1.0 max **Fe** rem **Mn** 1.0 max **Ni** 58.0-63.0 **S** 0.015 max **Si** 0.50 max	**AMS** 5715; 5870 **ASME** SFA5.14 (ERNiCrFe-11) **ASTM** B166; B167; B168 **AWS** 5.14 (ERNiCrFe-11)
N06602	6Ni-Cr-Fe Alloy, Solid Solution Strengthened (Low Carbon)	**C** 0.02 max **Cr** 14.0-17.0 **Cu** 0.5 max **Fe** 6.0-10.0 **Mn** 1.0 max **Ni** 72.0 min **S** 0.015 max **Si** 0.5 max	**ISO** 6207, 6208, 9721, 9723

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N06603	Ni-Cr-Fe-Al-C Alloy Solid Solution and Carbide Strengthened (603GT)	**Al** 2.4-3.0 **C** 0.20-0.40 **Cr** 24.0-26.0 **Cu** 0.50 max **Fe.** 8.0-11.0 **Mn** 0.15 max **Ni** rem **P** 0.020 max **S** 0.010 max **Si** 0.50 max **Ti** 0.01-0.25 **Zr** 0.01-0.10 **Other** Y 0.01-0.15	**ASTM** B 163; B 166; B 167; B 168; B 366; B 516; B 517; B 546; B 564
N06617	Ni-Cr Alloy Solid Solution Strengthened (Inconel 617)	**Al** 0.80-1.50 **B** 0.006 max **C** 0.05-0.15 **Co** 10.0-15.0 **Cr** 20.0-24.0 **Cu** 0.50 max **Fe** 3.00 max **Mn** 1.00 max **Mo** 8.00-10.0 **Ni** 44.5 min **S** 0.015 max **Si** 1.00 max **Ti** 0.60 max	**AMS** 5887; 5888; 5889 **ASME** SB-166; SFA5.14 (ERNiCrCoMo-1) **ASTM** B166 **AWS** A5.14 (ERNiCrCoMo-1)
N06621	Combined with N06075		
N06625	Ni-Cr-Mo-Cb(Nb) Alloy Solid *Solution Strengthened (Alloy* 625)	**Al** 0.40 max **C** 0.10 max **Cb** 3.15-4.15 **Cr** 20.0-23.0 **Fe** 5.0 max **Mn** 0.50 max **Mo** 8.0-10.0 **Ni** rem **P** 0.015 max **S** 0.015 max **Si** 0.50 max **Ti** 0.40 max	**AMS** 5401; 5402; 5581; 5599; 5666; 5837; 7490 **ASME** SB443; SB444; SB446; SFA5.14 (ERNiCrMo-3) **ASTM** B366; B443; B444; B446; B564; B704; B705; B751 **AWS** A5.14 (ERNiCrMo-3) **MIL SPEC** MIL-E-21562 (RN625, EN625) **Other:** NACE MR-01-75
N06626	Ni-Cr-Mo-Cb(Nb) Solid Solution Strengthened Alloy (Inconel 625LCF)	**Al** 0.40 max **C** 0.03 max **Cb** 3.15-4.15 **Co** 1.0 max **Cr** 20.0-23.0 **Fe** 5.0 max **Mn** 0.50 max **Mo** 8.0-10.0 **N** 0.02 max **Ni** 58.0 min **P** 0.015 max **S** 0.015 max **Si** 0.15 max **Ti** 0.40 max	**AMS** 5879
N06635	Ni-Cr-Mo Alloy (Hastelloy S)	**Al** 0.10-0.50 **B** 0.015 max **C** 0.02 max **Co** 2.00 max **Cr** 14.5-17.0 **Cu** 0.35 max **Fe** 3.00 max **Mn** 0.30-1.00 **Mo** 14.0-16.5 **Ni** rem **P** 0.020 max **S** 0.015 max **Si** 0.20-0.75 **W** 1.00 max **Other** La 0.01-0.10	**AMS** 5711; 5838; 5873
N06686	Ni-Cr-Mo-W Alloy (Inconel Alloy 686)	**C** 0.010 max **Cr** 19.0-23.0 **Fe** 5.0 max **Mn** 0.75 max **Mo** 15.0-17.0 **Ni** rem **P** 0.04 max **S** 0.02 max **Si** 0.08 max **Ti** 0.02-0.25 **W** 3.0-4.4	**ASME** SFA5.14 (ERNiCrMo-14) **ASTM** B564; B574; B575; B619; B622; B626 **AWS** 5.14 (ERNiCrMo-14)
N06690	Ni-Cr Alloy Solid Solution Strengthened (Inconel 690)	**C** 0.05 max **Cr** 27.0-31.0 **Cu** 0.50 max **Fe** 7.0-11.0 **Mn** 0.50 max **Ni** 58.0 min **S** 0.015 max **Si** 0.50 max	**ASME** Code Case N-20 (1484); SB163; SB166; SB167; SB168 **ASTM** B163; B166; B167; B168
N06782	Ni-Cr Alloy Solid Solution Strengthened (X-782)	**C** 2.00 nom **Co** 0.50 nom **Cr** 26.00 nom **Fe** 4.0 max **Mn** 0.30 nom **Ni** rem **Si** 0.30 nom **W** 8.75 nom	**SAE** J775 (VF4)
N06804	Ni-Cr Alloy Solid Solution Strengthened (Incoloy 804)	**Al** 0.60 max **C** 0.10 max **Cr** 28.0-31.0 **Cu** 0.50 max **Fe** rem **Mn** 1.50 max **Ni** 39.0-43.0 **S** 0.015 max **Si** 0.75 max **Ti** 1.20 max	
N06920	Ni-Cr-Fe-Mo-W Alloy Solid Solution Strengthened (Hastelloy H-9M)	**C** 0.03 max **Co** 5.0 max **Cr** 20.5-23.0 **Fe** 17.0-20.0 **Mn** 1.0 max **Mo** 8.0-10.0 **P** 0.040 max **S** 0.030 max **Si** 1.0 max **W** 1.0-2.0	
N06950	Ni-Cr-Fe-Mo Alloy, Solid Solution Strengthened (Hastelloy G50)	**C** 0.015 max **Cb** 0.5 max **Co** 2.5 max **Cr** 19.0-21.0 **Cu** 0.5 max **Fe** 15.0-20.0 **Mn** 1.0 max **Mo** 8.0-10.0 **Ni** 50.0 min **P** 0.04 max **S** 0.015 max **Si** 1.0 max **W** 1.0 max	**Other:** NACE MR-01-75
N06952	Ni-Cr Alloy (NIC 52)	**C** 0.03 max **Cr** 23.0-27.0 **Cu** 0.5-1.0 **Fe** rem **Mn** 1.0 max **Mo** 6.0-8.0 **Ni** 48.0-56.0 **P** 0.03 max **S** 0.003 max **Ti** 0.6-1.5	**Other:** NACE MR-01-75
N06975	Ni-Cr Alloy (Hastelloy G-2)	**C** 0.03 max **Cr** 23.0-26.0 **Cu** 0.70-1.20 **Fe** rem **Mn** 1.0 max **Mo** 5.0-7.0 **Ni** 47.0-52.0 **P** 0.03 max **S** 0.03 max **Si** 1.0 max **Ti** 0.70-1.50	**ASME** SB366; SB581; SB582; SB619; SFA5.14 (ERNiCrMo-8) **ASTM** B581; B582; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-8) **Other:** NACE MR-01-75
N06985	Ni-Cr Alloy ERNiCrMo-9 (Hastelloy G-3)	**C** 0.015 max **Co** 5.0 max **Cr** 21.0-23.5 **Cu** 1.5-2.5 **Fe** 18.0-21.0 **Mn** 1.0 max **Mo** 6.0-8.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 1.0 max **W** 1.5 max **Other** Cb + Ta 0.50 max	**ASME** SB581; SB582; SB619; SB622; SB626; SFA5.14 (ERNiCrMo-9) **ASTM** B581; B582; B619; B622; B626 **AWS** A5.14 (ERNiCrMo-9) **Other:** NACE MR-01-75

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N07001	Ni-Cr Alloy Precipitation Hardenable (Waspaloy)	**Al** 1.20-1.60 **B** 0.003-0.01 **C** 0.03-0.10 **Co** 12.00-15.00 **Cr** 18.00-21.00 **Cu** 0.50 max **Fe** 2.00 max **Mn** 1.00 max **Mo** 3.50-5.00 **Ni** rem **P** 0.030 max **S** 0.030 max **Si** 0.75 max **Ti** 2.75-3.25 **Zr** 0.02-0.12	**AMS** 5544; 5586; 5704; 5706; 5707; 5708; 5709; 5828 **ASTM** B637 **SAE** J775 (XEV-4)
N07002	Ni-Cr Alloy Precipitation Hardenable (TPM)	**Al** 0.05 nom **C** 0.05 nom **Co** 0.50 nom **Cr** 16.00 nom **Mn** 2.30 nom **Ni** rem **Si** 0.05 nom **Ti** 3.10 nom	**SAE** J775 (HEV2)
N07012	Cr-Co-Mo-W Nickel Alloy (AF2-1DA)	**Al** 4.20-4.80 **B** 0.01-0.02 **Bi** 0.00005 max **C** 0.30-0.35 **Co** 9.50-10.50 **Cr** 11.5-12.5 **Fe** 1.00 max **Mn** 0.10 max **Mo** 2.50-3.50 **N** 0.005 max **Ni** rem **O** 0.010 max **P** 0.015 max **Pb** 0.002 max **S** 0.015 max **Si** 0.10 max **Ta** 1.00-2.00 **Ti** 2.75-3.25 **W** 5.50-6.50 **Zr** 0.05-0.15	**AMS** 5855; 5856; 5881
N07013	Cr-Co-Mo Nickel Alloy Castings	**Al** 3.20-3.60 **B** 0.010-0.020 **C** 0.07-0.20 **Cb** 0.10 max **Co** 8.50-9.50 **Cr** 12.2-13.0 **Fe** 0.50 max **Hf** 0.75-1.05 **Mn** 0.10 max **Mo** 1.70-2.10 **Ni** rem **P** 0.015 max **S** 0.015 max **Si** 0.10 max **Ta** 3.85-4.50 **Ti** 3.85-4.15 **W** 3.85-4.50 **Zr** 0.05-0.14 **Other** Al + Ti 7.30-7.70	**AMS** 5404
N07031	Ni-Cr Alloy Precipitation Hardenable (Pyromet 31)	**Al** 1.00-1.70 **B** 0.003-0.007 **C** 0.03-0.06 **Cr** 22.0-23.0 **Cu** 0.60-1.20 **Fe** rem **Mn** 0.20 max **Mo** 1.70-2.30 **Ni** 55.0-58.0 **P** 0.015 max **S** 0.015 max **Si** 0.20 max **Ti** 2.10-2.60	**SAE** J775 (HEV-3) **Other:** NACE MR-01-75
N07032	Ni-Cr Alloy, Precipitation Hardenable (Pyromet 31V)	**Al** 1.15-1.40 **C** 0.03-0.06 **Cb** 0.75-0.95 **Co** 1.00 max **Cr** 22.3-22.9 **Fe** rem **Mo** 1.70-2.30 **Ni** 55.0-58.0 **P** 0.015 max **S** 0.015 max **Ti** 2.10-2.40	**SAE** J775 (HEV 8)
N07041	Ni-Cr Alloy Precipitation Hardenable (Rene 41)	**Al** 1.40-1.80 **B** 0.0030-0.010 **C** 0.12 max **Co** 10.00-12.00 **Cr** 18.00-20.00 **Fe** 5.00 max **Mn** 0.10 max **Mo** 9.00-10.50 **Ni** rem **S** 0.015 max **Si** 0.50 max **Ti** 3.00-3.30	**AMS** 5399; 5545; 5712; 5713; 5800; 7469
N07048	Ni-Cr-Fe-Mo-Cu Alloy, Age Hardenable	**Al** 0.4-0.9 **C** 0.015 max **Cb** 0.5 max **Co** 2.0 max **Cr** 20.0-23.5 **Cu** 1.0-2.2 **Fe** 18.0-21.0 **Mn** 0.8 max **Mo** 5.0-7.0 **Ni** rem **P** 0.02 max **S** 0.01 max **Si** 0.1 max **Ti** 1.5-2.1	**Other:** NACE MR-01-75-90
N07069	Ni-Cr Welding Filler Metal (Inconel FM69)	**Al** 0.40-1.00 **C** 0.08 **Cb** (incl Ta) 0.70-1.20 **Cr** 14.0-17.0 **Cu** 0.50 max **Fe** 5.0-9.0 **Mn** 1.0 max **Ni** 70.0 min **P** 0.03 max **S** 0.015 max **Si** 0.50 max **Ti** 2.00-2.75	**ASME** SFA5.14 (ERNiCrFe-8) **AWS** 5.14 (ERNiCrFe-8) **MIL SPEC** MIL-E-21562 (RN69)
N07080	Ni-Cr Alloy Precipitation Hardenable (Nimonic 80A)	**Al** 1.0-1.8 **B** 0.008 max **C** 0.10 max **Co** 2.0 max **Cr** 18.0-21.0 **Cu** 0.2 max **Fe** 3.0 max **Mn** 1.0 max **Ni** rem **S** 0.015 max **Si** 1.00 max **Ti** 1.8-2.7 **P** 0.045 max	**ASME** SB-637 **ASTM** B637 **SAE** J775 (HEV-5)
N07090	Ni-Cr Alloy Precipitation Hardenable (Nimonic 90)	**Al** 0.8-2.0 **C** 0.13 max **Co** 15.0-21.0 **Cr** 18.0-21.0 **Fe** 3.0 max **Mn** 1.0 max **Ni** rem **Si** 1.5 max **Ti** 1.8-3.0	**AMS** 5829 **SAE** J775 (HEV-6) **Other:** NACE MR-01-75
N07092	Ni-Cr Alloy Precipitation Hardenable (Inconel FM92)	**C** 0.08 max **Cr** 14.00-17.00 **Cu** 0.50 max **Fe** 8.0 max **Mn** 2.00-2.75 **Ni** 67.00 min **P** 0.030 max **S** 0.015 max **Si** 0.35 max **Ti** 2.50-3.50	**AMS** 5675 **ASME** SFA5.14 (ERNiCrFe-6); SFA5.30 (IN6A) **AWS** A5.14 (ERNiCrFe-6); A5.30 (IN6A) **MIL SPEC** MIL-E-21562 (EN6A, RN6A); MIL-I-23413 (MIL-6A)

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N07214	Ni-Cr Precipitation Hardenable Alloy (214)	**Al** 4.0-5.0 **B** 0.006 max **C** 0.05 max **Co** 2.0 max **Cr** 15.0-17.0 **Fe** 2.0-4.0 **Mn** 0.5 max **Mo** 0.5 max **Ni** rem **P** 0.015 max **S** 0.015 max **Si** 0.2 max **Ti** 0.5 max **W** 0.5 max **Y** 0.002-0.040 **Zr** 0.05 max	
N07252	Ni-Cr Alloy Precipitation Hardenable (M252)	**Al** 0.75-1.25 **B** 0.003-0.01 **C** 0.10-0.20 **Co** 9.00-11.00 **Cr** 18.00-20.00 **Fe** 5.00 max **Mn** 0.50 max **Mo** 9.00-10.50 **Ni** rem **P** 0.015 max **S** 0.015 max **Si** 0.50 max **Ti** 2.25-2.75	**ASME** SB-637 **ASTM** B637
N07263	Ni-Cr Alloy Precipitation Hardenable (Nimonic Alloy 263)	**Al** 0.3-0.6 **C** 0.04-0.08 **Co** 19.0-21.0 **Cr** 19.0-21.0 **Cu** 0.20 max **Fe** 0.7 max **Mn** 0.60 max **Mo** 5.6-6.1 **Ni** rem **P** 0.015 max **S** 0.007 max **Si** 0.40 max **Ti** 1.9-2.4 **Other** Al+Ti 2.4-2.8	**AMS** 5872; 5886
N07500	Ni-Cr Alloy Precipitation Hardenable (Udimet 500)	**Al** 2.50-3.25 **B** 0.003-0.01 **C** 0.15 max **Co** 13.00-20.00 **Cr** 15.00-20.00 **Cu** 0.15 max **Fe** 4.00 max **Mn** 0.75 max **Mo** 3.00-5.00 **Ni** rem **P** 0.015 max **S** 0.015 max **Si** 0.75 max **Ti** 2.50-3.25	**AMS** 5384; 5751; 5753 **ASME** SB-637 **ASTM** B637
N07626	Ni-Cr Precipitation Hardenable Alloy	**Al** 0.40-0.80 **C** 0.05 max **Cr** 20.0-23.0 **Co** 1.00 max **Cb** 4.50-5.50 **Cu** 0.50 max **Fe** 6.00 max **Mn** 0.50 max **Mo** 8.0-10.0 **Ni** rem **N** 0.05 max **P** 0.020 max **S** 0.015 max **Si** 0.50 max **Ti** 0.60 max	**Other:** NACE MR-01-75
N07702	Ni-Cr Alloy Precipitation Hardenable (Inconel 702)	**Al** 2.75-3.75 **C** 0.10 max **Cr** 14.0-17.0 **Cu** 0.5 max **Fe** 2.0 max **Mn** 1.0 max **Ni** rem **S** 0.01 max **Si** 0.7 max **Ti** 0.25-1.00	**AMS** 5550
N07713	Ni-Cr Alloy Precipitation Hardenable (IN-713)	**Al** 5.5-6.5 **B** 0.005-0.015 **C** 0.08-0.20 **Cb** 1.8-2.8 **Cr** 12.00-14.00 **Fe** 2.50 max **Mn** 0.25 max **Mo** 3.8-5.2 **Ni** rem **Si** 0.50 max **Ti** 0.5-1.0 **Zr** 0.05-0.15	**AMS** 5377; 5391
N07716	Ni-Cr Precipitation Hardenable Alloy	**Al** 0.35 max **C** 0.03 max **Cr** 19.0-22.0 **Cb** 2.75-4.00 **Fe** rem **Mn** 0.20 max **Mo** 7.00-9.50 **Ni** 57.0-63.0 **P** 0.015 max **S** 0.010 max **Si** 0.20 max **Ti** 1.00-1.60	**Other:** NACE MR-01-75
N07718	Ni-Cr Alloy Precipitation Hardenable (Inconel 718)	**Al** 0.20-0.80 **B** 0.006 max **C** 0.08 max **Cb** 4.75-5.50 **Co** 1.00 max **Cr** 17.0-21.0 **Cu** 0.30 max **Fe** rem **Mn** 0.35 max **Mo** 2.80-3.30 **Ni** 50.0-55.0 **P** 0.015 max **S** 0.015 max **Si** 0.35 max **Ti** 0.65-1.15	**AMS** 5383; 5589; 5590; 5596; 5597; 5662; 5663; 5664; 5832 **ASME** SFA5.14 (ERNiFeCr-2) **ASTM** B637; B670 **AWS** A5.14 (ERNiFeCr-2) **SAE** J775 (XEV-I) **Other:** NACE MR-01-75
N07719	Ni-Cr-Cb-Mo Precipitation Hardenable Alloy (Inconel 718SPF)	**Al** 0.20-0.80 **B** 0.006 max **C** 0.05 max **Cb** 4.75-5.25 **Co** 1.0 max **Cr** 17.0-21.0 **Cu** 0.30 max **Fe** rem **Mn** 0.35 max **Mo** 2.80-3.30 **N** 0.01 max **Ni** 50.0-55.0 **P** 0.015 max **S** 0.002 max **Si** 0.35 max **Ti** 0.65-1.15	**AMS** 5914; 5950 **MAM** 5914
N07721	Ni-Cr Alloy Precipitation Hardenable (Inconel 721)	**Al** 0.10 max **C** 0.07 max **Cr** 15.0-17.0 **Cu** 0.20 max **Fe** 8.00 max **Mn** 2.00-2.50 **Ni** rem **S** 0.01 max **Si** 0.15 max **Ti** 2.75-3.35	
N07722	Ni-Cr Alloy Precipitation Hardenable (Inconel 722)	**Al** 0.4-1.0 **C** 0.08 max **Cr** 14.0-17.0 **Cu** 0.5 max **Fe** 5.0-9.0 **Mn** 1.0 max **Ni** 70.0 min **S** 0.01 max **Si** 0.07 max **Ti** 2.00-2.75	**AMS** 5541; 5714

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N07725	Ni-Cr-Mo Precipitation Hardenable Alloy (Inconel Alloy 725)	**Al** 0.35 max **C** 0.03 max **Cr** 19.0-22.5 **Cb** 2.75-4.00 **Fe** rem **Mn** 0.35 max **Mo** 7.00-9.50 **Ni** 55.0-59.0 **P** 0.015 max **S** 0.010 max **Si** 0.20 max **Ti** 1.00-1.70	**ASME** SFA5.14 (ERNiCrMo-15) **AWS** 5.14 (ERNiCrMo-15) **Other:** NACE MR-01-75
N07750	Ni-Cr Alloy Precipitation Hardenable (Inconel X750)	**Al** 0.40-1.0 **C** 0.08 max **Cb** 0.70-1.20 **Cr** 14.0-17.0 **Cu** 0.5 max **Fe** 5.0-9.0 **Mn** 1.0 max **Ni** 70.0 min **S** 0.01 max **Si** 0.50 max **Ti** 2.25-2.75	**AMS** 5542; 5582; 5583; 5598; 5667; 5668; 5669; 5670; 5671; 5698; 5699; 5747; 5779; 7246 **ASME** SA637 **ASTM** B637 **MIL SPEC** MIL-N-7786; MIL-S-23192; MIL-N-24114 **Other:** NACE MR-01-75
N07751	Ni-Cr Alloy Precipitation Hardenable (Inconel 751)	**Al** 0.90-1.50 **C** 0.10 max **Cb** 0.70-1.20 **Cr** 14.0-17.0 **Cu** 0.50 max **Fe** 5.00-9.00 **Mn** 1.00 max **Ni** 70.0 min **S** 0.01 max **Si** 0.50 max **Ti** 2.00-2.60	**SAE** J775 (HEV-3)
N07752	Ni-Cr-Fe-Ti-Al Alloy, Precipitation Hardenable	**Al** 0.40-1.00 **B** 0.007 max **C** 0.020-0.060 **Co** 0.050 max **Cr** 14.5-17.0 **Cu** 0.50 max **Fe** 5.00-9.00 **Mn** 1.00 max **Ni** 70.0 min **P** 0.008 max **S** 0.003 max **Si** 0.50 max **Ti** 2.25-2.75 **V** 0.10 max **Zr** 0.050 max **Other** (Cb+Ta) 0.70-1.20	**ASTM** B637
N07754	Ni-Cr Alloy Y Dispersion Strengthened (Inconel MA754)	**Al** 0.2-0.5 **C** 0.05 max **Cr** 19.0-23.0 **Fe** 2.5 max **Ni** rem **Ti** 0.3-0.6 **Other** Y_2O_3 0.5-0.7	
N07773	Ni-Cr-Fe-Cb-Mo Alloy Precipitation Hardenable (PH3)	**Al** 2.0 max **C** 0.03 max **Cb** 2.5-6.0 **Cr** 18.0-27.0 **Fe** rem **Mn** 1.00 max **Mo** 2.5-5.5 **Ni** 45.0-60.0 **P** 0.030 max **S** 0.010 max **Si** 0.50 max **Ti** 2.0 max **W** 0.5 max **Other** (Mo+0.5W) — 2.5-5.5	**ASTM** B805 **Other:** NACE MR-01-75
N07776	Ni-Cr-Mo-Fe-Cb-W Alloy Precipitation Hardenable (PH6)	**Al** 2.0 max **C** 0.03 max **Cb** 4.0-6.0 **Cr** 12.0-22.0 **Fe** rem **Mn** 1.00 max **Mo** 9.0-15.0 **Ni** 50.0-60.0 **P** 0.030 max **S** 0.010 max **Si** 0.50 max **Ti** 1.00 max **W** 0.5-2.5	**ASTM** B805 **Other:** NACE MR-01-75
N07924	Ni-Cr-Fe-Mo-Cb Alloy Precipitation Hardenable	**Al** 0.75 max **C** 0.020 max **Cb** 2.75-3.50 **Co** 3.0 max **Cr** 20.5-22.5 **Cu** 1.0-4.0 **Fe** 7.0-13.0 **Mg** 0.0050 max **Mn** 0.20 max **Mo** 5.50-7.0 **N** 0.020 max **Ni** 52.0 min **P** 0.030 max **S** 0.0050 max **Si** 0.20 max **Ti** 1.0-2.0 **W** 0.50 max	**Other:** NACE MR-01-75 pending letter ballot
N08001	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HW)	**C** 0.35-0.75 **Cr** 10.0-14.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 58.0-62.0 **P** 0.04 max **S** 0.04 max **Si** 2.50 max	**ASTM** A297 (HW)
N08002	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HT)	**C** 0.35-0.75 **Cr** 13.0-17.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 33.0-37.0 **P** 0.04 max **S** 0.04 max **Si** 2.50 max	
N08004	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HU)	**C** 0.35-0.75 **Cr** 17.0-21.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 37.0-41.0 **P** 0.04 max **S** 0.04 max **Si** 2.50 max	**ASTM** A297 (HU)
N08005	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HU-50)	**C** 0.40-0.60 **Cr** 17.0-21.0 **Fe** rem **Mn** 1.50 max **Mo** 0.50 max **Ni** 37.0-41.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HU-50)
N08006	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HW-50)	**C** 0.40-0.60 **Cr** 10.0-14.0 **Fe** rem **Mn** 1.50 max **Mo** 0.50 max **Ni** 58.0-62.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HW-50)
N08007	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI CN-7M)	**C** 0.07 max **Cr** 19.0-22.0 **Cu** 3.00-4.00 **Fe** rem **Mn** 1.50 max **Mo** 2.00-3.00 **Ni** 27.5-30.5 **Si** 1.50 max	**ASTM** A351
N08008	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HT-50C)	**C** 0.40-0.60 **Cb** 0.75-1.25 **Cr** 13.0-17.0 **Fe** rem **Mo** 0.50 max **Ni** 33.0-37.0	

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N08020	Ni-Fe-Cr Alloy Solid Solution Strengthened (Carpenter 20Cb3)	**C** 0.07 max **Cb** 8xC-1.00 **Cr** 19.00-21.00 **Cu** 3.00-4.00 **Fe** rem **Mn** 2.00 max **Mo** 2.00-3.00 **Ni** 32.00-38.00 **P** 0.045 max **S** 0.035 max **Si** 1.00 max	**ASME** SB462; SB463; SB464 **ASTM** A358; B366; B462; B463; B464; B468; B471; B472; B473; B474; B475; B729 **Other:** NACE MR-01-75
N08021	Austenitic Cr-Ni-Cu-Mo Alloy Welding Filler Metal	**C** 0.07 max **Cr** 19.0-21.0 **Cu** 3.0-4.0 **Fe** rem **Mn** 2.5 max **Mo** 2.0-3.0 **Ni** 32.0-36.0 **P** 0.03 max **S** 0.03 max **Si** 0.60 max **Other** Cb + Ta 8xC-1.0	**ASME** SFA5.9 (ER320) **AWS** A5.9 (ER320)
N08022	Austenitic Cr-Ni-Cu-Mo Alloy Welding Filler Metal	**C** 0.025 max **Cr** 19.0-21.0 **Cu** 3.0-4.0 **Fe** rem **Mn** 1.5-2.0 **Mo** 2.0-3.0 **Ni** 32.0-36.0 **P** 0.015 max **S** 0.020 max **Si** 0.15 max **Other** Cb + Ta 8xC-0.40	**ASME** SFA5.9 (ER320LR) **AWS** A5.9 (ER320LR)
N08024	Cr-Ni-Fe-Mo-Cu Alloy Columbium Stabilized	**C** 0.03 max **Cb** 0.15-0.35 **Cr** 22.5-25.0 **Cu** 0.50-1.50 **Fe** rem **Mn** 1.00 max **Mo** 3.50-5.00 **Ni** 35.0-40.0 **P** 0.035 max **S** 0.035 max **Si** 0.50 max	**ASTM** B462; B463; B464; B468; B471; B472; B473; B474; B475; B729 **Other:** NACE MR-01-75
N08026	Ni-Cr Wrought Alloy (Carpenter 20Mo6)	**C** 0.03 max **Cr** 22.0-26.0 **Cu** 2.00-4.00 **Fe** rem **Mn** 1.00 max **Mo** 5.00-6.70 **N** 0.10-0.16 **Ni** 33.0-37.2 **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SB463; SB464; SB468 **ASTM** B462; B463; B464; B468; B471; B472; B473; B474; B475; B729
N08028	Ni-Fe-Cr Alloy Solid Solution Strengthened (Sanicro 28)	**C** 0.03 max **Cr** 26.0-28.0 **Cu** 0.6-1.4 **Fe** rem **Mn** 2.50 max **Mo** 3.0-4.0 **Ni** 30.0-34.0 **P** 0.030 max **S** 0.030 max **Si** 1.00 max	**ASME** SB668; SB709 **ASTM** B668; B709 **Other:** NACE MR-01-75
N08030	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HT-30)	**C** 0.25-0.35 **Cr** 13.0-17.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 33.0-37.0 **P** 0.040 max **S** 0.040 max **Si** 2.50 max	**ASTM** A351
N08031	Ni-Fe-Cr-Mo-Cu Alloy (Alloy 31)	**C** 0.015 max **Cr** 26.0-28.0 **Cu** 1.0-1.4 **Fe** rem **Mn** 2.0 max **Mo** 6.0-7.0 **N** 0.15-0.25 **Ni** 30.0-32.0 **P** 0.03 max **S** 0.005 max **Si** 0.05 max	**ASTM** B564; B581 (pending); B619; B626
N08032	Fe-Ni-Cr-Mo Alloy (INCO Alloy 032)	**C** 0.03 max **Cr** 20.0-23.0 **Fe** rem **Mn** 1.0 max **Mo** 4.0-5.0 **Ni** 30.0-34.0 **P** 0.03 max **S** 0.005 max **Si** 0.05 max	
N08036	Ni-Fe-Cr-Mo-Cu Alloy (20Mo-6HS)	**C** 0.06 max **Cr** 22.0-26.0 **Cu** 1.00-3.00 **Fe** rem **Mn** 1.00 max **Mo** 5.00-6.70 **Ni** 33.0-37.2 **N** 0.17-0.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	
N08042	Ni-Fe-Cr-Mo-Cu Alloy (NIC 42M)	**C** 0.03 max **Cr** 20.0-23.0 **Cu** 1.5-3.0 **Fe** rem **Mn** 1.0 max **Mo** 5.0-7.0 **Ni** 40.0-44.0 **P** 0.03 max **S** 0.003 max **Si** 0.5 max **Ti** 0.6-1.2	**Other:** NACE MR-01-75
N08050	Ni-Fe-Cr Alloy Solid Solution Strengthened (ACI HT-50)	**C** 0.40-0.60 **Cr** 15.0-19.0 **Fe** rem **Mn** 1.50 max **Mo** 0.50 max **Ni** 33.0-37.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HT-50)
N08065	Ni-Fe-Cr Welding Filler Metal (Incoloy FM65)	**Al** 0.20 max **C** 0.05 max **Cr** 19.5-23.5 **Cu** 1.50-3.0 **Fe** 22.0 min **Mn** 1.0 max **Mo** 2.5-3.5 **Ni** 38.0-46.0 **P** 0.03 max **S** 0.03 max **Si** 0.50 max **Ti** 0.60-1.2	**ASME** SFA5.14 (ERNiFeCr-1) **AWS** A5.14 (ERNiFeCr-1) **MIL SPEC** MIL-E-21562 (RN65)
N08120	Ni-Fe-Cr Alloy (Alloy HR-120)	**Al** 0.40 max **B** 0.010 max **C** 0.02-0.1 **Cb** 0.4-0.9 **Co** 3.0 max **Cr** 23.0-27.0 **Cu** 0.50 max **Fe** rem **Mn** 1.5 max **Mo** 2.50 max **N** 0.15-0.30 **Ni** 35.0-39.0 **P** 0.040 max **S** 0.03 max **Si** 1.0 max **Ti** 0.20 max **W** 2.50 max	**ASTM** B163; B366; B407; B408; B409; B514; B515; B564
N08135	Ni-Fe-Cr-Mo-W Alloy (SM 2035)	**C** 0.03 max **Cr** 20.5-23.5 **Cu** 0.70 max **Fe** rem **Mn** 1.00 max **Mo** 4.0-5.0 **Ni** 33.0-38.0 **P** 0.03 max **S** 0.03 max **Si** 0.75 max **W** 0.20-0.80	**ASTM** B622

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N08151	Fe-Ni-Cr-Cb Austenitic Stainless Steel Casting (Ct-15C) (46Fe-32Ni)	**C** 0.05-0.15 **Cr** 19.0-21.0 **Cb** 0.50-1.50 **Fe** rem **Mn** 0.15-1.50 **Ni** 31.0-34.0 **P** 0.03 max **S** 0.03 max **Si** 0.50-1.50	**ACI** CT-15C **ASME** SA351 **ASTM** A351
N08221	Ni-Fe-Cr-Cu Alloy	**Al** 0.20 max **C** 0.025 max **Cr** 20.0-22.0 **Cu** 1.50-3.00 **Fe** rem **Mn** 1.00 max **Mo** 5.00-6.50 **Ni** 36.0-46.0 **S** 0.03 max **Si** 0.50 max **Ti** 0.60-1.00	**ASTM** B423; B424; B425
*N08245	Ni-Fe-Cr Alloy (ARMCO 20-45-5)	**C** 0.08 max **Cb** 0.40 max **Cr** 18.0-22.0 **Fe** rem **Mn** 3.0-7.0 **Mo** 1.5-3.0 **Ni** 43.0-49.0 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	
N08310	Ni-Fe-Cr-Mo Alloy	**C** 0.020 max **Cr** 24.0-26.0 **Fe** rem **Mn** 2.00-4.00 **Mo** 2.00-4.00 **N** 0.20-0.40 **Ni** 18.0-22.0 **P** 0.035 max **S** 0.015 max **Si** 0.050 max	**ASTM** B720
N08320	Ni-Fe-Cr Alloy (Haynes No. 20 Mod)	**C** 0.05 max **Cr** 21.0-23.0 **Fe** rem **Mn** 2.5 max **Mo** 4.0-6.0 **Ni** 25.0-27.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max **Ti** 4xC min	**ASME** SB366; SB620; SB621; SB622 **ASTM** B619; B620; B621; B622; B626
N08321	Ni-Fe-Cr Alloy Solution Strengthened (20 Cb3 Modified)	**C** 0.035 max **Cb** 8xC-0.4 max **Cr** 19.0-21.0 **Cu** 3.0-4.0 **Fe** rem **Mn** 1.5-2.5 **Mo** 2.0-3.0 **Ni** 32.0-36.0 **P** 0.02 max **S** 0.015 max **Si** 0.3 max	
N08330	Ni-Fe-Cr Alloy Solid Solution Strengthened (RA-330)	**C** 0.08 max **Cr** 17.0-20.0 **Cu** 1.00 max **Fe** rem **Mn** 2.00 max **Ni** 34.0-37.0 **P** 0.03 max **Pb** 0.005 max **S** 0.03 max **Si** 0.75-1.50 **Sn** 0.025 max	**AMS** 5592; 5716 **ASME** SB366; SB511; SB536; SB710 **ASTM** B366; B511; B512; B535; B536; B546; B710; B739 **SAE** J405 (30330); J412 (30330)
N08331	Ni-Fe-Cr Welding Filler Metal (ER330)	**C** 0.18-0.25 **Cr** 15.0-17.0 **Cu** 0.75 max **Fe** rem **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 34.0-37.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** A5.9 (ER330) **AWS** A5.9 (ER330)
N08332	Ni-Fe-Cr-Si Alloy (RA 330TX)	**Al** 0.10-0.50 **C** 0.05-0.10 **Cr** 17.0-20.0 **Cu** 1.00 max **Fe** rem **Mn** 2.00 max **Ni** 34.0-37.0 **P** 0.03 max **Pb** 0.005 max **S** 0.03 **Si** 0.75-1.50 **Sn** 0.025 max **Ti** 0.20-0.60 **Other** Note: Iron shall be determined arithmetically by difference	**ASME** SB366; SB511; SB535; SB536 **ASTM** B511; B535; B536; B546; B710; B739
N08334	Ni-Fe-Cr-Mn Alloy, Solid Solution Strengthened (RA 330-04)	**C** 0.18-0.29 **Cr** 17.0-20.0 **Cu** 0.5 max **Fe** rem **Mn** 4.25-6.5 **Mo** 0.7 max **Ni** 33.0-37.0 **P** 0.025 max **S** 0.02 max **Si** 0.65-1.3	
N08366	Ni-Fe-Cr Alloy Solid Solution Strengthened (AL-6X)	**C** 0.035 max **Cr** 20.0-22.0 **Fe** rem **Mn** 2.00 max **Mo** 6.00-7.00 **Ni** 23.5-25.5 **P** 0.030 max **S** 0.030 max **Si** 1.00 max	**ASME** SB675 **ASTM** B675; B676; B688; B690; B691
N08367	Austenitic Cr-Ni-Mo-N Stainless Steel (AL-6XN)	**C** 0.030 max **Cr** 20.0-22.0 **Fe** rem **Mn** 2.00 max **Mo** 6.00-7.00 **N** 0.18-0.25 **Ni** 23.50-25.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASTM** A240; A480; A988; B462; B472; B564; B675; B676; B688; B690; B691; B804 **Other:** NACE MR-01-75
N08421	Ni-Fe-Cr-Mo-Cu Alloy	**Al** 0.2 max **C** 0.025 max **Cr** 20.0-22.0 **Cu** 1.5-2.0 **Fe** rem **Mn** 1.00 max **Mo** 5.0-6.5 **Ni** 39.0-41.0 **S** 0.03 max **Si** 0.5 max **Ti** 0.6-1.0	
N08535	Ni-Cr-Mo-Fe-Cu Alloy	**C** 0.03 max **Cr** 24.0-27.0 **Cu** 1.50 max **Fe** rem **Mn** 1.00 max **Mo** 2.5-4.0 **Ni** 29.0-36.5 **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASTM** B622 **Other:** NACE MR-01-75

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N08603	Alloy Casting (HT-30)	**C** 0.25-0.35 **Cr** 13.0-17.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 33.0-37.0 **P** 0.040 max **S** 0.040 max **Si** 2.50 max	**ACI** HT-30 **ASTM** A351 (HT-30)
N08604	Alloy Casting (HL)	**C** 0.20-0.60 **Cr** 28.0-32.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 16.0-22.0 **P** 0.04 max **S** 0.04 max **Si** 2.00 max	**ACI** HL **ASTM** A297 (HL)
N08605	Alloy Casting (HT)	**C** 0.35-0.75 **Cr** 15.0-19.0 **Fe** rem **Mn** 2.00 max **Ni** 33.0-37.0 **P** 0.04 max **S** 0.04 max **Si** 2.50 max	**ACI** HT **ASTM** A297 (HT); A448
N08613	Alloy Casting (HL-30)	**C** 0.25-0.35 **Cr** 28.0-32.0 **Fe** rem **Mn** 1.50 max **Mo** 0.50 max **Ni** 18.0-22.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ACI** HL-30 **ASTM** A608 (HL-30)
N08614	Alloy Casting (HL-40)	**C** 0.35-0.45 **Cr** 28.0-32.0 **Fe** rem **Mn** 1.50 max **Mo** 0.50 max **Ni** 18.0-22.0 **P** 0.04 max **S** 0.04 max **Si** 0.50-2.00	**ASTM** A608 (HL-40)
N08700	Fe-Ni-Cr Alloy (JS 700)	**C** 0.04 max **Cb** 8 x C to 0.50 **Cr** 19.0-23.0 **Cu** 0.50 max **Fe** rem **Mn** 2.00 max **Mo** 4.3-5.0 **Ni** 24.0-26.0 **P** 0.04 max **Pb** 0.005 max **S** 0.03 max **Si** 1.00 max **Sn** 0.035 max	**ASME** SB599; SB672 **ASTM** B599; B672
N08705	Alloy Casting (HP)	**C** 0.35-0.75 **Cr** 24.0-28.0 **Fe** rem **Mn** 2.00 max **Mo** 0.50 max **Ni** 35.0-37.0 **P** 0.04 max **S** 0.04 max **Si** 2.50 max	**ASTM** A297 (HP)
N08800	Fe-Ni-Cr Alloy Solid Solution Strengthened (alloy 800)	**Al** 0.15-0.60 **C** 0.10 max **Cr** 19.0-23.0 **Cu** 0.75 max **Fe** rem **Mn** 1.5 max **Ni** 30.0-35.0 **P** 0.045 max **S** 0.015 max **Si** 1.0 max **Ti** 0.15-0.60	**AMS** 5766; 5871 **ASME** SB163; SB407; SB408; SB409; SB564 **ASTM** A240; A358; B163; B366; B407; B408; B409; B514; B515; B564 **Other:** NACE MR-01-75
N08801	Fe-Ni-Cr Alloy Solid Solution Strengthened (Incoloy 801)	**C** 0.10 max **Cr** 19.0-22.0 **Cu** 0.5 max **Fe** rem **Mn** 1.5 max **Ni** 30.0-34.0 **S** 0.015 max **Si** 1.0 max **Ti** 0.75-1.5	**AMS** 5552
N08802	Ni-Fe-Cr Alloy Solid Solution Strengthened (Incoloy 802)	**Al** 0.15-1.00 **C** 0.20-0.50 **Cr** 19.0-23.0 **Cu** 0.75 max **Fe** rem **Mn** 1.50 max **Ni** 30.0-35.0 **S** 0.015 max **Si** 0.75 max **Ti** 0.25-1.25	
N08810	Fe-Ni-Cr Alloy (alloy 800H)	**Al** 0.15-0.60 **C** 0.05-0.10 **Cr** 19.0-23.0 **Cu** 0.75 max **Fe** rem **Mn** 1.5 max **Ni** 30.0-35.0 **P** 0.045 max **S** 0.015 max **Si** 1.0 max **Ti** 0.15-0.60	**ASME** SB163; SB407; SB408; SB409; SB514; SB564 **ASTM** A240; A358; B163; B407; B408; B409; B514; B564
N08811	Fe-Ni-Cr Alloy (alloy 800HT)	**Al** 0.15-0.60 **C** 0.06-0.10 **Cr** 19.0-23.0 **Cu** 0.75 max **Fe** 39.5 min **Mn** 1.5 max **Ni** 30.0-35.0 **P** 0.045 max **S** 0.015 max **Si** 1.0 max **Ti** 0.15-0.60 **Other** Al+Ti 0.85-1.20	**ASTM** A240; B407; B408; B409
N08825	Ni-Fe-Cr Alloy Solid Solution Strengthened (Incoloy 825)	**Al** 0.2 max **C** 0.05 max **Cr** 19.5-23.5 **Cu** 1.5-3.0 **Fe** rem **Mn** 1.0 max **Mo** 2.5-3.5 **Ni** 38.0-46.0 **P** 0.03 max **S** 0.03 max **Si** 0.5 max **Ti** 0.6-1.2	**ASME** SB163; SB423; SB424; SB425 **ASTM** B163; B423; B424; B425; B564; B704; B705 **Other:** NACE MR-01-75
N08826	Cast Ni-Fe-Cr-Mo-Cu Alloy	**C** 0.05 max **Cb** 0.6-1.2 **Cr** 19.5-23.5 **Cu** 1.5-3.0 **Fe** 22.0 min **Mn** 1.00 max **Mo** 2.5-3.5 **Ni** 38.0-46.0 **P** 0.03 max **S** 0.03 max **Si** 1.00 max	**ASTM** B163; B423; B424; B425
N08904	Ni-Cr-Mo Alloy	**C** 0.020 max **Cr** 19.0-23.0 **Cu** 1.00-2.00 **Fe** rem **Mn** 2.00 max **Mo** 4.00-5.00 **Ni** 23.0-28.0 **P** 0.045 max **S** 0.035 max **Si** 1.00 max	**ASME** SB625; SB649; SB673; SB674; SB677 **ASTM** A240; A249; A358; A480; B625; B649; B673; B674; B677
N08925	Ni-Fe-Cr-Mo-Cu Alloy, Low Carbon	**C** 0.020 max **Cr** 19.0-21.0 **Cu** 0.80-1.50 **Fe** rem **Mn** 1.00 max **Mo** 6.00-7.00 **N** 0.10-0.20 **Ni** 24.0-26.0 **P** 0.045 max **S** 0.030 max **Si** 0.50 max	**ASME** SB625; SB649; SB673; SB674 **ASTM** B625; B649; B673; B674; B677

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N08926	Ni-Fe-Cr-Mo-Cu-N Alloy, Low Carbon, Nitrogen Modified	**C** 0.020 max **Cr** 19.0-21.0 **Cu** 0.5-1.5 **Fe** rem **Mn** 2.00 max **Mo** 6.0-7.0 **N** 0.15-0.25 **Ni** 24.0-26.0 **P** 0.030 max **S** 0.010 max **Si** 0.50 max	**ASME** SB366; SB625; SB649; SB673; SB674; SB677 **ASTM** B366; B625; B649; B673; B674; B677
N08932	Ni-Fe-Cr-Mo-Cu, Low Carbon Alloy (Creusot UR SB 8)	**C** 0.020 max **Cr** 24.0-26.0 **Cu** 1.0-2.0 **Fe** rem **Mn** 2.0 max **Mo** 4.7-5.7 **Ni** 24.0-26.0 **N** 0.17-0.25 **P** 0.025 max **S** 0.010 max **Si** 0.50 max	**ASTM** B625
N09027	Ni-Fe-Cr Alloy Precipitation Hardenable (CG27)	**Al** 1.45-1.75 **B** 0.003-0.015 **C** 0.02-0.08 **Cb** 0.60-1.10 **Cr** 12.50-14.00 **Fe** rem **Mn** 0.25 max **Mo** 5.00-6.00 **Ni** 36.50-39.50 **P** 0.015 max **S** 0.015 max **Si** 0.25 max **Ti** 2.30-2.70	**AMS** 5633; 5634
N09706	Ni-Fe-Cr Alloy Precipitation Hardenable (Inconel 706)	**Al** 0.40 max **B** 0.006 max **C** 0.06 max **Cb** 2.5-3.3 **Cr** 14.5-17.5 **Cu** 0.30 max **Fe** rem **Mn** 0.35 max **Ni** 39.0-44.0 **P** 0.020 max **S** 0.015 max **Si** 0.35 max **Ti** 1.5-2.0	**AMS** 5605; 5606; 5701; 5702; 5703
N09777	Ni-Fe-Cr-Mo-Ti Alloy Precipitation Hardenable (PH7)	**Al** 0.35 max **C** 0.03 max **Cb** 0.1 max **Cr** 14.0-19.0 **Fe** rem **Mn** 1.00 max **Mo** 2.5-5.5 **Ni** 34.0-42.0 **P** 0.030 max **S** 0.010 max **Si** 0.50 max **W** 2.0-3.0	**ASTM** B805 **Other:** NACE MR-01-75
N09901	Ni-Fe-Cr Alloy Precipitation Hardenable (Incoloy 901)	**Al** 0.35 max **B** 0.010-0.020 **C** 0.10 max **Cr** 11.00-14.00 **Cu** 0.50 max **Fe** rem **Mn** 1.00 max **Mo** 5.00-7.00 **Ni** 40.00-45.00 **S** 0.030 max **Si** 0.60 max **Ti** 2.35-3.10	**AMS** 5660; 5661 **ISO** 9721; 9723
N09902	Ni-Fe-Cr Alloy Precipitation Hardenable (Ni-Span-C 902)	**Al** 0.30-0.80 **C** 0.06 max **Cr** 4.90-5.75 **Fe** rem **Mn** 0.80 max **Ni** 41.0-43.5 **P** 0.04 max **S** 0.04 max **Si** 1.0 max **Ti** 2.20-2.75	**AMS** 5221; 5223; 5225
N09908	Ni-Fe-Cr-Cb-Ti-Al Alloy Precipitation Hardenable (Incoloy Alloy 908)	**Al** 0.75-1.25 **B** 0.012 max **C** 0.03 max **Cb** 2.7-3.3 **Co** 0.5 max **Cr** 3.75-4.5 **Cu** 0.5 max **Fe** rem **Mn** 1.0 max **Ni** 47.0-51.0 **P** 0.015 max **S** 0.005 max **Si** 0.5 max **Ti** 1.20-1.80	**ASTM** B872
N09911	Combined with N09901		
N09925	Ni-Fe-Cr Alloy Precipitation Hardenable	**Al** 0.10-0.50 **C** 0.03 max **Cb** 0.50 max **Cr** 19.5-23.5 **Cu** 1.50-3.00 **Fe** 22.0 min **Mn** 1.00 max **Mo** 2.50-3.50 **Ni** 38.0-46.0 **S** 0.03 max **Si** 0.50 max **Ti** 1.90-2.40	**Other:** NACE MR-01-75
N09926	Ni-Fe-Cr-Cu Alloy Precipitation Hardenable (Incoloy 926)	**Al** 0.3 max **C** 0.04 max **Cr** 14.0-18.0 **Cu** 3.5-5.5 **Fe** 39.0 min **Mn** 1.5 max **Mo** 2.5-3.5 **Ni** 26.0-30.0 **S** 0.015 max **Si** 0.75 max **Ti** 1.5-2.3	
N09979	Ni-Fe-Cr Alloy Precipitation Hardenable (D979)	**Al** 0.75-1.30 **B** 0.008-0.016 **C** 0.08 max **Cr** 14.00-16.00 **Fe** rem **Mn** 0.75 max **Mo** 3.75-4.50 **Ni** 42.00-48.00 **P** 0.015 max **S** 0.015 max **Si** 0.75 max **Ti** 2.70-3.30 **W** 3.75-4.50 **Zr** 0.050 max	**AMS** 5746 **SAE** J467 (D-979)
N10001	Ni-Mo Alloy Solid Solution Strengthened (Hastelloy B)	**C** 0.12 max **Co** 2.50 max **Cr** 1.00 max **Fe** 6.00 max **Mn** 1.00 max **Mo** 26.0-33.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.00 max **V** 0.60 max	**AMS** 5396 **ASME** SB333; SB335; SB366; SB619; SFA5.14 (ERNiMo-1) **ASTM** B333; B335; B366; B619; B622; B626; F467 (335); F468 (335) **AWS** A5.14 (ERNiMo-1) **Other:** NACE MR-01-75
N10002	Ni-Mo Alloy Solid Solution Strengthened (Hastelloy C)	**C** 0.08 max **Co** 2.5 max **Cr** 14.5-16.5 **Fe** 4.0-7.0 **Mn** 1.00 max **Mo** 15.0-17.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.00 max **V** 0.35 max **W** 3.0-4.5	**AMS** 5388; 5389; 5530; 5750 **ASME** SFA5.21 (ERNiCrMo-5A) **AWS** A5.21 (ERNiCrMo-5A) **Other:** NACE MR-01-75

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N10003	Ni-Mo Alloy Solid Solution Strengthened (Hastelloy N)	**Al** 0.50 max **B** 0.010 max **C** 0.04-0.08 **Co** 0.20 max **Cr** 6.0-8.0 **Cu** 0.35 max **Fe** 5.0 max **Mn** 1.00 max **Mo** 15.0-18.0 **Ni** rem **P** 0.015 max **S** 0.020 max **Si** 1.00 max **V** 0.50 max **W** 0.50 max	**AMS** 5607; 5771 **ASME** SB434; SFA5.14 (ERNiMo-2) **ASTM** B366; B434; B573 **AWS** A5.14 (ERNiMo-2)
N10004	Ni-Mo Alloy Solid Solution Strengthened (Hastelloy W)	**C** 0.12 max **Cr** 4.00-6.00 **Fe** 4.00-7.00 **Mn** 1.00 max **Mo** 23.00-26.00 **Ni** rem **P** 0.050 max **S** 0.050 max **Si** 1.00 max **V** 0.60 max	**AMS** 5755; 5786 **ASME** SFA5.14 (ERNiMo-3) **AWS** A5.14 (ERNiMo-3)
N10006	Ni-Mo-Cr-Fe-W Weld Filler Metal for Surfacing (ERNiCrMo-5A)	**C** 0.12 max **Cr** 14-18 **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 14-18 **Ni** rem **Si** 1.0 max **W** 3.0-5.0 **V** 0.40 max	**ASME** SFA 5.21 (ERNiCrMo-5A) **AWS** A 521 (ERNiCrMo-5A)
N10008	Ni-Mo Alloy Welding Filler Metal (ERNiMo-8) (TGS-709S)	**C** 0.10 max **Cr** 0.5-3.5 **Cu** 0.50 max **Mn** 1.0 max **Mo** 18.0-21.0 **Ni** 60.0 min **P** 0.015 max **Si** 0.50 max **S** 0.015 max **W** 2.0-4.0	**ASME** SFA 5.14 (ERNiMo-8) **AWS** A5.14 (ERNiMo-8)
N10009	Ni-Mo Alloy Welding Filler Metal (ERNiMo-9) (NITTETSU Filler 196)	**Al1.0** max **C** 0.10 max **Cu** 0.3-1.3 **Mn** 1.0 max **Mo** 19.0-22.0 **Ni** 65.0 min **P** 0.015 max **Si** 0.50 max **S** 0.015 max **W** 2.0-4.0	**ASME** SFA 5.14 (ERNiMo-9) **AWS** A5.14 (ERNiMo-9)
N10276	Ni-Mo-Cr Alloy Solid Solution Strengthened (Alloy C276)	**C** 0.02 max **Co** 2.5 max **Cr** 14.5-16.5 **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 15.0-17.0 **Ni** rem **P** 0.030 max **S** 0.030 max **Si** 0.08 max **V** 0.35 max **W** 3.0-4.5	**ASME** SB366; SB574; SB575; SB619; SB622; SB626; SFA5.14 (ERNiCrMo-4) **ASTM** B366; B564; B574; B575; B619; B622; B626; F467 (276); F468 (276) **AWS** A5.14 (ERNiCrMo-4) **Other:** NACE MR-01-75
N10624	Low Carbon Ni-Mo-Cr-Fe Alloy Solid Solution Strengthened (Alloy B-10)	**Al** 0.5 max **C** 0.01 max **Co** 1.0 max **Cr** 6.0-10.0 **Cu** 0.5 max **Fe** 5.0-8.0 **Mn** 1.0 max **Mo** 21.0-25.0 **Ni** rem **P** 0.025 max **S** 0.01 max **Si** 0.10 max	**ASTM** B 333; B 335; B 366; B 564; B 619; B 622; B 626 **Other:** W.Nr. 2.4710
N10629	Ni-Mo Alloy Solid Solution Strengthened (B-4)	**Al** 0.1-0.5 **C** 0.01 max **Co** 2.5 max **Cr** 0.5-1.5 **Cu** 0.5 max **Fe** 1.0-6.0 **Mn** 1.5 max **Mo** 26.0-30.0 **Ni** rem **P** 0.04 max **S** 0.01 max **Si** 0.05 max	**ASTM** B333
N10665	Ni-Mo Alloy (Hastelloy B-2)	**C** 0.02 max **Co** 1.0 max **Cr** 1.0 max **Fe** 2.0 max **Mn** 1.0 max **Mo** 26.0-30.0 **Ni** rem **P** 0.04 **S** 0.03 max **Si** 0.10 max	**ASME** SB333; SB335; SB366; SB619; SB622; SB626; SFA5.14 (ERNiMo-7) **ASTM** B333; B335; B366; B619; B622; B626 **AWS** A5.14 (ERNiMo-7)
N10675	Ni-Mo-Cr-Fe Alloy (Hastelloy B-3)	**Al** 0.50 max **C** 0.01 max **Cb** 0.20 max **Co** 3.0 max **Cr** 1.0-3.0 **Cu** 0.20 max **Fe** 1.0-3.0 **Mn** 3.0 max **Mo** 27.0-32.0 **Ni** 65.0 min **P** 0.030 max **S** 0.010 max **Si** 0.10 max **Ta** 0.20 max **Ti** 0.20 max **V** 0.20 max **W** 3.0 max **Zr** 0.10 max **Other** Ni+Mo 94.0-98.0	**ASME** SFA5.14 (ERNiMo-10) **ASTM** B333; B335; B366; B564; B619; B622; B626 **AWS** 5.14 (ERNiMo-10)
N12160	Ni-Co-Cr-Si Alloy Solid Solution Strengthened (HR-160)	**C** 0.15 max **Co** 27.0-33.0 **Cr** 26.0-30.0 **Fe** 3.5 max **Mn** 1.5 max **Mo** 1.0 max **Nb** 1.00 max **Ni** rem **P** 0.030 max **S** 0.015 max **Si** 2.4-3.0 **Ti** 0.20-0.80 **W** 1.00 max	**ASTM** B366; B435; B564; B572; B619; B622; B626
N13009	Ni-W-Co-Cr Alloy Castings	**Al** 4.75-5.25 **B** 0.010-0.020 **Bi** 0.00005 max **C** 0.12-0.17 **Cb** 0.75-1.25 **Co** 9.00-11.00 **Cr** 8.00-10.00 **Cu** 0.10 max **Fe** 1.50 max **Mn** 0.20 max **Ni** rem **Pb** 0.0010 max **S** 0.015 max **Si** 0.20 max **Ti** 1.75-2.25 **W** 11.5-13.5 **Zr** 0.03-0.08	**AMS** 5407
N13010	Ni-Co-Cr-Mo Alloy Castings	**Al** 5.75-6.25 **B** 0.010-0.020 **Bi** 0.00005 max **C** 0.08-0.13 **Cb** 0.10 max **Co** 9.50-10.50 **Cr** 7.50-8.50 **Fe** 0.35 max **Mn** 0.20 max **Mo** 5.75-6.25 **Ni** rem **P** 0.015 max **Pb** 0.0005 max **S** 0.015 max **Si** 0.25 max **Ta** 4.00-4.50 **Ti** 0.80-1.20 **W** 0.10 max **Zr** 0.05-0.10	**AMS** 5405; 5406

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N13017	Co-Cr-Mo-Ni Alloy (Astroloy M)	**Al** 3.85-4.15 **B** 0.020-0.030 **Bi** 0.00005 max **C** 0.02-0.06 **Co** 16.0-18.0 **Cr** 14.0-16.0 **Cu** 0.10 max **Fe** 0.50 max **Mn** 0.15 max **Mo** 4.50-5.50 **N** 0.0050 max **Ni** rem **O** 0.010 max **P** 0.015 max **Pb** 0.0002 max **S** 0.015 max **Si** 0.20 max **Ti** 3.35-3.65 **W** 0.05 max **Zr** 0.06 max	**AMS** 5851; 5852; 5882
N13020	Co-Cr-Mo-Ni Alloy	**Al** 3.75-4.75 **B** 0.025-0.035 **Bi** 0.00005 max **C** 0.03-0.10 **Co** 17.0-20.0 **Cr** 14.0-16.0 **Cu** 0.10 max **Fe** 2.00 max **Mn** 0.15 max **Mo** 4.50-5.50 **Ni** rem **Ti** 2.75-3.75 **Zr** 0.06 max	**AMS** 5846
N13021	Ni-Co-Cr Alloy, Precipitation Hardenable	**Ag** 0.0005 max **Al** 4.5-4.9 **B** 0.003-0.010 **Bi** 0.0001 max **C** 0.12-0.17 **Cr** 14.0-15.7 **Co** 18.0-22.0 **Cu** 0.2 max **Fe** 1.0 max **Mn** 1.0 max **Mo** 4.5-5.5 **Ni** rem **Pb** 0.0015 max **S** 0.015 max **Si** 1.0 max **Ti** 0.9-1.5	**ISO** 9721, 9723
N13100	Ni-Co Alloy Precipitation Hardenable (IN-100)	**Al** 5.00-6.00 **B** 0.01-0.02 **C** 0.15-0.20 **Co** 13.0-17.0 **Cr** 8.0-11.0 **Fe** 1.0 max **Mn** 0.20 max **Mo** 2.0-4.0 **Ni** rem **S** 0.015 max **Si** 0.20 max **Ti** 4.50-5.00 **V** 0.70-1.20 **Zr** 0.03-0.09	**AMS** 5397
N13246	Ni-W-Co-Cr Precipitation Hardenable (MAR-M-Alloy, Hf modified)	**Al** 5.25-5.75 **B** 0.01-0.02 **C** 0.13-0.17 **Cr** 8.0-10.0 **Co** 9.0-10.0 **Cu** 0.10 max **Hf** 1.5-2.0 **Fe** 1.0 max **Mn** 0.20 max **Mo** 2.25-2.75 **Ni** rem **S** 0.015 max **Si** 0.20 max **Ta** 1.25-1.75 **Ti** 1.25-1.75 **W** 9.0-11.0 **Zr** 0.03-0.08	
N14052	Ni-Fe Alloy (Alloy No. 52)	**Al** 0.10 max **C** 0.05 max **Co** 0.50 max **Cr** 0.25 max **Fe** rem **Mn** 0.60 max **Ni** 50.5 nom **P** 0.025 max **S** 0.025 max **Si** 0.30 max	**ASTM** F30 (52)
N14076	Ni-Fe Ferromagnetic Alloy	**C** 0.05 max **Co** 0.50 max **Cr** 2.0-3.0 **Cu** 4.0-6.0 **Fe** rem **Mn** 1.5 max **Mo** 0.50 max **Ni** 75.0-78.0 **P** 0.02 max **S** 0.01 max **Si** 0.50 max	**ASTM** A 753 (Alloy 3)
N14080	Ni-Fe Ferromagnetic Alloy	**C** 0.05 max **Co** 0.50 max **Cr** 0.30 max **Cu** 0.30 max **Fe** rem **Mn** 0.80 max **Mo** 3.5-6.0 **Ni** 79.0-82.0 **P** 0.02 max **S** 0.01 max **Si** 0.50 max	**ASTM** A 753 (Alloy 4)
N19903	Ni-Fe-Co Alloy Precipitation Hardenable (Incoloy 903)	**Al** 0.30-1.15 **B** 0.012 max **C** 0.06 max **Cb** 2.40-3.50 **Co** 13.0-17.0 **Cr** 1.00 max **Cu** 0.50 max **Fe** rem **Mn** 1.00 max **Ni** 36.0-40.0 **S** 0.015 max **Si** 0.35 max **Ti** 1.00-1.25	**AMS** 5806
N19907	Ni-Fe-Co Alloy Precipitation Hardenable	**Al** 0.20 max **B** 0.012 max **C** 0.06 max **Cb** 4.3-5.2 **Co** 12.0-16.0 **Cr** 1.0 max **Cu** 0.5 max **Fe** rem **Mn** 1.0 max **Ni** 35.0-40.0 **P** 0.015 max **S** 0.015 max **Si** 0.35 max **Ti** 1.2-1.8	
N19909	Ni-Fe-Co Alloy Precipitation Hardenable	**Al** 0.15 max **B** 0.012 max **C** 0.06 max **Cb** 4.3-5.2 **Co** 12.0-16.0 **Cr** 1.0 max **Cu** 0.5 max **Fe** rem **Mn** 1.0 max **Ni** 35.0-40.0 **P** 0.015 max **S** 0.015 max **Si** 0.25-0.50 **Ti** 1.3-1.8	
N22000	Ni-Si-Cu Casting Alloy	**C** 0.12 max **Cr** 1.0 max **Cu** 2.0-4.0 **Mn** 1.50 max **Ni** rem **P** 0.030 max **S** 0.030 max **Si** 8.5-10.0	**ACI** CZ12SiCu
N24025	Ni-Cu Casting Alloy	**C** 0.25 max **Cu** 27.0-33.0 **Fe** 3.50 max **Mn** 1.50 max **Ni** rem **P** 0.03 max **S** 0.03 max **Si** 3.5-4.5	**ASTM** A494

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N24030	Ni-Cu Casting Alloy	**C** 0.30 max **Cu** 27.0-33.0 **Fe** 3.50 max **Mn** 1.50 max **Ni** rem **P** 0.03 max **S** 0.03 max **Si** 2.7-3.7	**ASTM** A494
N24130	Ni-Cu Casting Alloy	**C** 0.30 max **Cb** 1.0-3.0 **Cu** 26.0-33.0 **Fe** 3.50 max **Mn** 1.50 max **Ni** rem **P** 0.03 max **S** 0.03 max **Si** 1.0-2.0	**ASTM** A494
N24135	Ni-Cu Casting Alloy	**C** 0.35 max **Cb** 0.5 max **Cu** 26.0-33.0 **Fe** 3.50 max **Mn** 1.50 max **Ni** rem **P** 0.03 max **S** 0.03 max **Si** 1.25 max	**ASTM** A494
N26022	Ni-Cr-Mo Casting Alloy	**C** 0.02 max **Cr** 20.0-22.5 **Fe** 2.0-6.0 **Mn** 1.00 max **Mo** 12.5-14.5 **Ni** rem **P** 0.025 max **S** 0.025 max **Si** 0.80 max **V** 0.35 max **W** 2.5-3.5	**ACI** CX2MW **ASTM** A494
N26055	Ni-Cr-Bi-Sn Casting Alloy	**Bi** 3.0-5.0 **C** 0.05 max **Cr** 11.0-14.0 **Fe** 2.0 max **Mn** 1.5 max **Mo** 2.0-3.5 **Ni** rem **P** 0.03 max **S** 0.03 max **Si** 0.5 max **Sn** 3.0-5.0	**ACI** CY5SnBiM **ASTM** A494
N26455	Ni-Cr-Mo Casting Alloy	**C** 0.02 max **Cr** 15.0-17.5 **Fe** 2.0 max **Mn** 1.00 max **Mo** 15.0-17.5 **Ni** rem **P** 0.03 max **S** 0.03 max **Si** 0.80 max **W** 1.0 max	**ACI** CW2M **ASTM** A494
N26625	Ni-Cr-Mo Casting Alloy	**C** 0.06 max **Cb** 3.15-4.50 **Cr** 20.0-23.0 **Fe** 5.0 max **Mn** 1.00 max **Mo** 8.0-10.0 **Ni** rem **P** 0.015 max **S** 0.015 max **Si** 1.00 max	**ACI** CW6MC **ASTM** A494
N26641	Ni-Cr-Fe-Si Casting Alloy (Stoody 41H)	**B** 1.2-2.0 **C** 0.2-0.8 **Cr** 10-15 **Fe** 2.0-5.0 **Ni** rem **Si** 1.2-5.0	**MIL SPEC** MIL-N-24422
N26985	Ni-Cr-Fe-Mo Casting Alloy	**C** 0.02 max **Co** 5.0 max **Cr** 21.5-23.5 **Cu** 1.5-2.5 **Fe** 18.0-21.0 **Mn** 1.00 max **Mo** 6.0-8.0 **Ni** rem **P** 0.025 max **S** 0.030 max **Si** 1.00 max **W** 1.50 max **Other** (Cb+Ta) 0.5 max	**ACI** CT2MCoCu
N28820	Ni-Fe-Cr-Mo-Cu Casting Alloy (CU-5MCuC)	**C** 0.050 max **Cb** 0.60-1.20 **Cr** 19.5-23.5 **Cu** 1.50-3.50 **Fe** rem **Mn** 1.0 max **Mo** 2.5-3.5 **Ni** 38.0-44.0 P 0.030 max **S** 0.030 max **Si** 1.0 max	**ACI** CU-5MCuC **ASTM** A 494
N28825	Ni-Fe-Cr-Mo-Cu-Si Casting Alloy	**C** 0.05 max **Cb** 0.7-1.0 **Cr** 19.5-23.5 **Cu** 1.5-3.0 **Fe** 28.0-32.0 **Mn** 1.00 max **Mo** 2.5-3.5 **Ni** rem **P** 0.030 max **S** 0.030 max **Si** 0.75-1.20	**ACI** CU5MCuSiC
N30002	Ni-Mo-Cr Casting Alloy	**C** 0.12 max **Cr** 15.5-17.5 **Fe** 4.5-7.5 **Mn** 1.00 max **Mo** 16.0-18.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.00 max **V** 0.20-0.40 **W** 3.75-5.25	**ACI** CW12MW **ASTM** A494
N30007	Ni-Mo Casting Alloy	**C** 0.07 max **Cr** 1.0 max **Fe** 3.00 max **Mn** 1.00 max **Mo** 30.0-33.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASTM** A494
N30012	Ni-Mo Casting Alloy	**C** 0.12 max **Cr** 1.00 max **Fe** 4.0-6.0 **Mn** 1.00 max **Mo** 26.0-30.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.00 max **V** 0.20-0.60	**ASTM** A494
N30107	Ni-Mo-Cr Casting Alloy	**C** 0.07 max **Cr** 17.0-20.0 **Fe** 3.0 max **Mn** 1.00 max **Mo** 17.0-20.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ACI** CW6M **ASTM** A494
N94620	Fe-Ni-Co Metal-to-Ceramic Sealing Alloy	**Al** 0.01 max **C** 0.02 max **Cr** 0.03 max **Co** 25 nom **Cu** 0.20 max **Mg** 0.01 max **Mn** 0.15 max **Mo** 0.06 max **Ni** 27 nom **P** 0.006 max **S** 0.006 max **Si** 0.15 max **Ti** 0.01 max **Zr** 0.01 max	**ASTM** New specification pending

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N94630	Fe-Ni-Co Metal-to-Ceramic Sealing Alloy	**Al** 0.01 max **C** 0.02 max **Cr** 0.03 max **Co** 17 nom **Cu** 0.20 max **Mg** 0.01 max **Mn** 0.35 max **Mo** 0.06 max **Ni** 29 nom **P** 0.006 max **S** 0.006 max **Si** 0.15 max **Ti** 0.01 max **Zr** 0.01 max	**ASTM** New specification pending
N99600	Ni-Cr-B Brazing Filler Metal (BNi-1)	**Al** 0.05 max **B** 2.75-3.50 **C** 0.6-0.9 **Co** 0.10 max **Cr** 13.0-15.0 **Fe** 4.0-5.0 **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 4.0-5.0 **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**AMS** 4775 **ASME** SFA-5.8 (BNi-1) **AWS** A5.8 (BNi-1) **MIL SPEC** MIL-B-7883 (BNi-1)
N99610	Ni-Cr-B Brazing Filler Metal (BNi-1a)	**Al** 0.05 max **B** 2.75-3.50 **C** 0.06 **Co** 0.10 max **Cr** 13.0-15.0 **Fe** 4.0-5.0 **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 4.0-5.0 **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**AMS** 4776 **ASME** SFA5.8 (BNi-1a) **AWS** A5.8 (BNi-1a) **MIL SPEC** MIL-B-7883 (BNi-1a)
N99612	Ni-Cr-B Brazing Filler Metal (BNi-9)	**Al** 0.05 max **B** 3.25-4.0 **C** 0.06 max **Co** 0.10 max **Cr** 13.5-16.5 **Fe** 1.5 max **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Ti** 0.05 max **Zr** 0.05 max **Other** total 0.50 max	**ASME** SFA5.8 (BNi-9) **AWS** A5.8 (BNi-9)
N99620	Ni-Cr-B Brazing Filler Metal (BNi-2)	**Al** 0.05 max **B** 2.75-3.50 **C** 0.06 max **Co** 0.10 max **Cr** 6.0-8.0 **Fe** 2.5-3.5 **Ni** rem **P** 0.02 **S** 0.02 max **Se** 0.005 max **Si** 4.0-5.0 **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**AMS** 4777 **ASME** SFA-5.8 (BNi-2) **AWS** A5.8 (BNi-2) **MIL SPEC** MIL-B-7883 (BNi-2)
N99622	Ni-W-Cr-B Brazing Filler Metal (BNi-10)	**Al** 0.05 max **B** 2.0-3.0 **C** 0.40-0.55 **Co** 0.10 max **Cr** 10.0-13.0 **Fe** 2.5-4.5 **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 3.0-4.0 **Ti** 0.05 max **W** 15.0-17.0 **Zr** 0.05 max **Other** total 0.50 max	**ASME** SFA5.8 (BNi-10) **AWS** A5.8 (BNi-10)
N99624	Ni-W-Cr-B Brazing Filler Metal (BNi-11)	**Al** 0.05 max **B** 2.2-3.1 **C** 0.30-0.50 **Co** 0.10 max **Cr** 9.0-11.75 **Fe** 2.5-4.0 **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 **Si** 3.25-4.25 **Ti** 0.05 max **W** 11.50-12.75 **Zr** 0.05 max **Other** total 0.50 max	**ASME** SFA5.8 (BNi-11) **AWS** A5.8 (BNi-11)
N99630	Ni-Si-B Brazing Filler Metal (BNi-3)	**Al** 0.05 max **B** 2.75-3.50 **C** 0.06 max **Co** 0.10 max **Fe** 0.5 max **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 4.0-5.0 **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**AMS** 4778 **ASME** SFA5.8 (BNi-3) **AWS** A5.8 (BNi-3) **MIL SPEC** MIL-B-7883 (BNi-3)
N99640	Ni-Si-B Brazing Filler Metal (BNi-4)	**Al** 0.05 max **B** 1.5-2.2 **C** 0.06 max **Co** 0.10 max **Fe** 1.5 max **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 3.0-4.0 **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**AMS** 4779 **ASME** SFA5.8 (BNi-4) **AWS** A5.8 (BNi-4) **MIL SPEC** MIL-B-7883 (BNi-4) **Other:** NACE MR-01-75
N99644	Ni-Cr-B Weld Filler Metal for Hard Surfacing (RNiCr-A) (Colmonoy 4)	**B** 2.00-3.00 **C** 0.30-0.60 **Co** 1.50 max **Cr** 8.0-14.0 **Fe** 1.25-3.25 **Ni** rem **Se** 0.005 max **Si** 1.25-3.25	**ASME** SFA5.21 (ERNiCr-A) **AWS** A5.21 (ERNiCr-A) **Other:** NACE MR-01-75
N99645	Ni-Cr-B Weld Filler Metal for Hard Surfacing (RNiCr-B) (Colmonoy 5)	**B** 2.00-4.00 **C** 0.40-0.80 **Co** 1.25 max **Cr** 10.0-16.0 **Fe** 3.00-5.00 **Ni** rem **Se** 0.005 max **Si** 3.00-5.00	**ASME** SFA5.21 (ERNiCr-B) **AWS** A5.21 (ERNiCr-B) **MIL SPEC** MIL-R-17131 (MIL-RNiCr-B) **Other:** NACE MR-01-75
N99646	Ni-Cr-B Weld Filler Metal for Hard Surfacing (RNiCr-C) (Colmonoy 6)	**B** 2.50-4.50 **C** 0.50-1.00 **Co** 1.00 max **Cr** 12.0-18.0 **Fe** 3.50-5.50 **Ni** rem **Se** 0.005 max **Si** 3.50-5.50	**ASME** SFA5.21 (ERNiCr-C) **AWS** A5.21 (ERNiCr-C) **MIL SPEC** MIL-R-17131 (MIL-RNiCr-C) **Other:** NACE MR-01-75
N99647	Ni-Cr-W-B Weld Filler Metal for Hard Surfacing (ERNiCr-D)	**B** 0.35-0.60 **C** 0.6-1.1 **Cr** 8.0-12.0 **Co** 0.1 max **Fe** 1.0-5.0 **Ni** rem **Si** 4.0-6.6 **W** 1.0-3.0	**ASME** SFA 5.21 (ERNiCr-D) **AWS** A 5.21 (ERNiCr-D)
N99648	Ni-Cr-W-B Weld Filler Metal for Hard Surfacing (ERNiCr-E)	**B** 0.7-1.4 **C** 0.1-0.5 **Cr** 15-20 **Co** 0.1 max **Fe** 3.5-7.5 **Si** 5.5-8.0 **Sn** 0.5-0.9 **W** 0.5-1.5	**ASME** SFA 5.21 (ERNiCr-E) **AWS** A 5.21 (ERNiCr-E)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
N99650	Ni-Cr-Si Brazing Filler Metal (BNi-5)	**Al** 0.05 max **B** 0.03 max **C** 0.10 **Co** 0.10 max **Cr** 18.5-19.5 **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 9.75-10.50 **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**AMS** 4782 **ASME** SFA5.8 (BNi-5) **AWS** A5.8 (BNi-5) **MIL SPEC** MIL-B-7883 (BNi-5)
N99651	Ni-Cr-Si-B Brazing Filler Metal (BNi5a)	**Al** 0.05 max **B** 1.0-1.5 **C** 0.10 max **Co** 0.10 max **Cr** 18.5-19.5 **Fe** 0.5 max **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 7.0-7.5 **Ti** 0.05 max **Zr** 0.05 max	**ASME** SFA5.8 (BNi-5a) **AWS** A5.8 (BNi-5a)
N99652	Ni-Cr-Si-B Brazing Filler Metal (BNi-5b)	**Al** 0.05 max **B** 1.1-1.6 **C** 0.06 max **Cr** 14.5-15.5 **Co** 1.0 max **Fe** 1.0 max **Ni** rem **P** 0.02 max **Se** 0.005 max **Si** 7.0-7.5 **S** 0.02 max **Ti** 0.05 max **Zr** 0.05 max	**ASME** SFA 5.8 (BNi-5b) **AWS** A 5.8 (BNi-5b)
N99700	Ni-P Brazing Filler Metal (BNi-6)	**Al** 0.05 max **C** 0.01 max **Co** 0.10 max **Ni** rem **P** 10.0-12.0 **S** 0.02 max **Se** 0.005 max **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**ASME** SFA5.8 (BNi-6) **AWS** A5.8 (BNi-6)
N99710	Ni-Cr-P Brazing Filler Metal (BNi-7)	**Al** 0.05 max **B** 0.01 max **C** 0.08 max **Co** 0.10 max **Cr** 13.0-15.0 **Fe** 0.2 max **Mn** 0.04 max **Ni** rem max **P** 9.7-10.5 **S** 0.02 max **Se** 0.005 max **Si** 0.10 max **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**ASME** SFA5.8 (BNi-7) **AWS** A5.8 (BNi-7)
N99720	Ni-Cr-P Brazing Filler Metal (BNi-12)	**Al** 0.05 max **B** 0.02 max **C** 0.06 max **Cr** 24.0-26.0 **Co** 0.10 max **Fe** 0.2 max **Ni** rem **P** 9.0-11.0 **Si** 0.1 max **S** 0.02 max **Ti** 0.05 max **Zr** 0.05 max	**ASME** SFA 5.8 (BNi-12) **AWS** A 5.8 (BNi-12)
N99800	Ni-Mn-Si-Cu Brazing Filler Metal (BNi-8)	**Al** 0.05 max **C** 0.10 max **Co** 0.10 max **Cu** 4.0-5.0 **Mn** 21.5-24.5 **Ni** rem **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 6.0-8.0 **Ti** 0.05 max **Zr** 0.05 max **Other** 0.50 max	**ASME** SFA5.8 (BNi-8) **AWS** A5.8 (BNi-8)
N99810	Ni-Cr-Si-B-Cu-Cb-Mo Brazing Filler Metal (BNi-13)	**Al** 0.05 max **B** 2.75-3.5 **C** 0.06 max **Cr** 7.0-9.0 **Co** 0.10 max **Cb** 1.5-2.5 **Cu** 2.0-3.0 **Fe** 0.4 max **Mo** 1.5-2.5 **Ni** rem **P** 0.02 max **Si** 3.8-4.8 **S** 0.02 max **Ti** 0.05 max **Zr** 0.05 max	**ASME** SFA 5.8 (BNi-13) **AWS** A 5.8 (BNi-13)

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Pxxxxx Number Series
Precious Metals and Alloys

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PRECIOUS METALS AND ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
P00010	*Refined Gold*	**Ag** 0.001 *max* **Au** 99.995 *min* **Bi** 0.001 max **Cr** 0.0003 max **Cu** 0.001 max **Fe** 0.001 max **Mg** 0.001 max **Mn** 0.0003 max **Pb** 0.001 max **Pd** 0.001 max **Si** 0.001 max **Sn** 0.001 max	**ASTM** B562 (99.995)
P00015	Refined Gold	**As** 0.003 max **Au** 99.99 min **Bi** 0.002 max **Cr** 0.0003 max **Cu** 0.005 max **Fe** 0.002 max **Mg** 0.003 max **Mn** 0.0003 max **Ni** 0.0003 max **Pb** 0.002 max **Pd** 0.005 max **Si** 0.005 max **Sn** 0.001 max	**ASTM** B562 (99.99)
P00016	*Gold*	**Au** 99.99 *min* **Other** Ag+Cu 0.009 max, each, other impurity 0.003 max	**ASTM** F72
P00020	Refined Gold	**Ag** 0.035 max **Au** 99.95 min **Cu** 0.02 max **Fe** 0.005 max **Pb** 0.005 max **Pd** 0.02 max **Other** Ag+Cu 0.04 max	**AMS** 7731 **ASTM** B562 (99.95)
P00025	Refined Gold	**Au** 99.5 min	**ASTM** B562 (99.5)
P00032	14-Karat Yellow Gold Jewelry Alloy	**Ag** 3.5-4.5 **Au** 58.33 (-0.3) **Cu** 31.08 (+/- 1.0) rem **Fe** 0.05 (+/- 0.5) **Ni** 0.10 (+/- 0.5) **Si** 0.01 (+/- 0.5) **Zn** 6.43 (+/- 0.5)	
P00100	Gold Alloy (990) Gold	**Au** 99.0 min **Ti** 1.0 (0.8 min)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00105	10-Karat Yellow Gold Jewelry Alloy	**Ag** 5.85 (+/- 0.5) **Au** 41.817 (-0.3) **Cu** 38.5 (rem) **Ni** 1.15 (+/- 0.5) **Zn** 12.68 (+/- 1.0)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00110	10-Karat Yellow Gold Jewelry Alloy	**Ag** 11.66 (+/- 1.0) **Au** 41.70 (-0.3) **B** 0.02 **Cu** 40.81 (rem) **Si** 0.03 **Zn** 5.83 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00115	10-Karat Yellow Gold Jewelry Alloy	**Ag** 5.50 (+/- 0.5) **Au** 41.70 (-0.3) **Cu** 43.8 (rem) **Zn** 9.00 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00120	10-Karat Yellow Gold Jewelry Alloy	**Ag** 6.60 (+/- 0.5) **Au** 41.70 (-0.3) **Cu** 48.00 (rem) **Zn** 3.70 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00125	10-Karat White Gold Jewelry Alloy	**Au** 41.817 (-0.3) **Cu** 46.683 (rem) **Ni** 1.15 (+/- 0.5) **Zn** 10.35 (+/- 1.0)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00130	10-Karat White Gold Jewelry Alloy	**Au** 41.70 (-0.3) **Cu** 32.82 (rem) **Ni** 17.08 (+/- 1.0) **Zn** 8.40 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00135	10-Karat White Gold Jewelry Alloy	**Au** 41.66 (-0.3) **Co** 1.97 (+/- 0.5) **Cu** 29.20 (rem) **Ni** 15.05 (+/- 1.0) **Zn** 12.12 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00140	*10-Karat Green Gold Jewelry Alloy*	**Ag** 48.90 (+/- 1.0) **Au** 41.70 (-0.3) **Cu** 9.05 (rem) **Zn** 0.35	**US** *Code of Federal Regulations, Title 15, Sec. 295*
P00145	10-Karat Red Gold Jewelry Alloy	**Ag** 2.82 (+/- 0.5) **Au** 41.70 (-0.3) **Cu** 55.48 (rem)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00150	14-Karat White Gold Jewelry Alloy	**Ag** 2.00 (+/- 0.5) **Au** 58.484 (-0.3) **Cu** 24.00 (rem) **Ni** 8.00 (+/- 0.5) **Zn** 7.52 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00155	14-Karat White Gold Jewelry Alloy	**Au** 58.33 (-0.3) **Cu** 22.10 (rem) **Ni** 10.80 (+/- 1.0) **Zn** 8.77 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00160	14-Karat White Gold Jewelry Alloy	**Au** 58.33 (-0.3) **Cu** 23.47 (rem) **Ni** 12.21 (+/- 1.0) **Zn** 5.99 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00165	14-Karat White Gold Jewelry Alloy	**Au** 58.33 (-0.3) **Cu** 28.32 (rem) **Ni** 8.55 (+/- 0.5) **Zn** 4.80 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00170	14-Karat Red Gold Jewelry Alloy	**Ag** 2.08 (+/- 0.5) **Au** 58.33 (-0.3) **Cu** 39.59 (rem)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00175	14-Karat Yellow Gold Jewelry Alloy	**Ag** 5.00 (+/- 0.5) **Au** 58.33 (-0.3) **B** 0.02 **Cu** 30.00 (rem) **Si** 0.03 **Zn** 6.63 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295

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P00180	14-Karat Yellow Gold Jewelry Alloy	**Ag** 16.50 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 24.97 (rem) **Zn** 0.20	**US** Code of Federal Regulations, Title 15, Sec. 295
P00185	14-Karat Yellow Gold Jewelry Alloy	**Ag** 7.46 (+/- 0.5) **Au** 58.33 (-0.3) **Cu** 26.58 (rem) **Ni** 1.00 **Zn** 6.63 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00190	14-Karat Yellow Gold Jewelry Alloy	**Ag** 10.00 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 29.67 (rem) **Zn** 2.00 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00195	14-Karat Yellow Gold Jewelry Alloy	**Ag** 24.78 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 16.75 (rem) **Zn** 0.14	**US** Code of Federal Regulations, Title 15, Sec. 295
P00200	14-Karat Yellow Gold Jewelry Alloy	**Ag** 21.20 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 20.17 (rem) **Zn** 0.30	**US** Code of Federal Regulations, Title 15, Sec. 295
P00205	14-Karat Yellow Gold Jewelry Alloy	**Ag** 8.31 (+/- 0.5) **Au** 58.33 (-0.3) **Cu** 29.19 (rem) **Zn** 4.17 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00210	14-Karat Yellow Gold Jewelry Alloy	**Ag** 4.00 (+/- 0.5) **Au** 58.33 (-0.3) **Cu** 31.24 (rem) **Zn** 6.43 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00215	14-Karat Yellow Gold Jewelry Alloy	**Ag** 24.78 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 16.75 (rem) **Zn** 0.14	**US** Code of Federal Regulations, Title 15, Sec. 295
P00220	14-Karat Yellow Gold Jewelry Alloy	**Ag** 21.20 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 20.17 (rem) **Zn** 0.30	**US** Code of Federal Regulations, Title 15, Sec. 295
P00225	14-Karat Yellow Gold Jewelry Alloy	**Ag** 4.00 (+/- 0.5) **Au** 58.33 (-0.3) **Cu** 31.24 (rem) **Zn** 6.43 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00230	14-Karat Green Gold Jewelry Alloy	**Ag** 32.50 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 8.97 (rem) **Zn** 0.20 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00235	14-Karat Green Gold Jewelry Alloy	**Ag** 35.00 (+/- 1.0) **Au** 58.33 (-0.3) **Cu** 6.47 (rem) **Zn** 0.20	**US** Code of Federal Regulations, Title 15, Sec. 295
P00250	18-Karat Yellow Gold Jewelry Alloy	**Ag** 13.00 (+/- 1.0) **Au** 75.00 (-0.3) **Cu** 12.00 (rem)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00255	18-Karat Yellow Gold Jewelry Alloy	**Ag** 15.00 (+/- 1.0) **Au** 75.00 (-0.3) **Cu** 10.00 (rem)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00260	18-Karat Yellow Gold Jewelry Alloy	**Ag** 19.00 (+/- 1.0) **Au** 75.15 (-0.3) **Cu** 2.85 (rem) **Zn** 3.00 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00270	18-Karat White Gold Jewelry Alloy	**Au** 75.15 (-0.3) **Cu** 9.85 (rem) **Ni** 12.00 (+/- 1.0) **Zn** 3.00 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00275	18-Karat White Gold Jewelry Alloy	**Au** 75.00 (-0.3) **Cu** 1.73 (rem) **Ni** 17.80 (+/- 1.0) **Zn** 5.47 (+/- 0.5)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00280	18-Karat Green Gold Jewelry Alloy	**Ag** 22.50 (+/- 1.0) **Au** 75.00 (-0.3) **Cu** 2.50 (rem)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00285	18-Karat Red Gold Jewelry Alloy	**Ag** 5.00 (+/- 0.5) **Au** 75.00 (-0.3) **Cu** 20.00 (rem)	**US** Code of Federal Regulations, Title 15, Sec. 295
P00300	Gold-Palladium-Nickel Brazing Alloy	**Au** 29.5-30.5 **Ni** 35.5-36.5 **Pd** 33.5-34.5 **Other** 0.15 max	**AMS** 4785 **ASME** SFA5.8 (BAu-5) **AWS** A5.8 (BAu-5)
P00350	Gold Brazing Alloy	**Au** 34.5-35.5 **Cu** rem **Ni** 2.5-3.5 **Other** 0.15 max	**ASME** SFA5.8 (BAu-3) **AWS** A5.8 (BAu-3)
P00375	Gold Brazing Alloy	**Au** 37.0-38.0 **Cu** rem **Other** 0.15 max	**ASME** SFA5.8 (BAu-1) **AWS** A5.8 (BAu-1)
P00500	Gold Brazing Alloy	**Au** 49.5-50.5 **Ni** 24.5-25.5 **Pd** 24.5-25.5	**AMS** 4784
P00507	Gold-Palladium-Nickel Brazing Alloy (Vacuum grade)	**Au** 49.5-50.5 **C** 0.005 max **Cd** 0.001 max **Co** 0.06 max **Ni** 24.5-25.5 **P** 0.002 max **Pb** 0.002 max **Pd** rem **Zn** 0.001 max	**ASME** SFA5.8 (BVAu-7) **AWS** A5.8 (BVAu-7)
P00560	Gold: 14 Karat Yellow Gold - Old U.S. (Prior to October 1981)	**Ag** 3.70-4.70 **Au** 56.25-56.55 **Cu** 32.30-33.30 **Fe** 0.05 max **Ni** 0.10 max **Si** 0.01 max **Zn** 6.00-7.50 **Other** all *elements except* Au, Ag, Cu, Zn: *max* 0.15	

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P00580	Gold: 14 Karat Yellow Gold - New U.S. (After September 1981)	**Ag** 3.0-4.0 **Au** 58.03-58.63 **Cu** 30.74-31.74 **Fe** 0.05 max **Ni** 0.10 max **Si** 0.01 max **Zn** 5.68-7.18 **Other** all elements except Au, Ag, Cu, Zn: max 0.15	
P00691	Gold Electrical Contact Alloy	**Ag** 23.5-26.5 **Au** 68.0-70.0 **Pt** 5.0-7.0	**ASTM** B522 (I)
P00692	Gold Electrical Contact Alloy	**Ag** 24.5-25.5 **Au** 68.5-69.5 **Pt** 5.5-6.5 **S** 0.01 max	**ASTM** B522 (II)
P00700	Gold Brazing Alloy	**Au** 69.5-70.5 **Ni** 21.5-22.5 **Pd** 7.5-8.5 **Other** 0.15 max	**AMS** 4786 **ASME** SFA5.8 (BAu-6) **AWS** A5.8 (BAu-6)
P00707	Gold Brazing Alloy replaced by P00807		
P00710	Gold Electrical Contact Alloy	**Ag** 4.0-5.0 **Au** 70.5-72.5 **Cu** 13.5-15.5 **Pt** 8.0-9.0 **Zn** 0.7-1.3	**ASTM** B541
P00750	Gold Electrical Contact Alloy	**Ag** 21.4-22.6 **Au** 74.2-75.8 **Ni** 2.6-3.4	**ASTM** B477
P00800	Gold Brazing Alloy	**Au** 79.5-80.5 **Cu** rem	**ASME** SFA5.8 (BAu-2) **AWS** A5.8 (BAu-2)
P00807	Gold Brazing Alloy (Vacuum Grade)	**Au** 79.5-80.5 **C** 0.005 max **Cd** 0.001 max **Cu** rem **P** 0.002 max **Pb** 0.002 max **Zn** 0.001 max **Other** 0.15 max	**ASME** SFA5.8 (BVAu-2) **AWS** A5.8 (BVAu-2)
P00820	Gold Brazing Alloy	**Au** 81.5-82.5 **Ni** rem **Other** 0.15 max	**AMS** 4787 **ASME** SFA5.8 (BAu-4) **AWS** A5.8 (BAu-4)
P00827	Gold Brazing Alloy (Vacuum Grade)	**Au** 81.5-82.5 **C** 0.005 max **Cd** 0.001 max **Ni** rem **P** 0.002 max **Pb** 0.002 max **Zn** 0.001 max	**ASME** SFA5.8 (BVAu-4) **AWS** A5.8 (BVAu-4)
P00900	Gold-Silver Alloy	**Ag** 3.0-10.0 **Au** 90.0 min	
P00901	Gold Electrical Contact Alloy	**Au** 89.0-91.0 **Cu** 9.0-11.0	**ASTM** B596
P00927	Gold-Palladium Brazing Alloy (Vacuum Grade)	**Au** 91.0-93.0 **C** 0.005 max **Cd** 0.001 max **P** 0.002 max **Pb** 0.002 max **Pd** rem **Zn** 0.001 max	**ASME** SFA5.8 (BVAu-8) **AWS** A5.8 (BVAu-8)
P03300	Palladium Alloy (Paliney No. 7, ""W" Alloy 3350, No. 226 Alloy)	**Ag** 29.0-31.0 **Au** 9.5-10.5 **Cu** 13.5-14.5 **Pd** 34.0-36.0 **Pt** 9.5-10.5 **Other** elements 0.01 max total	**AMS** 7735
P03350	Palladium Electrical Contact Alloy	**Ag** 29-31 **Au** 9.5-10.5 **Cu** 13.5-14.5 **Pd** 34.0-36.0 **Pt** 9.5-10.5 **Zn** 0.6-1.2 **Other** total 0.1 max	**ASTM** B540
P03440	Palladium Electrical Contact Alloy	**Ag** 37.0-39.0 **Cu** 15.5-16.5 **Ni** 0.8-1.2 **Pd** 43.0-45.0 **Pt** 0.8-1.2	**ASTM** B563
* **P03590**	Palladium Alloy	**Cu** 39-41 **Pd** 59 min	
P03657	Palladium-Cobalt Brazing Alloy (Vacuum Grade)	**C** 0.005 max **Cd** 0.001 max **Co** rem **Ni** 0.06 max **P** 0.002 max **Pb** 0.002 max **Pd** 64.0-66.0 **Zn** 0.001 max	**ASME** SFA5.8 (BVPd-1) **AWS** A5.8 (BVPd-1)
P03980	Refined Palladium	**Ir** 0.05 max **Pd** 99.80 min **Pt** 0.15 max **Rh** 0.10 max **Other** Ru 0.05 max	**ASTM** B589 (99.80)
* **P03990**	Palladium	**Other** Pd 99.07 min	
P03995	Refined Palladium	**Ag** 0.005 max **Al** 0.005 max **Au** 0.01 max **Ca** 0.005 max **Co** 0.001 max **Cr** 0.001 max **Cu** 0.005 max **Fe** 0.005 max **Mg** 0.005 max **Mn** 0.001 max **Ni** 0.005 max **Pb** 0.005 max **Pd** 99.95 min **Sb** 0.002 max **Si** 0.005 max **Sn** 0.005 max **Zn** 0.0025 max **Other** Pt + Rh + Ru + Ir 0.03 max	**ASTM** B589 (99.95)

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* **P04840**	Platinum Iridium Alloy	**Ir** 13-17 **Pt** 84 min	
P04980	Refined Platinum	**Ir** 0.05 max **Pt** 99.80 min **Rh** 0.10 max **Other** Pd 0.15 max, Ru 0.05 max	**ASTM** B561
P04995	Refined Platinum	**Ag** 0.005 max **Al** 0.005 max **As** 0.005 max **Au** 0.01 max **Bi** 0.005 max **Cd** 0.005 max **Cr** 0.005 max **Cu** 0.01 max **Ir** 0.015 max **Fe** 0.01 max **Mg** 0.005 max **Mn** 0.005 max **Mo** 0.01 max **Ni** 0.005 max **Pb** 0.005 max **Pt** 99.95 min **Rh** 0.03 max **Sb** 0.005 max **Si** 0.01 max **Sn** 0.005 max **Te** 0.005 max **Zn** 0.005 max **Other** Ca 0.005 max, Ru 0.01 max, Pd 0.02 max	**ASTM** B561 (99.95) **FED** QQ-P-00428
P05980	Rhodium	**As** 0.01 max **Bi** 0.01 max **Cd** 0.01 max **Ir** 0.01 max **Fe** 0.01 max **Pb** 0.01 max **Pd** 0.05 max **Pt** 0.01 max **Rh** 99.8 min **Ru** 0.05 max **Sn** 0.01 max **Zn** 0.01 max	**ASTM** B616 (99.80)
P05981	Refined Rhodium	**Ag** 0.02 max **Al** 0.01 max **As** 0.005 max **Au** 0.01 max **B** 0.005 max **Bi** 0.005 max **Cd** 0.005 max **Co** 0.005 max **Cr** 0.01 max **Cu** 0.01 max **Fe** 0.01 max **Ir** 0.05 max **Mg** 0.01 max **Mn** 0.005 max **Ni** 0.01 max **Pb** 0.01 max **Pt** 0.05 max **Rh** 99.90 min **Sb** 0.005 max **Si** 0.01 max **Sn** 0.01 max **Te** 0.01 max **Zn** 0.01 max **Other** Pd 0.05 max, Ru 0.05 max, Ca 0.01 max	**ASTM** B616 (99.90)
P05982	Refined Rhodium	**Ag** 0.005 max **Al** 0.005 max **As** 0.003 max **Au** 0.003 max **B** 0.001 max **Bi** 0.005 max **Cd** 0.005 max **Co** 0.001 max **Cr** 0.005 max **Cu** 0.005 max **Fe** 0.003 max **Ir** 0.02 max **Mg** 0.005 max **Mn** 0.005 max **Ni** 0.003 max **Pb** 0.005 max **Pt** 0.02 max **Rh** 99.95 min **Sb** 0.003 max **Si** 0.005 max **Sn** 0.003 max **Te** 0.005 max **Zn** 0.003 max **Other** Pd 0.005 max, Ru 0.01 max, Ca 0.005 max	**ASTM** B616 (99.95)
P05990	Rhodium	**Ag** 0.02 max **Al** 0.01 max **As** 0.005 max **Au** 0.01 max **B** 0.005 max **Bi** 0.005 max **Ca** 0.01 max **Cd** 0.005 max **Co** 0.005 max **Cr** 0.01 max **Cu** 0.01 max **Fe** 0.01 max **Ir** 0.05 max **Mg** 0.01 max **Mn** 0.005 max **Ni** 0.01 max **Pb** 0.01 max **Pd** 0.05 max **Pt** 0.05 max **Rh** 99.90 min **Ru** 0.05 max **Sb** 0.005 max **Si** 0.01 max **Sn** 0.01 max **Te** 0.01 max **Zn** 0.01 max	
P05995	Refined Rhodium	**Ag** 0.005 max **Al** 0.005 max **As** 0.003 max **Au** 0.003 max **B** 0.001 max **Bi** 0.005 max **Ca** 0.005 max **Cd** 0.005 max **Co** 0.001 max **Cr** 0.005 max **Cu** 0.005 max **Fe** 0.003 max **Ir** 0.02 max **Mg** 0.005 max **Mn** 0.005 max **Ni** 0.003 max **Pb** 0.005 max **Pd** 0.005 max **Pt** 0.02 max **Rh** 99.95 min **Ru** 0.01 max **Sb** 0.003 max **Si** 0.005 max **Sn** 0.003 max **Te** 0.005 max **Zn** 0.003 max	
P06100	Refined Iridium	**As** 0.01 max **Bi** 0.01 max **Cd** 0.01 max **Fe** 0.01 max **Ir** 99.80 min **Pb** 0.02 max **Pt** 0.10 max **Rh** 0.15 max **Si** 0.02 max **Sn** 0.01 max **Other** Pd 0.05 max, Ru 0.05 max	**ASTM** B671

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P07010	Refined Silver	**Ag** 99.99 min **Bi** 0.0005 max **Cu** 0.010 max **Fe** 0.001 max **Pb** 0.001 max **Se** 0.0005 max **Te** 0.0005 max **Other** Pd 0.001 max	**ASTM** B413 (99.99)
P07015	Refined Silver	**Ag** 99.95 min **Bi** 0.001 max **Cu** 0.04 max **Fe** 0.002 max **Pb** 0.015 max	**ASTM** B413 (99.95) **MIL SPEC** MIL-S-13282
P07016	Silver	**Ag** 99.95 min **Cu** 0.05 max **P** 0.002 max **Other** total volatile impurities 0.010 max	**ASTM** F106 (TB Ag)
P07017	Silver Brazing Alloy (Vacuum Grade) (BVAg-0)	**Ag** 99.95 min **C** 0.005 max **Cd** 0.001 max **Cu** 0.05 max **P** 0.002 max **Pb** 0.002 max **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-0) **AWS** A5.8 (BVAg-0)
P07020	Refined Silver	**Ag** 99.90 min **Bi** 0.001 max **Cu** 0.08 max **Fe** 0.002 max **Pb** 0.025 max **Other** Ag+Cu 99.95 min	**ASTM** B413 (99.90)
*P07200	Silver Brazing Alloy (BAg-25)	**Ag** 19.0-21.0 **Cu** 39.0-41.0 **Mn** 4.5-5.5 **Zn** 33.0-37.0	**ASME** SFA5.8 (BAg-25) **AWS** A5.8 (BAg-25)
P07250	Silver Brazing Alloy (BAg-26)	**Ag** 24.0-26.0 **Cu** 37.0-39.0 **Mn** 1.5-2.5 **Ni** 1.5-2.5 **Zn** 31.0-35.0	**ASME** SFA5.8 (BAg-26) **AWS** A5.8 (BAg-26)
P07251	Silver Brazing Alloy (BAg-27)	**Ag** 24.0-26.0 **Cd** 12.5-14.5 **Cu** 34.0-36.0 **Zn** 24.5-28.5	**ASME** SFA5.8 (BAg-27) **AWS** A5.8 (BAg-27)
P07252	Silver Brazing Alloy (BAg-33)	**Ag** 24.0-26.0 **Cd** 16.5-18.5 **Cu** 29.0-31.0 **Zn** 26.5-28.5	**ASME** SFA5.8 (BAg-33) **AWS** A5.8 (BAg-33)
P07253	Silver Brazing Alloy	**Ag** 24.0-26.0 **Cu** 39.0-41.0 **Sn** 1.5-2.5 **Zn** 31.0-35.0	**ASME** SFA5.8 (BAg-37) **AWS** A5.8 (BAg-37)
P07300	Silver Brazing Alloy (BAg-2a)	**Ag** 29.0-31.0 **Cd** 19.0-21.0 **Cu** 26.0-28.0 **Zn** 21.0-25.0	**ASME** SFA5.8 (BAg-2a) **AWS** A5.8 (BAg-2a)
P07301	Silver Brazing Alloy (BAg-20)	**Ag** 29.0-31.0 **Cu** 37.0-39.0 **Zn** 30.0-34.0	**ASME** SFA5.8 (BAg-20) **AWS** A5.8 (BAg-20) **FED** QQ-B-654 (BAg-20)
P07350	Silver Brazing Alloy (BAg-2)	**Ag** 34.0-36.0 **Cd** 17.0-19.0 **Cu** 25.0-27.0 **Zn** 19.0-23.0	**AMS** 4768 **ASME** SFA5.8 (BAg-2) **AWS** A5.8 (BAg-2) **FED** QQ-B-654 (VIII) **MIL SPEC** MIL-B-7883 (BAg-2)
P07351	Silver Brazing Alloy	**Ag** 34.0-36.0 **Cu** 31.0-33.0 **Zn** 31.0-35.0	**ASME** SFA5.8 (BAg-35) **AWS** A5.8 (BAg-35)
P07380	Silver Brazing Alloy (BAg-34)	**Ag** 37.0-39.0 **Cu** 31.0-33.0 **Sn** 1.5-2.5 **Zn** 26.0-30.0	**ASME** SFA5.8 (BAg-34) **AWS** A5.8 (BAg-34)
P07400	Silver Brazing Alloy (BAg-4)	**Ag** 39.0-41.0 **Cu** 29.0-31.0 **Ni** 1.5-2.5 **Zn** 26.0-30.0	**ASME** SFA5.8 (BAg-4) **AWS** A5.8 (BAg-4) **FED** QQ-B-654 (BAg-4)
P07401	Silver Brazing Alloy (BAg-28)	**Ag** 39.0-41.0 **Cu** 29.0-31.0 **Sn** 1.5-2.5 **Zn** 26.0-30.0	**ASME** SFA5.8 (BAg-28) **AWS** A5.8 (BAg-28)
P07402	Silver Brazing Alloy	**Ag** 39.0-41.0 **Cu** 29.0-32.0 **Zn** 28.0-32.0 **Other** 0.15 max	**AMS** 4762
P07450	Silver Brazing Alloy (BAg-1)	**Ag** 44.0-46.0 **Cd** 23.0-25.0 **Cu** 14.0-16.0 **Zn** 14.0-18.0	**AMS** 4769 **ASME** SFA5.8 (BAg-1) **AWS** A5.8 (BAg-1) **FED** QQ-B-654 (VII) **MIL SPEC** MIL-B-7883 (BAg-1)
P07453	Silver Brazing Alloy (BAg-5)	**Ag** 44.0-46.0 **Cu** 29.0-31.0 **Zn** 23.0-27.0	**ASME** SFA5.8 (BAg-5) **AWS** A5.8 (BAg-5) **FED** QQ-B-654 (BAg-5)
P07454	Silver Brazing Alloy	**Ag** 44.0-46.0 **Cu** 26.0-28.0 **Sn** 2.5-3.5 **Zn** 23.0-27.0	**ASME** SFA5.8 (BAg-36) **AWS** A5.8 (BAg-36)
P07490	Silver Brazing Alloy (BAg-22)	**Ag** 48.0-50.0 **Cu** 15.0-17.0 **Mn** 7.0-8.0 **Ni** 4.0-5.0 **Zn** 21.0-25.0	**ASME** SFA5.8 (BAg-22) **AWS** A5.8 (BAg-22) **FED** QQ-B-654 (BAg-22)
P07500	Silver Brazing Alloy (BAg-1a)	**Ag** 49.0-51.0 **Cd** 17.0-19.0 **Cu** 14.5-16.5 **Zn** 14.5-18.5	**AMS** 4770 **ASME** SFA5.8 (BAg-1a) **AWS** A5.8 (BAg-1a) **FED** QQ-B-654 (IV) **MIL SPEC** MIL-B-7883 (BAg-1a)
P07501	Silver Brazing Alloy (BAg-3)	**Ag** 49.0-51.0 **Cd** 15.0-17.0 **Cu** 14.5-16.5 **Ni** 2.5-3.5 **Zn** 13.5-17.5	**AMS** 4771 **ASME** SFA5.8 (BAg-3) **AWS** A5.8 (BAg-3) **FED** QQ-B-654 (V) **MIL SPEC** MIL-B-7883 (BAg-3)

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P07502	Silver Brazing Alloy	**Ag** 49.0-51.0 **Cd** 9.0-11.0 **Cu** 17.0-19.0 **Zn** 20.0-24.0	**FED** QQ-B-654 (VI)
P07503	Silver Brazing Alloy (BAg-6)	**Ag** 49.0-51.0 **Cu** 33.0-35.0 **Zn** 14.0-18.0	**ASME** SFA5.8 (BAg-6) **AWS** A5.8 (BAg-6)
P07505	Silver Brazing Alloy (BAg-24)	**Ag** 49.0-51.0 **Cu** 19.0-21.0 **Ni** 1.5-2.5 **Zn** 26.0-30.0	**AMS** 4788 **ASME** SFA5.8 (BAg-24) **AWS** A5.8 (BAg-24)
P07507	Silver Brazing Alloy (Vacuum Grade)	**Ag** 49.0-51.0 **C** 0.005 max **Cd** 0.001 max **Cu** rem **P** 0.002 max **Pb** 0.002 max **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-6b) **AWS** A5.8 (BVAg-6b)
P07540	Silver Brazing Alloy (BAg-13)	**Ag** 53.0-55.0 **Cu** rem **Ni** 0.5-1.5 **Zn** 4.0-6.0	**AMS** 4772 **ASME** SFA5.8 (BAg-13) **AWS** A5.8 (BAg-13) **MIL SPEC** MIL-B-7883 (BAg-13)
P07547	Silver-Palladium Brazing Alloy (Vacuum Grade)	**Ag** 53.0-55.0 **C** 0.005 max **Cd** 0.001 max **Cu** 20.0-22.0 **P** 0.002 max **Pb** 0.002 max **Pd** rem **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-32) **AWS** A5.8 (BVAg-32)
P07560	Silver Brazing Alloy	**Ag** 55.0-57.0 **Cu** rem **Ni** 1.5-2.5	**AMS** 4765 **ASME** SFA5.8 (BAg-13a) **AWS** A5.8 (BAg-13a) **FED** QQ-B-654 (BAg-13a)
P07563	Silver Brazing Alloy	**Ag** 55.0-57.0 **Cu** 21.0-23.0 **Sn** 4.5-5.5 **Zn** 15.0-19.0	**ASME** SFA5.8 (BAg-7) **AWS** A5.8 (BAg-7) **FED** QQ-B-654 (BAg-7)
P07587	Silver Brazing Alloy (Vacuum Grade)	**Ag** 57.0-59.0 **C** 0.005 max **Cd** 0.001 max **Cu** 31.0-33.0 **P** 0.002 max **Pb** 0.002 max **Pd** rem **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-31) **AWS** A5.8 (BVAg-31)
P07600	Silver Brazing Alloy	**Ag** 59.0-61.0 **Cu** rem **Sn** 9.5-10.5	**AMS** 4773 **ASME** SFA5.8 (BAg-18) **AWS** A5.8 (BAg-18) **FED** QQ-B-654 (BAg-18)
P07607	Silver Brazing Alloy (Vacuum Grade)	**Ag** 59.0-61.0 **C** 0.005 max **Cd** 0.001 max **Cu** rem **P** 0.002 max **Pb** 0.002 max **Sn** 9.5-10.5 **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-18) **AWS** A5.8 (BVAg-18)
P07627	Silver Brazing Alloy (Vacuum Grade)	**Ag** 60.5-62.5 **C** 0.005 max **Cd** 0.001 max **Cu** rem **P** 0.002 max **Pb** 0.002 max **In** 14.0-15.0 **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-29) **AWS** A5.8 (BVAg-29)
P07630	Silver Brazing Alloy (BAg-21)	**Ag** 62.0-64.0 **Cu** 27.5-29.5 **Ni** 2.0-3.0 **Sn** 5.0-7.0	**AMS** 4774 **ASME** SFA5.8 (BAg-21) **AWS** A5.8 (BAg-21)
P07650	Silver Brazing Alloy	**Ag** 64.0-66.0 **Cu** 19.0-21.0 **Zn** 13.0-17.0	**ASME** SFA5.8 (BAg-9) **AWS** A5.8 (BAg-9) **FED** QQ-B-654 (BAg-9)
P07687	Silver Brazing Alloy (Vacuum Grade)	**Ag** 67.0-69.0 **C** 0.005 max **Cd** 0.001 max **Cu** rem **P** 0.002 max **Pb** 0.002 max **Pd** 4.5-5.5 **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-30) **AWS** A5.8 (BVAg-30)
P07700	Silver Brazing Alloy	**Ag** 69.0-71.0 **Cu** 19.0-21.0 **Zn** 8.0-12.0	**ASME** SFA5.8 (BAg-10) **AWS** A5.8 (BAg-10) **FED** QQ-B-654 (BAg-10)
P07720	Silver Brazing Alloy	**Ag** 71.0-73.0 **Cu** rem	**ASME** SFA5.8 (BAg-8) **AWS** A5.8 (BAg-8) **MIL SPEC** MIL-B-7883 (BAg-8)
P07723	Silver Brazing Alloy	**Ag** 71.0-73.0 **Cu** rem **Li** 0.25-0.50	**ASME** SFA5.8 (BAg-8a) **AWS** A5.8 (BAg-8a) **FED** QQ-B-654 (BAg-8a) **MIL SPEC** MIL-B-7883 (BAg-8a)
P07727	Silver Brazing Alloy (Vacuum Grade)	**Ag** 71.0-73.0 **C** 0.005 max **Cd** 0.001 max **Cu** rem **P** 0.002 max **Pb** 0.002 max **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-8) **AWS** A5.8 (BVAg-8)
P07728	Silver Brazing Alloy (Vacuum Grade)	**Ag** 70.5-72.5 **C** 0.005 max **Cd** 0.001 max **Cu** rem **P** 0.002 max **Pb** 0.002 max **Ni** 0.3-0.7 **Zn** 0.001 max	**ASME** SFA5.8 (BVAg-8b) **AWS** A5.8 (BVAg-8b)
P07850	Silver Brazing Alloy (BAg-23)	**Ag** 84.0-86.0 **Mn** rem	**AMS** 4766 **ASME** SFA5.8 (BAg-23) **AWS** A5.8 (BAg-23) **MIL SPEC** MIL-B-7883 (BAg-23) **FED** QQ-B-654 (BAg-23)
P07900	Silver Electrical Contact Alloy	**Ag** 89.6-91.0 **Al** 0.005 max **Cd** 0.05 max **Cu** 9.0-10.4 **Fe** 0.05 max **Ni** 0.01 max **P** 0.02 max **Pb** 0.03 max **Zn** 0.06 max	**ASTM** B617
P07925	Silver Brazing Alloy	**Ag** 92.0-93.0 **Cu** rem **Li** 0.15-0.30	**AMS** 4767 **ASME** SFA5.8 (BAg-19) **AWS** A5.8 (BAg-19) **MIL SPEC** MIL-B-7883 (BAg-19)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
P07931	Silver, Sterling Silver-Standard Grade	**Ag** 92.10-93.50 **Cd** 0.05 max **Cu** 6.50-7.90 **Fe** 0.05 max **Pb** 0.03 max **Zn** 0.06 max **Other** 0.06 max	
P07932	Silver, Sterling Silver, Silversmiths Grade	**Ag** 92.50-93.50 **Cd** 0.05 max **Cu** 6.50-7.50 **Fe** 0.05 max **Pb** 0.03 max **Zn** 0.06 max **Other** 0.06 max	

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Rxxxxx Number Series
Reactive and Refractory Metals and Alloys

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REACTIVE AND REFRACTORY METALS AND ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
R03600	Molybdenum, Unalloyed	**C** 0.010-0.040 **Fe** 0.010 max **Mo** rem **N** 0.0010 max **Ni** 0.005 max **O** 0.0030 max **Si** 0.010 max	**ASTM** B386 (360); B387 (360)
R03601	Molybdenum Sealing Alloy	**C** 0.04 max **Fe** 0.01 max **Mo** 99.90 min **N** 0.001 max **Ni** 0.01 max **O** 0.005 max **Si** 0.01 max **W** 0.02 max **Other** each 0.005 max	
R03602	Molybdenum Sealing Alloy	**C** 0.005 max **Fe** 0.01 max **Mo** 99.90 min **N** 0.002 max **Ni** 0.01 max **O** 0.008 max **Si** 0.01 max **W** 0.02 max **Other** each 0.005 max	
R03603	Molybdenum	**Al** 0.015 max **C** 0.0015 max **Fe** 0.001 max **H** 0.001 max **Mo** 99.90 min **N** 0.001 max **O** 0.0175 max **Si** 0.035 max **Sn** 0.0025 max **W** 0.02 max **Other** each 0.005 max, Ca 0.005 max, K 0.015 max	**ASTM** F364 (II)
R03604	Molybdenum	**Al** 0.015 max **C** 0.005 max **Fe** 0.01 max **H** 0.001 max **Mo** 99.90 min **N** 0.002 max **O** 0.008 max **Si** 0.01 max **Sn** 0.0025 max **W** 0.02 max **Other** each 0.005 max, Ca 0.005 max, K 0.015 max	**ASTM** F364 (1)
R03605	Molybdenum Metal	**C** 0.030 max **Fe** 0.020 max **Mo** 99.90 min **N** 0.0010 max **Ni** 0.010 max **O** 0.0030 max **Si** 0.010 max	**AMS** 7801
R03606	Molybdenum Metal	**C** 0.030 max **Fe** 0.008 max **H** 0.0005 max **Mo** 99.95 min **N** 0.002 max **Ni** 0.002 max **O** 0.0015 max **Si** 0.008 max	**AMS** 7805
R03610	Molybdenum Unalloyed	**C** 0.010 max **Fe** 0.010 max **Mo** rem **N** 0.0020 max **Ni** 0.005 max **O** 0.0070 max **Si** 0.010 max	**ASTM** B386 (361); B387 (361)
R03615	Non-Ferrous Thermal Spray Wire (W-Mo)	**Mo** 99.0 min	**AWS** A 5.33 (W-Mo)
R03620	Molybdenum Alloy	**C** 0.010-0.040 **Fe** 0.010 max **Mo** rem **N** 0.0010 max **Ni** 0.005 max **O** 0.0030 max **Si** 0.010 max **Ti** 0.40-0.55	
R03630	Molybdenum Alloy	**C** 0.010-0.040 **Fe** 0.010 max **Mo** rem **N** 0.0010 max **Ni** 0.005 max **O** 0.0030 max **Si** 0.010 max **Ti** 0.40-0.55 **Zr** 0.06-0.12	**AMS** 7817; 7819 **ASTM** B386 (363); B387 (363)
R03640	Molybdenum Alloy	**C** 0.010-0.040 **Fe** 0.010 max **Mo** rem **N** 0.0020 max **Ni** 0.005 max **O** 0.030 max **Si** 0.005 max **Ti** 0.40-0.55 **Zr** 0.06-0.12	**ASTM** B386 (364); B387 (364)
R03650	Molybdenum Unalloyed, Low Carbon	**C** 0.010 max **Fe** 0.010 max **Mo** rem **N** 0.0010 max **Ni** 0.005 max **O** 0.0030 max **Si** 0.010 max	**ASTM** B386 (365); B387 (365)
R04200	Niobium (Columbium), Unalloyed, Reactor Grade	**C** 0.01 max **Fe** 0.005 max **H** 0.001 max **Hf** 0.01 max **Mo** 0.005 max **N** 0.01 max **Nb** rem **Ni** 0.005 max **O** 0.015 max **Si** 0.005 max **Ta** 0.1 max **W** 0.03 max **Zr** 0.01 max	**ASTM** B391; B392; B393; B394
R04210	Niobium (Columbium), Unalloyed, Commercial Grade	**C** 0.01 max **Fe** 0.01 max **H** 0.001 max **Hf** 0.01 max **Mo** 0.005 max **N** 0.01 max **Nb** rem **Ni** 0.005 max **O** 0.025 max **Si** 0.005 max **Ta** 0.2 max **W** 0.05 max **Zr** 0.01 max	**ASTM** B391; B392; B393; B394

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R04211	Niobium (Columbium), Unalloyed, Commercial Grade	**C** 0.005 max **Cb** rem **Fe** 0.010 max **H** 0.002 max **N** 0.010 max **O** 0.030 max **Si** 0.005 max **Ta** 0.10 max **Ti** 0.005 max **Zr** 0.010 max **Other** each 0.010 max, total 0.15 max	**AMS** 7850
R04251	Niobium (Columbium)- 1% Zirconium, Reactor Grade	**C** 0.01 max **Fe** 0.005 max **H** 0.001 max **Hf** 0.01 max **Mo** 0.005 max **N** 0.01 max **Nb** rem **Ni** 0.005 max **O** 0.015 max **Si** 0.005 max **Ta** 0.1 max **W** 0.03 max **Zr** 0.8-1.2	**ASTM** B391; B392; B393; B394
R04261	Niobium (Columbium)- 1% Zirconium, Commercial Grade	**C** 0.01 max **Fe** 0.01 max **H** 0.001 max **Hf** 0.01 max **Mo** 0.005 max **N** 0.01 max **Nb** rem **Ni** 0.005 max **O** 0.025 max **Si** 0.005 max **Ta** 0.2 max **W** 0.05 max **Zr** 0.8-1.2	**ASTM** B391; B392 (4); B393; B394
R04271	Niobium (Columbium) Alloy, 10W-2.5Zr	**C** 0.030 max **Cb** rem **Fe** 0.02 max **H** 0.001 max **N** 0.010 max **O** 0.020 max **Si** 0.02 max **Ta** 0.15 max **Ti** 0.01 max **W** 9.00-11.00 **Zr** 2.00-3.00	**AMS** 7851; 7855
R04295	Niobium (Columbium) Alloy	**C** 0.015 max **Cb** rem **H** 0.0015 max **Hf** 9-11 **N** 0.010 max **O** 0.020 max **Ta** 0.500 max **Ti** 0.7-1.3 **W** 0.500 max **Zr** 0.700 max	**AMS** 7852; 7857 **ASTM** B652; B654; B655
R05200	Tantalum, Unalloyed, Cast	**C** 0.01 max **Cb** 0.05 max **Fe** 0.01 max **H** 0.001 max **Mo** 0.01 max **N** 0.01 max **Ni** 0.01 max **O** 0.015 max **Si** 0.005 max **Ta** rem **Ti** 0.01 max **W** 0.03 max	**ASTM** B364; B365; B521
R05210	Tantalum Metal	**C** 0.0075 max **Cb** 0.100 max **Co** 0.002 max **Fe** 0.01 max **H** 0.0010 max **Mo** 0.01 max **N** 0.0075 max **Ni** 0.005 max **O** 0.015 max **Si** 0.005 max **Ta** 99.85 min **Ti** 0.005 max **W** 0.03 max **Zr** 0.01 max **Other** total 0.15 max	**AMS** 7849
R05240	Tantalum - 40 Nb (Cb) Alloy	**C** 0.010 max **Cb** 35.0-42.0 **H** 0.0015 max **Fe** 0.010 max **Mo** 0.020 max **Ni** 0.010 max **N** 0.010 max **O** 0.020 max **Si** 0.005 max **Ta** rem **Ti** 0.010 max **W** 0.050 max **Trace** impurities 0.00 max	**ASTM** B364; B365; B521; B708
R05252	97.5 Tantalum-2.5 Tungsten	**C** 0.010 max **Cb** 0.50 max **Fe** 0.010 max **H** 0.0015 max **Mo** 0.020 max **N** 0.010 max **Ni** 0.010 max **O** 0.015 max **Si** 0.005 max **Ta** rem **Ti** 0.010 max **W** 2.0-3.5	**ASTM** B 364; B 365; B 521; B 708
R05255	90 Tantalum-10 Tungsten	**C** 0.01 max **Cb** 0.10 max **Fe** 0.01 max **H** 0.001 max **Mo** 0.01 max **N** 0.01 max **Ni** 0.01 max **O** 0.015 max **Si** 0.005 max **Ta** rem **Ti** 0.01 max **W** 9.0-11.0	**AMS** 7846; 7847; 7848 **ASTM** B364; B365; B521; B708
R05400	Tantalum, Unalloyed, Sintered	**C** 0.01 max **Cb** 0.05 max **Fe** 0.01 max **H** 0.001 max **Mo** 0.01 max **N** 0.015 max **Ni** 0.01 max **O** 0.03 max **Si** 0.005 max **Ta** rem **Ti** 0.01 max **W** 0.03 max	**ASTM** B364; B365; B521; B708
*R07004	Tungsten	**Al** 0.003 max **C** 0.010 max **Fe** 0.005 max **H** 0.002 max **Mo** 0.005 max **N** 0.005 max **Ni** 0.008 max **O** 0.006 max **Si** 0.003 max **W** 99.95 min	**ASTM** B760
R07005	Tungsten	**W** 99.95 min **Other** 0.01 max each, 0.05 max total	**AMS** 7897 **ASTM** F288 (1A and 1B); F290

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R07006	Tungsten Metal	**Al** 0.005 max **C** 0.008 max **Fe** 0.005 max **H** 0.001 max **Mo** 0.020 max **N** 0.002 max **Ni** 0.005 max **O** 0.005 max **Si** 0.005 max **W** rem	**AMS** 7898
R07030	Tungsten	**W** 96-98	
R07031	Tungsten-Rhenium	**Re** 2.5-3.5 **W** *rem* **Other** *each* 0.05 max, total 0.01 max	**ASTM** F73 (Electronic Grade)
R07050	Tungsten	**W** 94-96	
R07080	Tungsten	**W** 91-94	
R07100	Tungsten	**W** 89-91	
R07900	Tungsten Arc Welding Electrode	**W** 99.5 min	**ASME** SFA5.12 (EWP) **AWS** A5.12 (EWP)
R07911	Tungsten-Thorium Alloy Arc Welding Electrode	**ThO** 0.8-1.2 **W** 98.5 min	**ASME** SFA5.12 (EWTh-1) **AWS** A5.12 (EWTh-1)
R07912	Tungsten-Thorium Alloy Arc Welding Electrode	**ThO** 1.7-2.2 **W** 97.5 min	**ASME** SFA5.12 (EWTh-2) **AWS** A5.12 (EWTh-2)
*R07913	Tungsten-Thorium Alloy Arc Welding Electrode	**ThO** 0.35-0.55 **W** 98.95 min	**ASME** SFA5.12 (EWTh-3) **AWS** A5.12(EWTh-3)
R07920	Tungsten-Zirconium Alloy Arc Welding Electrode	**W** 99.2 min **ZrO** 0.15-0.40	**ASME** SFA5.12 (EWZr-1) **AWS** A5.12 (EWZr-1)
R07932	Tungsten-Cerium Alloy (Arc Welding Electrode)	**CeO_2** 1.8-2.2 **W** 97.3 min	**ASME** SFA5.12 (EWCe-2) **AWS** A5.12 (EWCe-2)
R07941	*Tungsten-Lanthanum Alloy* (Arc Welding Electrode)	**La_2O_3** 0.9-1.2 **W** 98.3 *min*	**ASME** SFA5.12 (EWLa-1) **AWS** A5.12 (EWLa-1)
R07942	Tungsten-Lanthanum Alloy (Arc Welding Electrode	**EWLa-1.5)W** 97.8 min **Other** Lanthanum oxide (La2O3) 1.3-1.7	**ASME** SFA A5.12 (EWLa-1.5) **AWS** A 5.12 (EWLa-1.5)
R07943	Tungsten-Lanthanum Alloy (Arc Welding Electrode, EWLa-2)	**W** 97.3 min **Other** Lanthanum oxide (La2O3) 1.8-2.2	**ASME** SFA A5.12 (EWLa-2) **AWS** A 5.12 (EWLa-2)
R19800	Beryllium	**Al** 0.20 max **Be** 98.00 min **C** 0.15 max **Fe** 0.20 max **Mg** 0.08 max **Si** 0.12 max	**AMS** 7901; 7902
R19801	Combined with R19800		
R19920	Beryllium	**Al** 0.18 max **Be** 99.20 min **C** 0.15 *max* **Fe** 0.20 *max* **Mg** 0.08 *max* **Si** 0.10 max	**AMS** 7900
R20033	Cr-Ni-Fe-Mo Austenitic *Stainless Steel* (Alloy 33)	**C** 0.015 max **Cr** 31.0-35.0 **Cu** 0.3-1.2 **Fe** rem **Mn** 2.0 max **Mo** 0.5-2.0 **N** 0.35-0.6 **Ni** 30.0-33.0 **P** 0.02 max **S** 0.01 max **Si** 0.5 max	**ASTM** B366; B462; B472; B564; B619; B622; B625; B626; B649
R20500	Chromium-Nickel Alloy	**Al** 0.25 max **C** 0.10 max **Cr** 48.0-52.0 **Fe** 1.00 max **Mn** 0.30 max **N** 0.30 max **Ni** rem **P** 0.02 max **S** 0.02 max **Si** 1.00 max **Ti** 0.50 max	**ASTM** A560 (50Cr-50Ni)
R20501	Cr-Ni-Cb Casting Alloy	**Al** 0.25 max **C** 0.10 max **Cb** 1.4-1.7 **Cr** 47.0-52.0 **Fe** 1.00 max **Mn** 0.30 max **N** 0.16 max **Ni** rem **P** 0.02 max **S** 0.02 max **Si** 0.50 max **Ti** 0.50 max **Other** (C + N) 0.20 max	**ASTM** A 560
R20600	Chromium-Nickel Alloy	**Al** 0.25 max **Cr** 58.0-62.0 **Fe** 1.00 max **Mn** 0.30 max **N** 0.30 max **Ni** rem **P** 0.02 max **S** 0.02 max **Si** 1.00 max **Ti** 0.50 max	**ASTM** A560 (60Cr-40Ni)
R20990	Chromium Metal	**C** 0.050 max **Cr** 99.0 min **P** 0.010 max **S** 0.030 max **Si** 0.15 max	**ASTM** A481 (A)

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R20994	Chromium Metal	**C** 0.050 max **Cr** 99.4 min **P** 0.010 max **S** 0.010 max **Si** 0.10 max	**ASTM** A481 (B)
R30001	Co-Cr-W Alloy (Stellite 1)	**C** 2.5 nom **Co** rem **Cr** 30.0 nom **Fe** 3.0 min **Mn** 0.5 nom **Mo** 0.5 nom **Ni** 1.5 nom **Si** 1.3 nom **W** 13.0 nom	**ASME** SFA5.21 (ERCoCr-C) **AWS** A5.21 (ERCoCr-C) **SAE** J775 (VF6) **MIL SPEC** MIL-R-17131 (MIL-RCoCr-C)
R30002	Co-Cr-Ni-W Alloy (Stellite F)	**C** 1.5-2.00 **Co** rem **Cr** 23.00-27.00 **Fe** 6.00 max **Mn** 1.00 nom **Mo** 1.00 max **Ni** 20.50-23.50 **P** 0.030 max **S** 0.030 max **Si** 0.80-1.50 **W** 10.50-13.50 **Fe** rem	**ASME** SFA5.21 (ERCoCr-F) **AWS** A5.21 (ECoCr-F) **SAE** J775 (VF5)
R30003	Co-Cr-Ni-Fe-Mo (Elgiloy)	**Be** 1.0 max **C** 0.15 max **Co** 39.0-41.0 **Cr** 19.0-21.0 **Fe** rem **Mn** 1.5-2.5 **Mo** 6.0-8.0 **Ni** 15.0-16.0	**AMS** 5833; 5834; 5875; 5876 **ASME** SFA5.21 (ERCoCr-F) **AWS** A5.21 (ERCoCr-F)
R30004	Co-Cr-Ni-Fe Alloy (Havar)	**Be** 0.06 max **C** 0.17-0.23 **Co** 41.0-44.0 **Cr** 19.0-21.0 **Fe** rem **Mn** 1.35-1.80 **Mo** 2.0-2.8 **Ni** 12.0-14.0 **W** 2.3-3.3	
R30005	Fe-Co-V Soft Magnetic Alloy	**C** 0.025 max **Co** 47.50 **Cr** 0.15 max **Fe** rem **Mn** 0.15 max **Ni** 0.25 max **P** 0.015 max **S** 0.010 max **Si** 0.15max **V** 1.75-2.10	**ASTM** A801 (Alloy 1) **MIL SPEC** MIL-A-47182
R30006	Co-Cr-W Alloy (Stellite 6)	**C** 0.9-1.4 **Co** rem **Cr** 27.0-31.0 **Fe** 3.0 max **Mn** 1.0 max **Mo** 1.5 max **Ni** 3.0 max **Si** 1.5 max **W** 3.5-5.5	**AMS** 5373; 5387; 5788 **ASME** SFA5.21 (ERCoCr-A) **AWS** A5.21 (ERCoCr-A) **MIL SPEC** MIL-R-17131 (MIL-RCoCr-A) **SAE** J775 (VF-3)
R30007	Age Hardening Co-Cr-Fe-Ni Alloy (ARNAVAR)	**Be** 0.70 max **C** 0.10-0.20 **Co** 41.5-43.5 **Cr** 19.0-21.0 **Fe** rem **Mn** 1.20-1.60 **Mo** 1.80-2.20 **Ni** 12.0-14.0 **Si** 0.30-0.70 **W** 2.60-3.00	
R30008	Co-Cr-Ni-Mo-Fe Alloy	**Be** 0.001 max **C** 0.15 max **Co** 39.0-42.0 **Cr** 18.5-21.5 **Fe** rem **Mn** 1.0-2.0 **Mo** 6.5-7.5 **Ni** 15.0-18.0 **P** 0.015 max **S** 0.015 max **Si** 1.20 max	**ASTM** F1058, Grade 2 **Other:** ISO 5832-7
R30012	Co-Cr-W Alloy (Stellite 12)	**C** 1.4 nom **Co** rem **Cr** 30.0 nom **Fe** 3.0 min **Mn** 2.5 nom **Ni** 1.5 nom **Si** 0.7 nom **W** 8.3 nom	**AMS** 7238 **ASME** SFA5.21 (ERCoCr-B) **AWS** A5.21 (ERCoCr-B) **SAE** J775 (VF7)
R31538	Co-Cr-Mo Alloy for Surgical Implants	**C** 0.15-0.35 **Co** rem **Cr** 26.0-30.0 **Fe** 0.75 max **Mn** 1.0 max **Mo** 5.0-7.0 **N** 0.25 max **Ni** 1.0 max **Si** 1.0 max	**ASTM** F 1537
R31539	Co-Cr-Mo Alloy for Surgical Implants	**Al** 1.0 max **C** 0.35 max **Co** rem **Cr** 26.0-30.0 **Fe** 0.75 max **La** 0.5 max **Mn** 1.0 max **Mo** 5.0-7.0 **N** 0.25 max **Ni** 1.0 max **Si** 1.0 max	**ASTM** F 1537
R30016	Co-Cr-W Alloy (Stellite 6B)	**C** 0.90-1.40 **Co** rem **Cr** 28.0-32.0 **Fe** 3.0 max **Mn** 0.5-2.0 **Mo** 1.50 max **Ni** 3.0 max **Si** 0.2-2.0 **W** 3.50-5.50	**AMS** 5894
R30021	Co-Cr-Mo-Ni Alloy (Stellite 21)	**B** 0.007 max **C** 0.20-0.30 **Co** rem **Cr** 25.00-29.00 **Fe** 3.00 max **Mn** 1.00 max **Mo** 5.00-6.00 **Ni** 1.75-3.75 **Si** 1.00 max	**AMS** 5385 **ASME** SFA5.21 (ERCoCr-E) **AWS** A5.21 (ERCoCr-E)
R30023	Co-Cr-W-Ni Alloy (Stellite 23)	**C** 0.40 nom **Co** rem **Cr** 24 nom **Fe** 1.0 nom **Mn** 0.3 nom **Ni** 2 nom **Si** 0.6 nom **W** 5 nom	**AMS** 5375
R30027	Co-Ni-Cr Alloy (Stellite 27)	**C** 0.40 nom **Co** rem **Cr** 25 nom **Fe** 1.0 nom **Mn** 0.3 nom **Mo** 5.5 nom **Ni** 32 nom **Si** 0.6 nom	**AMS** 5378
R30030	Co-Cr-Ni-Mo Alloy (Stellite 30)	**C** 0.45 nom **Co** rem **Cr** 26 nom **Fe** 1.0 nom **Mn** 0.6 nom **Mo** 6 nom **Ni** 15 nom **Si** 0.6 nom	**AMS** 5380
R30031	Co-Cr-Ni-Mo Alloy (Stellite 31)	**C** 0.45-0.55 **Co** rem **Cr** 24.50-26.50 **Fe** 2.00 max **Mn** 1.00 max **Ni** 9.50-11.50 **Si** 1.00 max **W** 7.00-8.00	**AMS** 5382; 5789

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R30035	Co-Ni-Cr-Mo Alloy (MP-35-N)	**C** 0.025 max **Co** rem **Cr** 19.00-21.00 **Fe** 1.00 max **Mn** 0.15 max **Mo** 9.00-10.50 **Ni** 33.00-37.00 **P** 0.015 max **S** 0.010 max **Si** 0.15 max **Ti** 1.00 max	**AMS** 5844; 5845; 5758
R30036	Co-Cr-W-Ni Alloy Solid Solution Strengthened (Haynes 36)	**B** 0.01-0.05 **C** 0.35-0.45 **Co** rem **Cr** 17.5-19.5 **Fe** 2.00 max **Mn** 1.50 max **Ni** 9.00-11.0 **Si** 1.00 max **W** 14.0-16.0	
R30040	Co-Cr-Ni-Si-W Brazing Filler Metal	**Al** 0.05 max **B** 0.70-0.90 **C** 0.35-0.45 **Co** rem **Cr** 18.0-20.0 **Fe** 1.00 max **Ni** 16.0-18.0 **P** 0.02 max **S** 0.02 max **Si** 7.50-8.50 **Ti** 0.05 max **W** 3.50-4.50 **Zr** 0.05 max **Other** each 0.03 max, total 0.15 max	**AMS** 4783
R30075	Co-Cr-Mo Alloy (Biomedical Implant Applications)	**Al** 0.30 max **B** 0.01 max **C** 0.35 max **Co** rem **Cr** 27.0-30.0 **Fe** 0.75 max **Mn** 1.0 max **Mo** 5.00-7.00 **N** 0.25 max **Ni** 1.0 max **P** 0.020 max **S** 0.010 max **Si** 1.0 max **W** 0.20 max	**ASTM** F75 (Cast); F799 (Wrought) **Other:** ISO 5832/IV
R30100	Fe-Cr-Ni-Co Alloy	**C** 0.10 max **Co** 18.5-21.0 **Cr** 20.0-22.5 **Fe** rem **Mn** 1.00-2.00 **Mo** 2.50-3.50 **N** 0.10-0.20 **Ni** 19.0-21.0 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **W** 2.00-3.00	**AMS** 7724
R30102	Co-Cr-W Alloy, P/M (Stellite Star J)	**B** 0.1-1.0 **C** 2.2-2.8 **Co** rem **Cr** 31-34 **Fe** 3.0 max **Mn** 2.0 max **Ni** 2.5 max **Si** 2.0 max **W** 16-19	
R30103	Co-Cr-W Alloy, P/M (Stellite 3)	**B** 0.1-1.0 **C** 2.0-2.8 **Co** rem **Cr** 28-33 **Fe** 5.0 max **Mn** 2.0 max **Ni** 3.5 max **Si** 2.0 max **W** 11-14	**MIL SPEC** MIL-C-15345 (Alloy 22)
R30106	Co-Cr-W Alloy, P/M (Stellite 6)	**B** 0.1-1.0 **C** 0.7-1.4 **Cr** 25-32 **Fe** 5.0 max **Mn** 2.0 max **Mo** 1.5 max **Ni** 3.0 max **Si** 2.0 max **W** 3.0-6.0	**AMS** 5387 **MIL SPEC** DOD-C-24689A (Alloy 20)
R30155	Fe-Cr-Ni-Co Alloy (N-155)	**C** 0.08-0.16 **Cb** 0.75-1.25 **Co** 18.50-21.00 **Cr** 20.00-22.50 **Fe** rem **Mn** 1.00-2.00 **Mo** 2.50-3.50 **N** 0.20 max **Ni** 19.00-21.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **W** 2.00-3.00	**AMS** 5376; 5532; 5585; 5768; 5769; 5794 **ASTM** B639 (661)
R30159	Co-Ni-Cr-Fe-Mo Alloy (MP-159)	**Al** 0.10-0.30 **B** 0.03 max **C** 0.04 max **Cb** 0.25-0.75 **Co** 34.0-38.0 **Cr** 18.0-20.0 **Fe** 8.00-10.00 **Mn** 0.20 max **Mo** 6.00-8.00 **Ni** rem **P** 0.020 max **S** 0.010 max **Si** 0.20 max **Ti** 2.50-3.25	**AMS** 5841; 5842; 5843
R30188	Co-Cr-Ni-W Alloy (HS188)	**C** 0.05-0.15 **Co** rem **Cr** 20.00-24.00 **Fe** 3.00 max **La** 0.03-0.15 **Mn** 1.25 max **Ni** 20.00-24.00 **Si** 0.20-0.50 **W** 13.00-16.00	**AMS** 5608; 5772; 5801
R30260	Co-Ni-Cr-Mo-W Alloy Age-Hardenable (Duratherm 2602)	**Be** 0.20-0.30 **C** 0.05 max **Cb** 0.10 max **Co** 41.0-42.0 **Cr** 11.7-12.3 **Cu** 0.30 max **Fe** 9.80-10.4 **Mn** 0.40-1.10 **Mo** 3.70-4.30 **Ni** rem **Si** 0.20-0.60 **Ti** 0.80-1.20 **W** 3.60-4.20	
R30400	Co-Mo-Cr-Si Alloy (Tribaloy T-400)	**C** 0.80 max **Co** 61.0-63.0 **Cr** 7.50-8.50 **Mo** 27.0-29.0 **P** 0.030 max **S** 0.030 **Si** 2.20-2.60 **Other** Fe+Ni 3.00 max	**SAE** J775 (VF 8)
R30404	Co-Cr-W Alloy (Stellite 4)	**C** 0.6-1.1 **Co** rem **Cr** 28-32 **Fe** 3.0 max **Mn** 1.0 max **Ni** 3.0 max **Si** 1.5 max **W** 12-16	**Other:** Alloy Digest Co-57; DTD 900, 4782
R30477	Co-Ni-Cr-Mo-W Alloy Age-Hardenable (Duratherm 477)	**Al** 0.15 max **Be** 0.05 max **Cb** 0.10 max **Co** 39.0-46.0 **Cr** 17.7-18. **Cu** 0.30 max **Fe** 4.50-5.50 **Mn** 0.70 max **Mo** 3.80-4.20 **Ni** rem **Si** 0.50 max **Ti** 0.80-1.20 **W** 3.80-4.20	

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R30556	Fe-Cr-Ni-Co Alloy (HS 556)	**Al** 0.10-0.50 **B** 0.02 max **C** 0.05-0.15 **Cb** 0.30 max **Co** 16.0-21.0 **Cr** 21.0-23.0 **Fe** rem **La** 0.005-0.10 **Mn** 0.50-2.00 **Mo** 2.50-4.00 **N** 0.10-0.30 **Ni** 19.0-22.5 **P** 0.04 max **S** 0.015 max **Si** 0.20-0.80 **Ta** 0.30-1.25 **W** 2.00-3.50 **Zr** 0.001-0.10	**AMS** 5874 **ASTM** B366 (CRH556); B435; B572; B619; B622; B626
R30563	Co-Cr-Ni-Fe-Mo-W Alloy	**C** 0.05 max **Co** rem **Cr** 18.00-22.00 **Fe** 4.00-6.00 **Mn** 1.00 max **Mo** 3.00-4.00 **Ni** 15.00-25.00 **S** 0.010 max **Si** 0.50 max **Ti** 0.50-3.50 **W** 3.00-4.00	**ASTM** F563 **Other:** ISO 5832-8
R30590	Fe-Cr-Co-Ni Alloy (S-590)	**C** 0.38-0.48 **Cb** 3.50-4.50 **Co** 18.50-21.50 **Cr** 19.00-22.00 **Cu** 0.50 max **Fe** rem **Mn** 2.00 max **Mo** 3.50-4.50 **Ni** 18.50-21.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **W** 3.50-4.50	
R30600	Wrought Co-Ni-Cr-Mo-W Alloy Age-Hardenable (Duratherm 600)	**Al** 0.6-0.8 **Be** 0.05 max **C** 0.05 max **Cb** 0.1 max **Co** 41.0-42.0 **Cr** 11.7-12.3 **Cu** 0.3 max **Fe** 8.5-8.9 **Mn** 0.4-1.1 **Mo** 3.7-4.3 **Ni** rem **Si** 0.2-0.6 **Ti** 1.8-2.2 **W** 3.6-4.2	
R30605	Co-Cr-Ni-W Alloy (L-605)	**C** 0.05-0.15 **Co** rem **Cr** 19.0-21.0 **Fe** 3.0 max **Mn** 2.00 max **Ni** 9.0-11.0 **Si** 1.00 max **W** 14.0-16.0	**AMS** 5537; 5759; 5796; 7236 **ASTM** F90
R30700	Co-Ni-Cr-Mo-W Alloy Age-Hardenable (Duratherm 700)	**Al** 1.00-1.40 **Be** 0.05 max **C** 0.05 max **Cb** 0.10 max **Co** 41.0-42.0 **Cr** 11.7-12.3 **Cu** 0.30 max **Fe** 6.40-7.00 **Mn** 0.40-1.10 **Mo** 3.70-4.30 **Ni** rem **Si** 0.20-0.60 **Ti** 3.30-3.70 **W** 3.60-4.20	
R30783	Co-Ni-Fe-Al-Cb-Cr Alloy (Inconel Alloy 783)	**Al** 5.0-6.0 **B** 0.003-0.012 **C** 0.03 max **Cb** 2.5-3.5 **Co** rem **Cr** 2.5-3.5 **Cu** 0.50 max **Fe** 24.0-27.0 **Mn** 0.50 max **Ni** 26.0-30.0 **P** 0.015 max **S** 0.005 max **Si** 0.50 max **Ti** 3.40 max	**SAE** Draft F-95AB; AMS 5940
R30816	Co-Cr-Ni-Cb-Mo-W Alloy (S-816)	**C** 0.32-0.42 **Cb** 3.50-4.50 **Co** 40.00 min **Cr** 19.00-21.00 **Fe** 5.00 max **Mn** 1.00-2.00 **Mo** 3.50-4.50 **Ni** 19.00-21.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **W** 3.50-4.50	**ASTM** B639 (671)
R31000	Co-Cr-W Alloy (Stoody 1 API)	**C** 1.5-2.0 **Co** rem **Cr** 23.0-28.0 **Fe** 3.0 max **Mn** 1.0 max **Ni** 2.5 max **Si** 0.8-1.5 **W** 11.0-14.0	**Other:** NACE MR-01-76-76
R31001	Co-Cr-W Alloy (Stellite Star J)	**C** 2.2-2.8 **Co** rem **Cr** 31-34 **Fe** 3.0 max **Mn** 2.0 max **Ni** 2.5 max **Si** 2.0 max **W** 16-19	
R31233	Co-Cr-Ni-Mo Alloy, Solid Solution Strengthened (ULTIMET Alloy)	**B** 0.015 max **C** 0.02-0.10 **Co** rem **Cr** 23.5-27.5 **Fe** 1.0-5.0 **Mn** 0.1-1.5 **Mo** 4.0-6.0 **N** 0.03-0.12 **Ni** 7.0-11.0 **P** 0.030 max **S** 0.020 max **Si** 0.05-1.00 **W** 1.0-3.0	**ASTM** B815; B818
R31537	Co-Cr-Mo Alloy	**C** 0.149 max **Co** rem **Cr** 26.0-30.0 **Fe** 0.75 max **Mn** 1.0 max **Mo** 5.0-7.0 **N** 0.25 max **Ni** 1.0 max **Si** 1.0 max	**ASTM** F1537 **Other:** ISO 5832-12
R39001	Cobalt Brazing Filler Metal	**Al** 0.05 max **B** 0.7-0.9 **C** 0.35-0.45 **Co** rem **Cr** 18.0-20.0 **Fe** 1.0 max **Ni** 16.0-18.0 **P** 0.02 max **S** 0.02 max **Se** 0.005 max **Si** 7.5-8.5 **Ti** 0.05 max **W** 3.5-4.5 **Zr** 0.05 max **Other** 0.50 max	**ASME** SFA5.8 (BCo-1) **AWS** A5.8 (BCo-1)
R50100	Titanium Welding Filler Metal, Unalloyed	**C** 0.03 max **Fe** 0.10 max **H** 0.005 max **N** 0.012 max **O** 0.10 max **Ti** rem	**AWS** A5.16 (ERTi-1)
R50120	Titanium Welding Filler Metal	**C** 0.03 max **Fe** 0.20 max **H** 0.008 max **N** 0.020 max **O** 0.10 max **Ti** rem	**AWS** A5.16 (ERTi-2); A5.33 (W-Ti)

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R50125	Titanium Welding Filler Metal	**C** 0.03 max **Fe** 0.20 max **H** 0.008 max **N** 0.020 max **O** 0.10-0.15 **Ti** rem	**AMS** 4951 **AWS** A5.16 (ERTi-3)
R50130	Titanium Welding Filler Metal	**C** 0.05 max **Fe** 0.30 max **H** 0.008 max **N** 0.020 max **O** 0.15-0.25 **Ti** rem	**AWS** A5.16 (ERTi-4)
R50250	Titanium, Unalloyed	**C** 0.10 max **Fe** 0.20 max **H** 0.015 max **N** 0.03 max **O** 0.18 max **Ti** rem	**ASTM** F67 (1); B265 (1); B337 (1); B338 (1); B348 (1); B381 (F-1); F467 (1); F468 (1) **MIL SPEC** MIL-T-81556; MIL-T-81915
R50400	Titanium, Unalloyed	**C** 0.10 max **Fe** 0.30 max **H** 0.015 max **N** 0.03 max **O** 0.25 max **Ti** rem	**AMS** 4902; 4941; 4942 **ASTM** F67 (2); B265 (2); B337 (2); B338 (2); B348 (2); B367 (C-2); B381 (F-2); F467 (2); F468 (2) **MIL SPEC** MIL-T-9046; MIL-T-81556
R50550	Titanium, Unalloyed	**C** 0.10 max **Fe** 0.30 max **H** 0.015 max **N** 0.05 max **O** 0.35 max **Ti** rem **Other** each 0.1 max, total 0.4 max	**AMS** 4900 **ASTM** F67 (3); B265 (3); B337 (3); B338 (3); B348 (3); B367 (C-3); B381 (F-3) **MIL SPEC** MIL-T-9046; MIL-T-81556
R50700	Titanium, Unalloyed	**C** 0.10 max **Fe** 0.50 max **H** 0.015 max **N** 0.05 max **O** 0.40 max **Ti** rem **Other** each 0.1 max, total 0.4 max	**AMS** 4901; 4921 **ASTM** B265 (4); B348 (4); B381 (F-4); F67 (4); F467 (4); F468 (4) **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81556; MIL-F-83142
R52250	Titanium, Low Alloyed	**C** 0.10 max **Fe** 0.20 max **H** 0.015 max **N** 0.03 max **O** 0.18 max **Ti** rem **Other** Pd 0.12-0.25	**ASTM** B265 (11); B337 (11); B338 (11); B348 (11); B381 (F-11)
R52252	Titanium, Low Alloyed, with Pd	**C** 0.10 max **Fe** 0.20 max **H** 0.015 max **N** 0.03 max **O** 0.18 max **Pd** 0.04-0.08 **Other** residuals each 0.1 max, total 0.4 max	**ASTM** B265 (Gr 17); B337 (Gr 17); B338 (Gr 17); B348 (Gr 17); B381 (Gr 17)
R52254	Titanium, Low Alloyed, with Ru (Grade 27)	**C** 0.08 max **Fe** 0.20 max **H** 0.015 max **N** 0.03 max, 0.18 max **Ti** rem **Other** Ru 0.08-0.14	**ASTM** B 265 (Gr 27); B 337 (Gr 27); B 338 (Gr 27); B 348 (Gr 27); B 363 (Gr 27); B 381 (Gr 27); B 861 (Gr 27); B 862 (Gr 27)
R52400	Titanium, Low Alloyed	**C** 0.10 max **Fe** 0.30 max **H** 0.015 max **N** 0.03 max **O** 0.25 max **Ti** rem **Other** Pd 0.12-0.25	**ASTM** B265 (7); B337 (7); B338 (7); B348 (7); B381 (F-7); F467 (7); F468 (7)
R52401	Titanium Welding Filler Metal	**C** 0.03 max **Fe** 0.20 max **H** 0.008 max **N** 0.020 max **O** 0.10 max **Pd** 0.12-0.25 **Ti** rem	**ASTM** B265 (7, 11); B337 (7, 11); B338 (7, 11); B348 (7, 11); B367 (Ti-Pd7B, Ti-Pd8A); B381 (7, 11) **AWS** A5.16 (ERTi-7)
R52402	Titanium, Low Alloyed, with Pd	**C** 0.10 max **Fe** 0.30 max **H** 0.010 max **N** 0.03 max **O** 0.25 max **Pd** 0.04-0.08 **Other** residuals each 0.1 max, total 0.4 max	**ASTM** B265 (Gr 16); B337 (Gr 16); B338 (Gr 16); B348 (Gr 16); B381 (Gr 16)
R52404	Titanium, Low Alloyed, with Ru (Grade 26)	**C** 0.08 max **Fe** 0.30 max **H** 0.015 max **N** 0.03 max **O** 0.25 max **Ti** rem **Other** Ru 0.08-0.14	**ASTM** B 265 (Gr 26); B 337 (Gr 26); B 338 (Gr 26); B 348 (Gr 26); B 363 (Gr 26); B 381 (Gr 26); B 861 (Gr 26); B 862 (Gr 26)
R52550	Titanium, Low Alloyed	**C** 0.10 max **Fe** 0.30 max **H** 0.015 max **N** 0.05 max **O** 0.35 max **Ti** rem **Other** Pd 0.12 min	**ASTM** B367 (C-2, C-3)
R52700	Titanium Alloy	**C** 0.10 max **Fe** 0.50 max **H** 0.0100 max **N** 0.05 max **O** 0.40 max **Pd** 0.12 min **Ti** rem	
R53400	Titanium Alloy	**C** 0.08 max **Fe** 0.30 max **H** 0.015 max **Mo** 0.2-0.4 **N** 0.03 max **Ni** 0.6-0.9 **O** 0.25 max **Ti** rem	**ASTM** B265 (12); B337 (12); B338 (12); B348 (12); B381 (F-12)
R53401	Titanium Alloy Welding Filler Metal	**C** 0.03 max **Fe** 0.30 max **H** 0.008 max **Mo** 0.2-0.4 **N** 0.020 max **Ni** 0.6-0.9 **O** 0.25 max **Ti** rem	**ASTM** B265 (12); B337 (12); B338 (12); B348 (12); B381 (F-12) **AWS** A5.16 (ERTi-12)
R53413	Titanium Alloy with Ni and Ru	**C** 0.10 max **Fe** 0.20 max **H** 0.015 max **N** 0.03 max **Ni** 0.4-0.6 **O** 0.10 max **Ru** 0.04-0.06 **Other** residuals each 0.1 max, total 0.4 max	**ASTM** B265 (Gr 13); B337 (Gr 13); B338 (Gr 13); B348 (Gr 13); B381 (Gr 13)
R53414	Titanium Alloy with Ni and Ru	**C** 0.10 max **Fe** 0.30 max **H** 0.015 max **N** 0.03 max **Ni** 0.40-0.60 **O** 0.15 max **Ru** 0.04-0.06 **Other** residuals each 0.1 max, total 0.4 max	**ASTM** B265 (Gr 14); B337 (Gr 14); B338 (Gr 14); B348 (Gr 14); B381 (Gr 14)

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R53415	Titanium Alloy with Ni and Ru	**C** 0.10 max **Fe** 0.30 max **H** 0.015 max **N** 0.03 max **Ni** 0.40-0.60 **O** 0.25 max **Ru** 0.04-0.06 **Other** residuals each 0.1 max, total 0.4 max	**ASTM** B265 (Gr 15); B337 (Gr 15); B338 (Gr 15); B348 (Gr 15); B381 (Gr 15)
R54520	Titanium Alloy	**Al** 4.0-6.0 **C** 0.10 max **Fe** 0.50 max **H** 0.020 max **N** 0.05 max **O** 0.20 max **Sn** 2.0-3.0 **Ti** rem	**AMS** 4910; 4926; 4966 **ASTM** B265 (6); B348 (6); B367 (C-6); B381 (F-6) **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81556; MIL-T-81915; MIL-F-83142
R54521	Titanium Alloy	**Al** 5 **Sn** 2.5 **Ti** rem	**AMS** 4909; 4924 **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81556; MIL-F-83142
R54522	Titanium Alloy Welding Filler Metal	**Al** 4.7-5.6 **C** 0.05 max **Fe** 0.40 max **H** 0.008 max **N** 0.030 max **O** 0.12 max **Sn** 2.0-3.0 **Ti** rem	**AMS** 4953 **AWS** A5.16 (ERTi-6)
R54523	Titanium Alloy Welding Filler Metal	**Al** 4.5-5.8 **C** 0.08 max **Fe** 0.50 max **H** 0.015 max **N** 0.050 max **O** 0.18 max **Sn** 2.0-3.0 **Ti** rem **Y** 0.005 max	**AWS** A5.16 (ERTi-6ELI)
R54550	Titanium Alloy	**Al** 5 **Sn** 5 **Ti** rem **Zr** 5	**MIL SPEC** MIL-F-83142
R54560	Titanium Alloy	**Al** 5 **Mo** 1 **Si** 0.2 **Sn** 6 **Ti** rem **Zr** 2	**MIL SPEC** MIL-T-9046; MIL-T-9047
R54620	Titanium Alloy	**Al** 6 **Mo** 2 **Sn** 2 **Ti** rem **Zr** 4	**AMS** 4919; 4975; 4976 **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81915; MIL-F-83142
R54621	Titanium Alloy Welding Filler Metal	**Al** 5.50-6.50 **C** 0.04 max **Cr** 0.25 max **Fe** 0.05 max **H** 0.15 max **Mo** 1.80-2.20 **N** 0.015 max **O** 0.30 max **Sn** 1.80-2.20 **Ti** rem **Zr** 3.60-4.40	**AMS** 4575; 4952
R54624	Titanium 6Al-1.7Fe Alloy	**Al** 5.5-6.5 **C** 0.08 max **Fe** 1.3-2.0 **H** 0.0125 max **N** 0.04 max **O** 0.15-0.20 **Si** 0.07-0.13 **Ti** rem **Other** residual elements 0.30 max total	**ASTM** B265; B337; B338; B348; B363; B381
R54625	Titanium Al-Fe-Pd Alloy	**Al** 5.5-6.5 **C** 0.08 max **Fe** 1.3-2.0 **H** 0.0125 max **N** 0.04 max **O** 0.15-0.20 **Pd** 0.04-0.08 **Si** 0.07-0.13 **Ti** rem **Other** 0.03 max total	**ASTM** B265; B337; B338; B348; B363; B381
R54790	Titanium Alloy	**Al** 2 **Mo** 1 **Si** 0.2 **Sn** 11 **Ti** rem **Zr** 5	**AMS** 4974 **MIL SPEC** MIL-T-9047; MIL-F-83142
R54810	Titanium Alloy	**Al** 8 **Mo** 1 **Ti** rem **V** 1	**AMS** 4915; 4916; 4933; 4955; 4972; 4973 **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81556; MIL-F-83142
R55111	Titanium Alloy 5Al-1Sn-1V-1Zr-1Mo	**Al** 4.5-5.5 **C** 0.08 max **Fe** 0.25 max **H** 0.015 max **Mo** 0.6-1.2 **N** 0.03 max **O** 0.11 max **Si** 0.06-0.14 **Sn** 0.6-1.4 **Ti** rem **V** 0.6-1.4 **Zr** 0.6-1.4	**ASTM** B 265; B 348; F 467/F 467M; F 468/F 468M
R56080	Titanium Alloy	**Mn** 8 **Ti** rem	**AMS** 4908 **MIL SPEC** MIL-T-9046
R56210	Titanium Alloy	**Al** 6 **Cb** 2 **Mo** 0.8 **Ta** 1 **Ti** rem	**AWS** A5.16 (ERTi-15) **MIL SPEC** MIL-T-9046; MIL-T-9047
R56260	Titanium Alloy	**Al** 6 **Mo** 6 **Sn** 2 **Ti** rem **Zr** 4	**AMS** 4981 **MIL SPEC** MIL-T-9047
R56320	Titanium Alloy	**Al** 2.5-3.5 **C** 0.05 max **Fe** 0.25 max **H** 0.013 max **N** 0.02 max **O** 0.12 max **Ti** rem **V** 2.0-3.0	**AMS** 4943; 4944 **ASTM** B265 (9); B337 (9); B338 (9); B348 (9); B381 (F-9) **AWS** A5.16 (ERTi-9) **MIL SPEC** MIL-T-9046; MIL-T-9047
R56321	Titanium Welding Filler Metal	**Al** 2.5-3.5 **C** 0.04 max **Fe** 0.25 max **H** 0.005 max **N** 0.012 max **O** 0.10 max **Ti** rem **V** 2.0-3.0 **Y** 0.005 max	**AWS** A5.16 (ERTi-9ELI)
R56322	Titanium Alloy 3Al-2.5V-0.05Pd	**Al** 2.5-3.5 **C** 0.10 max **Fe** 0.25 max **H** 0.015 max **N** 0.02 max **O** 0.15 max **Pd** 0.04-0.08 **V** 2.0-3.0 **Other** residuals each 0.1 max, total 0.4 max	**ASTM** B265 (Gr 18); B337 (Gr 18); B338 (Gr 18); B348 (Gr 18); B381 (Gr 18)
R56323	Titanium Alloy 3Al-2.5V-Ru (Grade 28)	**Al** 2.5-3.5 **C** 0.08 max **Fe** 0.25 max **H** 0.015 max **N** 0.03 max **O** 0.15 max **Ru** 0.08-0.14 **Ti** rem **V** 2.0-3.0	**ASTM** B265; B337; B338; B348; B363; B381; B861; B862; B863
R56400	Titanium Alloy	**Al** 5.5-6.75 **C** 0.10 max **Fe** 0.40 max **H** 0.015 max **N** 0.05 max **O** 0.20 max **Ti** rem **V** 3.5-4.5	**AMS** 4905; 4906; 4911; 4920; 4928; 4930; 4931; 4934; 4935; 4954; 4965; 4967; 4993 **ASTM** B265 (5); B348 (5); B367 (C-5); B381 (F-5) **AWS** A5.16 (ERTi-5) **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81556; MIL-T-81915; MIL-F-83142

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
R56401	Titanium Alloy	**Al** 6 **Ti** rem **V** 4	**AMS** 4907; 4985; 4991; 4996; 4998 **ASTM** F136; F467 (5); F468 (5); F468 (S) **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81556; MIL-F-83142 **SAE** J775 (XEV-3)
R56402	Titanium Alloy Welding Filler Metal	**Al** 5.5-6.75 **C** 0.04 max **Fe** 0.15 max **H** 0.005 max **N** 0.012 max **O** 0.10 max **Ti** rem **V** 3.5-4.5 **Y** 0.005 max	**AMS** 4956 **AWS** A5.16 (ERTi-5ELI)
R56403	Titanium Alloy with V and Pd	**Al** 5.5-6.75 **C** 0.10 max **Fe** 0.40 max **H** 0.0125 max **N** 0.05 max **Ni** 0.3-0.8 **O** 0.20 max **Pd** 0.04-0.08 **Ti** rem **V** 3.5-4.5 **Other** residuals each 0.1 max, total 0.4 max	**ASTM** B348 **Other:** NACE MR-01-75-90
R56404	Titanium Alloy 6Al-4V-Ru (Grade 29)	**Al** 5.5-6.5 **C** 0.08 max **Fe** 0.25 max **H** 0.015 max **N** 0.03 max **O** 0.13 max **Ru** 0.08-0.14 **Ti** rem **V** 3.5-4.5	**ASTM** B265; B337; B348; B363; B381; B861; B862; B863
R56405	Titanium 6Al-4V-Pd Alloy	**Al** 5.5-6.75 **C** 0.10 max **Fe** 0.40 max **H** 0.015 max **N** 0.05 max **O** 0.20 max **Pd** 0.04-0.08 **V** 3.5-4.5 **Other** residual elements 0.10 max each, 0.40 max total	**ASTM** B265; B387; B338; B348; B363; B381
R56406	Titanium Alloy 6Al-4V (Cast Surgical Implants)	**Al** 5.5-6.75 **C** 0.10 max **Fe** 0.30 max **H** 0.015 max **N** 0.05max **O** 0.20 max **Ti** rem **V** 3.5-4.5	**ASTM** F 1108
R56407	Titanium Alloy, 6Al-4V ELI (Grade 23)	**Al** 5.5-6.5 **C** 0.08 max **Fe** 0.25 max **H** 0.0125 max **N** 0.03 max **O** 0.13 max **Ti** rem **V** 3.5-4.5	**ASTM** B 265 (Gr 23); B 348 (Gr 23); B 363 (Gr 23); B 381 (Gr 23); B 861 (Gr 23); B 862 (Gr 23); B 865 (Gr 23)
R56410	Titanium - 10V - 3A1 - 2 Fe Alloy	**Al** 2.6-3.4 **C** 0.05 max **H** 0.015 max **Fe** 1.6-2.2 **N** 0.05 max **O** 0.13 max **Ti** rem **V** 9.0-11.0 **Y** 0.005 max **Other** Residuals each 0.10 max, total 0.30 max	**AMS** 4984; 4986; 4987
R56430	Titanium Alloy	**Al** 4 **Mo** 3 **Ti** rem **V** 1	**AMS** 4912; 4913 **MIL SPEC** MIL-T-9046
* **R56440**	Titanium Alloy	**Al** 4 **Mn** 4 **Ti** rem	
R56620	Titanium Alloy	**Al** 5.5 **Sn** 2 **Ti** rem **V** 5.5	**AMS** 4918; 4936; 4971; 4978; 4979 **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-T-81556; MIL-F-83142
R56700	Ti-6 Al-7 Nb Alloy	**Al** 5.50-6.50 **C** 0.08 max **Cb** 6.50-7.50 **Fe** 0.25 max **H** 0.009 max **N** 0.05 max **O** 0.20 max **Ta** 0.50 max **Ti** rem	**ASTM** F1295 **Other:** ISO 5832-11
R56740	Titanium Alloy	**Al** 7 **Mo** 4 **Ti** rem	**AMS** 4970 **MIL SPEC** MIL-T-9047; MIL-T-81556; MIL-F-83142
R58010	Titanium Alloy	**Al** 3 **Cr** 11 **Ti** rem **V** 13	**AMS** 4917; 4959 **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-F-83142
R58030	Titanium Alloy	**C** 0.10 max **Fe** 0.35 max **H** 0.020 max **Mo** 10.0-13.0 **N** 0.05 max **O** 0.18 max **Sn** 3.75-5.25 **Ti** rem **Zr** 4.50-7.50	**AMS** 4977; 4980 **ASTM** B265 (10); B337 (10); B338 (10); B348 (10); B381 (10) **MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-F-83142
R58120	Titanium alloy, Ti-12Mo-6Zr-2Fe (Surgical Implants)	**C** 0.05 max **Fe** 1.5-2.5 **H** 0.020 max **Mo** 10.0-13.0 **N** 0.05 max **O** 0.08-0.28 **Ti** rem **Zr** 5.0-7.0	**ASTM** F 1813
R58130	Titanium alloy, Ti-13Nb-13Zr (Surgical Implants)	**C** 0.08 max **Cb** 12.5-14.0 **Fe** 0.25 max **H** 0.012 max **N** 0.05 max **O** 0.15 max **Ti** rem **Zr** 12.5-14.0	**ASTM** F 1713
R58153	Titanium 15V-3Al-3Cr-3Sn Alloy	**Al** 2.5-3.5 **C** 0.05 max **Cr** 2.5-3.5 **Fe** 0.25 max **H** 0.015 max **N** 0.05 max **O** 0.13 max **Sn** 2.5-3.5 **V** 14.0-16.0 **Other** residual elements 0.10 max each, 0.40 max total	**AMS** 4914

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R58210	Titanium 15Mo-3Al-2.5Cb Alloy	**Al** 2.5-3.5 **C** 0.05 max **Cb** 2.2-3.2 **Fe** 0.20-0.40 **H** 0.015 max **Mo** 14.0-16.0 **N** 0.05 max **O** 0.11-0.15 **Si** 0.15-0.25 **Other** residual elements 0.10 max each, 0.40 max total	**ASTM** B265; B337; B338; B348; B363; B381
R58450	Titanium Alloy	**Cb** 45 **Ti** rem	**AMS** 4982
R58640	Titanium Alloy	**Al** 3 **Cr** 6 **Mo** 4 **Ti** rem **V** 8 **Zr** 4	**MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-F-83142 **AMS** 4957; 4958
R58645	Titanium Alloy Beta C plus 0.05 Pd	**Al** 3.0-4.0 **C** 0.05 max **Cr** 5.5-6.5 **Fe** 0.30 max **Mo** 3.5-4.5 **N** 0.03 max **O** 0.14 max **Pd** 0.04-0.08 **V** 7.5-8.5 **Zr** 3.5-4.5 **Other** residuals each 0.15 max, total 0.4 max	**ASTM** B265 (Gr 20); B337 (Gr 20); B348 (Gr 20); B381 (Gr 20)
R58650	Titanium Alloy, 5Al-2Sn-2Zr-4Cr-4Mo	**Al** 4.50-5.50 **C** 0.05 max **Cr** 3.50-4.50 **Cu** 0.10 max **Fe** 0.30 max **H** 0.0125 max **Mn** 0.10 max **Mo** 3.50-4.50 **N** 0.04 max **O** 0.08-0.13 **Sn** 1.50-2.50 **Ti** rem **Y** 0.0050 max **Zr** 1.50-2.50 **Other** each 0.10 max, total 0.30 max	**AMS** 4995; 4997
R58820	Titanium Alloy	**Al** 3 **Fe** 2 **Mo** 8 **Ti** rem **V** 8	**MIL SPEC** MIL-T-9046; MIL-T-9047; MIL-F-83142
R60001	Zirconium Unalloyed Reactor Grade	**Al** 0.0075 max **B** 0.00005 max **C** 0.027 max **Cd** 0.00005 max **Co** 0.0020 max **Cr** 0.020 max **Cu** 0.0050 max **Fe** 0.150 max **H** 0.0025 max **Hf** 0.010 max **Mn** 0.0050 max **N** 0.0065 max **Ni** 0.0070 max **Si** 0.0120 max **Ti** 0.0050 max **U** 0.00055 max **W** 0.010 max **Zr** rem	**ASTM** B349; B350; B351; B352; B353
R60701	Zirconium, Unalloyed	**C** 0.05 max **H** 0.005 max **Hf** 4.5 max **N** 0.025 max **Other** Zr+Hf 99.5 min, Fe+Cr 0.05 max	**ASTM** B494; B550
R60702	Zirconium, Unalloyed	**C** 0.05 max **H** 0.005 max **Hf** 4.5 max **N** 0.025 max **Other** Zr+Hf 99.2 min, Fe+Cr 0.2 max	**ASME** SB493; SB494; SB495; SB523; SB550; SB551; SFA5.24 (ERZr2) **ASTM** B493; B494; B495; B523; B550; B551; B653; B658; B752 (702C) **AWS** A5.24 (ERZr2)
R60703	Zirconium Alloy	**Hf** 4.5 max **Other** Zr+Hf 98.0 min	**ASTM** B494; B495
R60704	Zirconium Alloy	**C** 0.05 max **H** 0.005 max **Hf** 4.5 max **N** 0.025 max **Sn** 1.00-2.00 **Other** Zr+Hf 97.5 min, Fe+Cr 0.20-0.40	**ASME** SFA5.24 (ERZr3) **ASTM** B493; B495; B523; B550; B551; B653; B658; B752 (704C) **AWS** A5.24 (ERZr3)
R60705	Zirconium Alloy	**C** 0.05 max **Cb** 2.0-3.0 **H** 0.005 max **Hf** 4.5 max **N** 0.025 max **O** 0.18 max **Other** (Zr+Hf) 95.5 min, (Fe+Cr) 0.2 max	**ASME** SFA5.24 (ERZr4) **ASTM** B493; B495; B523; B550; B551; B653; B658; B752 (705C) **AWS** A5.24 (ERZr4)
R60706	Zirconium Alloy	**C** 0.050 max **Cb** 2.0-3.0 **H** 0.005 max **Hf** 4.5 max **N** 0.025 max **O** 0.16 max **Other** Zr+Hf 95.5 min Fe+Cr 0.2 max	**ASTM** B495; B551
* **R60707**	Zirconium Alloy (2.5 Cb) Welding Filler Metal	**C** 0.05 max **Cb** 2.0-3.0 **Fe** 0.20 max includes Cr **H** 0.005 max **Hf** 4.5 max **N** 0.025 max **Zr** + Hf 95.5 min	**ASME** SFA5.24 (ERZr4) **AWS** A5.24 (ERZr4)
R60802	Zirconium Alloy Reactor Grade	**Al** 0.0075 max **B** 0.00005 max **C** 0.027 max **Cd** 0.00005 max **Co** 0.0020 max **Cr** 0.05-0.15 **Cu** 0.0050 max **Fe** 0.07-0.20 **H** 0.0025 max **Hf** 0.010 max **Mn** 0.0050 max **N** 0.0065 max **Ni** 0.05-0.08 **Si** 0.020 max **Sn** 1.20-1.70 **Ti** 0.0050 max **U** 0.00035 max **W** 0.010 max **Zr** rem **Other** Fe+Cr+Ni 0.18-0.38	**ASTM** B350; B351; B352; B353

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R60804	Zirconium Alloy Reactor Grade	**Al** 0.0075 max **B** 0.00005 max **C** 0.027 max **Cd** 0.00005 max **Co** 0.0020 max **Cr** 0.07-0.13 **Cu** 0.0050 max **Fe** 0.18-0.24 **H** 0.0025 max **Hf** 0.010 max **Mn** 0.0050 max **N** 0.0065 max **Ni** 0.0070 max **Si** 0.0120 max **Sn** 1.20-1.70 **Ti** 0.0050 max **U** 0.00035 max **W** 0.010 max **Zr** rem **Other** Fe+Cr 0.28-0.37	**ASTM** B350; B351; B352; B353
R60901	Zirconium Alloy Reactor Grade	**Al** 0.0075 max **B** 0.00005 max **C** 0.027 max **Cb** 2.40-2.80 **Cd** 0.00005 max **Co** 0.0020 max **Cr** 0.020 max **Cu** 0.0050 max **Fe** 0.150 max **H** 0.0025 max **Hf** 0.010 max **Mn** 0.0050 max **N** 0.0065 max **Ni** 0.0070 max **O** 0.09-0.13 **Si** 0.0120 max **Ti** 0.0050 max **U** 0.00035 max **W** 0.010 max **Zr** rem	**ASTM** B350; B351; B352; B353
R60902	Zirconium Alloy Reactor Grade	**Al** 0.0075 max **B** 0.00005 max **C** 0.030 max **Cb** 2.4-2.8 **Cd** 0.00005 max **Co** 0.0020 max **Cr** 0.020 max **Cu** 0.3-0.7 **Fe** 0.15 max **H** 0.0025 max **Hf** 0.010 max **Mg** 0.0020 max **Mn** 0.0050 max **N** 0.0065 max **Ni** 0.0070 max **O** 0.08-0.12 **Pb** 0.013 max **Si** 0.012 max **Sn** 0.0050 max **Ta** 0.020 max **Ti** 0.0050 max **U** 0.00035 max **V** 0.0050 max **W** 0.010 max **Zr** rem	
R60904	Zirconium - 0.65 Nb	**Al** 0.0075 max **B** 0.00005 max **Cb** 2.50-2.80 **Co** 0.0020 max **Cu** 0.0050 max **Fe** 0.0650 max **H** 0.0020 max **Hf** 0.0050 max **Mg** 0.0020 max **Mn** 0.0050 max **Mo** 0.0050 max **N** 0.0065 max **Ni** 0.0035 max **Pb** 0.0050 max **Si** 0.0120 max **Sn** 0.0100 max **Ta** 0.0100 max **Ti** 0.0050 max **U** 0.00035 max **V** 0.0050 max **W** 0.0050 max **Zr** rem	**ASTM** B353

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UNS NUMBERS ASSIGNED TO DATE

With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Sxxxxx Number Series
Heat and Corrosion Resistant Steels (Including Stainless), Valve Steels, and Iron-Base "Superalloys"

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HEAT AND CORROSION RESISTANT STEELS (INCLUDING STAINLESS), VALVE STEELS, AND IRON-BASE "SUPERALLOYS"

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S13800	Precipitation Hardenable Cr-Ni-Al-Mo Stainless Steel (PH 13-8 Mo)	**Al** 0.90-1.35 **C** 0.05 max **Cr** 12.25-13.25 **Mn** 0.20 max **Mo** 2.00-2.50 **N** 0.01 max **Ni** 7.50-8.50 **P** 0.01 max **S** 0.008 max **Si** 0.10 max	**AISI** S13800 **AMS** 5629; 5864 **ASME** SA705 (XM-13) **ASTM** A564 (XM-13); A693 (XM-13); A705 (XM-13)
S13889	Precipitation Hardenable Cr-Ni-Al-Mo Stainless Steel Bare Filler Metal (PH 13-8 Mo)	**Al** 0.90-1.35 **C** 0.05 max **Cr** 12.25-13.25 **H** 0.0025 max **Mn** 0.10 max **Mo** 2.00-2.50 **N** 0.01 max **Ni** 7.50-8.50 **O** 0.005 max **P** 0.008 max **S** 0.010 max **Si** 0.10 max	**AMS** 5840
S14800	Precipitation Hardenable Cr-Ni-Mo-Al Stainless Steel (PH 14-8 Mo)	**Al** 0.75-1.50 **C** 0.05 max **Cr** 13.75-15.00 **Mn** 1.00 max **Mo** 2.00-3.00 **Ni** 7.75-8.75 **P** 0.015 max **S** 0.010 max **Si** 1.00 max	**AMS** 5603
S15500	Precipitation Hardenable Cr-Ni-Cu Stainless Steel (15-5 PH)	**C** 0.07 max **Cb** 0.15-0.45 **Cr** 14.00-15.50 **Cu** 2.50-4.50 **Mn** 1.00 max **Ni** 3.50-5.50 **P** 0.040 max **S** 0.030 max **Si** 1.0 max	**AISI** S15500 **AMS** 5658; 5659; 5826; 5862 **ASME** SA705 (XM-12) **ASTM** A564 (XM-12); A693 (XM-12); A705 (XM-12)
S15700	Precipitation Hardenable Cr-Ni-Mo-Al Stainless Steel (PH 15-7 Mo)	**Al** 0.75-1.50 **C** 0.09 max **Cr** 14.00-16.00 **Mn** 1.00 max **Mo** 2.00-3.00 **Ni** 6.50-7.75 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**AMS** 5520 **ASTM** A564 (632); A579 (632); A693 (632); A705 (632) **SAE** J467 (PH15-7-Mo)
S15780	Precipitation Hardenable Cr-Ni-Mo-Al Stainless Steel Bare Filler Metal (PH 15-7 Mo)	**Al** 0.75-1.25 **C** 0.09 max **Cr** 14.00-15.25 **Mn** 1.00 max **Mo** 2.00-2.75 **Ni** 6.50-7.75 **P** 0.025 max **S** 0.025 max **Si** 0.50 max	**AMS** 5813
S15789	Precipitation Hardenable Cr-Ni-Mo-Al Stainless Steel Bare Filler Metal (PH 15-7 Mo)	**Al** 0.75-1.25 **C** 0.09 max **Cr** 14.00-15.25 **H** 0.0025 max **Mn** 1.00 max **Mo** 2.00-2.75 **Ni** 6.50-7.75 **O** 0.005 max **P** 0.010 max **S** 0.010 max **Si** 0.50 max	**AMS** 5812
S16600	Precipitation Hardenable Cr-Ni-Ti-Al Stainless Steel (Croloy 16-6 PH)	**Al** 0.25-0.40 **C** 0.025-0.045 **Cr** 15.00-16.00 **Mn** 0.70-0.90 **Ni** 7.00-8.00 **P** 0.025 max **S** 0.025 max **Si** 0.50 max **Ti** 0.30-0.50	
S16800	Cr-Ni-Mo Stainless Steel (16-8-2-H)	**C** 0.05-0.10 **Cr** 14.5-16.5 **Mn** 2.00 max **Mo** 1.50-2.00 **Ni** 7.50-9.50 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**ASTM** A376 (16-8-2-H); A430 (16-8-2-H)
S16880	Cr-Ni-Mo Stainless Steel Bare Filler Metal (16-8-2)	**C** 0.10 max **Cr** 14.5-16.5 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 1.00-2.00 **Ni** 7.50-9.50 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER16-8-2) **AWS** A5.9 (ER16-8-2)
S17400	Precipitation Hardenable Cr-Ni-Cu Stainless Steel (17-4 PH)	**C** 0.07 max **Cb** 0.15-0.45 **Cr** 15.0-17.5 **Cu** 3.00-5.00 **Mn** 1.00 max **Ni** 3.00-5.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** S17400 **AMS** 5604; 5622; 5643 **ASME** SA564 (630); SA705 (630) **ASTM** A564 (630); A693 (630); A705 (630) **MIL SPEC** MIL-C-24111; MIL-S-81591 **SAE** J467 (17-4PH)
S17480	Precipitation Hardenable Cr-Ni-Cu Stainless Steel Bare Filler Metal (17-4 PH)	**C** 0.05 max **Cr** 16.00-16.75 **Cu** 3.25-4.00 **Mn** 0.25-0.75 **Mo** 0.75 max **Ni** 4.50-5.00 **P** 0.04 max **S** 0.03 max **Si** 0.75 max **Other** Cb+Ta 0.15-0.30	**AMS** 5825 **ASME** SFA5.9 (ER630) **AWS** A5.9 (ER630)
S17600	Precipitation Hardenable Cr-Ni-Al-Ti Stainless Steel (Stainless W)	**Al** 0.40 max **C** 0.08 max **Cr** 15.00-17.50 **Mn** 1.00 max **Ni** 6.00-7.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 0.40-1.20	**ASTM** A564 (635); A693 (635); A705 (635)
S17700	Precipitation Hardenable Cr-Ni-Al Stainless Steel (17-7 PH)	**Al** 0.75-1.50 **C** 0.09 max **Cr** 16.00-18.00 **Mn** 1.00 max **Ni** 6.50-7.75 **P** 0.040 max **S** 0.040 max **Si** 1.00 max	**AISI** S17700 **AMS** 5528; 5529; 5568; 5644; 5673; 5678 **ASME** SA705 (631) **ASTM** A313 (631); A564 (631); A579 (62); A693 (631); A705 (631) **MIL SPEC** MIL-S-25043 **SAE** J217; J467 (17-7PH)
S17780	Precipitation Hardenable Cr-Ni-Al Stainless Steel Bare Filler Metal (17-7-PH)	**Al** 0.75-1.25 **C** 0.09 max **Cr** 16.00-17.25 **Mn** 1.00 max **Ni** 6.50-7.75 **P** 0.025 max **S** 0.025 max **Si** 0.50 max	**AMS** 5824

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S18200	Free Machining Ferritic Cr-Mo Stainless Steel	**C** 0.08 max **Cr** 17.50-19.50 **Mn** 1.25-2.50 **Mo** 1.50-2.50 **P** 0.04 max **S** 0.15 min **Si** 1.00 max	**ASTM** A581(XM-34); A582(XM-34)
S18235	Ferritic Cr Stainless Steel, Low Carbon, Free Machining	**C** 0.025 max **Cr** 17.5-18.5 **Mn** 0.50 max **Mo** 2.00-2.50 **N** 0.025 max **Ni** 1.00 max **P** 0.030 max **S** 0.15-0.35 **Si** 1.00 max **Ti** 0.30-1.00 **Other** C+N 0.035 max	**ASTM** A581; A582
S20100	Austenitic Cr-Mn-Ni Stainless Steel	**C** 0.15 max **Cr** 16.00-18.00 **Mn** 5.50-7.50 **N** 0.25 max **Ni** 3.50-5.50 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**AISI** 201 **ASME** SA412 (201) **ASTM** A213 (TP201); A240 (201); A249 (TP201); A412 (201); A666 (201) **FED** QQ-S-766 (201) **SAE** J405 (30201)
S20103	Cr-Mn-Ni Austenitic Stainless Steel, Low Carbon (201L)	**C** 0.03 max **Cr** 16.0-18.0 **Mn** 5.5-7.5 **N** 0.25 max **Ni** 3.5-5.5 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASME** SA-240 **ASTM** A240; A480; A666
S20153	Austenitic Cr-Mn-Ni Stainless Steel, Low Carbon, High Nitrogen (T201LN)	**C** 0.03 max **Cr** 16.0-17.5 **Mn** 6.4-7.5 **N** 0.10-0.25 **Ni** 4.0-5.0 **P** 0.045 max **S** 0.015 max **Si** 0.75 max	**ASME** SA240; SA480 **ASTM** A240; A480; A666
S20161	Austenitic Cr-Mn-Ni-Si Stainless Steel	**C** 0.15 max **Cr** 15.0-18.0 **Mn** 4.00-6.00 **Ni** 4.00-6.00 **N** 0.08-0.20 **P** 0.040 max **S** 0.040 **Si** 3.00-4.00	**ASME** SA-240 **ASTM** A240; A314
S20200	Austenitic Cr-Mn-Ni Stainless Steel	**C** 0.15 max **Cr** 17.00-19.00 **Mn** 7.50-10.00 **N** 0.25 max **Ni** 4.00-6.00 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**AISI** 202 **ASTM** A213 (TP202); A240 (202); A249 (TP202); A314 (202); A412 (202); A473 (202); A666 (202) **FED** QQ-S-763 (202); QQ-S-766 (202) **SAE** J405 (30202)
S20280	Thermal Spray Wire (W-FeCrNi-4)	**C** 0.06 max **Cr** 17-19 **Fe** rem **Mn** 7.0-9.0 **Ni** 4.0-6.0 **Si** 0.80 max	**AWS** A5.33 (W-FeCrNi-4)
S20281	Thermal Spray Wire (W-FeCrNi-3)	**C** 0.15 max **Cr** 17-19 **Fe** rem **Mn** 7.5-10.0 **Ni** 4.0-6.0 **P** 0.060 max **Si** 1.0 max **S** 0.03 max	**AWS** A5.33 (W-FeCrNi-3)
S20300	Austenitic Cr-Mn-Ni-Cu Free Machining Stainless Steel (203 EZ)	**C** 0.08 max **Cr** 16.00-18.00 **Cu** 1.75-2.25 **Mn** 5.00-6.50 **Mo** 0.50 max **Ni** 5.00-6.50 **P** 0.040 max **S** 0.18-0.35 **Si** 1.0 max	**AMS** 5762 **ASTM** A581 (XM-1); A582 (XM-1) **SAE** J405 (203 EZ)
S20400	Austenitic Cr-Ni-Mn Stainless Steel (Nitronic 30)	**C** 0.03 max **Cr** 15.0-17.0 **Mn** 7.00-9.00 **N** 0.15-0.30 **Ni** 1.50-3.00 **P** 0.04 **S** 0.03 max **Si** 1.00 max	**ASTM** A240; A312; A358; A409; A666
S20430	Cr-Mn-Cu-Ni Austenitic Stainless Steel (Grade 204CU)	**C** 0.15 max **Cr** 15.5-17.5 **Cu** 2.00-4.00 **Mn** 6.5-9.0 **N** 0.05-0.25 **Ni** 1.50-3.50 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**ASTM** A 313
S20500	Austenitic Cr-Mn-Ni Stainless Steel	**C** 0.12-0.25 **Cr** 16.00-18.00 **Mn** 14.00-15.50 **N** 0.32-0.40 **Ni** 1.00-1.75 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**AISI** 205 **ASTM** A666 (205)
S20910	Austenitic Cr-Ni-Mn-Mo Stainless Steel (22-13-5)	**C** 0.06 max **Cb** 0.10-0.30 **Cr** 20.50-23.50 **Mn** 4.00-6.00 **Mo** 1.50-3.00 **N** 0.20-0.40 **Ni** 11.50-13.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **V** 0.10-0.30	**AMS** 5764 **ASME** SA182 (XM-19); SA240 (XM-19); SA249 (XM-19); SA312 (XM-19); SA403 (XM-19); SA412 (XM-19); SA479 (XM-19) **ASTM** A182 (XM-19); A184 (TP XM-19); A193 (B8R, B8RA); A194 (8R, 8RA); A240 (XM-19); A249 (XM-19); A269 (XM-19); A312 (XM-19); A336 (FXM-19); A403 (XM-19); A412 (XM-19); A479 (XM-19); A580 (XM-19); A813 (TP XM-19)
S20980	Austenitic Cr-Ni-Mn-Mo Stainless Steel Bare Filler Metal (22-10-5)	**C** 0.05 max **Cr** 20.5-24.0 **Cu** 0.70-1.5 **Mn** 4.00-7.00 **Mo** 1.50-3.00 **N** 0.10-0.30 **Ni** 9.50-12.00 **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.9 (ER209) **AWS** A5.9 (ER209)
S21000	Austenitic Cr-Mn-Mo-Ni-N Strengthened Stainless Steel	**C** 0.10 max **Cr** 18.0-23.0 **Cu** 2.00 max **Mn** 4.00-7.00 **Mo** 4.00-6.00 **Ni** 16.0-20.0 **N** 0.15 min **P** 0.03 max **S** 0.03 max **Si** 0.60 max	
S21300	Austenitic Cr-Cu-Mn-N Strengthened Stainless Steel	**C** 0.25 max **Cr** 16.0-21.0 **Cu** 0.50-2.00 **Mn** 15.0-18.0 **Mo** 0.50-3.00 **Ni** 3.00 max **N** 0.20-0.80 **P** 0.05 max **S** 0.05 max **Si** 1.00 max	

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S21400	Austenitic Cr-Mn Stainless Steel (Tenelon)	**C** 0.12 max **Cr** 17.00-18.50 **Mn** 14.50-16.00 **N** 0.35 max **Ni** 0.75 max **P** 0.045 max **S** 0.030 max **Si** 0.30-1.00	**ASTM** A240 (XM-31); A580 (XM-31)
S21460	Austenitic Cr-Mn-Ni-Mo Stainless Steel (Cryogenic Tenelon)	**C** 0.12 max **Cr** 17.00-19.00 **Mn** 14.00-16.00 **N** 0.35-0.50 **Ni** 5.00-6.00 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**ASTM** A412 (XM-14); A666 (XM-14)
S21500	Austenitic Cr-Mn-Ni-Mo Stainless Steel (Esshete 1250)	**B** 0.003-0.009 **C** 0.06-0.15 **Cb** 0.75-1.25 **Cr** 14.0-16.0 **Mn** 5.50-7.00 **Mo** 0.80-1.20 **Ni** 9.0-11.0 **P** 0.040 max **S** 0.030 max **Si** 0.20-1.20 **V** 0.15-0.40	**ASTM** A213
S21600	Austenitic Cr-Mn-Ni-Mo Stainless Steel (216)	**C** 0.08 max **Cr** 17.50-22.00 **Mn** 7.50-9.00 **Mo** 2.00-3.00 **N** 0.25-0.50 **Ni** 5.00-7.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASME** SA240 (XM-17); SA479 (XM-17) **ASTM** A240 (XM-17); A479 (XM-17); A492 (XM-17)
S21603	Austenitic Cr-Mn-Ni-Mo Stainless Steel, Low Carbon (216L)	**C** 0.03 max **Cr** 17.50-22.00 **Mn** 7.50-9.00 **Mo** 2.00-3.00 **N** 0.25-0.50 **Ni** 5.00-7.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASME** SA240 (XM-18); SA479 (XM-18) **ASTM** A240 (XM-18); A479 (XM-18); A492 (XM-18)
S21800	Austenitic Cr-Ni-Mn Stainless Steel (Nitronic 60)	**C** 0.10 max **Cr** 16.00-18.00 **Mn** 7.00-9.00 **N** 0.08-0.18 **Ni** 8.00-9.00 **P** 0.040 max **S** 0.030 max **Si** 3.50-4.50	**AMS** 5848 **ASME** Code Case 1817 **ASTM** A193 (B8S, B8SA); A194 (8S, 8SA); A240; A276; A479; A555; A580
S21880	Austenitic Cr-Ni-Mn Stainless Steel Bare Filler Metal (Nitronic 60W)	**C** 0.10 max **Cr** 16.0-18.0 **Cu** 0.75 max **Mn** 7.00-9.00 **Mo** 0.75 max **N** 0.08-0.18 **Ni** 8.00-9.00 **P** 0.03 max **S** 0.03 max **Si** 3.50-4.50	**ASME** SFA5.9 (ER218) **AWS** A5.9 (ER218)
S21900	Austenitic Cr-Mn-Ni Stainless Steel (21-6-9)	**C** 0.08 max **Cr** 19.00-21.50 **Mn** 8.00-10.00 **N** 0.15-0.40 **Ni** 5.50-7.50 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**AMS** 5561 **ASTM** A269 (TP XM-10); A276 (XM-10); A312 (TP XM-10); A314 (XM-10); A412 (XM-10); A473 (XM-10); A580 (XM-10); A813 (TP XM-10); A814 (TP XM-10)
S21904	Austenitic Cr-Mn-Ni Stainless Steel, Low Carbon (21-6-9 LC)	**C** 0.04 max **Cr** 19.00-21.50 **Mn** 8.00-10.00 **N** 0.15-0.40 **Ni** 5.50-7.50 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**AMS** 5562; 5595; 5656 **ASME** SA412 (21904) **ASTM** A182 (F XM-11); A276 (XM-11); A314 (XM-11); A412 (XM-11); A473 (XM-11); A479 (XM-11); A580 (XM-11); A666 (XM-11); A988
S21980	Austenitic Cr-Mn-Ni Stainless Steel Bare Filler Metal (21-6-9)	**C** 0.05 max **Cr** 19.0-21.5 **Cu** 0.75 max **Mn** 8.00-10.00 **Mo** 0.75 max **N** 0.10-0.30 **Ni** 5.50-7.00 **P** 0.03 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.9 (ER219) **AWS** A5.9 (ER219)
S23980	Combined with S24080		
S24000	Austenitic Cr-Mn-Ni Stainless Steel (18-3-Mn)	**C** 0.08 max **Cr** 17.00-19.00 **Mn** 11.50-14.50 **N** 0.20-0.40 **Ni** 2.50-3.75 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**ASME** SA240 (XM-29); SA249 (XM-29); SA312 (XM-29); SA688 (XM-29) **ASTM** A240 (XM-29); A249 (XM-29); A269 (XM-29); A312 (XM-29); A412 (XM-29); A479 (XM-29); A580 (XM-29); A688 (XM-29); A813 (TP XM-29); A814 (TP XM-29)
S24080	Austenitic Cr-Mn-Ni Stainless Steel Bare Filler Metal (18-4-Mn)	**C** 0.05 max **Cr** 17.0-19.0 **Cu** 0.75 max **Mn** 10.5-13.5 **Mo** 0.75 max **N** 0.10-0.20 **Ni** 4.00-6.00 **P** 0.03 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.9 (ER240) **AWS** A5.9 (ER240)
S24100	Austenitic Cr-Mn-Ni Stainless Steel (18-2-Mn)	**C** 0.15 max **Cr** 16.50-19.50 **Mn** 11.00-14.00 **N** 0.20-0.45 **Ni** 0.50-2.50 **P** 0.060 max **S** 0.030 max **Si** 1.00 max	**ASTM** A580 (XM-28)
S28200	Austenitic Cr-Mn-Cu-Mo Stainless Steel (18-18-Plus)	**C** 0.15 max **Cr** 17.00-19.00 **Cu** 0.50-1.50 **Mn** 17.00-19.00 **Mo** 0.50-1.50 **N** 0.40-0.60 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASTM** A276; A314; A473; A493; A580
S30100	Austenitic Cr-Ni Stainless Steel	**C** 0.15 max **Cr** 16.00-18.00 **Mn** 2.00 max **Ni** 6.00-8.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 301 **AMS** 5517; 5518; 5519 **ASTM** A167 (301); A177 (301); A554 (301); A666 (301) **FED** QQ-S-766 (301) **MIL SPEC** MIL-S-5059 (301) **SAE** J405 (30301)
S30103	Austenitic Cr-Ni Stainless Steel (301L)	**C** 0.030 max **Cr** 16.0-18.0 **Mn** 2.00 max **N** 0.20 max **Ni** 6.0-8.0 **P** 0.045 max **S** 0.030 max **Si** 1.0 max	**ASTM** A 240; A 666

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S30115	Austenitic Cr-Ni Stainless Steel	**C** 0.07-0.11 **Cr** 16.50-17.50 **Mn** 1.00-1.50 **Mo** 0.60-0.80 **Ni** 7.70-8.30 **P** 0.03 max **S** 0.03 max **Si** 0.90-1.40	**MIL SPEC** MIL-S-46889
S30153	Austenitic Cr-Ni-N Stainless Steel (301LN)	**C** 0.030 max **Cr** 16.0-18.0 **Mn** 2.00 max **N** 0.07-0.20 **Ni** 6.0-8.0 **P** 0.045 max **S** 0.030 max **Si** 1.0 max	**ASTM** A 240; A 666
S30200	Austenitic Cr-Ni Stainless Steel	**C** 0.15 max **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 8.00-10.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 302 **AMS** 5515; 5516; 5600; 5636; 5637; 5688; 5693; 7210; 7241 **ASME** SA240 (302); SA479 (302) **ASTM** A167 (302); A240 (302); A276 (302); A313 (302); A314 (302); A368 (302); A473 (302); A478 (302); A479 (302); A492 (302); A493 (302); A511 (302); A554 (302); A580 (302); A666 (302) **FED** QQ-S-763 (302); QQ-S-766 (302) **MIL SPEC** MIL-S-5059; MIL-S-7720 **SAE** J230; J405 (30302)
S30210	Austenitic Cr-Ni Stainless Steel, Low Permeability	**C** 0.26-0.33 **Cr** 17.0-19.0 **Mn** 3.00-4.00 **Ni** 8.0-10.0 **P** 0.18-0.33 **S** 0.035 max **Si** 1.00 max	
S30215	Austenitic Cr-Ni Stainless Steel	**C** 0.15 max **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 8.00-10.00 **P** 0.045 max **S** 0.030 max **Si** 2.00-3.00	**AISI** 302B **ASTM** A167 (302 B); A276 (302 B); A314 (302 B); A473 (302 B); A580 (302 B) **SAE** J405 (30302 B)
S30260	Austenitic Cr-Ni Stainless Steel, Low Permeability	**C** 0.15 max **Cr** 16.0-18.0 **Mn** 1.00 max **Ni** 9.5-12.0 **P** 0.20-0.40 **S** 0.040 max **Si** 1.00 max	
S30280	Thermal Spray Wire (W-FeCrNi-2)	**C** 0.12 max **Cr** 17.0-19.0 **Fe** rem **Mn** 1.5 max **Ni** 7.0-9.0 **Si** 0.50 max	**AWS** A5.33 (W-FeCrNi-2)
S30300	Free Machining Austenitic Cr-Ni Stainless Steel	**C** 0.15 max **Cr** 17.00-19.00 **Mn** 2.00 max **Mo** 0.60 max (Optional) **Ni** 8.00-10.00 **P** 0.20 max **S** 0.15 min **Si** 1.00 max	**AISI** 303 **AMS** 5640 (Type 1) **ASME** SA194 (303); SA320 (303) **ASTM** A194 (303, 8F, 8FA); A314 (303); A320 (303, B8F, B8FA); A473 (303); A581 (303); A582 (303); A895 (303) **SAE** J405 (30303)
S30310	Austenitic Cr-Ni-Mn Free Machining Stainless Steel	**C** 0.15 max **Cr** 17.00-19.00 **Mn** 2.50-4.50 **Mo** 0.75 max **Ni** 7.00-10.00 **P** 0.20 max **S** 0.25 min **Si** 1.00 max	**AMS** 5640 (Type 3) **ASTM** A581 (XM-5); A582 (XM-5) **SAE** J405 (303 plus X); J412 (303 plus X)
S30323	Free Machining Austenitic Cr-Ni Stainless Steel (Se Bearing)	**C** 0.15 max **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 8.00-10.00 **P** 0.20 max **S** 0.060 max **Se** 0.15 min **Si** 1.00 max	**AISI** 303 Se **AMS** 5640 (Type 2); 5641; 5738 **ASME** SA194 (303 Se); SA320 (303 Se) **ASTM** A194 (303 Se, 8F, 8FA); A314 (303 Se); A320 (303 Se, B8F, B8FA); A473 (303 Se); A581 (303 Se); A582 (303 Se); A895 (303 Se) **SAE** J405 (30303 Se)
S30330	Free Machining Copper Bearing Cr-Ni Stainless Steel	**C** 0.15 max **Cr** 17.00-19.00 **Cu** 2.50-4.00 **Mn** 2.00 max **Ni** 6.00-10.00 **P** 0.15 max **S** 0.10 max **Se** 0.10 max **Si** 1.00 max	**SAE** J405 (303 Cu)
S30345	Austenitic Cr-Ni-Al Free Machining Stainless Steel (303 MA)	**Al** 0.60-1.00 **C** 0.15 max **Cr** 17.00-19.00 **Mn** 2.00 max **Mo** 0.40-0.60 **Ni** 8.00-10.00 **P** 0.05 max **S** 0.11-0.16 **Si** 1.00 max	**AMS** 5638 **ASTM** A581 (XM-2); A582 (XM-2)
S30360	Austenitic Cr-Ni-Pb Free Machining Stainless Steel (303 Pb)	**C** 0.15 max **Cr** 17.00-19.00 **Mn** 2.00 max **Mo** 0.75 max **Ni** 8.00-10.00 **P** 0.040 max **Pb** 0.12-0.30 **S** 0.12-0.30 **Si** 1.00 max	**AMS** 5635 **ASTM** A581 (XM-3); A582 (XM-3)
S30400	Austenitic Cr-Ni Stainless Steel	**C** 0.08 max **Cr** 18.00-20.00 **Mn** 2.00 max **Ni** 8.00-10.50 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 304 **AMS** 5501; 5513; 5560; 5563; 5564; 5565; 5566; 5567; 5639; 5697; 7228; 7245 **ASME** SA182 (304); SA194 (8); SA213 (304); SA240 (304); SA249 (304); SA312 (304); SA320 (B8); SA358 (304); SA376 (304); SA403 (304); SA409 (304); SA430 (304); SA479 (304); SA688 (304) **ASTM** A167 (304); A182 (304); A193 (304, B8, B8A); A194 (304, 8, 8A); A213 (304); A240 (304); A249 (304); A269 (304); A270 (304); A271 (304); A276 (304); A312 (304); A313 (304); A314 (304); A320 (304, B8, B8A); A336 (F304); A358 (304); A368 (304); A376 (304); A409 (304); A430 (304); A473 (304); A478 (304); A479 (304); A492 (304); A493 (304); A511 (304); A554 (304); A580 (304); A632 (304); A666 (304); A688 (304); A793 (304); A813 (TP 304); A814 (TP 304); A851 (TP 304); A988 **FED** QQ-S-763 (304); QQ-S-766 (304) **MIL SPEC** MIL-S-5059 (304); MIL-T-5695; MIL-T-6845 (304); MIL-T-8504 (304); MIL-T-8506 (304); MIL-S-23195 (304); MIL-S-23196 (304); MIL-S-27419 **SAE** J405 (30304)

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S30403	Austenitic Cr-Ni Stainless Steel (Low Carbon)	**C** 0.03 max **Cr** 18.00-20.00 **Mn** 2.00 max **Ni** 8.00-12.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 304 L **AMS** 5511; 5647 **ASME** SA182 (304 L); SA213 (304 L); SA240 (304 L); SA249 (304 L); SA312 (304 L); SA403 (304 L); SA479 (304 L); SA688 (304 L) **ASTM** A167 (304 L); A182 (304 L); A213 (304 L); A240 (304 L); A249 (304 L); A269 (304 L); A270 (TP 304 L); A276 (304 L); A312 (304 L); A314 (304 L); A336 (F 304 L); A403 (304 L); A473 (304 L); A478 (304 L); A479 (304 L); A511 (304 L); A554 (304 L); A580 (304 L); A632 (304 L); A666 (304 L); A688 (304 L); A774 (TP 304 L); A778 (TP 304 L); A813 (TP 304 L); A814 (TP 304 L); A851 (TP 304 L); A988 **FED** QQ-S-763 (304 L); QQ-S-766 (304 L) **MIL SPEC** MIL-S-4043; MIL-S-23195 (304 L); MIL-S-23196 (304 L) **SAE** J405 (30304 L)
S30409	Austenitic Cr-Ni Stainless Steel, High Carbon (304 H)	**C** 0.04-0.10 **Cr** 18.00-20.00 **Mn** 2.00 max **Ni** 8.00-11.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASME** SA182 (304 H); SA213 (304 H); SA240 (304 H); SA249 (304 H); SA312 (304 H); SA376 (304 H); SA403 (304 H); SA430 (304 H); SA479 (304 H) **ASTM** A182 (304 H); A213 (304 H); A240 (304 H); A249 (304 H); A271 (304 H); A312 (304 H); A336 (F 304 H); A358 (304 H); A376 (304 H); A403 (304 H); A430 (304 H); A479 (304 H); A813 (TP 304 H); A814 (TP 304 H)
S30415	Austenitic Cr-Ni-Si Heat Resisting Steel (153 MA)	**C** 0.04-0.06 **Ce** 0.03-0.08 **Cr** 18.0-19.0 **Mn** 0.8 max **Mo** 0.5 max **Ni** 9.0-10.0 **N** 0.12-0.18 **P** 0.045 max **S** 0.030 max **Si** 1.0-2.0	**ASTM** A167; A240 **DIN** 1.4891
S30430	Austenitic Cr-Ni-Cu Low Work Hardening Stainless Steel (18-9-LW)	**C** 0.10 max **Cr** 17.00-19.00 **Cu** 3.00-4.00 **Mn** 2.00 max **Ni** 8.00-10.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** S30430 **ASTM** A493 **SAE** J775 (EV 17)
S30431	Cr-Ni-Cu Low Work Hardening Free Machining Stainless Steel	**C** 0.06 max **Cr** 16.0-19.0 **Cu** 1.30-2.40 **Mn** 2.00 max **Ni** 9.00-11.0 **P** 0.040 max **S** 0.14 max **Si** 1.00 max	
S30451	Austenitic Nitrogen Bearing Cr-Ni Stainless Steel (304 N)	**C** 0.08 max **Cr** 18.00-20.00 **Mn** 2.00 max **N** 0.10-0.16 **Ni** 8.00-10.50 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 304 N **ASME** SA182 (304 N); SA213 (304 N); SA240 (304 N); SA249 (304 N); SA312 (304 N); SA358 (304 N); SA376 (304 N); SA430 (304 N); SA479 (304 N) **ASTM** A182 (304 N); A193 (B8N, B8NA); A194 (8N, 8NA); A213 (304 N); A240 (304 N); A249 (304 N); A312 (304 N); A358 (304 N); A376 (304 N); A403 (304 N); A430 (304 N); A479 (304 N); A666 (304 N); A688 (TP 304 N); A813 (TP 304 N); A814 (TP 304 N); A988
S30452	Austenitic Cr-Ni Stainless Steel, High Nitrogen	**C** 0.08 max **Cr** 18.00-20.00 **Mn** 2.00 max **N** 0.16-0.30 **Ni** 8.00-10.50 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASME** SA240 (XM-21) **ASTM** A240 (XM-21); A276 (XM-21)
S30453	Austenitic Nitrogen Bearing Cr-Ni Stainless Steel (304 LN)	**C** 0.030 max **Cr** 18.00-20.00 **Mn** 2.00 max **N** 0.10-0.16 **Ni** 8.00-12.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASTM** A182 (F 304 LN); A193 (B8LN, B8LNA); A194 (8LN, 8LNA); A213 (TP 304 LN); A240 (304 LN); A249 (TP 304 LN); A269 (TP 304 LN); A276; A312 (TP 304 LN); A320 (B8LN, B8LNA); A336 (F 304 LN); A376 (TP 304 LN); A403 (WP 304 LN); A479 (304 LN); A666 (304 LN); A688 (TP 304 LN); A813 (TP 304 LN); A814 (TP 304 LN); A988
S30454	Austenitic Nitrogen Bearing Cr-Ni Stainless Steel (304L (Hi)N)	**C** 0.03 max **Cr** 18.00-20.00 **Mn** 2.00 max **N** 0.16-0.30 **Ni** 8.00-12.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASTM** A276
S30460	Austenitic Cr-Ni Stainless Steel with 0.20-0.29% Boron	**B** 0.20-0.29 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B)
S30461	Austenitic Cr-Ni Stainless Steel with 0.30-0.49% Boron	**B** 0.30-0.49 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B1)
S30462	Austenitic Cr-Ni Stainless Steel with 0.50-0.74% Boron	**B** 0.50-0.74 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B2)
S30463	Austenitic Cr-Ni Stainless Steel with 0.75-0.99% Boron	**B** 0.75-0.99 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B3)

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S30464	Austenitic Cr-Ni-Stainless Steel with 1.00-1.24% Boron	**B** 1.00-1.24 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B4)
S30465	Austenitic Cr-Ni Stainless Steel with 1.25-1.49% Boron	**B** 1.25-1.49 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B5)
S30466	Austenitic Cr-Ni Stainless Steel with 1.50-1.74% Boron	**B** 1.50-1.74 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B6)
S30467	Austenitic Cr-Ni Stainless Steel with 1.75-2.25% Boron	**B** 1.75-2.25 **C** 0.08 max **Cr** 18.0-20.0 **Mn** 2.00 max **N** 0.10 max **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A887 (304B7)
S30480	Austenitic Cr-Ni Stainless Steel Bare Filler Metal (ER19-10H)	**C** 0.04-0.08 **Cb** 0.05 max **Cr** 18.5-20.0 **Cu** 0.75 max **Mn** 1.0-2.0 **Mo** 0.25 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65 **Ti** 0.05 max	**ASME** SFA5.9 (ER19-10H) **AWS** A5.9 (ER19-10H)
S30481	Thermal Spray Wire (W-FeCrNi-1)	**C** 0.080 max **Cr** 18-20 **Fe** rem **Mn** 2.0 max **Ni** 8.0-11.0 **P** 0.045 max **Si** 1.0 max **S** 0.045 max	**AWS** A5.33 (W-FeCrNi-1)
S30483	Austenitic Cr-Ni Stainless Steel Bare Filler Metal, Low Carbon	**C** 0.03 max **Cr** 18.0 min **Mn** 2.00 max **Ni** 8.00 min **P** 0.030 max **S** 0.030 max **Si** 1.00 max **Other** others (total) 1.00 max	
S30500	Austenitic Cr-Ni Stainless Steel (Low Work Hardening)	**C** 0.12 max **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 10.00-13.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 305 **AMS** 5514; 5685; 5686 **ASME** SA193 (305); SA194 (305); SA240 (305) **ASTM** A167 (305); A193 (B8P, B8PA); A194 (8P, 8PA); A240 (305); A249 (305); A276 (305); A313 (305); A314 (305); A320 (B8P, B8PA); A368 (305); A473 (305); A478 (305); A492 (305); A493 (305); A511 (305); A554 (305); A580 (305) **FED** QQ-S-763 (305); QQ-S-766 (305) **SAE** J405 (30305)
S30560	Austenitic Cr-Ni Stainless Steel Low Permeability	**C** 0.10 max **Cr** 17.0 min **Cu** 0.50 max **Mn** 0.2-2.5 **Ni** 8.5-14.0 **P** 0.035 max **S** 0.035 max **Si** 0.2-1.5	
S30600	Austenitic Cr-Ni Stainless Steel (18-15)	**C** 0.018 max **Cr** 17.0-18.5 **Cu** 0.50 max **Mn** 2.00 max **Mo** 0.20 max **Ni** 14.0-15.5 **P** 0.02 max **S** 0.02 max **Si** 3.70-4.30	**ASTM** A182 (F 46); A240; A269; A312; A358; A479
S30601	Austenitic Cr-Ni Stainless Steel, Low Carbon (18-17 LC)	**C** 0.015 max **Cr** 17.0-18.0 **Cu** 0.35 max **Mn** 1.0 max **N** 0.05 max **Ni** 17.0-18.0 **P** 0.030 max **S** 0.013 max **Si** 5.00-5.60	**ASTM** A240; A312
S30615	Austenitic Cr-Ni-Si Heat Resisting Steel (RA85H)	**Al** 0.8-1.5 **C** 0.16-0.24 **Cr** 17.0-19.5 **Mn** 2.0 max **Ni** 13.5-16.0 **P** 0.03 max **S** 0.03 max **Si** 3.2-4.0	**ASME** SA-240 **ASTM** A240
S30780	Austenitic Cr-Ni-Mn Stainless Steel Bare Filler Metal	**C** 0.04-0.14 **Cr** 19.5-22.0 **Cu** 0.75 max **Mn** 3.30-4.75 **Mo** 0.50-1.50 **Ni** 8.00-10.70 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER307) **AWS** A5.9 (ER307)
S30800	Austenitic Cr-Ni Heat Resisting Steel	**C** 0.08 max **Cr** 19.00-21.00 **Mn** 2.00 max **Ni** 10.00-12.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 308 **ASTM** A167 (308); A276 (308); A314 (308); A473 (308); A580 (308) **SAE** J405 (30308)
S30815	Austenitic Cr-Ni-Si Heat Resisting Steel (253 MA)	**C** 0.10 max **Cr** 20.00-22.00 **Mn** 0.80 max **N** 0.14-0.20 **Ni** 10.00-12.00 **P** 0.040 max **S** 0.030 max **Si** 1.40-2.00 **Other** cerium 0.03-0.08	**ASME** SA-182 (F45); SA-213; SA-240; SA-249; SA-312; SA-479 **ASTM** A167; A182 (F 45); A213; A240; A249; A276; A312; A358; A473; A479; A813; A814
S30880	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal	**C** 0.08 max **Cr** 19.50-22.00 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 9.00-11.00 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER308, ER308H); SFA5.30 (IN308) **ASTM** A479 (ER308) **AWS** A5.9 (ER308, ER308H); A5.30 (IN308) **MIL SPEC** MIL-E-19933 (MIL-308, MIL-308Co); MIL-I-23413 (MIL-308, MIL-308Co)

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S30881	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal	**C** 0.08 max **Cr** 19.50-22.00 **Cu** 0.5 max **Mn** 1.00-2.50 **Mo** 0.50 max **Ni** 9.00-11.00 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER308Si) **AWS** A5.9 (ER308Si)
S30882	Austenitic Cr-Ni-Mo Heat Resisting Steel Bare Filler Metal	**C** 0.08 max **Cr** 18.00-21.00 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 2.00-3.00 **Ni** 9.00-12.00 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER308Mo) **AWS** A5.9 (ER308Mo)
S30883	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal (Low Carbon)	**C** 0.03 max **Cr** 19.50-22.00 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.50 max **Ni** 9.00-11.00 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER308L); SFA5.30 (IN308L) **AWS** A5.9 (ER308L); A5.30 (IN308L) **MIL SPEC** MIL-E-19933 (MIL-308L, MIL-308CoL); MIL-I-23413 (MIL-308L, MIL-308CoL)
S30884	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal (19-9 High Carbon)	**C** 0.08-0.15 **Cr** 18.0-20.0 **Mn** 1.00-2.50 **Ni** 9.00-11.00 **P** 0.03 max **S** 0.03 max **Si** 0.25-0.60	**MIL SPEC** MIL-E-19933D, (MIL-308HC)
S30886	Austenitic Cr-Ni-Mo Heat Resisting Steel Bare Filler Metal (19-9-Mo Low Carbon)	**C** 0.04 max **Cr** 18.00-21.00 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 2.00-3.00 **Ni** 9.00-12.00 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER308MoL) **AWS** A5.9 (ER308MoL)
S30888	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal (308LSi)	**C** 0.03 max **Cr** 19.5-22.0 **Cu** 0.5 max **Mn** 1.00-2.50 **Mo** 0.5 max **Ni** 9.00-11.00 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER308LSi) **AWS** A5.9 (ER308LSi)
S30900	Austenitic Cr-Ni Heat Resisting Steel	**C** 0.20 max **Cr** 22.00-24.00 **Mn** 2.00 max **Ni** 12.00-15.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 309 **ASME** SA249 (309); SA312 (309); SA358 (309); SA403 (309); SA409 (309) **ASTM** A167 (309); A249 (309); A276 (309); A314 (309); A358 (309); A403 (309); A409 (309); A473 (309); A580 (309) **FED** QQ-S-763 (309); QQ-S-766 (309) **SAE** J405 (30309)
S30908	Austenitic Cr-Ni Heat Resisting Stainless Steel (309 S)	**C** 0.08 max **Cr** 22.00-24.00 **Mn** 2.00 max **Ni** 12.00-15.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 309 S **AMS** 5523; 5574; 5650; 7490 **ASME** SA240 (309 S) **ASTM** A167 (309 S); A213 (TP 309 S); A240 (309 S); A249 (TP 309 S); A276 (309 S); A312 (TP 309 S); A314 (309 S); A473 (309 S); A479 (309 S); A511 (309 S); A554 (309 S); A580 (309 S); A813 (TP 309 S); A814 (TP 309 S) **SAE** J405 (30309 S)
S30909	Austenitic Cr-Ni Heat Resisting Steel (309H)	**C** 0.04-0.10 **Cr** 22.0-24.0 **Mn** 2.00 max **Ni** 12.0-16.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**ASTM** A213 (TP 309 H); A240 (309 H); A249 (TP 309 H); A312 (TP 309 H); A312M; A336 (F 309 H); A479 (309 H)
S30940	Austenitic Cr-Ni-Cb Heat Resisting Stainless Steel (309Cb)	**C** 0.08 max **Cb** 10xC-1.00 **Cr** 22.00-24.00 **Mn** 2.00 max **Ni** 12.00-15.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASTM** A213 (TP 309 Cb); A240 (309 Cb); A249 (TP 309 Cb); A312 (TP 309 Cb); A478 (309 Cb); A479 (309 Cb); A554 (309-S-Cb); A580 (309 Cb); A813 (TP 309 Cb); A814 (TP 309 Cb)
S30941	Austenitic Cr-Ni Heat Resisting Steel (309HCb)	**C** 0.04-0.10 **Cr** 22.0-24.0 **Cb** + Ta 10XC min-1.10 max **Cu** 0.75 max **Mn** 2.00 max **Mo** 0.75 max **Ni** 12.0-16.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**ASTM** A213 (TP 309 HCb); A240 (309 HCb); A249 (TP 309 HCb); A312 (TP 309 HCb)
S30980	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal	**C** 0.12 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER309); SFA5.30 (IN309) **AWS** A5.9 (ER309); A5.30 (IN309) **MIL SPEC** MIL-E-19933 (MIL-309, MIL-309Co)
S30981	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal (309Si)	**C** 0.12 max **Cr** 23.0-25.0 **Cu** 0.5 max **Mn** 1.00-2.50 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER309Si) **AWS** A5.9 (ER309Si)
S30982	Austenitic Cr-Ni-Mo Bare Filler Metal (ER 309Mo)	**C** 0.12 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER 309Mo) **AWS** A5.9 (ER 309Mo)
S30983	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal (309L)	**C** 0.03 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER309L); SFA5.30 (IN309L) **AWS** A5.9 (ER309L); A5.30 (IN309L)

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S30986	Austenitic Cr-Ni-Mo Bare Filler Metal (ER 309MoL)	**C** 0.03 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER 309MoL) **AWS** A5.9 (ER 309MoL)
S30988	Austenitic Cr-Ni Stainless Steel Bare Welding Filler Metal (309 LSi)	**C** 0.03 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER 309LSi) **AWS** A5.9 (ER 309LSi)
S30989	Austenitic Cr-Ni Heat Resisting Bare Filler Metal (ER 309MoSi-L)	**C** 0.03 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER 309MoSi-L) **AWS** A5.9 (ER 309MoSi-L)
S31000	Austenitic Cr-Ni Heat Resisting Steel	**C** 0.25 max **Cr** 24.00-26.00 **Mn** 2.00 max **Ni** 19.00-22.00 **P** 0.045 max **S** 0.030 max **Si** 1.50 max	**AISI** 310 **ASME** SA182 (310); SA213 (310); SA249 (310); SA312 (310); SA358 (310); SA403 (310); SA409 (310) **ASTM** A167 (310); A182 (310); A213 (310); A249 (310); A276 (310); A314 (310); A336 (F 310); A358 (310); A403 (310); A409 (310); A473 (310); A580 (310); A632 (310) **FED** QQ-S-763 (310); QQ-S-766 (310) **SAE** J405 (30310)
S31002	Austenitic Cr-Ni Stainless Steel (310 low carbon, 2RE10)	**C** 0.015 max **Cr** 24.0-26.0 **Mn** 2.00 max **Mo** 0.10 max **N** 0.10 max **Ni** 19.0-22.0 **P** 0.020 max **Si** 0.15 max **S** 0.015 max	**ASTM** A 213 / A 213M; A 312 / A 312M **Other:** EN 1.4335
S31008	Austenitic Cr-Ni Heat Resisting Steel (310 S)	**C** 0.08 max **Cr** 24.00-26.00 **Mn** 2.00 max **Ni** 19.00-22.00 **P** 0.045 max **S** 0.030 max **Si** 1.50 max	**AISI** 310 S **AMS** 5521; 5572; 5577; 5651; 7490 **ASME** SA240 (310 S); SA479 (310 S) **ASTM** A167 (310 S); A213 (TP 310 S); A240 (310 S); A249 (TP 310 S); A276 (310 S); A312 (TP 310 S); A314 (310 S); A473 (310 S); A479 (310 S); A511 (310 S); A554 (310 S); A580 (310 S); A813 (TP 310 S); A814 (TP 310 S) **FED** QQ-S-763 **SAE** J405 (30310 S)
S31009	Austenitic Cr-Ni Heat Resisting Steel (310H)	**C** 0.04-0.10 **Cr** 24.0-26.0 **Mn** 2.00 max **Ni** 19.0-22.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**ASTM** A213 (TP 310 H); A240 (310 H); A249 (310 H); A312 (TP 310 H); A336 (F 310 H); A479 (310 H)
S31040	Austenitic Cr-Ni Heat Resisting Steel (310Cb)	**C** 0.08 max **Cr** 24.0-26.00 **Mn** 2.00 max **N** 0.10 max **Ni** 19.00-22.00 **P** 0.045 max **S** 0.030 max **Si** 1.50 max **Other** Cb+Ta 10xC min-1.10 max	**ASTM** A213 (TP 310 Cb); A240 (310 Cb); A249 (TP 310 Cb); A312 (TP 310 Cb); A478 (310 Cb); A479 (310 Cb); A813 (TP 310 Cb); A814 (TP 310 Cb)
S31041	Austenitic Cr-Ni Heat Resisting Steel (310HCb)	**C** 0.04-0.10 **Cr** 24.0-26.0 **Cb** + Ta 10XC min-1.10 max **Cu** 0.75 max **Mn** 2.00 max **Mo** 0.75 max **Ni** 19.0-22.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A213 (TP 310 HCb); A249 (TP 310 HCb); A312 (TP 310 HCb); A312H
S31042	Austenitic Cr-Ni-Cb-N Stainless Steel (HR3C)	**C** 0.04-0.10 **Cr** 24.0-26.0 **Mn** 2.00 max **N** 0.15-0.35 **Ni** 17.0-23.0 **P** 0.030 max **S** 0.030 max **Si** 0.75 max **Other** Cb+Ta 0.20-0.60	**ASME** SA213 **ASTM** A213
S31050	Austenitic Cr-Ni-Mo Stainless Steel, Low Carbon, with Nitrogen	**C** 0.030 max **Cr** 24.0-26.0 **Mn** 2.00 max **Mo** 1.6-3.0 **Ni** 20.5-23.5 **N** 0.09-0.16 **P** 0.020 max **S** 0.015 max **Si** 0.4 max	**ASTM** A213; A240; A249; A312; A479
S31080	Austenitic Cr-Ni Heat Resisting Steel Bare Filler Metal	**C** 0.08-0.15 **Cr** 25.0-28.0 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 20.0-22.5 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**AMS** 5694 **ASME** SFA5.9 (ER310); SFA5.30 (IN310) **AWS** A5.9 (ER310); A5.30 (IN310) **MIL SPEC** MIL-E-19933 (MIL-310); MIL-I-23413 (MIL-310)
S31100	Stainless Steel (744X)	**C** 0.05 max **Cr** 25.00-27.00 **Mn** 1.00 max **Ni** 6.00-7.00 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **Ti** 0.25 max	
S31200	Ferritic-Austenitic Cr-Ni-Mo-N Stainless Steel (44LN)	**C** 0.030 max **Cr** 24.0-26.0 **Mn** 2.00 max **Mo** 1.20-2.00 **N** 0.14-0.20 **Ni** 5.50-6.50 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASTM** A182 (F50); A240; A789; A790
S31254	Austenitic Cr-Ni-Mo-Cu-N Stainless Steel (254 SMO)	**C** 0.020 max **Cr** 19.50-20.50 **Cu** 0.50-1.00 **Mn** 1.00 max **Mo** 6.00-6.50 **N** 0.180-0.220 **Ni** 17.50-18.50 **P** 0.030 max **S** 0.010 max **Si** 0.80 max	**ASTM** A182 (F44); A193; A194; A240; A249; A269; A276; A312; A358; A403; A409; A479; A813; A814; A988

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S31260	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-W Stainless Steel (DP-3)	**C** 0.03 max **Cr** 24.0-26.0 **Cu** 0.20-0.80 **Mn** 1.00 max **Mo** 2.50-3.50 **N** 0.10-0.30 **Ni** 5.50-7.50 **P** 0.030 max **S** 0.030 max **Si** 0.75 max **W** 0.10-0.50	**ASTM** A240; A789; A790
S31266	Austenitic Cr-Ni-Mo-W-Cu-N Stainless Steel (Uranus B66)	**C** 0.030 max **Cr** 23.0-25.0 **Cu** 0.50-3.00 **Mn** 2.0-4.0 **Mo** 5.0-7.0 **N** 0.35-0.60 **Ni** 21.0-24.0 **P** 0.035 max **S** 0.020 max **Si** 1.00 max **W** 1.00-3.00	**ASTM** A182; A240; A240M; A480; A480M
S31272	Austenitic Cr-Ni-Mo-Ti Stainless Steel	**B** 0.004-0.008 **C** 0.08-0.12 **Cr** 14.0-16.0 **Mn** 1.5-2.0 **Mo** 1.0-1.4 **Ni** 14.0-16.0 **P** 0.030 max **S** 0.015 max **Si** 0.3-0.7 **Ti** 0.3-0.6	**ASTM** A213; A312
S31380	Austenitic-Ferritic Cr-Ni Stainless Steel Bare Filler Metal (ER312)	**C** 0.15 max **Cr** 28.0-32.0 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 8.00-10.5 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER312); SFA5.30 (IN312) **AWS** A5.9 (ER312); A5.30 (IN312) **MIL SPEC** MIL-E-19933 (MIL-312, MIL-312Co)
S31400	Austenitic Cr-Ni Heat Resisting Steel	**C** 0.25 max **Cr** 23.00-26.00 **Mn** 2.00 max **Ni** 19.00-22.00 **P** 0.045 max **S** 0.030 max **Si** 1.50-3.00	**AISI** 314 **AMS** 5652; 7490 **ASTM** A276 (314); A314 (314); A473 (314); A580 (314) **SAE** J405 (30314)
S31500	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-Si Stainless Steel (3RE60)	**C** 0.030 max **Cr** 18.0-19.0 **Mn** 1.20-2.00 **Mo** 2.50-3.00 **Ni** 4.25-5.25 **P** 0.030 max **S** 0.030 max **Si** 1.40-2.00	**ASTM** A789; A790
S31600	Austenitic Cr-Ni-Mo Stainless Steel	**C** 0.08 max **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **Ni** 10.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 316 **AMS** 5524; 5573; 5648; 5690; 5696; 7490 **ASME** SA182 (316); SA193 (316); SA194 (316); SA213 (316); SA240 (316); SA249 (316); SA312 (316); SA320 (316); SA358 (316); SA376 (316); SA403 (316); SA409 (316); SA430 (316); SA479 (316); SA688 (316) **ASTM** A167 (316); A182 (316); A193 (316, B8M, B8MA, B8M2, B8M3); A194 (316, 8M, 8MA); A213 (316); A240 (316); A249 (316); A269 (316); A270 (TP 316); A271 (TP 316); A276 (316); A312 (316); A313 (316); A314 (316); A320 (316, B8M, B8MA); A336 (F316); A358 (316); A368 (316); A376 (316); A403 (316); A409 (316); A430 (316); A473 (316); A478 (316); A479 (316); A492 (316); A493 (316); A511 (316); A554 (316); A580 (316); A632 (TP 316); A666 (316); A688 (TP 316); A771 (TP 316); A813 (TP 316); A814 (TP 316); A826 (TP 316); A988 **FED** QQ-S-763 (316); QQ-S-766 (316) **MIL SPEC** MIL-S-5059 (316); MIL-S-7720 (316) **SAE** J405 (30316)
S31603	Austenitic Cr-Ni-Mo Stainless Steel (Low Carbon)	**C** 0.030 max **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **Ni** 10.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 316 L **AMS** 5507; 5653 **ASME** SA182 (316 L); SA213 (316 L); SA240 (316 L); SA249 (316 L); SA312 (316 L); SA403 (316 L); SA479 (316 L); SA688 (316 L) **ASTM** A167 (316 L); A182 (316 L); A213 (316 L); A240 (316 L); A249 (316 L); A269 (316 L); A270 (TP 316 L); A276 (316 L); A312 (316 L); A314 (316 L); A336 (F 316 L); A403 (316 L); A473 (316 L); A478 (316 L); A479 (316 L); A511 (316 L); A554 (316 L); A580 (316 L); A632 (316 L); A666 (316 L); A688 (316 L); A774 (TP 316 L); A778 (TP 316 L); A813 (TP 316 L); A814 (TP 316 L); A988 **FED** QQ-S-763 (316 L); QQ-S-766 (316 L) **SAE** J405 (30316 L)
S31609	Austenitic Cr-Ni-Mo Stainless Steel (High Carbon)	**C** 0.04-0.10 **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **Ni** 10.00-14.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASME** SA182 (316 H); SA213 (316 H); SA240 (316 H); SA249 (316 H); SA312 (316 H); SA376 (316 H); SA403 (316 H); SA430 (316 H); SA479 (316 H) **ASTM** A182 (316 H); A213 (316 H); A240 (316 H); A249 (316 H); A271 (TP 316 H); A312 (316 H); A336 (F 316 H); A358 (316 H); A376 (316 H); A403 (316 H); A430 (316 H); A479 (316 H); A813 (TP 316 H); A814 (TP 316 H)
S31620	Austenitic Cr-Ni-Mo Free Machining Stainless Steel	**C** 0.08 max **Cr** 17.00-19.00 **Mn** 2.00 max **Mo** 1.75-2.50 **Ni** 12.00-14.00 **P** 0.20 max **S** 0.10 min **Si** 1.00 max	**AISI** 316 F **AMS** 5649
S31635	Austenitic Cr-Ni-Mo Stainless Steel (Titanium Stabilized) (316 Ti)	**C** 0.08 max **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **N** 0.10 max **Ni** 10.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max **Ti** 5x(C + N) min-0.70 max	**ASTM** A240 (316 Ti); A368 (316 Ti); A478 (316 Ti); A479 (316 Ti)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S31640	Austenitic Cr-Ni-Mo Stainless Steel (Columbium Stabilized) (316Cb)	**C** 0.08 max **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **N** 0.10 max **Ni** 10.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.50 max **Other** Cb+Ta 10xC min-1.10 max	**ASTM** A240 (316 Cb); A276; A368 (316 Cb); A478 (316 Cb); A479 (316 Cb)
S31651	Austenitic Nitrogen Bearing Cr-Ni-Mo Stainless Steel (316 N)	**C** 0.08 max **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **N** 0.10-0.16 **Ni** 10.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 316 N **ASME** SA182 (316 N); SA213 (316 N); SA240 (316 N); SA249 (316 N); SA312 (316 N); SA358 (316 N); SA376 (316 N); SA403 (316 N); SA430 (316 N); SA479 (316 N) **ASTM** A182 (316 N); A193 (B8MN, B8MNA); A194 (8MN, 8MNA); A213 (316 N); A240 (316 N); A249 (316 N); A276 (316 N); A312 (316 N); A336 (F 316 N); A358 (316 N); A376 (316 N); A403 (316 N); A430 (316 N); A479 (316 N); A666 (316 N); A688 (TP 316 N); A813 (TP 316 N); A814 (TP 316 N); A988
S31653	Austenitic Nitrogen Bearing Cr-Ni-Mo Stainless Steel (316LN)	**C** 0.030 max **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **N** 0.10-0.16 **Ni** 10.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASTM** A182 (F 316 LN); A193 (B8MLN, B8MLNA); A194 (8MLN, 8MLNA); A213 (TP 316 LN); A240 (316 LN); A249 (TP 316 LN); A269 (TP 316 LN); A276 (316 LN); A312 (TP 316 LN); A320 (B8MLN, B8MLNA); A336 (F 316 LN); A376 (TP 316 LN); A403 (WP 316 LN); A479 (316 LN); A688 (TP 316 LN); A813 (TP 316 LN); A814 (TP 316 LN); A988
S31654	Austenitic Nitrogen Bearing Cr-Ni-Mo Stainless Steel (316 L(Hi)N)	**C** 0.03 max **Cr** 16.00-18.00 **Mn** 2.00 max **Mo** 2.00-3.00 **N** 0.16-0.30 **Ni** 10.00-14.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASTM** A276
S31670	Austenitic Cr-Ni-Mo Stainless Steel (Surgical Implant 316)	**C** 0.08 max **Cr** 17.00-19.00 **Cu** 0.50 max **Mn** 2.00 max **Mo** 2.00-3.00 **N** 0.10 max **Ni** 13.00-15.50 **P** 0.025 max **S** 0.010 max **Si** 0.75 max	**ASTM** F138; F139
S31673	Austenitic Cr-Ni-Mo Stainless Steel (Surgical Implant 316L)	**C** 0.030 max **Cr** 17.00-19.00 **Cu** 0.50 max **Mn** 2.00 max **Mo** 2.00-3.00 **N** 0.10 max **Ni** 13.00-15.50 **P** 0.025 max **S** 0.010 max **Si** 0.75 max	**ASTM** F138; F139
S31675	Austenitic Cr-Ni-Mn-Mo-N Stainless Steel (Surgical Implants)	**C** 0.08 max **Cr** 19.5-22.0 **Cu** 0.25 max **Mn** 2.00-4.25 **Mo** 2.0-3.0 **N** 0.25-0.5 **Nb** (Cb) 0.25-0.8 **Ni** 9.0-11.0 **P** 0.025 max **S** 0.01 max **Si** 0.75 max,	**ASTM** F 1586 **Other:** ISO 5832-9
S31680	Austenitic Cr-Ni-Mo Stainless Steel Bare Filler Metal	**C** 0.08 max **Cr** 18.0-20.0 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 2.00-3.00 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**AMS** 5692 **ASME** SFA5.9 (ER316, 316H); SFA5.30 (IN316) **AWS** A5.9 (ER316, 316H); A5.30 (IN316); A5.33 (W-FeCrNi-5) **MIL SPEC** MIL-E-19933 (MIL-316); MIL-I-23413 (MIL-316)
S31681	Austenitic Cr-Ni-Mo Stainless Steel Bare Filler Metal (316 Si)	**C** 0.08 max **Cr** 18.0-20.0 **Cu** 0.5 max **Mn** 1.00-2.50 **Mo** 2.00-3.00 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER316Si) **AWS** A5.9 (ER316Si); A5.33 (W-FeCrNi-7)
S31683	Austenitic Cr-Ni-Mo Stainless Steel Bare Filler Metal (316L)	**C** 0.03 max **Cr** 18.0-22.0 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 2.00-3.00 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER316L); SFA5.30 (IN316L) **AWS** A5.9 (ER316L); A5.30 (IN316L); A533 (W-FeCrNi-6) **MIL SPEC** MIL-E-19933 (MIL-316L); MIL-I-23413 (MIL-316L)
S31688	Austenitic Cr-Ni-Mo Stainless Steel Bare Filler Metal (316LSi)	**C** 0.03 max **Cr** 18.0-20.0 **Cu** 0.5 max **Mn** 1.00-2.50 **Mo** 2.00-3.00 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER316LSi) **AWS** A5.9 (ER316LSi)
S31700	Austenitic Cr-Ni-Mo Stainless Steel	**C** 0.08 max **Cr** 18.00-20.00 **Mn** 2.00 max **Mo** 3.00-4.00 **Ni** 11.00-15.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 317 **ASME** SA240 (317); SA249 (317); SA312 (317); SA403 (317); SA409 (317) **ASTM** A167 (317); A182 (F 317); A213 (TP 317); A240 (317); A249 (317); A269 (317); A276 (317); A312 (317); A314 (317); A403 (317); A409 (317); A473 (317); A478 (317); A511 (317); A554 (317); A580 (317); A632 (317); A813 (TP 317); A814 (TP 317); A988 **FED** QQ-S-763 (317) **SAE** J405 (30317)
S31703	Austenitic Cr-Ni-Mo Stainless Steel (Low Carbon)	**C** 0.030 max **Cr** 18.00-20.00 **Mn** 2.00 max **Mo** 3.00-4.00 **Ni** 11.00-15.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 317 L **ASME** SA240 (317 L) **ASTM** A167 (317 L); A182 (F 317 L); A213 (TP 317 L); A240 (317 L); A249 (TP 317 L); A312 (TP 317 L); A774 (TP 317 L); A778 (TP 317 L); A813 (TP 317 L); A814 (TP 317 L); A988

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S31725	Austenitic Cr-Ni-Mo Stainless Steel (317LM)	**C** 0.03 max **Cr** 18.0-20.0 **Cu** 0.75 max **Mn** 2.00 max **Mo** 4.00-5.00 **N** 0.10 max **Ni** 13.0-17.0 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A167; A182 (F47); A213; A240; A249; A269; A276; A312; A358; A376; A409; A479; A988
S31726	Austenitic Cr-Ni-Mo-N Stainless Steel (317LMN)	**C** 0.03 max **Cr** 17.0-20.0 **Cu** 0.75 max **Mn** 2.00 max **Mo** 4.00-5.00 **N** 0.10-0.20 **Ni** 13.5-17.5 **P** 0.045 max **S** 0.030 max **Si** 0.75 max	**ASTM** A167; A182 (F48); A213; A240; A249; A269; A276; A312; A358; A376; A409; A479; A988
S31753	Austenitic Nitrogen-Bearing Stainless Steel (317LN)	**C** 0.030 max **Cr** 18.0-20.0 **Mn** 2.00 max **Mo** 3.00-4.00 **N** 0.10-0.22 **Ni** 11.0-15.0 **P** 0.045 max **S** 0.30 max **Si** 1.00 max	**ASTM** A167; A240
S31780	Austenitic Cr-Ni-Mo Stainless Steel Bare Filler Metal	**C** 0.08 max **Cr** 18.5-20.5 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 3.00-4.00 **Ni** 13.0-15.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER317) **AWS** A5.9 (ER317) **MIL SPEC** MIL-E-19933 (MIL-317)
S31783	Austenitic Cr-Ni-Mo Stainless Steel Bare Filler Metal (317L)	**C** 0.03 max **Cr** 18.5-20.5 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 3.00-4.00 **Ni** 13.0-15.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (ER 317L) **AWS** A5.9 (ER 317L)
S31803	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-N Stainless Steel (2205)	**C** 0.030 max **Cr** 21.0-23.0 **Mn** 2.00 max **Mo** 2.50-3.50 **N** 0.08-0.20 **Ni** 4.50-6.50 **P** 0.030 max **S** 0.020 max **Si** 1.00 max	**ASTM** A182; A240; A276; A479; A789; A790; A815; A923; A928; A988 **ASME** SA182; SA240; SA789; SA790; SA815
S31905	Austenitic Cr-Ni-Mo Stainless Steel with Boron	**B** 0.20-0.50 **C** 0.05 max **Cr** 22.00-24.00 **Mn** 2.00 max **Mo** 3.00-4.00 **N** 0.10 max **Ni** 17.00-19.00 **P** 0.03 max **S** 0.03 max **Si** 1.00 max	**ASTM** B853
S31980	Austenitic Cr-Ni-Mo Stainless Steel (Columbium Stabilized) Bare Filler Metal	**C** 0.08 max **Cr** 18.0-20.0 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 2.00-3.00 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65 **Other** Cb+Ta 8xC-1.0 max	**ASME** SFA5.9 (ER318) **AWS** A5.9 (ER318) **MIL SPEC** MIL-E-19933 (MIL-318)
S32001	Duplex (Austenitic-Ferritic) Cr-Mn-Ni-N Stainless Steel (19D)	**C** 0.030 max **Cr** 19.5-21.5 **Cu** 1.00 max **Mn** 4.0-6.0 **Mo** 0.60 max **Ni** 1.0-3.0 **N** 0.05-0.17 **P** 0.040 max **Si** 1.00 max **S** 0.030 max	**ASTM** A 240; A 480
S32050	Austenitic Cr-Ni-Mo-N Stainless Steel (SR50A)	**C** 0.030 max **Cr** 22.0-24.0 **Cu** 0.4 max **Mn** 1.5 max **Mo** 6.0-6.8 **N** 0.21-0.32 **Ni** 20.0-23.0 **P** 0.035 max **S** 0.020 max **Si** 1.0 max	**ASTM** A240; A312; A358; A479; A480
S32100	Austenitic Cr-Ni Stainless Steel (Titanium Stabilized)	**C** 0.08 max **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 9.00-12.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max **Ti** 5XC min	**AISI** 321 **AMS** 5510; 5557; 5559; 5570; 5576; 5645; 5689; 7211; 7490 **ASME** SA182 (321); SA193 (321); SA194 (321); SA213 (321); SA240 (321); SA249 (321); SA312 (321); SA320 (321); SA358 (321); SA376 (321); SA403 (321); SA409 (321); SA430 (321); SA479 (321) **ASTM** A167 (321); A182 (321); A193 (321, B8T, B8TA); A194 (321, 8T, 8TA); A213 (321); A240 (321); A249 (321); A269 (321); A271 (321); A276 (321); A312 (321); A314 (321); A320 (321, B8T, B8TA); A336 (F321); A358 (321); A376 (321); A403 (321); A409 (321); A430 (321); A473 (321); A479 (321); A511 (321); A554 (321); A580 (321); A632 (321); A774 (TP 321); A778 (TP 321); A813 (TP 321); A814 (TP 321) **FED** QQ-S-763 (321); QQ-S-766 (321) **MIL SPEC** MIL-S-27419 **SAE** J405 (30321)
S32109	Austenitic Cr-Ni Stainless Steel (Titanium Stabilized), High Carbon (321H)	**C** 0.04-0.10 **Cr** 17.00-20.00 **Mn** 2.00 max **Ni** 9.00-12.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 4xC-0.60	**ASME** SA182 (321 H); SA213 (321 H); SA240 (321 H); SA249 (321 H); SA312 (321 H); SA376 (321 H); SA403 (321 H); SA430 (321 H); SA479 (321 H) **ASTM** A182 (321 H); A213 (321 H); A240 (321 H); A249 (321 H); A271 (321 H); A312 (321 H); A336 (F321 H); A376 (321 H); A403 (321 H); A430 (321 H); A479 (321 H); A813 (TP 321 H); A814 (TP 321 H)
S32180	Austenitic Cr-Ni Stainless Steel (Titanium Stabilized) Bare Filler Metal	**C** 0.08 max **Cr** 18.5-20.5 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 9.00-10.50 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65 **Ti** 9xC-1.0	**ASME** SFA5.9 (ER321) **AWS** A5.9 (ER321) **MIL SPEC** MIL-E-19933 (MIL-321)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S32200	Ni-Cr-Mo Alloy (NIC 25)	**C** 0.03 max **Cr** 20.0-23.0 **Mn** 1.0 max **Mo** 2.5-3.5 **Ni** 23.0-27.0 **P** 0.03 max **S** 0.005 max **Si** 0.5 max	**Other:** NACE MR-01-75
S32205	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-N Stainless Steel (2205, high N)	**C** 0.030 max **Cr** 22.0-23.0 **Mn** 2.00 max **Mo** 3.00-3.50 **N** 0.14-0.20 **Ni** 4.50-6.50 **P** 0.030 max **S** 0.020 max **Si** 1.00 max	**ASTM** A182; A240; A240M; A276; A479; A480; A480M; A789; A790; A815; A928; A988
S32304	Duplex (Austenitic-Ferritic) Cr-Ni-N Stainless Steel (2304)	**C** 0.030 max **Cr** 21.5-24.5 **Cu** 0.05-0.60 **Mn** 2.50 max **N** 0.05-0.20 **Ni** 3.0-5.5 **P** 0.040 max **S** 0.040 max **Si** 1.0 max	**ASTM** A240; A789; A790
S32404	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-Cu-N Stainless Steel (Uranus 50)	**C** 0.04 max **Cr** 20.5-22.5 **Cu** 1.0-2.0 **Mn** 2.0 max **Mo** 2.0-3.0 **N** 0.20 max **Ni** 5.5-8.5 **P** 0.030 max **S** 0.010 max **Si** 1.0 max	
S32520	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-Cu-N Stainless Steel (Uranus 52N+)	**C** 0.030 max **Cr** 24.0-26.0 **Cu** 0.50-3.00 **Mn** 1.5 max **Mo** 3.0-5.0 **N** 0.20-0.35 **Ni** 5.5-8.0 **P** 0.035 max **S** 0.020 max **Si** 0.8 max	**ASTM** A182; A240; A240M; A480; A480M; A928; A928M
S32550	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-Cu-N Stainless Steel (Ferralium 255)	**C** 0.04 max **Cr** 24.0-27.0 **Cu** 1.50-2.50 **Mn** 1.5 max **Mo** 2.9-3.9 **N** 0.10-0.25 **Ni** 4.50-6.50 **P** 0.04 max **S** 0.030 max **Si** 1.00 max	**ASTM** A240; A479; A789; A790
S32615	Austenitic Cr-Ni-Si-Cu-Mo Stainless Steel (Alloy SX)	**C** 0.07 max **Cr** 16.0-21.0 **Cu** 1.5-2.5 **Mn** 2.00 max **Mo** 0.3-1.5 **Ni** 17.5-22.5 **P** 0.045 max **S** 0.030 max **Si** 4.8-6.0	**ASTM** A213; A240; A312; A351
S32654	Austenitic Cr-Ni-Mo-n Stainless Steel (654 SMO)	**C** 0.020 max **Cr** 24.0-25.0 **Cu** 0.30-0.60 **Mn** 2.00-4.00 **Mo** 7.00-8.00 **N** 0.45-0.55 **Ni** 21.0-23.0 **P** 0.030 max **S** 0.005 max **Si** 0.50 max	**ASTM** A167; A240; A249; A312; A480; A988
S32750	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-N Stainless Steel (2507)	**C** 0.030 max **Cr** 24.0-26.0 **Mn** 1.20 max **Mo** 3.0-5.0 **N** 0.24-0.32 **Ni** 6.0-8.0 **P** 0.035 max **S** 0.020 max **Si** 0.8 max	**ASTM** A182; A240; A479; A789; A790; A988
S32760	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-Cu-W-N Stainless Steel (Zeron 100)	**C** 0.03 max **Cr** 24.0-26.0 **Cu** 0.5-1.0 **Mn** 1.0 max **Mo** 3.0-4.0 **N** 0.2-0.3 **Ni** 6.0-8.0 **P** 0.03 max **S** 0.01 max **Si** 1.0 max **W** 0.5-1.0 **Other** %Cr + 3.3x%Mo + 16x%N — 40 min	**ASTM** A240; A988
S32803	Ferritic Cr-Ni-Mo Stainless Steel with Cb (Cronifer 2803Mo)	**C** 0.010 max **Cb** 0.15-0.50 **Cr** 28.0-29.0 **Mn** 0.50 max **Mo** 1.8-2.5 **N** 0.025 max **Ni** 3.0-4.0 **P** 0.020 max **S** 0.005 max **Si** 0.50 max **Other** ratio Cb/C+N — 12 min, C+N — 0.030 max	**ASTM** A167; A240; A268
S32900	Duplex (Austenitic-Ferritic) Cr-Ni-Mo Stainless Steel (329)	**C** 0.08 max **Cr** 23.00-28.00 **Mn** 1.00 max **Mo** 1.00-2.00 **Ni** 2.50-5.00 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**AISI** 329 **ASME** SA789 (329) **ASTM** A240 (329); A268 (329); A789 (329); A790
S32906	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-N Stainless Steel (Safurex)	**C** 0.030 max **Cr** 28.0-30.0 **Cu** 0.80 max **Mn** 0.80-1.50 **Mo** 1.50-2.60 **N** 0.30-0.40 **Ni** 5.8-7.5 **P** 0.030 max **S** 0.030 **Si** 0.50 max	**ASTM** A 479; A 789; A 790; A 249
S32950	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-N Stainless Steel (7-Mo Plus)	**C** 0.03 max **Cr** 26.0-29.0 **Mn** 2.00 max **Mo** 1.00-2.50 **N** 0.15-0.35 **Ni** 3.50-5.20 **P** 0.035 max **S** 0.010 max **Si** 0.60 max	**ASTM** A182; A240; A314; A473; A479; A789; A790; A815; A988
S33100	Ni-Cr Stainless Steel (F-10)	**C** 0.10-0.20 **Cr** 7.00-9.00 **Mn** 0.50-0.80 **Ni** 19.00-22.00 **P** 0.030 max **S** 0.030 max **Si** 1.00-1.40	**ASTM** A182 (F-10)
S33228	Austenitic Ni-Cr Heat Resisting Stainless Steel (Nicrofer 3228 NbCe, Alloy AC66)	**Al** 0.025 max **C** 0.04-0.08 **Cb** 0.6-1.0 **Ce** 0.05-0.10 **Cr** 26.0-28.0 **Mn** 1.0 max **Ni** 31.0-33.0 **P** 0.020 max **S** 0.015 max **Si** 0.30 max	**ASTM** A167; A182; A213; A240; A249; A312; A314; A403; A479; A480

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S33400	Austenitic Cr-Ni Stainless Steel (Grade 334)	**Al** 0.15-0.60 **C** 0.080 max **Cr** 18.0-20.0 **Mn** 1.00 max **Ni** 19.0-21.0 **P** 0.030 max **S** 0.015 max **Si** 1.00 max **Ti** 0.15-0.60	**ASTM** A 240
S34565	Austenitic Cr-Ni-Mn-Mo, High N, Stainless Steel (4565S)	**C** 0.03 max **Cb** 0.1 max **Cr** 23.0-25.0 **Mn** 5.0-7.0 **Mo** 4.0-5.0 **N** 0.4-0.6 **Ni** 16.0-18.0 **P** 0.030 max **S** 0.010 max **Si** 1.0 max	**ASTM** A167; A182; A240; A249; A358; A403; A479; A480
S34700	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized)	**C** 0.08 max **Cb** 10XC min **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 9.00-13.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 347 **AMS** 5512; 5556; 5558; 5571; 5575; 5646; 5654; 5674; 7229; 7490 **ASME** SA182 (347); SA193 (347); SA194 (347); SA213 (347); SA240 (347); SA249 (347); SA312 (347); SA320 (347); SA358 (347); SA376 (347); SA403 (347); SA409 (347); SA430 (347); SA479 (347) **ASTM** A167 (347); A182 (347); A193 (347, B8CA); A194 (347, 8C, 8CA); A213 (347); A240 (347); A249 (347); A269 (347); A271 (347); A276 (347); A312 (347); A314 (347); A320 (347, B8C, B8CA); A336 (F347); A358 (347); A376 (347); A403 (347); A409 (347); A430 (347); A473 (347); A479 (347); A511 (347); A554 (347); A580 (347); A632 (347); A774 (TP 347); A778 (TP 347); A813 (TP 347); A814 (TP 347) **FED** QQ-S-763 (347); QQ-S-766 (347) **MIL SPEC** MIL-S-23195 (347); MIL-S-23196 (347) **SAE** J405 (30347)
S34709	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized), High Carbon (347-H)	**C** 0.04-0.10 **Cb** 8xC-1.00 **Cr** 17.00-20.00 **Mn** 2.00 max **Ni** 9.00-13.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASME** SA182 (347 H); SA213 (347 H); SA240 (347 H); SA249 (347 H); SA312 (347 H); SA376 (347 H); SA403 (347 H); SA430 (347 H); SA479 (347 H) **ASTM** A182 (347 H); A213 (347 H); A240 (347 H); A249 (347 H); A271 (347 H); A312 (347 H); A336 (F347 H); A376 (347 H); A403 (347 H); A430 (347 H); A479 (347 H); A813 (TP 347 H); A814 (TP 347 H)
S34710	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized, High Carbon) (347 HFG)	**C** 0.06-0.10 **Cr** 17.0-20.0 **Cb** 8 x C - 1.0 **Mn** 2.00 max **Ni** 9.00-13.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max	**ASTM** A 213 **ASME** Code Case 2159
S34720	Austenitic Cr-Ni Free Machining Stainless Steel (Columbium Stabilized)	**C** 0.08 max **Cb** 10xC-1.10 **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 9.00-12.00 **P** 0.040 max **S** 0.18-0.35 **Si** 1.00 max	**AMS** 5642 (1)
S34723	Austenitic Cr-Ni Selenium Bearing Free Machining Stainless Steel (Columbium Stabilized)	**C** 0.08 max **Cb** 10xC-1.10 **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 9.00-12.00 **P** 0.11-0.17 **S** 0.030 max **Se** 0.15-0.35 **Si** 1.00 max	**AMS** 5642 (2)
*S34740	Austenitic Cr-Ni Free Machining Stainless Steel (Columbium Stabilized)	**C** 0.08 max **Cb** 10xC-1.10 **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 9.00-12.00 **P** 0.040 max **S** 0.18-0.35 **Si** 1.00 max	
*S34741	Austenitic Cr-Ni Selenium Bearing Free Machining Stainless Steel (Columbium Stabilized)	**C** 0.08 max **Cb** 10xC-1.10 **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 9.00-12.00 **P** 0.11-0.17 **S** 0.030 max **Se** 0.15-0.35 **Si** 1.00 max	
S34751	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized, Nitrogen Strengthened) (347LN)	**C** 0.005-0.020 **Cr** 17.0-20.0 **Mn** 2.00 max **N** 0.06-0.10 **Ni** 9.0-13.0 **P** 0.040 max **S** 0.030 max **Si** 0.75 max **Other** (Cb+Ta) 0.2-0.5; (Cb+Ta)/C 15 min	**ASME** SA213; SA271; SA312 **ASTM** A213; A271; A312
S34780	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized) Bare Filler Metal	**C** 0.08 max **Cb** 10xC-1.0 **Cr** 19.0-21.5 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 9.00-11.00 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**AMS** 5790 **ASME** SFA5.9 (ER347); SFA5.30 (IN348) **AWS** A5.9 (ER347); A5.30 (IN348) **MIL SPEC** MIL-E-19933 (MIL-347, MIL-347Co); MIL-I-23413 (MIL-348, MIL-348Co)
S34781	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized) Bare Filler Metal	**C** 0.07 max **Cr** 17.0-19.0 **Cu** 0.50 max **Mn** 2.00 max **Mo** 0.75 max **Ni** 9.00-13.00 **P** 0.040 max **S** 0.030 max **Si** 0.50-1.00 **Other** Cb+Ta, 12xC-0.50	**AMS** 5680

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S34788	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized) Bare Filler Metal (347Si)	**C** 0.08 max **Cr** 19.0-21.5 **Cu** 0.5 max **Mn** 1.00-2.50 **Mo** 0.5 max **Ni** 9.00-11.00 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00 **Other** Cb+Ta, 10xC-1.0	**ASME** SFA5.9 (ER347Si) **AWS** A5.9 (ER347Si)
S34800	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized) (Ta and Co Restricted)	**C** 0.08 max **Cb** 10XC min **Co** 0.20 max **Cr** 17.00-19.00 max **Mn** 2.00 max **Ni** 9.00-13.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max **Ta** 0.10 max	**AISI** 348 **ASME** SA182 (348); SA213 (348); SA240 (348); SA249 (348); SA312 (348); SA358 (348); SA376 (348); SA403 (348); SA409 (348); SA479 (348) **ASTM** A167 (348); A182 (348); A213 (348); A240 (348); A249 (348); A269 (348); A276 (348); A312 (348); A314 (348); A336 (F348); A358 (348); A376 (348); A403 (348); A409 (348); A479 (348); A580 (348); A632 (348); A813 (TP 348); A814 (TP 348) **FED** QQ-S-766 (348) **MIL SPEC** MIL-S-23195 (348); MIL-S-23196 (348) **SAE** J405 (30348)
S34809	Austenitic Cr-Ni Stainless Steel (Columbium Stabilized), High Carbon (Ta and Co Restricted) (348-H)	**C** 0.04-0.10 **Cb** 8xC-1.00 **Co** 0.20 max **Cr** 17.00-20.00 **Mn** 2.00 max **Ni** 9.00-13.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max **Ta** 0.10 max	**ASME** SA182 (348 H); SA213 (348 H); SA240 (348 H); SA249 (348 H); SA312 (348 H); SA4479 (348 H) **ASTM** A182 (348 H); A213 (348 H); A240 (348 H); A249 (348 H); A312 (348 H); A336 (F348 H); A479 (348 H); A813 (TP 348 H); A814 (TP 348 H)
S35000	Precipitation Hardenable Cr-Ni-Mo Stainless Steel (AM 350)	**C** 0.07-0.11 **Cr** 16.00-17.00 **Mn** 0.50-1.25 **Mo** 2.50-3.25 **N** 0.07-0.13 **Ni** 4.00-5.00 **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**AMS** 5546; 5548; 5554; 5745 **ASTM** A579 (61); A693 (633) **MIL SPEC** MIL-S-8840 **SAE** J467 (AM-350)
S35080	Precipitation Hardenable Cr-Ni-Mo Stainless Steel Bare Filler Metal (AM350)	**C** 0.08-0.12 **Cr** 16.0-17.0 **Mn** 0.50-1.25 **Mo** 2.50-3.25 **N** 0.07-0.13 **Ni** 4.00-5.00 **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**AMS** 5774
S35315	Austenitic Ni-Cr-Si Heat Resisting Steel (353MA)	**C** 0.04-0.08 **Ce** 0.03-0.08 **Cr** 24.0-26.0 **Mn** 2.0 max **N** 0.12-0.18 **Ni** 34.0-36.0 **P** 0.040 max **S** 0.030 max **Si** 1.2-2.0	**ASTM** A167; A240; A480
S35045	Austenitic Cr-Ni-Al-Ti Heat Resisting Steel (alloy 803)	**Al** 0.15-0.60 **C** 0.06-0.10 **Cr** 25.0-29.0 **Cu** 0.75 max **Mn** 1.50 max **Ni** 32.0-37.0 **P** 0.045 max **S** 0.015 max **Si** 1.00 max **Ti** 0.15-0.60	**ASTM** A 240/ A 240M; A 480/A 240M
S35135	Austenitic Cr-Ni-Mo-Ti Heat Resisting Steel (alloy 864)	**C** 0.08 max **Cr** 20.0-25.0 **Cu** 0.75 max **Mn** 1.00 max **Mo** 4.0-4.8 **Ni** 30.0-38.0 **P** 0.045 **S** 0.015 max **Si** 0.60-1.00 **Ti** 0.40-1.00	**ASTM** A 240/ A 240M; A 480/A 240M
S35500	Precipitation Hardenable Cr-Ni-Mo Stainless Steel (AM 355)	**C** 0.10-0.15 **Cr** 15.00-16.00 **Mn** 0.50-1.25 **Mo** 2.50-3.25 **N** 0.07-0.13 **Ni** 4.00-5.00 **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**AMS** 5547; 5549; 5743; 5744 **ASTM** A564 (634); A579 (634); A693 (634); A705 (634) **MIL SPEC** MIL-S-8840 **SAE** J467 (AM-355)
S35580	Precipitation Hardenable Cr-Ni-Mo Stainless Steel Bare Filler Metal (AM355)	**C** 0.10-0.15 **Cr** 15.0-16.0 **Cu** 0.50 max **Mn** 0.50-1.25 **Mo** 2.50-3.25 **N** 0.07-0.13 **Ni** 4.00-5.00 **P** 0.04 max **S** 0.03 max **Si** 0.50 max	**AMS** 5780
S36200	Precipitation Hardenable Cr-Ni-Ti Stainless Steel (Almar 362)	**Al** 0.10 max **C** 0.05 max **Cr** 14.00-15.00 **Mn** 0.50 max **Ni** 6.00-7.00 **P** 0.030 max **S** 0.030 max **Si** 0.30 max **Ti** 0.55-0.90	**AMS** 5739; 5740 **ASTM** A564 (XM-9); A693 (XM-9); A705 (XM-9)
S37000	Austenitic Cr-Ni-Mo-Ti Stainless Steel	**Al** 0.050 max **As** 0.030 max **B** 0.0020 max **C** 0.030-0.050 **Cb** 0.050 max **Co** 0.050 max **Cr** 12.5-14.5 **Cu** 0.04 max **Mn** 1.65-2.35 **Mo** 1.50-2.50 **N** 0.005 max **Ni** 14.5-16.5 **P** 0.040 max **S** 0.010 max **Si** 0.50-1.00 **Ta** 0.020 max **Ti** 0.10-0.40 **V** 0.05 max **Other** Ti aim for 0.25	
S38100	Austenitic Cr-Ni-Si Stainless Steel (18-18-2)	**C** 0.08 max **Cr** 17.00-19.00 **Mn** 2.00 max **Ni** 17.50-18.50 **P** 0.030 max **S** 0.030 max **Si** 1.50-2.50	**ASME** SA213 (XM-15); SA240 (XM-15); SA249 (XM-15); SA312 (XM-15) **ASTM** A167 (XM-15); A213 (XM-15); A240 (XM-15); A249 (XM-15); A269 (XM-15); A312 (XM-15); A813 (TP XM-15); A814 (TP XM-15)
S38400	Austenitic Cr-Ni Stainless Steel (Low Work Hardening)	**C** 0.08 max **Cr** 15.00-17.00 **Mn** 2.00 max **Ni** 17.00-19.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 384 **ASTM** A493 (384) **SAE** J405 (30384)

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• **S38500**	Austenitic Cr-Ni Stainless Steel (Low Work Hardening)	**C** 0.08 max **Cr** 11.50-13.50 **Mn** 2.00 max **Ni** 14.00-16.00 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**AISI** 385 **SAE** J405 (30385)
S38660	Austenitic Cr-Ni-Mo Stainless Steel-Reactor Grade	**Al** 0.050 max **As** 0.030 max **B** 0.0020 max **C** 0.03-0.05 **Cb** 0.050 max **Co** 0.050 max **Cr** 12.5-14.5 **Cu** 0.04 max **Mn** 1.65-2.35 **Mo** 1.50-2.50 **N** 0.005 max **Ni** 14.5-16.5 **P** 0.040 max **S** 0.010 max **Si** 0.50-1.00 **Ta** 0.020 max **Ti** 0.10-0.40 **V** 0.05 max	**ASTM** A771; A826
S39205	Replaced by S31803		
S39209	Duplex Stainless Steel Welding Filler Metal (ER 2209)	**C** 0.03 max **Cr** 21.5-23.5 **Cu** 0.75 **Mn** 0.5-2.0 **Mo** 2.5-3.5 **N** 0.08-0.20 **Ni** 7.0-9.0 **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.9 (ER2209) **AWS** A5.9 (ER2209)
S39215	Replaced by S31500		
S39226	Replaced by S31260		
S39230	Replaced by S32304		
S39240	Replaced by S32404		
S39253	Replaced by S32550		
S39255	Duplex Stainless Steel Welding Filler Metal (ER2553)	**C** 0.04 max **Cr** 24.0-27.0 **Cu** 1.5-2.5 **Mn** 0.50-1.5 **Mo** 2.9-3.9 **N** 0.10-0.25 **Ni** 4.5-6.5 **P** 0.03 max **S** 0.03 max **Si** 0.75 max	**ASME** SFA5.9 (ER2553) **AWS** A5.9 (ER2553)
S39274	Ferritic-Austenitic Cr-Ni-Mo-W-N Stainless Steel (DP3W)	**C** 0.030 max **Cr** 24.0-26.0 **Cu** 0.20-0.80 **Mn** 1.0 max **Mo** 2.50-3.50 **N** 0.24-0.32 **Ni** 6.0-8.0 **P** 0.030 max **S** 0.020 max **Si** 0.80 max **W** 1.50-2.50	**ASTM** A789; A790; A815; A988 **Other:** NACE MR-01-75
S39275	Replaced by S32750		
S39276	Replaced by S32760		
S39277	Duplex (Austenitic-Ferritic) Cr-Ni-Mo-Cu-W-N Stainless Steel (AF918)	**C** 0.025 max **Cr** 24.0-26.0 **Cu** 1.2-2.0 **Mo** 3.0-4.0 **N** 0.23-0.33 **Ni** 6.5-8.0 **P** 0.025 max **S** 0.002 max **Si** 0.80 max **W** 0.80-1.20	**ASTM** A182; A988 **Other:** NACE MR-01-75
S39295	Replaced by S32950		
S39553	Duplex Stainless Steel Bare Welding Filler Metal (ER2553)	**C** 0.04 max **Cr** 24.0-27.0 **Cu** 1.5-2.5 **Mn** 1.5 max **Mo** 2.9-3.9 **N** 0.10-0.25 **Ni** 4.5-6.5 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.9 (ER2553) **AWS** A5.9 (ER2553)
S40300	Cr Stainless Steel (Hardenable by Heat Treatment)	**C** 0.15 max **Cr** 11.50-13.00 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**AISI** 403 **ASTM** A176 (403); A276 (403); A314 (403); A473 (403); A479 (403); A511 (403); A580 (403) **FED** QQ-S-763 (403) **SAE** J405 (51403)
S40500	Cr Stainless Steel (Not Hardenable by Heat Treatment)	**Al** 0.10-0.30 **C** 0.08 max **Cr** 11.50-14.50 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 405 **ASME** SA240 (405); SA268 (405); SA479 (405) **ASTM** A176 (405); A240 (405); A268 (405); A276 (405); A473 (405); A479 (405); A511 (405); A580 (405) **FED** QQ-S-763 (405) **SAE** J405 (51405)
S40800	Ferritic Cr Stainless Steel	**C** 0.08 max **Cr** 11.5-13.0 **Mn** 1.00 max **Ni** 0.80 max **P** 0.045 max **S** 0.045 max **Si** 1.00 max **Ti** 12xC-1.10	**ASTM** A268
S40900	Ferritic Cr Stainless Steel	**C** 0.08 max **Cr** 10.50-11.75 **Mn** 1.00 max **Ni** 0.50 max **P** 0.045 max **S** 0.045 max **Si** 1.00 max **Ti** 6xC-0.75	**AISI** 409 **ASME** SA268 (409) **ASTM** A176 (409); A240 (409); A268 (409); A791 (TP 409); A803 (TP 409) **SAE** J405 (51409)
S40910	Ferritic Cr Stainless Steel with Ti	**C** 0.030 max **Cr** 10.5-11.7 **Mn** 1.00 max **N** 0.030 max **Ni** 0.50 max **P** 0.040 max **S** 0.010 max **Si** 1.00 max **Ti:** 6x(C+N) min **0.50** max	**ASTM** A 240

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S40920	Ferritic Cr Stainless Steel with Ti	**C** 0.030 max **Cr** 10.5-11.7 **Mn** 1.00 max **N** 0.030 max **Ni** 0.50 max **P** 0.040 max **S** 0.010 max **Si** 1.00 max **Ti:** 0.15-0.50; 8x(C+N) min	**ASTM** A 240
S40930	Ferritic Cr Stainless Steel with Cb+Ti	**C** 0.030 max **Cr** 10.5-11.7 **Mn** 1.00 max **N** 0.030 max **Ni** 0.50 max **P** 0.040 max **S** 0.010 max **Si** 1.00 max **Ti** 0.50 min **Other** (Cb+Ti): 0.08+8x(C+N) min; 0.75 max	**ASTM** A 240
S40940	Ferritic Cr Stainless Steel, with Cb	**C** 0.06 max **Cr** 10.50-11.75 **Cb** 10xC min-0.75 max **Mn** 1.00 max **Ni** 0.50 max **P** 0.045 max **S** 0.040 max **Si** 1.00 max	**ASME** SFA5.9 (ER409Cb) **ASTM** A493 **AWS** A5.9 (ER409Cb) **Other:** ISO 4954
S40945	Ferritic Cr Stainless Steel with Cb	**C** 0.030 max **Cb** 0.18-0.40 **Cr** 10.50-11.75 **Mn** 1.00 max **N** 0.030 max **Ni** 0.50 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 0.05-0.20	**ASTM** A176; A240; A480
S40975	Ferritic Cr Stainless Steel with Ni (409 Ni)	**C** 0.030 max **Cr** 10.50-11.75 **Mn** 1.00 max **N** 0.030 max **Ni** 0.50-1.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 6x(C+N) min, 0.75 max	**ASTM** A240; A240M
S40976	Ferritic Cr Stainless Steel with Ni and Cb (409Ni-Cb)	**C** 0.030 max **Cb** 10X(C+N)-0.80 **Cr** 10.5-11.7 **Mn** 1.00 max **N** 0.040 max **Ni** 0.75-1.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASTM** A 276; A 580
S40977	Ferritic Cr Stainless Steel with Ni	**C** 0.03 max **Cr** 10.5-12.5 **Mn** 1.50 max **N** 0.030 max **Ni** 0.30-1.00 **P** 0.040 max **S** 0.015 max **Si** 1.00 max	**ASTM** A 240 **Other:** EN 1.4003
S41000	Cr Stainless Steel (Hardenable by Heat Treatment)	**C** 0.15 max **Cr** 11.50-13.50 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 410 **AMS** 5504; 5505; 5591; 5613; 5776; 7493 **ASME** SA194 (6); SA240 (410); SA268 (410); SA479 (410) **ASTM** A176 (410); A182 (F62, F8a); A193 (410, B6, B6X); A194 (410, 6); A240 (410); A268 (410); A276 (410); A314 (410); A336 (F6); A473 (410); A479 (410); A493 (410); A511 (410); A580 (410); A988 **FED** QQ-S-763 (410); QQ-S-766 (410) **SAE** J405 (51410); J412 (51410)
S41001	Cr Super Strength Steel	**Al** 0.05 max **C** 0.15 max **Cr** 11.5-13.5 **Cu** 0.50 max **Mn** 1.00 max **Mo** 0.50 max **Ni** 0.75 max **P** 0.025 max **S** 0.025 max **Si** 1.00 max **Sn** 0.05 max	**AMS** 5611; 5612 **ASTM** A579 (51)
S41003	Ferritic-Martensitic Cr Stainless Steel	**C** 0.03 max **Cr** 10.50-12.50 **Mn** 1.50 max **N** 0.030 max **Ni** 1.50 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 0.002-0.05	**ASTM** A240; A480
S41008	Cr Stainless Steel (Hardenable by Heat Treatment), Low Carbon (410 S)	**C** 0.08 max **Cr** 11.50-13.50 **Mn** 1.00 max **Ni** 0.60 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASME** SA240 (410 S) **ASTM** A176 (410 S); A240 (410 S); A473 (410 S)
S41025	Martensitic Cr Stainless Steel with Mo	**C** 0.15 max **Cr** 11.50-13.50 **Mn** 1.00 max **Mo** 0.40-0.60 **Ni** 0.60 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AMS** 5614
S41026	Martensitic Cr Stainless Steel with Mo	**C** 0.15 max **Cr** 11.5-13.5 **Cu** 0.50 max **Mn** 1.00 max **Mo** 0.40-0.60 **Ni** 1.0-2.0 **P** 0.02 max **S** 0.02 max **Si** 1.00 max	**ASTM** A182 (F6b); A988
S41040	Martensitic Cr Stainless Steel with Cb	**C** 0.15 max **Cb** 0.05-0.20 **Cr** 11.50-13.50 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AMS** 5609 **ASME** SA479 (XM-30) **ASTM** A479 (XM-30)
S41041	Martensitic Cr Stainless Steel with Cb	**Al** 0.05 max **C** 0.13-0.18 **Cb** 0.15-0.45 **Cr** 11.50-13.00 **Mn** 0.40-0.60 **Mo** 0.20 max **Ni** 0.50 max **P** 0.030 max **S** 0.030 max **Si** 0.50 max **Sn** 0.05 max	**AMS** 5612

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S41045	Ferritic Cr Stainless Steel with Cb	**C** 0.030 max **Cb** 9(C+N) min - 0.60 max **Cr** 12.0-13.0 **Mn** 1.00 max **N** 0.030 max **Ni** 0.50 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASTM** A176; A240; A480
S41050	Ferritic Cr Stainless Steel with Ni (E-4)	**C** 0.040 max **Cr** 10.50-12.50 **Mn** 1.00 max **N** 0.10 max **Ni** 0.60-1.10 **P** 0.045 max **S** 0.030 max **Si** 1.00 max	**ASTM** A176; A240
S41080	Martensitic Cr Stainless Steel Bare Filler Metal	**C** 0.12 max **Cr** 11.5-13.5 **Cu** 0.75 max **Mn** 0.6 max **Mo** 0.75 max **Ni** 0.6 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**AMS** 5776 **ASME** SFA5.9 (ER410) **AWS** A5.9 (ER410) **MIL SPEC** MIL-E-19933 (MIL-410)
S41081	Martensitic Cr Stainless Steel Bare Filler Metal	**Al** 0.05 max **C** 0.11-0.15 **Cr** 11.5-12.5 **Cu** 0.50 max **Mn** 0.60 max **Mo** 0.20 max **N** 0.08 max **Ni** 0.75 max **P** 0.025 max **S** 0.025 max **Si** 0.50 max **Ti** 0.05 max	**AMS** 5821
S41086	Martensitic Cr-Ni-Mo Stainless Steel Bare Filler Metal (410NiMo)	**C** 0.06 max **Cr** 11.0-12.5 **Cu** 0.75 max **Mn** 0.60 max **Mo** 0.40-0.70 **Ni** 4.00-5.00 **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (ER410NiMo) **AWS** A5.9 (ER410NiMo)
S41400	Cr Stainless Steel with Low Nickel Content	**C** 0.15 max **Cr** 11.50-13.50 **Mn** 1.00 max **Ni** 1.25-2.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 414 **ASTM** A276 (414); A314 (414); A473 (414); A479 (414); A511 (414); A580 (414) **FED** QQ-S-763 (414) **SAE** J405 (51414)
S41425	Martensitic Cr-Ni-Mo-N Stainless Steel (AF913)	**C** 0.050 max **Cr** 12.00-15.00 **Cu** 0.30 max **Mn** 0.50-1.00 **Mo** 1.50-2.00 **N** 0.06-0.12 **Ni** 4.0-7.0 **P** 0.020 max **S** 0.005 max **Si** 0.5 max	**ASTM** A276; A314; A473; A479; A565 **Other:** NACE MR-01-75
S41426	Martensitic Cr-Ni-Mo-Ti Stainless Steel (SM13CRS)	**C** 0.03 max **Cr** 11.5-13.5 **Mn** 0.50 max **Mo** 1.5-3.0 **Ni** 4.5-6.5 **P** 0.02 max **Si** 0.50 max **S** 0.005 max **Ti** 0.01-0.50 **V** 0.50 max	**Other:** NACE MR0175
S41500	Cr-Ni-Mo Martensitic Stainless Steel (F6NM, wrought CA-6NM)	**C** 0.05 max **Cr** 11.5-14.0 **Mn** 0.50-1.00 **Mo** 0.50-1.00 **Ni** 3.50-5.50 **P** 0.030 max **S** 0.030 max **Si** 0.60 max	**ASTM** A176; A182 (F6NM); A240; A268; A479; A815; A988
S41600	Cr Stainless Steel (Free Machining)	**C** 0.15 max **Cr** 12.00-14.00 **Mn** 1.25 max **Mo** 0.60 max (Optional) **P** 0.060 max **S** 0.15 min **Si** 1.00 max	**AISI** 416 **AMS** 5610 **ASME** SA194 (416) **ASTM** A194 (416, 6F); A314 (416); A473 (416); A581 (416); A582 (416); A895 (416) **SAE** J405 (51416)
S41603	Cr Stainless Steel (Free Machining, Low Hardenable)	**C** 0.08 max **Cr** 12.0-14.0 **Mn** 1.25 max **P** 0.06 max **S** 0.15 min **Si** 1.00 max	**ASTM** A581; A582
S41610	Martensitic Cr Free Machining Stainless Steel	**C** 0.15 max **Cr** 12.00-14.00 **Mn** 1.50-2.50 **Mo** 0.60 max **P** 0.06 max **S** 0.15 min **Si** 1.00 max	**ASTM** A581 (XM-6); A582 (XM-6) **SAE** J405 (416 plus X)
S41623	Martensitic Cr Free Machining Stainless Steel (Se Bearing)	**C** 0.15 max **Cr** 12.00-14.00 **Mn** 1.25 max **P** 0.060 max **S** 0.060 **Se** 0.15 min **Si** 1.00 max	**AISI** 416 Se **AMS** 5610 **ASME** SA194 (416 Se) **ASTM** A194 (416 Se, 6F); A314 (416 Se); A473 (416 Se); A511 (416 Se); A581 (416 Se); A582 (416 Se); A895 (416 Se) **FED** QQ-S-763 **SAE** J405 (51416 Se)
S41683	Thermal Spray Wire (W-FeCr-Ni-8)	**C** 0.030 max **Cr** 12-14 **Fe** rem **Mn** 1.0 max **Ni** 1.0 max **Si** 0.080 max	**AWS** A5.33 (W-FeCrNi-8)
S41780	Ferritic Cr-Ni-Co-Mo Stainless Steel Bare Filler Metal	**C** 0.10-0.15 **Co** 1.30-2.00 **Cr** 11.0-12.5 **Cu** 0.75 max **Mn** 0.40-1.30 **Mo** 1.50-2.00 **N** 0.045 **Ni** 2.50-3.00 **P** 0.030 max **S** 0.030 max **Si** 0.40 max **V** 0.25-0.40	**AMS** 5822; 5823
S41800	Martensitic Cr-W-Ni Stainless and Heat Resisting Steel (Greek Ascoloy)	**C** 0.15-0.20 **Cr** 12.00-14.00 **Mn** 0.50 max **Ni** 1.80-2.20 **P** 0.040 max **S** 0.030 max **Si** 0.50 max **W** 2.50-3.50	**AMS** 5508; 5616 **ASTM** A565 (615) **SAE** J467 (Greek Ascoloy)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S41880	Martensitic Cr-W-Ni Stainless and Heat Resisting Steel Bare Filler Metal (Greek Ascoloy)	**Al** 0.15 max **C** 0.15-0.20 **Cr** 12.0-14.0 **Cu** 0.50 max **Mn** 0.50 max **Mo** 0.50 max **Ni** 1.80-2.20 **P** 0.040 max **S** 0.030 max **Si** 0.50 max **Sn** 0.05 max **W** 2.50-3.50	**AMS** 5817
S42000	Hardenable Cr Stainless Steel	**C** over 0.15 **Cr** 12.00-14.00 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 420 **AMS** 5506; 5621; 7207 **ASTM** A276 (420); A314 (420); A473 (420); A580 (420) **FED** QQ-S-763 (420); QQ-S-766 (420) **SAE** J405 (51420)
S42002	Martensitic Cr Stainless Steel (High Carbon) (SF100)	**C** 0.65-0.75 **Cr** 12.0-14.0 **Mn** 1.00 max **MO** 0.50 max **Ni** 1.00 max **P** 0.040 max **Si** 1.00 max **S** 0.030 max	**Other:** ISO 7153-1, Grade 6
S42010	Hardenable Cr Stainless Steel (Low Ni - Low Mo)	**C** 0.15-0.30 **Cr** 13.5-15.0 **Mn** 1.00 max **Mo** 0.40-1.00 **Ni** 0.25-1.00 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASTM** A276; A314; A493
S42020	Hardenable Cr Free Machining Stainless Steel	**C** over 0.15 **Cr** 12.00-14.00 **Mn** 1.25 max **Mo** 0.60 max (Optional) **P** 0.060 max **S** 0.15 min **Si** 1.00 max	**AISI** 420F **AMS** 5620 **ASTM** A895 (420 F) **SAE** J405 (51420F)
S42023	Hardenable Cr Free Machining Stainless Steel (Se Bearing)	**C** 0.30-0.40 **Cr** 12.00-14.00 **Mn** 1.25 max **Mo** 0.60 max **P** 0.06 max **S** 0.06 max **Se** 0.15 min **Si** 1.00 max **Other** Zr or Cu 0.60 max	**AMS** 5620 **ASTM** A582 (420 F Se); A895 (420 F Se) **SAE** J405 (51420F Se)
S42025	Martensitic Cr-Mo-V-N Stainless Steel	**C** 0.37-0.45 **Cr** 15.0-16.5 **Mn** 0.60 max **Mo** 1.50-1.90 **N** 0.16-0.25 **Ni** 0.30 max **P** 0.020 max **S** 0.005 max **Si** 0.60 max **V** 0.20-0.40	**AMS** 5925 **Other:** EN 1.4123
S42035	Martensitic Cr-Ni-Mo Stainless Steel with Ti	**C** 0.08 max **Cr** 13.5-15.5 **Mn** 1.00 max **Mo** 0.20-1.20 **Ni** 1.00-2.50 **P** 0.045 max **S** 0.030 max **Si** 1.00 max **Ti** 0.30-0.50	**ASTM** A 240 **Other:** EN 1.4589
S42080	Hardenable Cr Stainless Steel Bare Filler Metal	**C** 0.25-0.40 **Cr** 12.0-14.0 **Cu** 0.75 max **Mn** 0.60 max **Mo** 0.75 max **Ni** 0.60 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (ER420) **AWS** A5.9 (ER420); A5.33 (W-FeCrNi-9)
S42100	Martensitic Cr Stainless Steel	**Al** 0.05 max **C** 0.17-0.23 **Cb** 0.050 max **Cr** 11.0-12.5 **Mn** 0.40-0.70 **Mo** 0.80-1.20 **Ni** 0.30-0.80 **P** 0.040 max **S** 0.010 max **Si** 0.20-0.30 **V** 0.25-0.35 **W** 0.40-0.60	**ASTM** A826
S42200	Martensitic Cr Stainless Steel	**C** 0.20-0.25 **Cr** 11.00-13.50 **Mn** 1.00 max **Mo** 0.75-1.25 **Ni** 0.50-1.00 **P** 0.040 max **S** 0.030 max **Si** 0.75 max **V** 0.15-0.30 **W** 0.75-1.25	**AISI** 422 **AMS** 5655 **ASTM** A565 (616) **SAE** J467 (422); J775 (HNV 8)
S42201	Martensitic Cr, Superstrength Steel	**Al** 0.05 max **C** 0.20-0.25 **Co** 0.25 max **Cr** 11.0-13.5 **Mn** 0.50-1.00 **Mo** 0.75-1.25 **Ni** 0.75-1.25 **P** 0.025 max **S** 0.025 max **Si** 0.20-0.60 **Sn** 0.04 max **Ti** 0.05 max **V** 0.20-0.30 **W** 0.75-1.25	**ASTM** A579 (52)
S42300	Martensitic Cr-Mo-V Stainless Steel (Lapelloy)	**C** 0.27-0.32 **Cr** 11.00-12.00 **Mn** 0.95-1.35 **Mo** 2.50-3.00 **Ni** 0.50 max **P** 0.025 max **S** 0.025 max **Si** 0.50 max **V** 0.20-0.30	**ASTM** A565 (619)
S42390	Martensitic Cr-Mo-V-Cb Stainless Steel (APM 2390)	**C** 0.18-0.25 **Cb** 0.08-0.15 **Cr** 11.5-12.5 **Mn** 1.00 max **Mo** 0.80-1.20 **N** 0.03-0.08 **Ni** 0.30-0.80 **P** 0.030 max **S** 0.030 max **Si** 1.00 max **V** 0.25-0.35	**ASTM** A988
S42400	Ferritic Stainless Steel	**C** 0.06 max **Cr** 12.00-14.00 **Mn** 0.50-1.00 **Mo** 0.30-0.70 **Ni** 3.50-4.50 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.60	**Other:** NACE MR-01-75-92
S42500	Chromium Stainless Steel (Cr 15)	**C** 0.08-0.20 **Cr** 14.0-16.0 **Mn** 1.0 max **Mo** 0.3-0.7 **N** 0.20 max **Ni** 1.0-2.0 **P** 0.020 max **S** 0.010 max **Si** 1.0 max	**Other:** NACE MR-01-75

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S42640	Martensitic Cr-Co-Mo-Ni-V-Cb Stainless Steel	**C** 0.10-0.25 **Cb** 0.10-0.05 **Co** 11.00-14.00 **13.00-16.00C** 0.10 max **Mn** 1.00 max **Mo** 3.00-5.00 **Ni** 1.75-2.75 **P** 0.020 max **S** 0.010 max **Si** 1.00 max **V** 0.4-0.8 **W** 0.25 max	**AMS** 5932
S42670	Martensitic Cr-Co-Ni-Mo Stainless Steel (Pyrowear 675)	**C** 0.05-0.09 **Co** 4.00-7.00 **Cr** 12.0-14.0 **Mn** 0.50-1.00 **Mo** 1.50-2.50 **Ni** 2.00-3.00 **P** 0.015 max **S** 0.010 max **Si** 0.10-0.70 **V** 0.40-0.80	**AMS** 5930
S42700	Martensitic Cr-Mo-V Stainless Steel (for Bearings)	**C** 1.10-1.20 **Cr** 14.0-15.0 **Cu** 0.35 max **Mn** 0.30-0.60 **Mo** 3.75-4.25 **Ni** 0.40 max **P** 0.015 max **S** 0.010 max **Si** 0.20-0.40 **V** 1.10-1.30	**AMS** 5749
S42800	Martensitic Cr-Mo-V Stainless Steel (For Bearings)	**C** 1.05-1.15 **Cb** 0.25-0.35 **Cr** 13.7-14.8 **Cu** 0.35 max **Mn** 0.25-0.50 **Mo** 1.90-2.25 **Ni** 0.35 max **P** 0.015 max **S** 0.010 max **Si** 0.20-0.40 **V** 0.90-1.15	**AMS** 5900
S42900	Cr Stainless Steel	**C** 0.12 max **Cr** 14.00-16.00 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 429 **ASME** SA182 (429); SA240 (429); SA268 (429) **ASTM** A176 (429); A182 (429); A240 (429); A268 (429); A276 (429); A314 (429); A473 (429); A493 (429); A511 (429); A554 (429); A815 (WP 429) **FED** QQ-S-763 (429); QQ-S-766 (429) **SAE** J405 (51429)
S43000	Cr Stainless Steel	**C** 0.12 max **Cr** 16.00-18.00 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 430 **AMS** 5503; 5627 **ASME** SA182 (430); SA240 (430); SA268 (430); SA479 (430) **ASTM** A176 (430); A182 (430); A240 (430); A268 (430); A276 (430); A314 (430); A473 (430); A479 (430); A493 (430); A511 (430); A554 (430); A580 (430); A815 (WP 430) **FED** QQ-S-763 (430); QQ-S-766 (430) **SAE** J405 (51430)
S43020	Free Machining Cr Stainless Steel (S Bearing)	**C** 0.12 max **Cr** 16.00-18.00 **Mn** 1.25 max **Mo** 0.60 max (Optional) **P** 0.060 max **S** 0.15 min **Si** 1.00 max	**AISI** 430 F **ASTM** A314 (430 F); A473 (430 F); A581 (430 F); A582 (430 F); A895 (430 F) **SAE** J405 (51430 F)
S43023	Free Machining Cr Stainless Steel (Se Bearing)	**C** 0.12 max **Cr** 16.00-18.00 **Mn** 1.25 max **P** 0.060 max **S** 0.060 max **Se** 0.15 min **Si** 1.00 max	**AISI** 430F Se **ASTM** A314 (430 F Se); A473 (430 F Se); A581 (430 F Se); A582 (430 F Se); A895 (430 F Se) **SAE** J405 (51430F Se)
S43035	Ferritic Cr-Ti Stainless Steel (439)	**Al** 0.15 max **C** 0.07 max **Cr** 17.00-19.00 **Mn** 1.00 max **Ni** 0.50 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 12xC-1.10	**AISI** 439 **ASME** SA240 (439); SA268 (439); SA479 (439) **ASTM** A240 (439); A268 (439); A479 (439); A791 (TP 439); A803 (TP 439)
S43036	Ferritic Cr Stainless Steel with Titanium (430 Ti)	**C** 0.10 max **Cr** 16.00-19.50 **Mn** 1.00 max **Ni** 0.75 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Other** Ti, 5xC-0.75	**ASTM** A268 (430 Ti); A554 (430 Ti); A815 (430 Ti)
S43080	Ferritic Cr Stainless Steel Bare Filler Metal	**C** 0.10 max **Cr** 15.5-17.0 **Cu** 0.75 max **Mn** 0.60 max **Mo** 0.75 max **Ni** 0.60 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (ER430) **AWS** A5.9 (ER430)
S43100	Ni Bearing Hardenable Cr Stainless Steel	**C** 0.20 max **Cr** 15.00-17.00 **Mn** 1.00 max **Ni** 1.25-2.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 431 **AMS** 5628 **ASTM** A276 (431); A473 (431); A493 (431); A511 (MT 431); A579 (63); A580 (431) **MIL SPEC** MIL-S-8967; MIL-S-18732 **SAE** J405 (51431)
S43400	Cr-Mo Stainless Steel	**C** 0.12 max **Cr** 16.00-18.00 **Mn** 1.00 max **Mo** 0.75-1.25 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 434 **SAE** J405 (51434)
S43600	Cr-Mo Stainless Steel	**C** 0.12 max **Cr** 16.00-18.00 **Mn** 1.00 max **Mo** 0.75-1.25 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Other** Cb+Ta, 5XC-0.70	**AISI** 436 **SAE** J405 (51436)
S43932	Ferritic Cr Stainless Steel with Titanium and Columbium (439LT)	**Al** 0.15 max **C** 0.020 max **Cb** 0.02-0.095 **Cr** 17.0-19.0 **Mn** 1.0 max **N** 0.020 max **Ni** 0.50 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 0.20-0.40 **Other** (Ti+Cb): [0.20+4(C+N)] min, 0.75 max	**ASTM** A240; A480

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S43940	Ferritic Cr Stainless Steel with Ti and Cb (Nb)	**C** 0.03 max **Cb** (3xC + 0.30) min **Cr** 17.5-18.5 **Mn** 1.00 max **P** 0.040 max **S** 0.015 max **Si** 1.00 max **Ti** 0.10-0.60	**ASTM** A 240 **Other:** EN 1.4507
S44002	Hardenable Cr Stainless Steel (440 A)	**C** 0.60-0.75 **Cr** 16.00-18.00 **Mn** 1.00 max **Mo** 0.75 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 440 A **AMS** 5631; 5632; 7445 **ASTM** A276 (440 A); A314 (440 A); A473 (440 A); A511 (440 A); A580 (440 A) **FED** QQ-S-763 (440 A) **SAE** J405 (51440 A)
S44003	Hardenable Cr Stainless Steel (440 B)	**C** 0.75-0.95 **Cr** 16.00-18.00 **Mn** 1.00 max **Mo** 0.75 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 440 B **AMS** 7445 **ASTM** A276 (440 B); A314 (440 B); A473 (440 B); A580 (440 B) **FED** QQ-S-763 (440 B) **SAE** J405 (51440 B)
S44004	Hardenable Cr Stainless Steel (440 C)	**C** 0.95-1.20 **Cr** 16.00-18.00 **Mn** 1.00 max **Mo** 0.75 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 440 C **AMS** 5618; 5630; 5880; 7445 **ASTM** A276 (440 C); A314 (440 C); A473 (440 C); A493 (440 C); A580 (440 C) **FED** QQ-S-763 (440 C) **SAE** J405 (51440 C)
S44020	Martensitic Cr Free Machining Stainless Steel (440 F)	**C** 0.95-1.20 **Cr** 16.00-18.00 **Mn** 1.25 max **Mo** 0.40-0.60 **N** 0.08 max **Ni** 0.75 max **P** 0.040 max **S** 0.10-0.35 **Si** 1.00 max	**AMS** 5632 (1) **SAE** J405 (51440 F)
S44023	Martensitic CrSe Selenium Bearing Free Machining Stainless Steel (440 F Se)	**C** 0.95-1.20 **Cr** 16.00-18.00 **Mn** 1.25 max **Mo** 0.60 max **N** 0.08 max **Ni** 0.75 max **P** 0.040 max **S** 0.030 max **Se** 0.15 min **Si** 1.00 max	**AMS** 5632 (2) **SAE** J405 (51440 F Se)
S44025	Hardenable Cr Stainless Steel with Mo	**C** 0.95-1.10 **Cr** 16.00-18.00 **Cu** 0.50 max **Mn** 1.00 max **Mo** 0.40-0.65 **Ni** 0.75 max **P** 0.025 max **S** 0.025 max **Si** 1.00 max	**ASTM** A756
S44100	Ferritic Cr Stainless Steel (Columbium- Titanium Stabilized)	**C** 0.03 max **Cb** 0.3 + (9xC) min - 0.9 max **Cr** 17.5-19.5 **Mn** 1.00 max **N** 0.03 max **Ni** 1.00 max **P** 0.04 max **S** 0.03 max **Si** 1.00 max **Ti** 0.10-0.50	
S44200	Cr Heat Resisting Steel	**C** 0.20 max **Cr** 18.00-23.00 **Mn** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 442 **ASTM** A176 (442) **SAE** J405 (51442)
S44300	High Cr-Cu Heat Resisting Steel	**C** 0.20 max **Cr** 18.00-23.00 **Cu** 0.90-1.25 **Mn** 1.00 max **Ni** 0.50 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**ASTM** A268 (443); A511 (443) **FED** QQ-S-763
S44400	Cr-Mo Stainless Steel (Stabilized Low-Interstitial Ferritic)	**C** 0.025 max **Cr** 17.5-19.5 **Mn** 1.00 max **Mo** 1.75-2.50 **N** 0.025 max **Ni** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Other** Cb+Ti [0.20+4(C+N)] min - 0.80 max	**ASTM** A176; A240; A268 (18Cr-2Mo); A276; A479; A791 (18-2); A803 (18-2)
S44500	High Cr-Cu Heat Resisting Cb Stabilized Steel	**C** 0.02 max **Cb** 10(C+N) - 0.8 **Cr** 19.0-21.0 **Cu** 0.30-0.60 **Mn** 1.0 max **N** 0.03 max **Ni** 0.60 max **P** 0.040 max **S** 0.012 max **Si** 1.0 max	**ASTM** A240
S44600	Cr Heat Resisting Steel	**C** 0.20 max **Cr** 23.00-27.00 **Mn** 1.50 max **N** 0.25 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 446 **ASME** SA268 (446) **ASTM** A176 (446); A268 (446-1, 446-2); A276 (446); A314 (446); A473 (446); A511 (446); A580 (446); A815 (WP 446) **FED** QQ-S-763 (446); QQ-S-766 (446) **SAE** J405 (51446)
*S44625	Low Interstitial Ferritic Cr Stainless Steel	**C** 0.01 max **Cr** 25.00-27.50 **Cu** 0.20 max **Mn** 0.40 max **Mo** 0.75-1.50 **N** 0.015 max **Ni** 0.50 max **P** 0.020 max **S** 0.020 max **Si** 0.40 max **Other** Ni+Cu 0.50 max	**ASME** SA182 (XM-27); SA240 (XM-27); SA268 (XM-27); SA479 (XM-27) **ASTM** A176 (XM-27); A182 (XM-27); A240 (XM-27); A268 (XM-27); A314 (XM-27); A493
S44626	High Cr+Mo Stainless Steel (26-1)	**C** 0.06 max **Cr** 25.00-27.00 **Cu** 0.20 max **Mn** 0.75 max **Mo** 0.75-1.50 **N** 0.04 max **Ni** 0.50 max **P** 0.040 max **S** 0.020 max **Si** 0.75 max **Ti** 0.20-1.00 **Other** Ti 7x(C+N) min	**ASME** SA240 (XM-33); SA268 (XM-33) **ASTM** A176 (XM-33); A240 (XM-33); A268 (XM-33); A791 (TP XM-33); A803 (TP XM-33)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S44627	Low Interstitial Ferritic Cr Stainless Steel with Columbium	**C** 0.010 max **Cb** 0.05-0.20 **Cr** 25.0-27.0 **Cu** 0.20 max **Mn** 0.40 max **Mo** 0.75-1.50 **N** 0.015 max **Ni** 0.50 max **P** 0.020 max **S** 0.020 max **Si** 0.40 max	**ASME** SA240; SA268; SA479; SA731; SFA5.9 (Er26-1) **ASTM** A176; A182 (FXM-27 Cb); A240; A268; A276 (XM-27); A314; A336 (FXM-27 Cb); A479; A731; A791 (TP XM-27); A803 (TP XM-27)
S44635	Ferritic Cr-Mo-Ni Stainless Steel (25-4-4)	**C** 0.025 max **Cr** 24.5-26.0 **Mn** 1.00 max **Mo** 3.50-4.50 **N** 0.035 max **Ni** 3.50-4.50 **P** 0.040 max **S** 0.030 max **Si** 0.75 max **Other** Cb+Ti 0.20+4(C+N) - 0.80 max	**ASTM** A176; A240; A268 (25-4-4); A791 (25-4-4); A803 (25-4-4)
S44660	Ferritic Cr-Mo-Ni Stainless Steel (Columbium plus Titanium Stabilized) (SC-1)	**C** 0.030 max **Cr** 25.0-28.0 **Mn** 1.00 max **Mo** 3.00-4.00 **N** 0.040 max **Ni** 1.00-3.50 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Other** Cb+Ti [0.20+6(C+N)] min - 1.00 max	**ASTM** A176; A240; A268 (26-3-3); A791 (26-3-3); A803 (26-3-3)
S44687	Ferritic Cr-Mo Stainless Steel Bare Filler Metal	**C** 0.015 max **Cr** 25.0-27.5 **Cu** 0.20 max **Mn** 0.40 max **Mo** 0.75-1.50 **N** 0.015 max **P** 0.02 max **S** 0.02 max **Si** 0.40 max **Other** Ni+Cu 0.50 max	**ASME** SFA5.9 (ER446MoL) **AWS** A5.9 (ER446MoL)
S44700	Ferritic High Cr+Mo Stainless Steel (29-4)	**C** 0.010 max **Cr** 28.0-30.0 **Cu** 0.15 max **Mn** 0.30 max **Mo** 3.5-4.2 **N** 0.020 max **Ni** 0.15 max **P** 0.025 max **S** 0.020 max **Si** 0.20 max **Other** C+N 0.025 max	**ASTM** A176; A240; A268 (29-4); A276; A479; A493; A511 (29-4); A580; A791 (29-4); A803 (29-4)
S44735	Ferritic High Cr+Mo Stainless Steel (29-4C)	**C** 0.030 max **Cr** 28.0-30.0 **Mn** 1.00 max **Mo** 3.60-4.20 **N** 0.045 max **Ni** 1.00 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Other** Cb+Ti 0.20 - 1.00[6(C+N)] min	**ASTM** A176; A240; A268; A511; A791 (29-4C); A803 (29-4C)
S44736	Ferritic High Cr+Mo Stainless Steel (29-4-2C)	**C** 0.030 max **Cr** 28.0-30.0 **Mn** 1.00 max **Mo** 3.60-4.20 **Ni** 2.00-4.50 **N** 0.045 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Other** Cb+Ti 0.20 - 1.00[6(C+N)] min	**ASME** SA268 **ASTM** A803
S44800	Ferritic High Cr Stainless Steel (29-4-2)	**C** 0.010 max **Cr** 28.0-30.0 **Cu** 0.15 max **Mn** 0.30 max **Mo** 3.5-4.2 **N** 0.020 max **Ni** 2.0-2.5 **P** 0.025 max **S** 0.020 max **Si** 0.20 max **Other** C+N 0.025 max	**ASTM** A176; A240; A268 (29-4-2); A276; A479; A493; A511 (29-4-2); A791 (29-4-2); A803 (29-4-2)
S45000	Stainless Steel (Custom 450)	**C** 0.05 max **Cb** 8xC min **Cr** 14.00-16.00 **Cu** 1.25-1.75 **Mn** 1.00 max **Mo** 0.50-1.00 **Ni** 5.00-7.00 **P** 0.030 max **S** 0.030 max **Si** 1.00 max	**AMS** 5763; 5773; 5859; 5863 **ASME** SA564 (XM-25); SA705 (XM-25) **ASTM** A564 (XM-25); A693 (XM-25); A705 (XM-25)
S45500	Stainless Steel (Custom 455)	**C** 0.05 max **Cb** 0.10-0.50 **Cr** 11.00-12.50 **Cu** 1.50-2.50 **Mn** 0.50 max **Mo** 0.50 max **Ni** 7.50-9.50 **P** 0.040 max **S** 0.030 max **Si** 0.50 max **Ti** 0.80-1.40	**AMS** 5578; 5617; 5672; 5860 **ASTM** A313 (XM-16); A564 (XM-16); A693 (XM-16); A705 (XM-16) **MIL SPEC** MIL-S-83311
S45503	Martensitic, Age Hardenable Stainless Steel (Custom 455 ELC)	**C** 0.010 max **Cr** 11.00-12.50 **Cu** 1.50-2.50 **Mn** 0.50 max **Mo** 0.50 max **Ni** 7.50-9.50 **P** 0.010 max **S** 0.010 max **Si** 0.20 max **Ti** 1.00-1.35 **Other** (Cb+Ta) 0.10-0.50	**AMS** 5617 **ASME** SA-564; SA-705 **ASTM** A 564; A 705
S46800	Ferritic Cr Stainless Steel with Ti and Cb	**C** 0.030 max **Cb** 0.10-0.60 **Cr** 18.00-20.00 **Mn** 1.00 max **N** 0.030 max **Ni** 0.50 max **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 0.07-0.30 **Other** (Ti+Cb): [0.20+4(C+N)] min, 0.80 max	**ASTM** A240; A480
S50100	Cr Heat Resisting Steel	**C** over 0.10 **Cr** 4.00-6.00 **Mn** 1.00 max **Mo** 0.40-0.65 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 501 **ASME** SA194 (3); SA387 (5) **ASTM** A182 (B5, F7); A193 (501, B5); A194 (501, 3); A314 (501); A387 (5); A473 (501) **SAE** J405 (51501)
S50180	Cr Heat Resisting Steel Bare Filler Metal	**C** 0.25-0.40 **Cr** 4.80-6.00 **Cu** 0.35 max **Mn** 0.75-1.00 **Mo** 0.45-0.65 **P** 0.025 max **S** 0.030 max **Si** 0.25-0.50	**ASME** SFA5.23 (EB6H) **AWS** A5.23 (EB6H)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
S50181	Cr Heat Resisting Steel Bare Filler Metal (Nuclear Grade)	**C** 0.25-0.40 **Cr** 4.80-6.00 **Cu** 0.08 max **Mn** 0.75-1.00 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.030 max **Si** 0.25-0.50 **V** 0.05 max	**ASME** SFA5.23 (EB6HN) **AWS** A5.23 (EB6HN)
S50200	Cr Heat Resisting Steel	**C** 0.10 max **Cr** 4.00-6.00 **Mn** 1.00 max **Mo** 0.40-0.65 **P** 0.040 max **S** 0.030 max **Si** 1.00 max	**AISI** 502 **ASME** SA387 (5) **ASTM** A314 (502); A387 (5); A473 (502) **MIL SPEC** MIL-T-16286 **SAE** J405 (51502)
S50280	Cr Heat Resisting Steel Base Filler Metal	**C** 0.10 max **Cr** 4.00-6.00 **Cu** 0.75 max **Mn** 0.60 max **Mo** 0.45-0.65 **Ni** 0.60 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**AMS** 6466 **ASME** SFA5.9 (ER502); SFA5.23 (EB6); SFA5.30 (IN502) **AWS** A5.9 (ER502); A5.23 (EB6); A5.30 (IN502) **MIL SPEC** MIL-I-23431 (MIL-505)
S50281	Cr Heat Resisting Steel Bare Filler Metal (Nuclear Grade)	**C** 0.10 max **Cr** 4.50-6.00 **Cu** 0.08 max **Mn** 0.40-0.65 **Mo** 0.45-0.65 **P** 0.012 max **S** 0.025 max **Si** 0.20-0.50 **V** 0.05 max	**ASME** SFA5.23 (EB6N) **AWS** A5.23 (EB6N)
S50288	Cr Heat Resisting Steel Bare Filler Metal (ER502Si)	**C** 0.10 max **Cr** 4.6-6.0 **Cu** 0.75 max **Mn** 0.60 max **Mo** 0.45-0.65 **Ni** 0.6 max **P** 0.03 max **S** 0.03 max **Si** 0.65-1.0	**ASME** SFA5.9 (ER502Si) **AWS** A5.9 (ER502Si)
S50300	Cr Heat Resisting Steel	**C** 0.15 max **Cr** 6.00-8.00 **Mn** 1.00 max **Mo** 0.45-0.65 **P** 0.040 max **S** 0.040 max **Si** 1.00 max	**ASTM** A182 (F7); A199 (T7); A200 (T7); A369 (FP7); A387 (7)
S50400	Cr Heat Resisting Steel (Grade 9)	**C** 0.15 max **Cr** 8.00-10.00 **Mn** 1.00 max **Mo** 0.90-1.10 **P** 0.040 max **S** 0.040 max **Si** 1.00 max	**ASTM** A199 (T9); A200 (T9); A213 (T9); A276 (9); A335 (P9); A387 (9)
S50460	Cr Heat Resisting Steel (Grade 91)	**Al** 0.04 max **C** 0.08-0.12 **Cb** 0.06-0.10 **Cr** 8.0-9.5 **Mn** 0.30-0.60 **Mo** 0.85-1.05 **N** 0.030-0.070 **Ni** 0.40 max **P** 0.020 max **S** 0.010 max **Si** 0.20-0.50 **V** 0.18-0.25	**ASME** SA182; SA213; SA234; SA335; SA336; SA369; SA387 **ASTM** A182; A213; A234; A335; A336; A369; A387
S50480	Cr Heat Resisting Steel Bare Filler Metal	**C** 0.10 max **Cr** 8.00-10.50 **Cu** 0.75 max **Mn** 0.60 max **Mo** 0.80-1.20 **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (ER505); SFA5.23 (EB8) **AWS** A5.9 (ER505); A5.23 (EB8)
S50481	Cr Heat Resisting Steel Bare Filler Metal, Nuclear Grade	**C** 0.10 max **Cr** 8.00-10.5 **Cu** 0.08 max **Mn** 0.30-0.65 **Mo** 0.80-1.20 **P** 0.012 max **S** 0.030 max **Si** 0.05-0.50 **V** 0.05 max	**ASME** SFA5.23 (EB8N) **AWS** A5.23 (EB8N)
S50482	Cr Heat Resisting Bare Filler Metal (EB 9)	**Al** 0.04 max **C** 0.07-0.13 **Cr** 8.00-10.00 **Cu** 0.10 max **Mn** 1.25 max **Mo** 0.80-1.10 **N** 0.03-0.07 **Nb** 0.02-0.10 **Ni** 1.00 max **P** 0.010 max **S** 0.010 max **Si** 0.30 max **V** 0.15-0.25	**ASME** SFA5.23 (EB 9) **AWS** A5.23 (EB 9)
S50488	Cr Heat Resisting Steel Bare Filler Metal (ER505Si)	**C** 0.10 max **Cr** 8.0-10.5 **Cu** 0.75 max **Mn** 0.6 max **Mo** 0.8-1.2 **Ni** 0.5 max **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (ER505Si) **AWS** A5.9 (ER505Si)
S59180	Cr Heat Resisting Bare Filler Metal (B9)	**Al** 0.04 max **C** 0.07-0.13 **Cb** 0.03-0.10 **Cr** 8.0-9.5 **Cu** 0.20 max **Mn** 1.25 max **Mo** 0.80-1.10 **N** 0.03-0.07 **Ni** 1.00 max **P** 0.010 max **S** 0.010 max **Si** 0.15-0.30 **V** 0.15-0.25	**ASME** SFA5.28 (ER90S-B9) **AWS** A5.28 (ER90S-B9)
S63005	Valve Steel (CNS)	**C** 0.25-0.35 **Cr** 12.00-13.50 **Mn** 0.50 max **Mo** 0.50 max **Ni** 7.00-8.50 **P** 0.030 max **S** 0.030 max **Si** 2.00-3.00	**AMS** 5705 **SAE** J775 (HNV-5)
S63007	Valve Steel (21-55N)	**C** 0.15-0.25 **Cr** 20.0-22.0 **Mn** 5.00-6.50 **N** 0.20-0.35 **Ni** 4.50-6.00 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**SAE** J775 (EV-7)
S63008	Valve Steel (21-4N)	**C** 0.48-0.58 **Cr** 20.00-22.00 **Mn** 8.00-10.00 **N** 0.35-0.50 **Ni** 3.25-4.50 **P** 0.050 max **S** 0.030 max **Si** 0.25 max	**SAE** J775 (EV 8) **Other:** ISO 683-15 (X 53 CrMnNiN 21 9)

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S63011	Valve Steel (746)	**C** 0.65-0.75 **Cr** 20.50-22.00 **Mn** 5.50-6.90 **N** 0.18-0.28 **Ni** 1.40-1.90 **P** 0.040 max **S** 0.035 max **Si** 0.45-0.85	**SAE** J775 (EV-11)
S63012	Valve Steel (21-2 N)	**C** 0.50-0.60 **Cr** 19.25-21.50 **Mn** 7.00-10.00 **N** 0.20-0.40 **Ni** 1.50-2.75 **P** 0.050 max **S** 0.030 max **Si** 0.25 max	**SAE** J775 (EV 12)
S63013	Valve Steel (Gaman H)	**C** 0.47-0.57 **Cr** 20.00-22.00 **Mn** 11.00-13.00 **N** 0.40-0.50 **P** 0.030 max **S** 0.050 max **Si** 2.00-3.00	**SAE** J775 (EV 13)
S63014	Valve Steel (10)	**C** 0.30-0.45 **Cr** 18.0-20.0 **Mn** 0.80-1.30 **Ni** 7.75-8.25 **P** 0.030 max **S** 0.030 max **Si** 2.75-3.25	**SAE** J775 (EV-5)
S63015	Valve Steel (10 N)	**C** 0.35-0.45 **Cr** 18.0-20.0 **Mn** 0.80-1.30 **N** 0.15-0.25 **Ni** 7.75-8.15 **P** 0.030 max **S** 0.030 max **Si** 2.75-3.25	**SAE** J775 (EV-6)
S63016	Valve Steel (21-12)	**C** 0.15-0.25 **Cr** 20.50-22.00 **Mn** 1.00-1.40 **Ni** 10.50-12.00 **P** 0.030 max **S** 0.030 max **Si** 0.70 max	**SAE** J775 (EV-3)
S63017	Valve Steel (21-12N)	**C** 0.15-0.25 **Cr** 20.00-22.00 **Mn** 1.00-1.50 **N** 0.15-0.25 **Ni** 10.50-12.50 **P** 0.045 max **S** 0.030 max **Si** 0.70-1.25	**SAE** J775 (EV 4)
S63018	Valve Steel (23-8N) (Nitronic 20)	**C** 0.28-0.38 **Cr** 22.00-24.00 **Mn** 1.50-3.50 **Mo** 0.50 max **N** 0.25-0.35 **Ni** 7.00-9.00 **P** 0.050 max **S** 0.030 max **Si** 0.50-1.00 **W** 0.50 max	**SAE** J775 (EV 16) **Other:** ISO 683-15 (X 33 CrNiMnN 23 8)
S63019	Valve Steel (21-4N+Nb+W)	**C** 0.45-0.55 **Cb+Ta** 1.80-2.50 **Cr** 20.00-22.00 **Mn** 8.00-10.00 **N** 0.40-0.60 **Ni** 3.50-5.50 **P** 0.050 max **S** 0.030 max **Si** 0.45 max **W** 0.80-1.50	**SAE** J775 (XEV-F) **Other:** ISO 683-15 (X 50 CrMnNiNbN 21 9)
S63197	Iron Base Superalloy, Welding Filler Metal (ER349)	**C** 0.07-0.13 **Cb** + Ta 1.00-1.40 **Cr** 19.0-21.5 **Cu** 0.75 max **Mn** 1.00-2.50 **Mo** 0.35-0.65 **Ni** 8.00-9.50 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65 **Ti** 0.10-0.30 **W** 1.25-1.75	**MIL SPEC** MIL-E-19933 (MIL-349)
S63198	Iron Base Superalloy (19-9-DL)	**C** 0.28-0.35 **Cb** 0.25-0.60 **Cr** 18.0-21.0 **Cu** 0.50 max **Mn** 0.75-1.50 **Mo** 1.00-1.75 **Ni** 8.00-11.00 **P** 0.040 max **S** 0.030 max **Si** 0.30-0.80 **Ti** 0.10-0.35 **W** 1.00-1.75	**AMS** 5526; 5579 **ASTM** A453 (651); A457 (651); A458 (651); A477 (651) **SAE** J467 (19-9DL)
S63199	Iron Base Superalloy (19-9-DX or 19-9-W-Mo)	**C** 0.28-0.35 **Cr** 18.0-21.0 **Cu** 0.50 max **Mn** 0.75-1.50 **Mo** 1.25-2.00 **Ni** 8.00-11.00 **P** 0.040 max **S** 0.030 max **Si** 0.30-0.80 **Ti** 0.40-0.75 **W** 1.00-1.75	**AMS** 5782 **SAE** J467 (19-9DX)
S64004	Valve Steel (SUH 11M)	**C** 0.47-0.55 **Cr** 7.50-9.50 **Mn** 0.60 max **Ni** 0.60 max **P** 0.030 max **S** 0.030 max **Si** 1.00-2.00	**Other:** JIS G 4311 SUH 11 Mod.
S64005	Valve Steel (2)	**C** 0.50-0.60 **Cr** 7.50-8.50 **Mn** 0.20-0.60 **Mo** 0.60-0.90 **P** 0.020 max **S** 0.020 max **Si** 1.25-1.75	**SAE** J775 (HNV-1)
S64006	Valve Steel (F)	**C** 0.35-0.50 **Cr** 1.50-2.50 **Mn** 0.20-0.60 **P** 0.030 max **S** 0.030 max **Si** 3.50-4.50	**SAE** J775 (HNV-2)
S64007	Valve Steel (GM-8440)	**C** 0.35-0.45 **Cr** 1.85-2.50 **Cu** 0.25 max **Mn** 0.20-0.40 **Ni** 0.25 max **P** 0.030 max **S** 0.040 max **Si** 3.60-4.20	**SAE** J775 (NV 8)
S64152	High Strength Alloy Steel (M152)	**C** 0.08-0.15 **Cr** 11.00-12.50 **Mn** 0.50-0.90 **Mo** 1.50-2.00 **N** 0.01-0.05 **Ni** 2.00-3.00 **P** 0.025 max **S** 0.025 max **Si** 0.35 max **V** 0.25-0.40	**AMS** 5718; 5719 **ASTM** A565 (XM-32)

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* **S64299**	Iron Base Superalloy (29-9)	**C** 0.08-0.15 **Cr** 27.0-31.0 **Cu** 0.50 max **Mn** 1.00-2.00 **Mo** 0.50 max **Ni** 8.50-10.50 **P** 0.040 max **S** 0.030 max **Si** 0.75 *max*	**AMS** 5784
S65006	Valve Steel (Silchrome XB)	**C** 0.75-0.90 **Cr** 19.00-21.00 **Mn** 0.80 max **Ni** 1.00-1.70 **P** 0.040 max **S** 0.040 max **Si** 1.75-2.60	**AMS** 5710 **SAE** J775 (HNV 6)
S65007	Valve Steel (Silchrome 1)	**C** 0.40-0.50 **Cr** 8.00-10.00 **Mn** 0.80 max **Ni** 0.60 max **P** 0.040 max **S** 0.030 max **Si** 2.70-3.30	**SAE** J775 (HNV 3) **Other:** ISO 683-15 (X45 CrSi 9 3)
S65150	Iron Base Superalloy (Pyromet X-15)	**C** 0.03 max **Co** 19.0-21.0 **Cr** 14.50-16.00 **Mn** 0.10 max **Mo** 2.50-3.00 **Ni** 0.20 max **P** 0.015 max **S** 0.015 max **Si** 0.10 max	**AMS** 5761
S65770	Iron Base Superalloy (AFC 77)	**C** 0.12-0.17 **Co** 13.0-14.0 **Cr** 13.50-14.50 **Mn** 0.30 max **Mo** 4.50-5.50 **Ni** 0.30-0.70 **P** 0.015 max **S** 0.015 max **Si** 0.25 max **V** 0.10-0.30	**AMS** 5748
S66009	Valve Steel (TPA)	**C** 0.35-0.50 **Cr** 12.0-15.0 **Mn** 1.00 max **Mo** 0.20-0.50 **Ni** 12.0-15.0 **P** 0.045 max **S** 0.030 max **Si** 0.30-0.80 **W** 1.50-3.00 **Other** if Mo not used, W 2.00-3.00	**AMS** 5700 **SAE** J775 (EV-9)
S66220	Iron Base Superalloy (Discaloy)	**Al** 0.35 max **B** 0.0010-0.010 **C** 0.08 max **Cr** 12.0-15.0 **Cu** 0.50 max **Mn** 1.50 max **Mo** 2.50-3.50 **Ni** 24.0-28.0 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 1.55-2.00	**AMS** 5733 **ASTM** A453 (662); A638 (662) **SAE** J467 (Discaloy)
S66286	Iron Base Superalloy (A286)	**Al** 0.35 max **B** 0.0010-0.010 **C** 0.08 max **Cr** 13.50-16.00 **Mn** 2.00 max **Mo** 1.00-1.50 **Ni** 24.0-27.0 **P** 0.040 max **S** 0.030 max **Si** 1.00 max **Ti** 1.90-2.35 **V** 0.10-0.50	**AMS** 5525; 5726; 5731; 5732; 5734; 5737; 5804; 5805; 5853; 5858; 5895; 7235 **ASME** SA638 (660) **ASTM** A453 (660); A638 (660) **SAE** J467 (A286); J775 (HEV-7)
S66545	Iron Base Superalloy (W545)	**Al** 0.25 max **B** 0.01-0.07 **C** 0.08 max **Cr** 12.0-15.0 **Cu** 0.25 max **Mn** 1.25-2.00 **Mo** 1.25-2.25 **Ni** 24.0-28.0 **P** 0.040 max **S** 0.030 max **Si** 0.10-0.80 **Ti** 2.70-3.30	**ASTM** A453 (665) **SAE** J467 (W545)
S67956	Iron Base Superalloy, Dispersion Strengthened (MA 956)	**Al** 3.75-5.75 **C** 0.10 *max* **Co** 0.30 *max* **Cr** 18.5-21.5 **Cu** 0.15 max **Mn** 0.30 max **Ni** 0.50 max **P** 0.02 max **S** 0.02 max **Si** 0.30 max **Ti** 0.20-0.60 **Other** Yttria (Y_2O_3) 0.30-0.70% by weight	
S68000	Iron, *Cr-Ni-Mo Hardfacing* Alloy (Eatonite 6)	**C** 1.50-2.00 **Cr** 26.00-30.00 **Mn** 1.00 max **Mo** 4.00-5.00 **Ni** 15.00-18.00 **P** 0.025 max **S** 0.020 max **Si** 1.10-1.50	**SAE** J775 (S68000)
S70003	Fe-Ni-Cr-Si Corrosion Resistant Steel (Alloy 700Si)	**Al** 0.50 max **C** 0.02 max **Cr** 8.0-11.0 **Mn** 2.00 max **Mo** 0.50 max **Ni** 22.0-25.0 **P** 0.025 max **S** 0.010 max **Si** 6.5-8.0	**ASTM** A213; A249

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With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Txxxxx Number Series
Tool Steels, Wrought and Cast

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TOOL STEELS, WROUGHT AND CAST

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
T11301	High-Speed Tool Steel (M-1)	**C** 0.78-0.88 **Cr** 3.50-4.00 **Mn** 0.15-0.40 **Mo** 8.20-9.20 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.50 **V** 1.00-1.35 **W** 1.40-2.10	**AISI** M-1 **ASTM** A600 (M-1) **SAE** J437 (M1); J438 (M1)
T11302	High-Speed Tool Steel (M-2)	**C** 0.78-1.05 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **Mo** 4.50-5.50 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 1.75-2.20 **W** 5.50-6.75	**AISI** M-2 **ASTM** A597 (CM-2); A600 (M-2) **SAE** J437 (M2); J438 (M2)
T11304	High-Speed Tool Steel (M-4)	**C** 1.25-1.40 **Cr** 3.75-4.75 **Mn** 0.15-0.40 **Mo** 4.25-5.50 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 3.75-4.50 **W** 5.25-6.50	**AISI** M-4 **ASTM** A600 (M-4) **SAE** J437 (M4); J438 (M4)
T11306	High-Speed Tool Steel (M-6)	**C** 0.75-0.85 **Co** 11.00-13.00 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **Mo** 4.50-5.50 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 1.30-1.70 **W** 3.75-4.75	**AISI** M-6 **ASTM** A600 (M-6)
T11307	High-Speed Tool Steel (M-7)	**C** 0.97-1.05 **Cr** 3.50-4.00 **Mn** 0.15-0.40 **Mo** 8.20-9.20 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.55 **V** 1.75-2.25 **W** 1.40-2.10	**AISI** M-7 **ASTM** A600 (M-7)
T11310	High-Speed Tool Steel (M-10)	**C** 0.84-1.05 **Cr** 3.75-4.50 **Mn** 0.10-0.40 **Mo** 7.75-8.50 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 1.80-2.20	**AISI** M-10 **ASTM** A600 (M-10)
T11313	High-Speed Tool Steel (M-3, Class 1)	**C** 1.00-1.10 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **Mo** 4.75-6.50 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 2.25-2.75 **W** 5.00-6.75	**AISI** M-3 (Cl.1) **ASTM** A600 (M-3, Cl.1) **SAE** J437 (M3); J438 (M3)
T11323	High-Speed Tool Steel (M-3, Class 2)	**C** 1.15-1.25 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **Mo** 4.75-6.50 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 2.75-3.25 **W** 5.00-6.75	**AISI** M-3 (Cl.2) **ASTM** A600 (M-3, Cl.2) **SAE** J437 (M3); J438 (M3)
T11330	High-Speed Tool Steel (M-30)	**C** 0.75-0.85 **Co** 4.50-5.50 **Cr** 3.50-4.25 **Mn** 0.15-0.40 **Mo** 7.75-9.00 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 1.00-1.40 **W** 1.30-2.30	**AISI** M-30 **ASTM** A600 (M-30)
T11333	High-Speed Tool Steel (M-33)	**C** 0.85-0.92 **Co** 7.75-8.75 **Cr** 3.50-4.00 **Mn** 0.15-0.40 **Mo** 9.00-10.00 **P** 0.03 max **S** 0.03 max **Si** 0.25-0.55 **V** 1.00-1.35 **W** 1.30-2.10	**AISI** M-33 **ASTM** A600 (M-33)
T11334	High-Speed Tool Steel (M-34)	**C** 0.85-0.92 **Co** 7.75-8.75 **Cr** 3.50-4.00 **Mn** 0.15-0.40 **Mo** 7.75-9.20 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 1.90-2.30 **W** 1.40-2.10	**AISI** M-34 **ASTM** A600 (M-34)
T11336	High-Speed Tool Steel (M-36)	**C** 0.80-0.90 **Co** 7.75-8.75 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **Mo** 4.50-5.50 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 1.75-2.25 **W** 5.50-6.50	**AISI** M-36 **ASTM** A600 (M-36)
T11341	High-Speed Tool Steel (M-41)	**C** 1.05-1.15 **Co** 4.75-5.75 **Cr** 3.75-4.50 **Mn** 0.20-0.60 **Mo** 3.25-4.25 **P** 0.03 max **S** 0.03 max **Si** 0.15-0.50 **V** 1.75-2.25 **W** 6.25-7.00	**AISI** M-41 **ASTM** A600 (M-41)
T11342	High-Speed Tool Steel (M-42)	**C** 1.05-1.15 **Co** 7.75-8.75 **Cr** 3.50-4.25 **Mn** 0.15-0.40 **Mo** 9.00-10.00 **P** 0.03 max **S** 0.03 max **Si** 0.15-0.65 **V** 0.95-1.35 **W** 1.15-1.85	**AISI** M-42 **ASTM** A600 (M-42)
***T11343**	High-Speed Tool Steel (M-43)	**C** 1.15-1.25 **Co** 7.75-8.75 **Cr** 3.50-4.25 **Mn** 0.20-0.40 **Mo** 7.50-8.50 **P** 0.03 max **S** 0.03 max **Si** 0.15-0.65 **V** 1.50-1.75 **W** 2.25-3.00	**AISI** M-43 **ASTM** A600 (M-43)

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*T11344	High-Speed Tool Steel (M-44)	**C** 1.10-1.20 **Co** 11.00-12.25 **Cr** 4.00-4.75 **Mn** 0.20-0.40 **Mo** 6.00-7.00 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.55 **V** 1.85-2.20 **W** 5.00-5.75	**AISI** M-44 **ASTM** A600 (M-44)
T11346	High-Speed Tool Steel (M-46)	**C** 1.22-1.30 **Co** 7.80-8.80 **Cr** 3.70-4.20 **Mn** 0.20-0.40 **Mo** 8.00-8.50 **P** 0.03 max **S** 0.03 max **Si** 0.40-0.65 **V** 3.00-3.30 **W** 1.90-2.20	**AISI** M-46 **ASTM** A600 (M-46)
*T11347	High-Speed Tool Steel (M-47)	**C** 1.05-1.15 **Co** 4.75-5.25 **Cr** 3.50-4.00 **Mn** 0.15-0.40 **Mo** 9.25-10.00 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.45 **V** 1.15-1.35 **W** 1.30-1.80	**AISI** M-47 **ASTM** A600 (M-47)
T11348	High-Speed Tool Steel, Powder Metallurgy (M-48)	**C** 1.50 **Co** 9.00 **Cr** 3.75 **Mo** 5.25 **V** 3.10 **W** 10.0	**AISI** M-48 **ASTM** A600 (M 48)
T11350	Bearing Steel	**C** 0.77-0.85 **Co** 0.25 max **Cr** 3.75-4.25 **Cu** 0.10 max **Mn** 0.35 max **Mo** 4.00-4.50 **Ni** 0.15 max **P** 0.015 max **S** 0.015 max **Si** 0.25 max **V** 0.90-1.10 **W** 0.25 max	**AMS** 6490; 6491 **ASTM** A600 (M 50)
T11352	High-Speed Tool Steel, Powder Metallurgy (M-52)	**C** 0.90 **Cr** 4.00 **Mo** 4.00 **V** 2.00 **W** 1.25	**AISI** M-52 **ASTM** A600 (M 52)
T11361	High-Speed Tool Steel, Powder Metallurgy (M-61)	**C** 1.60 **Cr** 4.00 **Mo** 6.50 **V** 5.00 **W** 12.0	**AISI** M-61
T11362	High-Speed Tool Steel, Powder Metallurgy (M-62)	**C** 1.30 **Cr** 3.75 **Mo** 10.5 **V** 2.00 **W** 6.25	**AISI** M-62 **ASTM** A600 (M62)
T12001	High-Speed Tool Steel (T-1)	**C** 0.65-0.80 **Cr** 3.75-4.50 **Mn** 0.10-0.40 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.40 **V** 0.90-1.30 **W** 17.25-18.75	**AISI** T-1 **AMS** 5626 **ASTM** A600 (T-1) **SAE** J437 (T1); J438 (T1)
*T12002	High-Speed Tool Steel (T-2)	**C** 0.80-0.90 **Cr** 3.75-4.50 **Mn** 0.20-0.40 **Mo** 1.00 max **P** 0.03 max **S** 0.03 max **Si** 0.20-0.40 **V** 1.80-2.40 **W** 17.50-19.00	**AISI** T-2 **ASTM** A600 (T-2) **SAE** J437 (T2); J438 (T2)
T12004	High-Speed Tool Steel (T-4)	**C** 0.70-0.80 **Co** 4.25-5.75 **Cr** 3.75-4.50 **Mn** 0.10-0.40 **Mo** 0.40-1.00 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.40 **V** 0.80-1.20 **W** 17.50-19.00	**AISI** T-4 **ASTM** A600 (T-4) **SAE** J437 (T4); J438 (T4)
T12005	High-Speed Tool Steel (T-5)	**C** 0.75-0.85 **Co** 7.00-9.50 **Cr** 3.75-5.00 **Mn** 0.20-0.40 **Mo** 0.50-1.25 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.40 **V** 1.80-2.40 **W** 17.50-19.00	**AISI** T-5 **ASTM** A600 (T-5) **SAE** J437 (T5); J438 (T5)
T12006	High-Speed Tool Steel (T-6)	**C** 0.75-0.85 **Co** 11.00-13.00 **Cr** 4.00-4.75 **Mn** 0.20-0.40 **Mo** 0.40-1.00 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.40 **V** 1.50-2.10 **W** 18.50-21.00	**AISI** T-6 **ASTM** A600 (T-6)
T12008	High-Speed Tool Steel (T-8)	**C** 0.75-0.85 **Co** 4.25-5.75 **Cr** 3.75-4.50 **Mn** 0.20-0.40 **Mo** 0.40-1.00 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.40 **V** 1.80-2.40 **W** 13.25-14.75	**AISI** T-8 **ASTM** A600 (T-8) **SAE** J437 (T8); J438 (T8)
T12015	High-Speed Tool Steel (T-15)	**C** 1.50-1.60 **Co** 4.75-5.25 **Cr** 3.75-5.00 **Mn** 0.15-0.40 **Mo** 1.00 max **P** 0.03 max **S** 0.03 max **Si** 0.15-0.40 **V** 4.50-5.25 **W** 11.75-13.00	**AISI** T-15 **ASTM** A600 (T-15)
T20810	Hot-Work Tool Steel (H-10)	**C** 0.35-0.45 **Cr** 3.00-3.75 **Mn** 0.25-0.70 **Mo** 2.00-3.00 **P** 0.030 max **S** 0.030 max **Si** 0.80-1.20 **V** 0.25-0.75	**AISI** H-10 **ASTM** A681 (H-10)

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T20811	Hot-Work Tool Steel (H-11)	**C** 0.33-0.43 **Cr** 4.75-5.50 **Mn** 0.20-0.50 **Mo** 1.10-1.60 **P** 0.030 max **S** 0.030 max **Si** 0.80-1.20 **V** 0.30-0.60	**AISI** H-11 **AMS** 6437; 6485; 6487; 6488 **ASTM** A579 (H-11); A681 (H-11) **MIL SPEC** MIL-S-47262 **SAE** J437 (H-11); J438 (H-11); J467 (H-11)
T20812	Hot-Work Tool Steel (H-12)	**C** 0.30-0.40 **Cr** 4.75-5.50 **Mn** 0.20-0.50 **Mo** 1.25-1.75 **P** 0.030 max **S** 0.030 max **Si** 0.80-1.20 **V** 0.50 max **W** 1.00-1.70	**AISI** H-12 **ASTM** A681 (H-12) **SAE** J437 (H12); J438 (H12); J467 (H12)
T20813	Hot-Work Tool Steel (H-13)	**C** 0.32-0.45 **Cr** 4.75-5.50 **Mn** 0.20-0.50 **Mo** 1.10-1.75 **P** 0.030 max **S** 0.030 max **Si** 0.80-1.20 **V** 0.80-1.20	**AISI** H-13 **AMS** 6408 **ASTM** A681 (H-13) **SAE** J437 (H13); J438 (H13); J467 (H13)
T20814	Hot-Work Tool Steel (H-14)	**C** 0.35-0.45 **Cr** 4.75-5.50 **Mn** 0.20-0.50 **P** 0.030 max **S** 0.030 max **Si** 0.80-1.20 **W** 4.00-5.25	**AISI** H-14 **ASTM** A681 (H-14)
T20819	Hot-Work Tool Steel (H-19)	**C** 0.32-0.45 **Co** 4.00-4.50 **Cr** 4.00-4.75 **Mn** 0.20-0.50 **Mo** 0.30-0.55 **P** 0.030 max **S** 0.030 max **Si** 0.20-0.50 **V** 1.75-2.20 **W** 3.75-4.50	**AISI** H-19 **ASTM** A681 (H-19)
T20821	Hot-Work Tool Steel (H-21)	**C** 0.26-0.36 **Cr** 3.00-3.75 **Mn** 0.15-0.40 **P** 0.030 max **S** 0.030 max **Si** 0.15-0.50 **V** 0.30-0.60 **W** 8.50-10.00	**AISI** H-21 **ASTM** A681 (H-21) **SAE** J437 (H21); J438 (H21)
T20822	Hot-Work Tool Steel (H-22)	**C** 0.30-0.40 **Cr** 1.75-3.75 **Mn** 0.15-0.40 **P** 0.030 max **S** 0.030 max **Si** 0.15-0.40 **V** 0.25-0.50 **W** 10.00-11.75	**AISI** H-22 **ASTM** A681 (H-22)
T20823	Hot-Work Tool Steel (H-23)	**C** 0.25-0.35 **Cr** 11.00-12.75 **Mn** 0.15-0.40 **P** 0.030 max **S** 0.030 max **Si** 0.15-0.60 **V** 0.75-1.25 **W** 11.00-12.75	**AISI** H-23 **ASTM** A681 (H-23)
T20824	Hot-Work Tool Steel (H-24)	**C** 0.42-0.53 **Cr** 2.50-3.50 **Mn** 0.15-0.40 **P** 0.030 max **S** 0.030 max **Si** 0.15-0.40 **V** 0.40-0.60 **W** 14.00-16.00	**AISI** H-24 **ASTM** A681 (H-24)
***T20825**	Hot-Work Tool Steel (H-25)	**C** 0.22-0.32 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **P** 0.030 max **S** 0.030 max **Si** 0.15-0.40 **V** 0.40-0.60 **W** 14.00-16.00	**AISI** H-25 **ASTM** A681 (H-25)
T20826	Hot-Work Tool Steel (H-26)	**C** 0.45-0.55 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **P** 0.030 max **S** 0.030 max **Si** 0.15-0.40 **V** 0.75-1.25 **W** 17.25-19.00	**AISI** H-26 **ASTM** A681 (H-26)
***T20841**	Hot-Work Tool Steel (H-41)	**C** 0.60-0.75 **Cr** 3.50-4.00 **Mn** 0.15-0.40 **Mo** 8.20-9.20 **P** 0.030 max **S** 0.030 max **Si** 0.20-0.45 **V** 1.00-1.30 **W** 1.40-2.10	**AISI** H-41 **ASTM** A681 (H-41)
T20842	Hot-Work Tool Steel (H-42)	**C** 0.55-0.70 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **Mo** 4.50-5.50 **P** 0.030 max **S** 0.030 max **Si** 0.20-0.45 **V** 1.75-2.20 **W** 5.50-6.75	**AISI** H-42 **ASTM** A681 (H-42)
***T20843**	Hot-Work Tool Steel (H-43)	**C** 0.50-0.65 **Cr** 3.75-4.50 **Mn** 0.15-0.40 **Mo** 7.75-8.50 **P** 0.030 max **S** 0.030 max **Si** 0.20-0.45 **V** 1.80-2.20	**AISI** H-43 **ASTM** A681 (H-43)
T30102	Cold-Work Tool Steel (A-2)	**C** 0.95-1.05 **Cr** 4.75-5.50 **Mn** 1.00 max **Mo** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max **V** 0.15-0.50	**AISI** A-2 **ASTM** A681 (A-2) **SAE** J437 (A2); J438 (A2)

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*T30103	Cold-Work Tool Steel (A-3)	**C** 1.20-1.30 **Cr** 4.75-5.50 **Mn** 0.40-0.60 **Mo** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max **V** 0.80-1.40	**AISI** A-3 **ASTM** A681 (A-3)
T30104	Cold-Work Tool Steel (A-4)	**C** 0.95-1.05 **Cr** 0.90-2.20 **Mn** 1.80-2.20 **Mo** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**AISI** A-4 **ASTM** A681 (A-4)
*T30105	Cold-Work Tool Steel (A-5)	**C** 0.95-1.05 **Cr** 0.90-1.20 **Mn** 2.80-3.20 **Mo** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**AISI** A-5 **ASTM** A681 (A-5)
T30106	Cold-Work Tool Steel (A-6)	**C** 0.65-0.75 **Cr** 0.90-1.20 **Mn** 1.80-2.50 **Mo** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**AISI** A-6 **ASTM** A681 (A-6)
T30107	Cold-Work Tool Steel (A-7)	**C** 2.00-2.85 **Cr** 5.00-5.75 **Mn** 0.80 max **Mo** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max **V** 3.90-5.15 **W** 0.50-1.50	**AISI** A-7 **ASTM** A681 (A-7)
T30108	Cold-Work Tool Steel (A-8)	**C** 0.50-0.60 **Cr** 4.75-5.50 **Mn** 0.50 max **Mo** 1.15-1.65 **P** 0.030 max **S** 0.030 max **Si** 0.75-1.10 **W** 1.00-1.50	**AISI** A-8 **ASTM** A681 (A-8)
T30109	Cold-Work Tool Steel (A-9)	**C** 0.45-0.55 **Cr** 4.75-5.50 **Mn** 0.50 max **Mo** 1.30-1.80 **Ni** 1.25-1.75 **P** 0.030 max **S** 0.030 max **Si** 0.95-1.15 **V** 0.80-1.40	**AISI** A-9 **ASTM** A681 (A-9)
T30110	Cold-Work Tool Steel (A-10)	**C** 1.25-1.50 **Mn** 1.60-2.10 **Mo** 1.25-1.75 **Ni** 1.55-2.05 **P** 0.030 max **S** 0.030 max **Si** 1.00-1.50	**AISI** A-10 **ASTM** A681 (A-10)
T30111	Cold-Work Tool Steel (A-11)	**C** 2.45 **Cr** 5.25 **Mn** 0.50 **Mo** 1.30 **Si** 0.90 **V** 9.75	**AISI** A-11
T30402	Cold-Work Tool Steel (D-2)	**C** 1.40-1.60 **Co** 1.00 max **Cr** 11.00-13.00 **Mn** 0.60 max **Mo** 0.70-1.20 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 1.10 max	**AISI** D-2 **ASTM** A681 (D-2) **SAE** J437 (D2); J438 (D2)
T30403	Cold-Work Tool Steel (D-3)	**C** 2.00-2.35 **Cr** 11.00-13.50 **Mn** 0.60 max **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 1.00 max **W** 1.00 max	**AISI** D-3 **ASTM** A681 (D-3) **SAE** J437 (D3); J438 (D3)
T30404	Cold-Work Tool Steel (D-4)	**C** 2.05-2.40 **Cr** 11.00-13.00 **Mn** 0.60 max **Mo** 0.70-1.20 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 1.00 max	**AISI** D-4 **ASTM** A681 (D-4)
T30405	Cold-Work Tool Steel (D-5)	**C** 1.40-1.60 **Co** 2.50-3.50 **Cr** 11.0-13.00 **Mn** 0.60 max **Mo** 0.70-1.20 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 1.00 max	**AISI** D-5 **ASTM** A681 (D-5) **SAE** J437 (D5); J438 (D5)
T30407	Cold-Work Tool Steel (D-7)	**C** 2.15-2.50 **Cr** 11.50-13.50 **Mn** 0.60 max **Mo** 0.70-1.20 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 3.80-4.40	**AISI** D-7 **ASTM** A681 (D-7) **SAE** J437 (D7); J438 (D7)
T31501	Oil-Hardening Tool Steel (O-1)	**C** 0.85-1.00 **Cr** 0.40-0.60 **Mn** 1.00-1.40 **P** 0.030 max **S** 0.030 max **Si** 0.50 max **V** 0.30 max **W** 0.40-0.60	**AISI** O-1 **ASTM** A681 (O-1) **SAE** J437 (O1); J438 (O1)
T31502	Oil-Hardening Tool Steel (O-2)	**C** 0.85-0.95 **Cr** 0.35 max **Mn** 1.40-1.80 **Mo** 0.30 max **P** 0.030 max **S** 0.030 max **Si** 0.50 max **V** 0.30 max	**AISI** O-2 **ASTM** A681 (O-2) **SAE** J437 (O2); J438 (O2)
T31506	Oil-Hardening Tool Steel (O-6)	**C** 1.25-1.55 **Cr** 0.30 max **Mn** 0.30-1.10 **Mo** 0.20-0.30 **P** 0.030 max **S** 0.030 max **Si** 0.55-1.50	**AISI** O-6 **ASTM** A681 (O-6) **SAE** J437 (06); J438 (06)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
T31507	Oil Hardening Tool Steel (0-7)	**C** 1.10-1.30 **Cr** 0.35-0.85 **Mn** 1.00 max **Mo** 0.30 max **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 0.40 max **W** 1.00-2.00	**AISI** O-7 **ASTM** A681 (0-7)
T41901	Shock Resisting Tool Steel (S-1)	**C** 0.40-0.55 **Cr** 1.00-1.80 **Mn** 0.10-0.40 **Mo** 0.50 max **P** 0.030 max **S** 0.030 max **Si** 0.15-1.20 **V** 0.15-0.30 **W** 1.50-3.00	**AISI** S-1 **ASTM** A681 (S-1) **SAE** J437; J438 (S-1)
T41902	Shock-Resisting Tool Steel (S-2)	**C** 0.40-0.55 **Mn** 0.30-0.50 **Mo** 0.30-0.60 **P** 0.030 max **S** 0.030 max **Si** 0.90-1.20 **V** 0.50 max	**AISI** S-2 **ASTM** A681 (S-2) **SAE** J437 (S2); J438 (S2)
T41904	Shock-Resisting Tool Steel (S-4)	**C** 0.50-0.65 **Cr** 0.35 max **Mn** 0.60-0.95 **P** 0.030 max **S** 0.030 max **Si** 1.75-2.25 **V** 0.35 max	**AISI** S-4 **ASTM** A681 (S-4)
T41905	Shock-Resisting Tool Steel (S-5)	**C** 0.50-0.65 **Cr** 0.35 max **Mn** 0.60-1.00 **Mo** 0.20-1.35 **P** 0.030 max **S** 0.030 max **Si** 1.75-2.25 **V** 0.35 max	**AISI** S-5 **ASTM** A681 (S-5) **SAE** J437 (S5); J438 (S5)
T41906	Shock-Resisting Tool Steel (S-6)	**C** 0.40-0.50 **Cr** 1.20-1.50 **Mn** 1.20-1.50 **Mo** 0.30-0.50 **P** 0.030 max **S** 0.030 max **Si** 2.00-2.50 **V** 0.20-0.40	**AISI** S-6 **ASTM** A681 (S-6)
T41907	Shock-Resisting Tool Steel (S-7)	**C** 0.45-0.55 **Cr** 3.00-3.50 **Mn** 0.20-0.80 **Mo** 1.30-1.80 **P** 0.030 max **S** 0.030 max **Si** 0.20-1.00 **Other** V 0.20-0.30 (Optional)	**AISI** S7 **ASTM** A597 (CS-7); A681 (S-7)
•T51602	Mold Steel (P-2)	**C** 0.10 max **Cr** 0.75-1.25 **Mn** 0.10-0.40 **Mo** 0.15-0.40 **Ni** 0.10-0.50 **P** 0.030 max **S** 0.030 max **Si** 0.10-0.40	**AISI** P-2 **ASTM** A681 (P-2)
•T51603	Mold Steel (P-3)	**C** 0.10 max **Cr** 0.40-0.75 **Mn** 0.20-0.60 **Ni** 1.00-1.50 **P** 0.030 max **S** 0.030 max **Si** 0.40 max	**AISI** P-3 **ASTM** A681 (P-3)
***T51604**	Mold Steel (P-4)	**C** 0.12 max **Cr** 4.00-5.25 **Mn** 0.20-0.60 **Mo** 0.40-1.00 **P** 0.030 max **S** 0.030 max **Si** 0.10-0.40	**AISI** P-4 **ASTM** A681 (P-4)
•T51605	Mold Steel (P-5)	**C** 0.10 max **Cr** 2.00-2.50 **Mn** 0.20-0.60 **Ni** 0.35 max **P** 0.030 max **S** 0.030 max **Si** 0.40 max	**AISI** P-5 **ASTM** A681 (P-5)
T51606	Mold Steel (P-6)	**C** 0.05-0.15 **Cr** 1.25-1.75 **Mn** 0.35-0.70 **Ni** 3.25-3.75 **P** 0.030 max **S** 0.030 max **Si** 0.10-0.40	**AISI** P-6 **ASTM** A681 (P-6)
T51620	Mold Steel (P-20)	**C** 0.28-0.40 **Cr** 1.40-2.00 **Mn** 0.60-1.00 **Mo** 0.30-0.55 **P** 0.030 max **S** 0.030 max **Si** 0.20-0.80	**AISI** P-20 **ASTM** A681 (P-20)
T51621	Mold Steel (P-21)	**Al** 1.05-1.25 **C** 0.18-0.22 **Cr** 0.20-0.30 **Mn** 0.20-0.40 **Ni** 4.00-4.25 **P** 0.030 max **S** 0.030 max **Si** 0.20-0.40 **V** 0.15-0.25	**AISI** P-21 **ASTM** A681 (P-21)
***T60601**	C-W Tool Steel (F-1)	**C** 0.95-1.25 **Mn** 0.50 max **P** 0.030 max **S** 0.030 max **Si** 0.50 max **W** 1.00-1.75	**AISI** F-1 **ASTM** A681 (F-1)

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* **T60602**	C-W Tool Steel (F-2)	**C** 1.20-1.40 **Cr** 0.20-0.40 **Mn** 0.50 max **P** 0.030 max **S** 0.030 max **Si** 0.50 max **W** 3.00-4.50	**AISI** F-2 **ASTM** A681 (F-2)
T61202	Low-Alloy Tool Steel (L-2)	**C** 0.45-1.00 **Cr** 0.70-1.20 **Mn** 0.10-0.90 **Mo** 0.25 max **P** 0.030 max **S** 0.030 max **Si** 0.50 max **V** 0.10-0.30	**AISI** L-2 **ASTM** A681 (L-2)
* **T61203**	Low-Alloy Tool Steel (L-3)	**C** 0.95-1.10 **Cr** 1.30-1.70 **Mn** 0.25-0.50 **P** 0.030 max **S** 0.030 max **Si** 0.50 max **V** 0.10-0.30	**AISI** L-3 **ASTM** A681 (L-3)
T61206	Low-Alloy Tool Steel (L-6)	**C** 0.65-0.75 **Cr** 0.60-1.20 **Mn** 0.25-0.80 **Mo** 0.50 max **Ni** 1.25-2.00 **P** 0.030 max **S** 0.030 max **Si** 0.50 max	**AISI** L-6 **ASTM** A681 (L-6) **SAE** J437 (L6); J438 (L6)
T72301	Water Hardening Tool Steel (W-1)	**C** 0.70-1.50 **Cr** 0.15 max **Cu** 0.20 max **Mn** 0.10-0.40 **Mo** 0.10 max **Ni** 0.20 max **P** 0.025 max **S** 0.025 max **Si** 0.10-0.40 **V** 0.10 max **W** 0.15 max	**AISI** W-1 **ASTM** A686 (W-1) **SAE** J437 (W108, W109, W110, W112); J438 (W108, W109, W110, W112)
T72302	Water Hardening Tool Steel (W-2)	**C** 0.85-1.50 **Cr** 0.15 max **Cu** 0.20 max **Mn** 0.10-0.40 **Mo** 0.10 max **Ni** 0.20 max **P** 0.030 max **S** 0.030 max **Si** 0.10-0.40 **V** 0.15-0.35 **W** 0.15 max	**AISI** W-2 **ASTM** A686 (W-2) **SAE** J437 (W209, W210); J438 (W209, W210)
T72305	Water-Hardening Tool Steel (W-5)	**C** 1.05-1.15 **Cr** 0.40-0.60 **Cu** 0.20 max **Mn** 0.10-0.40 **Mo** 0.10 max **Ni** 0.20 max **P** 0.030 max **S** 0.030 max **Si** 0.10-0.40 **V** 0.10 max **W** 0.15 max	**AISI** W-5 **ASTM** A686 (W-5)
T74000	Cr-Steel Solid Welding Wire for Machinable Surfaces (ERFe-1)	**C** 0.25-0.5 **Cr** 0.5-3.5 **Fe** rem **Mn** 0.5-2.0 **Mo** 1.5 max **Si** 1.0 max	**ASME** SFA 5.21 (ERFe-1 **AWS** A5.21 (ERFe-1)
T74001	Cr-Steel Solid Welding Wire for Machinable Surfaces (ERFe-1A)	**C** 0.25-0.5 **Cr** 0.5-3.5 **Fe** rem **Mn** 1.7-3.5 **Si** 1.0 max	**ASME** SFA 5.21 (ERFe-1A) **AWS** A 5.21 (ERFe-1A)
T74002	Cr-Steel Solid Welding Wire for Machinable Surfaces (ERFe-2)	**C** 0.10-0.30 **Cr** 1.8-3.8 **Fe** rem **Mn** 0.5-2.0 **Mo** 1.0 max **Ni** 1.0 max **Si** 1.0 max **V** 0.35 max	**ASME** SFA 5.21 (ERFe-2) **AWS** A 5.21 (ERFe-2)
T74003	Cr-Steel Solid Welding Wire for Tool and Die Surfacing (ERFe-3)	**C** 0.50-0.80 **Cr** 4.0-8.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 1.0 max **Si** 1.0 max	**ASME** SFA 5.21 (ERFe-3) **AWS** A 5.21 (ERFe-3)
T74005	Cr-Steel Solid Welding Wire for Tool and Die Surfacing (ERFe-5)	**C** 0.50-0.80 **Cr** 1.5-3.0 **Fe** rem **Mn** 1.5-2.5 **Si** 0.9 max	**ASME** SFA 5.21 (ERFe-5) **AWS** A 5.21 (ERFe-5)
T75006	High Speed Steel Solid Welding Wire for Surfacing (ERFe-6)	**C** 0.6-1.0 **Cr** 3.0-5.0 **Fe** rem **Mn** 0.4-1.0 **Mo** 7.0-9.5 **Si** 1.0 max **W** 0.5-1.5 **V** 0.5-1.5	**ASME** SFA 5.21 (ERFe-6) **AWS** A 5.21 (ERFe-6)
T75008	High Speed Steel Solid Welding Wire for Surfacing (ERFe-8)	**C** 0.30-0.60 **Cr** 4.0-8.0 **Fe** rem **Mn** 1.0-2.0 **Mo** 1.0-2.0 **Si** 1.0 max **W** 1.0-2.0 **V** 0.50 max	**ASME** SFA 5.21 (ERFe-8) **AWS** A 5.21 (ERFe-8)
T87510	Thermal Spray Wire (W-FeCrC)	**C** 1.0 max **Cr** 1.35-1.65 **Fe** rem **Mn** 0.25-0.40 **P** 0.020 max **S** 0.02 max **Si** 0.50 max	**AWS** A5.33 (W-FeCrC)
T87515	Thermal Spray Wire (W-FeCrMn)	**C** 1.0 max **Cr** 1.6-2.0 **Fe** rem **Mn** 1.7-2.0 **Mo** 0.15-0.25 **P** 0.010 max **S** 0.040 max **Si** 0.35 max **Ti** 0.11-0.15	**AWS** A5.33 (W-FeCrMn)
T87520	Thermal Spray Wire (W-FeNiCr)	**C** 0.10 max **Cr** 1.0-2.0 **Fe** rem **Mn** 2.5 max **Mo** 1.0-3.0 **Ni** 3.7-5.0 **P** 0.030 max **S** 0.030 max **Si** 0.35 max	**AWS** A5.33 (W-FeNiCr)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
T90102	Cast Cold Work Tool Steel (CA-2)	**C** 0.95-1.05 **Cr** 4.75-5.50 **Mn** 0.75 max **Mo** 0.90-1.40 **P** 0.030 max **S** 0.030 max **Si** 1.50 max **Other** V optional, if present 0.20-0.50	**ASTM** A597 (CA-2)
T90402	Cast Cold Work Tool Steel (CD-2)	**C** 1.40-1.60 **Cr** 11.00-13.00 **Mn** 1.00 max **Mo** 0.70-1.20 **P** 0.030 max **S** *0.030 max* **Si** *1.50 max* **Other** *Co* optional, if present 0.70-1.00; V optional, if present 0.40-1.00	**ASTM** A597 (CD-2)
T90405	Cast Cold Work Tool Steel (CD-5)	**C** 1.35-1.60 **Co** 2.50-3.50 **Cr** 11.00-13.00 **Mn** 0.75 max **Mo** 0.70-1.20 **P** 0.030 max **S** 0.030 max **Si** 1.50 max **V** 0.35-0.55 **Other** Ni optional, if present 0.40-0.60	**ASTM** A597 (CD-5)
T90812	Cast Hot Work Tool Steel (CH-12)	**C** 0.30-0.40 **Co** 0.20-0.50 **Cr** 4.75-5.75 **Mn** 0.75 max **Mo** 1.25-1.75 **P** 0.030 max **S** 0.030 max **Si** 1.50 max **V** 0.20-0.50 **W** 1.00-1.70	**ASTM** A597 (CH-12)
T90813	Cast Hot Work Tool Steel (CH-13)	**C** 0.30-0.42 **Cr** 4.75-5.75 **Mn** 0.75 max **Mo** 1.25-1.75 **P** 0.030 max **S** 0.030 max **Si** 1.50 max **V** 0.75-1.20	**ASTM** A597 (CH-13)
T91501	Cast Oil Hardening Tool Steel (CO-1)	**C** 0.85-1.00 **Cr** 0.40-1.00 **Mn** 1.00-1.30 **P** 0.030 max **S** 0.030 max **Si** 1.50 max **V** 0.30 max **W** 0.40-0.60	**ASTM** A597 (CO-1)
T91905	Cast Shock Resisting Tool Steel (CS-5)	**C** 0.50-0.65 **Cr** 0.35 max **Mn** 0.60-1.00 **Mo** 0.20-0.80 **P** 0.030 max **S** 0.030 max **Si** 1.75-2.25 **V** 0.35 max	**ASTM** A597 (CS-5)

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With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Wxxxxx Number Series
Welding Filler Metals

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WELDING FILLER METALS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
W06010	Mild Steel Arc Welding Electrode (E6010)		**ASME** SFA5.1 (E6010) **AWS** A5.1 (E6010)
W06011	Mild Steel Arc Welding Electrode (E6011)		**ASME** SFA5.1 (E6011) **AWS** A5.1 (E6011)
W06012	Mild Steel Arc Welding Electrode (E6012)		**ASME** SFA5.1 (E6012) **AWS** A5.1 (E6012)
W06013	Mild Steel Arc Welding Electrode (E6013)		**AMS** 5031 **ASME** SFA5.1 (E6013) **AWS** A5.1 (E6013)
W06019	Mild Steel Arc Welding Electrode (E6019)		**ASME** SFA5.1 (E6019) **AWS** A5.1 (E6019)
W06020	Mild Steel Arc Welding Electrode (E6020)		**ASME** SFA5.1 (E6020) **AWS** A5.1 (E6020)
W06022	Mild Steel Arc Welding Electrode (E6022)		**ASME** SFA5.1 (E6022) **AWS** A5.1 (E6022)
W06027	Mild Steel Arc Welding Electrode (E6027)		**ASME** SFA5.1 (E6027) **AWS** A5.1 (E6027)
W06040	Mild Steel Composite Wire for Electroslag Welding (EWT1)	**C** 0.13 max **Mn** 2.00 max **P** 0.03 max **S** 0.03 max **Si** 0.60 max	**ASME** SFA5.25 (EWT1) **AWS** A5.25 (EWT1)
W06041	Mild Steel Composite Wire for Submerged Arc Welding (EC 1)	**C** 0.07-0.15 **Cu** 0.35 max **Mn** 1.00-1.50 **P** 0.025 max **S** 0.030 max **Si** 0.65-0.85	**ASME** SFA5.17 (EC 1) **AWS** A5.17 (EC 1)
W06301	Mild Steel Flux Cored Wire for Electrogas Welding (EG6XT1)	**Cr** 0.20 max **Mn** 1.7 max **Mo** 0.35 max **Ni** 0.30 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max **V** 0.08 max	**ASME** SFA5.26 (EG6xT1) **AWS** A5.26 (EG6xT1)
W06302	Mild Steel Flux Cored Wire for Electrogas Welding (EG6XT2)	**Cr** 0.20 max **Mn** 2.00 max **Mo** 0.35 max **Ni** 0.30 max **P** 0.03 max **S** 0.04 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.26 (EG6xT2) **AWS** A5.26 (EG6xT2)
***W06601**	Mild Steel Flux Cored Wire (E6xT-1)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E6xT-1) **AWS** A5.20 (E6xT-1)
***W06604**	Mild Steel Flux Cored Wire (E6xT-4)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E6xT-4) **AWS** A5.20 (E6xT-4)
***W06605**	Mild Steel Flux Cored Wire (E6xT-5)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E6xT-5) **AWS** A5.20 (E6xT-5)
***W06606**	Mild Steel Flux Cored Wire (E6xT-6)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E6xT-6) **AWS** A5.20 (E6xT-6)
***W06607**	Mild Steel Flux Cored Wire (E6xT-7)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E6xT-7) **AWS** A5.20 (E6xT-7)
***W06608**	Mild Steel Flux Cored Wire (E6xT-8)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E6xT-8) **AWS** A5.20 (E6xT-8)

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* **W06611**	Mild Steel Flux Cored Wire (E6xT-11)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E6xT-11) **AWS** A5.20 (E6xT-11)
W06613	Mild Steel, Flux Cored Wire (E6xT-13)		**ASME** SFA5.20 (E6XT-13) **AWS** A5.20 (E6XT-13)
W07014	Mild Steel Arc Welding Electrode (E7014)	**Cr** 0.20 max **Mn** 1.25 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.1 (E7014) **AWS** A5.1 (E7014)
W07015	Mild Steel Arc Welding Electrode (E7015)	**Cr** 0.20 max **Mn** 1.25 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.1 (E7015) **AWS** A5.1 (E7015)
W07016	Mild Steel Arc Welding Electrode (E7016)	**Cr** 0.20 max **Mn** 1.60 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.75 max **V** 0.08 max	**ASME** SFA5.1 (E7016) **AWS** A5.1 (E7016)
W07018	Mild Steel Arc Welding Electrode (E7018)	**Cr** 0.20 max **Mn** 1.60 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.75 max **V** 0.08 max	**ASME** SFA5.1 (E7018, E7018M) **AWS** A5.1 (E7018, E7018M) **MIL SPEC** MIL-E-22200/1 (MIL-7018); MIL-E-22200/10 (MIL-7018M)
W07024	Mild Steel Arc Welding Electrode (E7024)	**Cr** 0.20 max **Mn** 1.25 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.1 (E7024) **AWS** A5.1 (E7024)
W07027	Mild Steel Arc Welding Electrode (E7027)	**Cr** 0.20 max **Mn** 1.60 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.75 max **V** 0.08 max	**ASME** SFA5.1 (E7027) **AWS** A5.1 (E7027)
W07028	Mild Steel Arc Welding Electrode (E7028)	**Cr** 0.20 max **Mn** 1.25 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.1 (E7028) **AWS** A5.1 (E7028)
W07048	Mild Steel Arc Welding Electrode (E7048)	**Cr** 0.20 max **Mn** 1.25 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.1 (E7048) **AWS** A5.1 (E7048)
W07116	Mild Steel Arc Welding Electrode (E7016-1)	**Cr** 0.20 max **Mn** 1.60 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.75 max **V** 0.08 max	**ASME** SFA5.1 (E7016-1) **AWS** A5.1 (E7016-1)
W07118	Mild Steel Arc Welding Electrode (E7018-1)	**Cr** 0.20 max **Mn** 1.60 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.75 max **V** 0.08 max	**ASME** SFA5.1 (E7018-1) **AWS** A5.1 (E7018-1)
W07124	Mild Steel Arc Welding Electrode (E7024-1)	**Cr** 0.20 max **Mn** 1.25 max **Mo** 0.30 max **Ni** 0.30 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.1 (E7024-1) **AWS** A5.1 (E7024-1)
W07301	Mild Steel Flux Cored Wire for Electrogas Welding (EG7xT1)	**Cr** 0.20 max **Mn** 1.70 max **Mo** 0.35 max **Ni** 0.30 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max **V** 0.08 max	**ASME** SFA5.26 (EG7xT1) **AWS** A5.26 (EG7xT1)
W07302	Mild Steel Flux Cored Wire for Electrogas Welding (EG7xT2)	**Cr** 0.20 max **Mn** 1.0-1.8 **Mo** 0.30 max **Ni** 0.70-1.1 **P** 0.03 max **S** 0.03 max **Si** 0.50 max **V** 0.08 max	**ASME** SFA5.26 (EG7xT2) **AWS** A5.26 (EG7xT2)
W07601	Mild Steel Flux Cored Wire (E7xT-1)	**C** 0.18 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-1, E7xT-1M) **AWS** A5.20 (E7xT-1, E7xT-1M) **MIL SPEC** MIL-E-24403/1 (MIL-7xT-1)
W07602	Mild Steel Flux Cored Wire (E7xT-2)		**ASME** SFA5.20 (E7xT-2, E7xT-2M) **AWS** A5.20 (E7xT-2, E7xT-2M)
W07603	Carbon Steel Bare Electrode (or Rod) for Flux Cored Arc Welding (E7xT-3)		**ASME** SFA5.20 (E7xT-3) **AWS** A5.20 (E7xT-3)
W07604	Mild Steel Flux Cored Wire (E7xT-4)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.03 max **S** 0.03 max **Si** 0.60 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-4) **AWS** A5.20 (E7xT-4)

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W07605	Mild Steel Flux Cored Wire (E7xT-5)	**C** 0.18 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-5, E7xT-5M) **AWS** A5.20 (E7xT-5, E7xT-5M) **MIL SPEC** MIL-E-24403/1 (MIL-70T-5)
W07606	Mild Steel Flux Cored Wire (E7xT-6)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-6) **AWS** A5.20 (E7xT-6) **MIL SPEC** MIL-E-24403/1 (MIL-70T-6)
W07607	Mild Steel Flux Cored Wire (E7xT-7)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-7) **AWS** A5.20 (E7xT-7)
W07608	Mild Steel Flux Cored Wire (E7xT-8)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-8) **AWS** A5.20 (E7xT-8) **MIL SPEC** MIL-E-24403/1 (MIL-7xT-8)
W07609	Mild Steel, Flux Cored Wire (E7xT-9)	**C** 0.18 max **Cr** 0.20 max **Cu** 0.35 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-9, E7xT-9M) **AWS** A5.20 (E7xT-9, E7xT-9M)
W07610	Mild Steel Flux Cored Wire (E7xT-10)		**ASME** SFA5.20 (E7xT-10) **AWS** A5.20 (E7xT-10)
W07611	Mild Steel Flux Cored Wire (E7xT-11)	**Al** 1.8 max **Cr** 0.20 max **Mn** 1.75 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-11) **AWS** A5.20 (E7xT-11)
W07612	Mild Steel, Flux Cored Wire (E7xT-12)	**C** 0.15 max **Cr** 0.20 max **Cu** 0.35 max **Mn** 1.60 max **Mo** 0.30 max **Ni** 0.50 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max **V** 0.08 max	**ASME** SFA5.20 (E7xT-12, E7xT-12M) **AWS** A5.20 (E7xT-12, E7xT-12M)
W07613	Mild Steel Flux cored Wire (E7xT-13)		**ASME** SFA5.20 (E7xT-13) **AWS** A5.20 (E7xT-13)
W07614	Mild Steel, Flux Cored Wire (E7xT-14)		**ASME** SFA5.20 (E7xT-14) **AWS** A5.20 (E7xT-14)
W07701	Mild Steel Flux Cored Wire	**C** 0.12 max **Cr** 0.20 max **Cu** 0.20 max **Mn** 0.50-1.75 **Mo** 0.30 max **Ni** 0.50 max **P** 0.030 max **S** 0.030 max **Si** 0.90 max **V** 0.05 max	**MIL SPEC** MIL-E-24403/1 (MIL-71T-1A)
W07703	Mild Steel Metal Cored Wire for Multipass Arc Welding (E70C-3X)	**C** 0.12 max **Mn** 1.75 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.18 (E70C-3X) **AWS** A5.18 (E70C-3X)
W07706	Mild Steel Metal Cored Wire for Multipass Welding (E70C-6X)	**C** 0.12 max **Mn** 1.75 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.18 (E70C-6X) **AWS** A5.18 (E70C-6X)
W07708	Mild Steel Flux Cored Wire	**Al** 1.10 max **C** 0.25 max **Cr** 0.20 max **Cu** 0.20 max **Mn** 0.20-1.80 **Mo** 0.30 max **Ni** 0.30 max **P** 0.030 max **S** 0.03 max **Si** 0.60 max **V** 0.05 max	**MIL SPEC** MIL-E-24403 (MIL-71T-8A)
W10013	Low Alloy Steel Arc Welding Electrode (10013)	**C** 0.06-0.12 **Cr** 0.20 max **Cu** 0.35 max **Mn** 0.35-0.70 **Mo** 0.90-1.20 **Ni** 0.25 max **P** 0.025 max **S** 0.025 max **Si** 0.30-0.60 **V** 0.10-0.30	**AMS** 6464
W10015	Low Alloy Steel Arc Welding Electrode (E10015-D2)	**C** 0.15 max **Mn** 1.65-2.00 **Mo** 0.25-0.45 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E10015-D2) **AWS** A5.5 (E10015-D2)
W10016	Low Alloy Steel Arc Welding Electrode (E10016-D2)	**C** 0.15 max **Mn** 1.65-2.00 **Mo** 0.25-0.45 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E10016-D2) **AWS** A5.5 (E10016-D2)
W10018	Low Alloy Steel Arc Welding Electrode (E10018-D2)	**C** 0.15 max **Mn** 1.65-2.00 **Mo** 0.25-0.45 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E10018-D2) **AWS** A5.5 (E10018-D2)

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* **W10235**	Low Alloy Steel Flux Cored Wire (E100T5-D2)	**C** 0.15 max **Mn** 1.65-2.25 **Mo** 0.25-0.55 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E100T5-D2) **AWS** A5.29 (E100T5-D2)
W17010	Low Alloy Steel Arc Welding Electrode (E7010-A1)	**C** 0.12 max **Mn** 0.60 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.40 max	**ASME** SFA5.5 (E7010-A1) **AWS** A5.5 (E7010-A1)
W17011	Low Alloy Steel Arc Welding Electrode (E7011-A1)	**C** 0.12 max **Mn** 0.60 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.40 max	**ASME** SFA5.5 (E7011-A1) **AWS** A5.5 (E7011-A1)
W17015	Low Alloy Steel Arc Welding Electrode (E7015-A1)	**C** 0.12 max **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E7015-A1) **AWS** A5.5 (E7015-A1)
W17016	Low Alloy Steel Arc Welding Electrode (E7016-A1)	**C** 0.12 **Mn** 0.90 **Mo** 0.40-0.65 **P** 0.03 **S** 0.04 **Si** 0.60	**ASME** SFA5.5 (E7016-A1) **AWS** A5.5 (E7016-A1)
W17018	Low Alloy Steel Arc Welding Electrode (E7018-A1)	**C** 0.12 max **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E7018-A1) **AWS** A5.5 (E7018-A1)
W17020	Low Alloy Steel Arc Welding Electrode (E7020-A1)	**C** 0.12 max **Mn** 0.60 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.40 max	**ASME** SFA5.5 (E7020-A1) **AWS** A5.5 (E7020-A1)
W17027	Low Alloy Steel Arc Welding Electrode (E7027-A1)	**C** 0.12 max **Mn** 1.00 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.40 max	**ASME** SFA5.5 (E7027-A1) **AWS** A5.5 (E7027-A1)
W17030	Low Alloy Steel Composite Wire for Gas Shielded Arc Welding (E80C-A1)	**C** 0.10 max **Cu** 0.35 max **Mn** 1.25 max **Mo** 0.40-0.70 **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.28 (E80C-A1) **AWS** A5.28 (E80C-A1)
W17031	Low Alloy Steel Flux Cored Wire (E8xT1-A1)	**C** 0.12 max **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT1-A1) **AWS** A5.29 (E8xT1-A1)
W17035	Low Alloy Steel Flux Cored Wire (E7xT5-A1)	**C** 0.12 max **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E7xT5-A1) **AWS** A5.29 (E7xT5-A1)
W17041	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA1)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.00 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECA1) **AWS** A5.23 (ECA1)
W17042	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA2)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.40 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECA2) **AWS** A5.23 (ECA2)
W17043	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA3)	**C** 0.15 max **Cu** 0.35 max **Mn** 2.10 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECA3) **AWS** A5.23 (ECA3)
W17044	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA4)	**C** 0.15 max **Cu** 0.35 max **Mn** 1.60 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECA4) **AWS** A5.23 (ECA4)
W17110	Low Alloy Steel Arc Welding Electrode for Pipelines (E7010-P1)	**C** 0.20 max **Cr** 0.30 max **Mn** 1.20 max **Mo** 0.50 max **Ni** 1.00 max **P** 0.03 max **S** 0.03 max **Si** 0.60 max **V** 0.10 max	**ASME** SFA5.5 (E7010-P1) **AWS** A5.5 (E7010-P1)
W17141	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA1N) Nuclear Grade	**C** 0.12 max **Cu** 0.08 max **Mn** 1.00 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECA1N) **AWS** A5.23 (ECA1N)
W17142	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA2N) Nuclear Grade	**C** 0.12 max **Cu** 0.08 max **Mn** 1.40 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECA2N) **AWS** A5.23 (ECA2N)

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W17143	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA3N) Nuclear Grade	**C** 0.15 max **Cu** 0.08 max **Mn** 2.10 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECA3N) **AWS** A5.23 (ECA3N)
W17144	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECA4N) Nuclear Grade	**C** 0.15 max **Cu** 0.08 max **Mn** 1.60 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECA4N) **AWS** A5.23 (ECA4N)
W18016	Low Alloy Steel Arc Welding Electrode (E8016-D3)	**C** 0.12 max **Mn** 1.00-1.80 **Mo** 0.40-0.70 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E8016-D3) **AWS** A5.5 (E8016-D3)
W18018	Low Alloy Steel Arc Welding Electrode (E8018-D3)	**C** 0.12 max **Mn** 1.00-1.80 **Mo** 0.40-0.70 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-D3) **AWS** A5.5 (E8018-D3)
W18110	Low Alloy Steel Arc Welding Electrode for Pipelines (E8010-P1)	**C** 0.20 max **Cr** 0.30 max **Mn** 1.20 max **Mo** 0.50 max **Ni** 1.00 max **P** 0.03 max **S** 0.03 max **Si** 0.60 max **V** 0.10 max	**ASME** SFA5.5 (E8010-P1) **AWS** A5.5 (E8010-P1)
W18118	Low Alloy Steel Arc Welding Electrode (E8018-D1)	**C** 0.12 max **Mn** 1.00-1.75 **Mo** 0.25-0.45 **Ni** 0.90 max **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-D1) **AWS** A5.5 (E8018-D1)
W19015	Low Alloy Steel Arc Welding Electrode (E9015-D1)	**C** 0.12 max **Mn** 1.25-1.75 **Mo** 0.10-0.45 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E9015-D1) **AWS** A5.5 (E9015-D1)
W19016	Low Alloy Steel Arc Welding Electrode (9016A)	**C** 0.12 max **Cr** 0.15 max **Mn** 1.25-1.75 **Mo** 0.30-0.60 **Ni** 0.10 max **P** 0.03 max **S** 0.04 max **Si** 0.05-0.60 **V** 0.05 max	
W19018	Low Alloy Steel Arc Welding Electrode (E9018-D1)	**C** 0.12 max **Mn** 1.25-1.75 **Mo** 0.10-0.45 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E9018-D1) **AWS** A5.5 (E9018-D1)
W19118	Low Alloy Steel Arc Welding Electrode (E9018-D3)	**C** 0.12 max **Mn** 1.00-1.80 **Mo** 0.40-0.65 **Ni** 0.90 max **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.5 (E9018-D3) **AWS** A5.5 (E9018-D3)
W19131	Low Alloy Steel Flux Cored Wire (E9xT1-D1)	**C** 0.12 max **Mn** 1.25-2.00 **Mo** 0.25-0.55 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E9xT1-D1) **AWS** A5.29 (E9xT1-D1)
W19230	Low Alloy Steel Composite Wire for Gas Shielded Arc Welding (E90C-D2)	**C** 0.12 max **Mn** 1.50 max **Mo** 0.40-0.60 **P** 0.025 max **S** 0.030 max **Si** 0.90 max	**ASME** SFA5.28 (E90C-D2) **AWS** A5.28 (E90C-D2)
W19235	Low Alloy Steel Flux Cored Wire (E9xT5-D2)	**C** 0.15 max **Mn** 1.65-2.25 **Mo** 0.25-0.55 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E9xT5-D2, E10xT5-D2) **AWS** A5.29 (E9xT5-D2, E10xT5-D2)
W19331	Low Alloy Steel Flux Cored Wire (E9xT1-D3)	**C** 0.12 max **Mn** 1.00-1.75 **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E9xT1-D3) **AWS** A5.29 (E9xT1-D3)
W20018	Low Alloy Steel Arc Welding Electrode (E7018-W)	**C** 0.12 max **Cr** 0.15-0.30 **Cu** 0.30-0.60 **Mn** 0.40-0.70 **Ni** 0.20-0.40 **P** 0.025 max **S** 0.025 max **Si** 0.40-0.70 **V** 0.08 max	**ASME** SFA5.5 (E7018-W1) **AWS** A5.5 (E7018-W1)
W20118	Low Alloy Steel Arc Welding Electrode (E8018-W)	**C** 0.12 max **Cr** 0.45-0.70 **Cu** 0.30-0.75 **Mn** 0.50-1.30 **Ni** 0.40-0.80 **P** 0.03 max **S** 0.04 max **Si** 0.35-0.80	**ASME** SFA5.5 (E8018-W2) **AWS** A5.5 (E8018-W2)
W20131	Low Alloy Steel Flux Cored Wire (E8xT1-W2)	**C** 0.12 max **Cr** 0.45-0.70 **Cu** 0.30-0.75 **Mn** 0.50-1.30 **Ni** 0.40-0.80 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.80	**ASME** SFA5.26 (EGxxT-W); SFA5.29 (E8xT1-W2) **AWS** A5.26 (EGxxT-W); A5.29 (E8xT1-W2)
W20140	Low Alloy Steel Composite Wire for Submerged Arc and Electroslag Welding (ECW) (EWT2)	**C** 0.12 max **Cr** 0.45-0.70 **Cu** 0.30-0.75 **Mn** 0.50-1.60 **Ni** 0.40-0.80 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECW); SFA5.25 (EWT2, EWT4) **AWS** A5.23 (ECW); A5.25 (EWT2, EWT4)

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W20240	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF2)	**C** 0.17 max **Cu** 0.35 max **Mn** 1.25-2.25 **Mo** 0.40-0.65 **Ni** 0.40-0.80 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECF2) **AWS** A5.23 (ECF2)
W20241	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF2N) Nuclear Grade	**C** 0.17 max **Cu** 0.08 max **Mn** 1.25-2.25 **Mo** 0.40-0.65 **Ni** 0.40-0.80 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECF2N) **AWS** A5.23 (ECF2N)
W20440	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF4)	**C** 0.17 max **Cr** 0.60 max **Cu** 0.35 max **Mn** 1.60 max **Mo** 0.25 max **Ni** 0.40-0.80 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECF4) **AWS** A5.23 (ECF4)
W20441	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF4N) Nuclear Grade	**C** 0.17 max **Cr** 0.60 max **Cu** 0.08 max **Mn** 1.60 max **Mo** 0.25 max **Ni** 0.40-0.80 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECF4N) **AWS** A5.23 (ECF4N)
W20918	Low Alloy Steel Arc Welding Electrode (E7018-C3L)	**C** 0.08 max **Cr** 0.15 max **Mn** 0.40-1.40 **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.03 max **S** 0.03 max **Si** 0.50 max **V** 0.05 max	**ASME** SFA5.5 (E7018-C3L) **AWS** A5.5 (E7018-C3L)
*W21015	Low Alloy Arc Welding Electrode (8015)	**C** 0.12 max **Cr** 0.15 max **Mn** 0.40-1.10 **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.03 max **S** 0.04 max **Si** 0.05-.60 **V** 0.05 max	
W21016	Low Alloy Arc Welding Electrode (E8016-C3)	**C** 0.12 max **Cr** 0.15 max **Mn** 0.40-1.25 **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.5 (E8016-C3) **AWS** A5.5 (E8016-C3)
W21018	Low Alloy Steel Arc Welding Electrode (E8018-C3)	**C** 0.12 max **Cr** 0.15 max **Mn** 0.40-1.25 **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.5 (E8018-C3) **AWS** A5.5 (E8018-C3) **MIL SPEC** MIL-E-22200/1 (MIL-8018-C3, MIL-8018-C3SR)
W21030	Low Alloy Steel Metal Cored Wire for Gas Shielded Arc Welding (E80C-Ni1)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.25 max **Mo** 0.65 max **Ni** 0.80-1.10 **P** 0.025 max **S** 0.03 max **Si** 0.60 max **V** 0.05 max	**ASME** SFA5.28 (E80C-Ni1) **AWS** A5.28 (E80C-Ni1)
W21031	Low Alloy Steel Flux Cored Wire (E8xT1-Ni1)	**Al** 1.8 max **C** 0.12 max **Cr** 0.15 max **Mn** 1.50 max **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (ExxT1-Ni1) **AWS** A5.29 (ExxT1-Ni1) **MIL SPEC** MIL-E-24403/1 (MIL-8xT1-Ni1)
W21033	Low Alloy Steel Flux Cored Wire (EGxxT-Ni1)	**C** 0.10 max **Mn** 1.0-1.8 **Mo** 0.30 max **Ni** 0.7-1.1 **P** 0.03 max **S** 0.030 max **Si** 0.50 max	**ASME** SFA5.26 (EGxxT-Ni1) **AWS** A5.26 (EGxxT-Ni1)
W21035	Low Alloy Steel Flux Cored Wire (E8xT5-Ni1)	**Al** 1.8 max **C** 0.12 max **Cr** 0.15 max **Mn** 1.50 max **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (E8xT5-Ni1) **AWS** A5.29 (E8xT5-Ni1)
W21036	Low Alloy Steel Flux Cored Wire (E7xT6-Ni1)	**Al** 1.8 max **C** 0.12 max **Cr** 0.15 max **Mn** 1.50 max **Mo** 0.35 max **Ni** 0.80-1.10 **P** 0.03 max **Si** 0.50 max **S** 0.03 max **V** 0.05 max	**ASME** SFA 5.29 (E7xT6-Ni1) **AWS** A5.29 (E7xT6-Ni1)
W21038	Low Alloy Steel Flux Cored Wire (E7XT8-Ni1)	**Al** 1.8 max **C** 0.12 max **Cr** 0.15 max **Mn** 1.50 max **Mo** 0.35 max **Ni** 0.75-1.10 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (E7XT8-Ni1) **AWS** A5.29 (E7XT8-Ni1) **MIL SPEC** MIL-E-24403/1 (MIL-71T8-Ni1)
W21040	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi1)	**C** 0.12 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 1.60 max **Mo** 0.35 max **Ni** 0.75-1.10 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECNi1) **AWS** A5.23 (ECNi1)

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W21041	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi1N) Nuclear Grade	**C** 0.12 max **Cr** 0.15 max **Cu** 0.08 max **Mn** 1.60 max **Mo** 0.35 max **Ni** 0.75-1.10 **P** 0.012 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECNi1N) **AWS** A5.23 (ECNi1N)
W21042	Low Alloy Steel Composite Electrode for Submerged Arc Welding (ECNi5)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.60 max **Mo** 0.10-0.35 **Ni** 0.70-1.10 **P** 0.030 max **Si** 0.80 max **S** 0.025 max	**ASME** SFA 5.23 (ECNi5) **AWS** A 5.23 (ECNi5)
W21045	Low Alloys Steel Flux Cored Wire (Exx T5-K6)	**Al** 1.8 max **C** 0.15 max **Cr** 0.20 max **Mn** 0.50-1.50 **Mo** 0.15 max **Ni** 0.40-1.00 **P** 0.03 max **Si** 0.80 max **S** 0.03 max **V** 0.05 max	**ASME** SFA 5.29 (Exx T5-K6) **AWS** A 5.29 (Exx T5-K6)
W21048	Low Alloy Steel Flux Cored Wire (ExxT8-K6)	**Al** 1.8 max **C** 0.15 max **Cr** 0.20 max **Mn** 0.50-1.50 **Mo** 0.15 max **Ni** 0.40-1.10 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (ExxT8-K6) **AWS** A5.29 (ExxT8-K6) **MIL SPEC** MIL-E-24403/1 (MIL-71T8-K6)
W21118	Low Alloy Steel Arc Welding Electrode (E8018-NM)	**Al** 0.05 max **C** 0.10 max **Cr** 0.05 max **Cu** 0.10 max **Mn** 0.80-1.25 **Mo** 0.40-0.65 **Ni** 0.80-1.10 **P** 0.020 max **S** 0.030 max **Si** 0.60 max **V** 0.02 max	**ASME** SFA5.5 (E8018-NM1) **AWS** A5.5 (E8018-NM1)
W21135	Low Alloy Steel Flux Cored Wire (E8xT5-K1)	**C** 0.15 **Cr** 0.15 **Mn** 0.80-1.40 **Mo** 0.20-0.65 **Ni** 0.80-1.10 **P** 0.03 **S** 0.03 **Si** 0.80 **V** 0.05	**ASME** SFA5.29 (E8xT5-K1) **AWS** A5.29 (E8xT5-K1)
W21140	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF3)	**C** 0.17 max **Cu** 0.35 max **Mn** 1.25-2.25 **Mo** 0.40-0.65 **Ni** 0.70-1.10 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECF3) **AWS** A5.23 (ECF3)
W21141	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF3N) Nuclear Grade	**C** 0.17 max **Cu** 0.08 max **Mn** 1.25-2.25 **Mo** 0.40-0.65 **Ni** 0.70-1.10 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECF3N) **AWS** A5.23 (ECF3N)
W21150	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF1)	**C** 0.12 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 0.70-1.50 **Mo** 0.55 max **Ni** 0.90-1.70 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECF1) **AWS** A5.23 (ECF1)
W21151	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF1N) Nuclear Grade	**C** 0.12 max **Cr** 0.15 max **Cu** 0.08 max **Mn** 0.70-1.50 **Mo** 0.55 max **Ni** 0.90-1.70 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECF1N) **AWS** A5.23 (ECF1N)
*W21215	Low Alloy Steel Arc Welding Electrode (9015) (10015)	**C** 0.10 max **Cr** 0.15 max **Mn** 0.70-1.10 **Mo** 0.35 max **Ni** 1.40-1.80 **P** 0.025 max **S** 0.030 max **Si** 0.05-0.60 **V** 0.20 max	
W21216	Low Alloy Steel Arc Welding Electrode (9015) (10016)	**C** 0.10 max **Cr** 0.15 max **Mn** 0.70-1.10 **Mo** 0.35 max **Ni** 1.40-1.80 **P** 0.025 **S** 0.030 **Si** 0.05-0.60 **V** 0.20 max	**ASME** SFA5.5 (E10016M) **AWS** A5.5 (E10016M)
W21218	Low Alloy Steel Arc Welding Electrode (E9018-M)	**C** 0.10 max **Cr** 0.15 max **Mn** 0.60-1.25 **Mo** 0.35 max **Ni** 1.40-1.80 **P** 0.030 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.5 (E9018-M) **AWS** A5.5 (E9018-M) **MIL SPEC** MIL-E-22200/1 (MIL-9018-M)
W21231	Low Alloy Steel Flux Cored Wire (ExxT1-K2)	**C** 0.15 max **Cr** 0.15 max **Mn** 0.50-1.75 **Mo** 0.35 max **Ni** 1.00-2.00 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (ExxT1-K2) **AWS** A5.29 (ExxT1-K2)
W21234	Low Alloy Steel Flux Cored Wire (E7xT4-K2)	**Al** 1.8 max **C** 0.15 max **Cr** 0.15 max **Mn** 0.50-1.75 **Mo** 0.35 max **Ni** 1.00-2.00 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (E7xT4-K2) **AWS** A5.29 (E7xT4-K2)

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W21235	Low Alloy Steel Flux Cored Wire (ExxT5-K2)	**C** 0.15 max **Cr** 0.15 max **Mn** 0.50-1.75 **Mo** 0.35 max **Ni** 1.00-2.00 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (ExxT5-K2) **AWS** A5.29 (ExxT5-K2)
W21237	Low Alloy Steel Flux Cored Wire (E7xT7-K2)	**Al** 1.8 max **C** 0.15 max **Cr** 0.15 max **Mn** 0.50-1.75 **Mo** 0.35 max **Ni** 1.00-2.00 **P** 0.03 max **Si** 0.80 max **S** 0.03 max **V** 0.05 max	**ASME** SFA 5.29 (E7xT7-K2) **AWS** A5.29 (E7xT7-K2)
W21238	Low Alloy Flux Cored Wire (E7xT8-K2)	**Al** 1.8 max **C** 0.15 max **Cr** 0.15 max **Mn** 0.50-1.75 **Mo** 0.35 max **Ni** 1.00-2.00 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (E7xT8-K2) **AWS** A5.29 (E7xT8-K2)
W21239	Low Alloy Steel Flux Cored Wire (E7xT11-K2)	**Al** 1.8 max **C** 0.15 max **Cr** 0.15 max **Mn** 0.50-1.75 **Mo** 0.35 max **Ni** 1.00-2.00 **P** 0.03 max **Si** 0.80 max **S** 0.03 max **V** 0.05 max	**ASME** SFA 5.29 (E7xT11-K2) **AWS** 5.29 (E7xT11-K2)
W21240	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECM1)	**C** 0.10 max **Cr** 0.15 max **Cu** 0.30 max **Mn** 0.60-1.60 **Mo** 0.35 max **Ni** 1.25-2.00 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECM1) **AWS** A5.23 (ECM1)
W21241	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECM1N) Nuclear Grade	**C** 0.10 **Cr** 0.15 **Cu** 0.08 **Mn** 0.60-1.60 **Mo** 0.35 **Ni** 1.25-2.00 **P** 0.012 **S** 0.040 **Si** 0.80 **V** 0.05	**ASME** SFA5.23 (ECM1N) **AWS** A5.23 (ECM1N)
W21250	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi4)	**C** 0.14 max **Cu** 0.35 max **Mn** 1.60 max **Mo** 0.35 max **Ni** 1.40-2.10 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECNi4) **AWS** A5.23 (ECNi4)
W21251	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi4N) Nuclear Grade	**C** 0.14 max **Cu** 0.08 max **Mn** 1.60 max **Mo** 0.35 max **Ni** 1.40-2.10 **P** 0.012 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECNi4N) **AWS** A5.23 (ECNi4N)
W21318	Low Alloy Steel Arc Welding Electrode (E10018-M)	**C** 0.10 max **Cr** 0.35 max **Mn** 0.75-1.70 **Mo** 0.25-0.50 **Ni** 1.40-2.10 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 0.05 max	**ASME** SFA5.5 (E10018-M) **AWS** A5.5 (E10018-M) **MIL SPEC** MIL-E-22200/1 (MIL-10018-M)
W21328	Low Alloy Steel Arc Welding Electrode (10018-M1)	**C** 0.10 max **Cr** 0.40 max **Mn** 0.80-1.85 **Mo** 0.50 max **Ni** 1.25-3.00 **P** 0.025 max **S** 0.017 max **Si** 0.65 max **V** 0.05 max	**ASME** SFA5.5 (E10018-M1) **AWS** A5.5 (E10018-M1) **MIL SPEC** MIL-E-22200/10 (MIL-10018-M1)
W21331	Low Alloy Steel Flux Cored Wire (ExxxT1-K3)	**C** 0.15 max **Cr** 0.15 max **Mn** 0.75-2.25 **Mo** 0.25-0.65 **Ni** 1.25-2.60 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (ExxxT1-K3) **AWS** A5.29 (ExxxT1-K3)
W21335	Low Alloy Steel Flux Cored Wire (ExxxT5-K3)	**C** 0.15 max **Cr** 0.15 max **Mn** 0.75-2.25 **Mo** 0.25-0.65 **Ni** 1.25-2.60 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (ExxxT5-K3) **AWS** A5.29 (ExxxT5-K3)
W21340	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECM2)	**C** 0.10 max **Cr** 0.35 max **Cu** 0.30 max **Mn** 0.90-1.80 **Mo** 0.25-0.65 **Ni** 1.40-2.10 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECM2) **AWS** A5.23 (ECM2)
W21341	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECM2N) Nuclear Grade	**C** 0.10 max **Cr** 0.35 max **Cu** 0.08 max **Mn** 0.90-1.80 **Mo** 0.25-0.65 **Ni** 1.40-2.10 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECM2N) **AWS** A5.23 (ECM2N)
W21345	Low Alloy Steel Composite Electrode for Submerged Arc Welding (ECM5)	**C** 0.12 max **Cr** 0.40 max **Cu** 0.30 max **Mn** 1.60-2.50 **Mo** 0.20-0.50 **Ni** 1.40-2.10 **P** 0.015 max **Si** 0.50 max **S** 0.015 max **Ti** 0.03 max **V** 0.02 max **Zr** 0.02 max	**ASME** SFA 5.23 (ECM5) **AWS** A 5.23 (ECM5)

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W21346	Low Alloy Steel Composite Electrode for Submerged Arc Welding (ECM6)	**C** 0.12 max **Cr** 0.40 max **Cu** 0.30 max **Mn** 1.60-2.50 **Mo** 0.70-1.00 **Ni** 1.40-2.10 **P** 0.015 max **Si** 0.50 max **S** 0.015 max **Ti** 0.03 max **V** 0.02 max **Zr** 0.02 max	**ASME** SFA 5.23 (ECM6) **AWS** A 5.23 (ECM6)
*W21380	Low Alloy Steel Solid Wire for Submerged Arc Welding (MI-88)	**Al** 0.10 max **C** 0.06 max **Cr** 0.10-0.30 **Cu** 0.10-0.30 **Mn** 1.00-1.50 **Mo** 0.20-0.40 **Ni** 1.40-1.90 **P** 0.010 max **S** 0.010 max **Si** 0.50 max **Ti** 0.10 max **V** 0.05 max **Zr** 0.10 max	
W21418	Low Alloy Steel Arc Welding Electrode (E11018-M)	**C** 0.10 max **Cr** 0.40 max **Mn** 1.30-1.80 **Mo** 0.25-0.50 **Ni** 1.25-2.50 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 0.05 max	**ASME** SFA5.5 (E11018-M) **AWS** A5.5 (E11018-M) **MIL SPEC** MIL-E-22200/1 (MIL-11018-M)
W21438	Low Alloy Steel Flux Cored Wire (Exx T8-K8)	**Al** 1.8 max **C** 0.15 max **Cr** 0.20 max **Mn** 1.00-2.00 **Mo** 0.20 max **Ni** 0.50-1.50 **P** 0.03 max **Si** 0.40 max **S** 0.03 max **V** 0.05 max	**ASME** SFA 5.29 (W21438) **AWS** A 5.29 (W21438)
W21631	Low Alloy Steel Flux Cored Wire (E12xT1-K5)	**C** 0.10-0.25 **Cr** 0.20-0.70 **Mn** 0.60-1.60 **Mo** 0.15-0.55 **Ni** 0.75-2.00 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (E12xT1-K5) **AWS** A5.29 (E12xT1-K5)
*W21780	Low Alloy Steel Solid Wire for Submerged Arc Welding (EB82)	**C** 0.12 max **Cr** 0.30 max **Cu** 0.40-1.10 **Mn** 0.80-1.25 **Mo** 0.15-0.60 **Ni** 0.80-1.25 **P** 0.020 max **S** 0.020 max **Si** 0.80 max **V** 0.05 max	
W21916	Low Alloy Steel Arc Welding Electrode (E8016-C4)	**C** 0.10 max **Mn** 1.25 max **Ni** 1.10-2.00 **P** 0.03 max **S** 0.03 max **Si** 0.60 max	**ASME** SFA5.5 (E8016-C4) **AWS** A5.5 (E8016-C4)
W21918	Low Alloy Steel Arc Welding Electrode (E8018-C4)	**C** 0.10 max **Mn** 1.25 max **Ni** 1.10-2.00 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-C4) **AWS** A5.5 (E8018-C4)
W22016	Low Alloy Steel Arc Welding Electrode (E8016-C1)	**C** 0.12 max **Mn** 1.25 **Ni** 2.00-2.75 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E8016-C1) **AWS** A5.5 (E8016-C1)
W22018	Low Alloy Steel Arc Welding Electrode (E8018-C1)	**C** 0.12 max **Mn** 1.25 max **Ni** 2.00-2.75 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-C1) **AWS** A5.5 (E8018-C1)
W22030	Low Alloy Steel Metal Cored Wire for Gas Shielded Arc Welding (E70C-Ni2) (E80C-Ni2)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.25 max **Ni** 2.00-2.75 **P** 0.025 max **S** 0.030 max **Si** 0.60 max	**ASME** SFA5.28 (E70C-Ni2, E80C-Ni2) **AWS** A5.28 (E70C-Ni2, E80C-Ni2)
W22031	Low Alloy Steel Flux Cored Wire (ExxT1-Ni2)	**C** 0.12 max **Mn** 1.50 max **Ni** 1.75-2.75 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (ExxT1-Ni2) **AWS** A5.29 (ExxT1-Ni2) **MIL SPEC** MIL-E-24403/1 (MIL-8xT8-Ni2)
W22035	Low Alloy Steel Flux Cored Wire (E8xT5-Ni2)	**C** 0.12 max **Mn** 1.50 max **Ni** 1.75-2.75 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT5-Ni2) **AWS** A5.29 (E8xT5-Ni2)
W22038	Low Alloy Steel Flux Cored Wire (E7xT8-Ni2)	**Al** 1.8 max **C** 0.12 max **Mn** 1.50 max **Ni** 1.75-2.75 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E7xT8-Ni2) **AWS** A5.29 (E7xT8-Ni2)
W22040	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi2)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.60 max **Ni** 2.00-2.90 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECNi2) **AWS** A5.23 (ECNi2)
W22041	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi2N) Nuclear Grade	**C** 0.12 max **Cu** 0.08 max **Mn** 1.60 max **Ni** 2.00-2.90 **P** 0.012 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECNi2N) **AWS** A5.23 (ECNi2N)

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W22051	Low Alloy Steel Flux Cored Wire (E10xT1-K7)	**C** 0.15 max **Mn** 1.00-1.75 **Ni** 2.00-2.75 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E10xT1-K7) **AWS** A5.29 (E10xT1-K7)
W22115	Low Alloy Steel Arc Welding Electrode (E7015-C1L)	**C** 0.05 max **Mn** 1.25 max **Ni** 2.00-2.75 **P** 0.03 max **S** 0.04 max **Si** 0.50 max	**ASME** SFA5.5 (E7015-C1L) **AWS** A5.5 (E7015-C1L)
W22116	Low Alloy Steel Arc Welding Electrode (E7016-C1L)	**C** 0.05 max **Mn** 1.25 max **Ni** 2.00-2.75 **P** 0.03 max **S** 0.04 max **Si** 0.50 max	**ASME** SFA5.5 (E7016-C1L) **AWS** A5.5 (E7016-C1L)
W22118	Low Alloy Steel Arc Welding Electrode (E7018-C1L)	**C** 0.05 max **Mn** 1.25 max **Ni** 2.00-2.75 **P** 0.03 max **S** 0.04 max **Si** 0.50 max	**ASME** SFA5.5 (E7018-C1L) **AWS** A5.5 (E7018-C1L)
W22218	Low Alloy Steel Arc Welding Electrode (E12018-M)	**C** 0.10 max **Cr** 0.30-1.50 **Mn** 1.30-2.25 **Mo** 0.30-0.55 **Ni** 1.75-2.50 **P** 0.030 max **S** 0.030 max **Si** 0.60 max **V** 0.05 max	**ASME** SFA5.5 (E12018-M) **AWS** A5.5 (E12018-M)
W22230	Low Alloy Steel Flux Cored Wire for Welding HY 100	**C** 0.10 max **Cr** 0.60 max **Cu** 0.02 max **Mn** 1.20-1.80 **Mo** 0.25-0.50 **Ni** 2.00-2.50 **P** 0.010 max **S** 0.010 max **Si** 0.60 max **V** 0.05 max	**MIL SPEC** MIL-E-24403/2 (MIL-110 TC)
W22231	Low Alloy Steel Flux Cored Wire (E11xT1-K4)	**C** 0.15 max **Cr** 0.20-0.60 **Mn** 1.20-2.25 **Mo** 0.20-0.65 **Ni** 1.75-2.60 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (E11xT1-K4) **AWS** A5.29 (E11xT1-K4)
W22235	Low Alloy Steel Flux Cored Wire (E1xxT5-K4)	**C** 0.15 max **Cr** 0.20-0.60 **Mn** 1.20-2.25 **Mo** 0.20-0.65 **Ni** 1.75-2.60 **P** 0.03 max **S** 0.03 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.29 (E1xxT5-K4) **AWS** A5.29 (E1xxT5-K4)
W22240	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECM3)	**C** 0.10 max **Cr** 0.65 max **Cu** 0.30 max **Mn** 0.90-1.80 **Mo** 0.20-0.70 **Ni** 1.80-2.60 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECM3) **AWS** A5.23 (ECM3)
W22241	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECM3N) Nuclear Grade	**C** 0.10 max **Cr** 0.65 max **Cu** 0.08 max **Mn** 0.90-1.80 **Mo** 0.20-0.70 **Ni** 1.80-2.60 **P** 0.012 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECM3N) **AWS** A5.23 (ECM3N)
W22333	Low Alloy Steel Flux Cored Wire (EGxxT-NM2)	**C** 0.12 max **Cr** 0.20 max **Cu** 0.035 max **Mn** 1.1-2.1 **Mo** 0.10-0.35 **Ni** 1.1-2.0 **P** 0.03 max **S** 0.03 max **Si** 0.20-0.60 **V** 0.05 max	**ASME** SFA5.26 (EGxxT-NM2) **AWS** A5.26 (EGxxT-NM2)
W22334	Low Alloy Steel Flux Cored Wire (EGxxT-NM1)	**C** 0.12 max **Cr** 0.20 max **Mn** 1.00-2.00 **Mo** 0.40-0.65 **Ni** 1.50-2.00 **P** 0.02 max **S** 0.03 max **Si** 0.15-0.50 **V** 0.05 max	**ASME** SFA5.26 (EGxxT-NM1) **AWS** A5.26 (EGxxT-NM1)
W22340	Low Alloy Steel Composite Wire for Electroslag Welding (EWT3)	**C** 0.12 max **Cr** 0.20 max **Mn** 1.00-2.00 **Mo** 0.40-0.65 **Ni** 1.50-2.50 **P** 0.02 max **S** 0.03 max **Si** 0.15-0.50 **V** 0.05 max	**ASME** SFA5.25 (EWT3) **AWS** A5.25 (EWT3)
W22440	Low Alloy Steel Tubular Wire for Submerged Arc Welding (ECM4)	**C** 0.10 max **Cr** 0.80 max **Cu** 0.30 max **Mn** 1.30-2.25 **Mo** 0.30-0.80 **Ni** 2.00-2.80 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECM4) **AWS** A5.23 (ECM4)
W22441	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECM4N) Nuclear Grade	**C** 0.10 max **Cr** 0.80 max **Cu** 0.08 max **Mn** 1.30-2.25 **Mo** 0.30-0.80 **Ni** 2.00-2.80 **P** 0.012 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECM4N) **AWS** A5.23 (ECM4N)
W22540	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF5)	**C** 0.17 max **Cr** 0.65 max **Cu** 0.50 max **Mn** 1.20-1.80 **Mo** 0.30-0.80 **Ni** 2.00-2.80 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECF5) **AWS** A5.23 (ECF5)

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W22640	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF6)	**C** 0.14 max **Cr** 0.65 max **Cu** 0.40 max **Mn** 0.80-1.85 **Mo** 0.60 max **Ni** 1.50-2.25 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECF6) **AWS** A5.23 (ECF6)
W22641	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECF6N) Nuclear Grade	**C** 0.14 max **Cr** 0.65 max **Cu** 0.08 max **Mn** 0.80-1.85 **Mo** 0.60 max **Ni** 1.50-2.25 **P** 0.012 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECF6N) **AWS** A5.23 (ECF6N)
W22718	Low Alloy Steel Arc Welding Electrode (10018-N1)	**C** 0.15 max **Cr** 0.90-1.20 **Mn** 0.80-1.15 **Mo** 0.45-0.75 **Ni** 1.50-2.00 **P** 0.030 max **S** 0.030 max **Si** 0.30-0.60 **V** 0.02 max	**MIL SPEC** MIL-E-22200/5 (MIL-10018-N1)
W22815	Low Alloy Steel Arc Welding Electrode (11015) (12015)	**C** 0.10 max **Cr** 1.00-1.40 **Mn** 1.00-1.50 **Mo** 0.20-0.40 **Ni** 1.75-2.25 **P** 0.03 max **S** 0.04 max **Si** 0.05-0.60 **V** 0.20 max	
W22816	Low Alloy Steel Arc Welding Electrode (11016) (12016)	**C** 0.10 max **Cr** 1.00-1.40 **Mn** 1.00-1.50 **Mo** 0.20-0.40 **Ni** 1.75-2.25 **P** 0.03 max **S** 0.04 max **Si** 0.05-0.60 **V** 0.20 max	
W23016	Low Alloy Steel Arc Welding Electrode (E8016-C2)	**C** 0.12 max **Mn** 1.25 max **Ni** 3.00-3.75 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E8016-C2) **AWS** A5.5 (E8016-C2)
W23018	Low Alloy Steel Arc Welding Electrode (W23018)	**C** 0.12 max **Mn** 1.25 max **Ni** 3.00-3.75 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-C2) **AWS** A5.5 (E8018-C2)
W23030	Low Alloy Steel Metal Cored Wire for Gas Shielded Arc Welding (E80C-Ni3)	**C** 0.12 max **Cu** 0.35 max **Mn** 1.25 max **Ni** 3.00-3.75 **P** 0.025 max **S** 0.030 max **Si** 0.60 max	**ASME** SFA5.28 (E80C-Ni3) **AWS** A5.28 (E80C-Ni3)
W23031	Low Alloy Steel Flux Cored Wire (Exx T1-Ni3)	**Al** 1.8 max **C** 0.12 max **Mn** 1.50 max **Ni** 2.75-3.75,P 0.03 max **Si** 0.30 max **S** 0.03 max	**ASME** SFA 5.29 (Exx T1-Ni3) **AWS** A 5.29 (Exx T1-Ni3)
W23035	Low Alloy Steel Flux Cored Wire (ExxT5-Ni3)	**C** 0.12 max **Mn** 1.50 max **Ni** 2.75-3.75 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (ExxT5-Ni3) **AWS** A5.29 (ExxT5-Ni3)
W23039	Low Alloy Steel Flux Cored Wire (Exx T11-Ni3)	**Al** 1.8 max **C** 0.12 max **Mn** 1.50 max **Ni** 2.75-3.75 **P** 0.03 max **Si** 0.30 max **S** 0.03 max	**ASME** SFA 5.29 (Exx T11-Ni3) **AWS** A 5.29 (Exx T11-Ni3)
W23040	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi3)	**C** 0.12 max **Cr** 0.15 max **Cu** 0.35 max **Mn** 1.60 max **Ni** 2.80-3.80 **P** 0.030 max **S** 0.030 max **Si** 0.80 max	**ASME** SFA5.23 (ECNi3) **AWS** A5.23 (ECNi3)
W23041	Low Alloy Steel Composite Wire for Submerged Arc Welding (ECNi3N) Nuclear Grade	**C** 0.12 max **Cr** 0.15 max **Cu** 0.08 max **Mn** 1.60 max **Ni** 2.80-3.80 **P** 0.012 max **S** 0.030 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECNi3N) **AWS** A5.23 (ECNi3N)
W23115	Low Alloy Arc Welding Electrode (E7015-C2L)	**C** 0.05 max **Mn** 1.25 max **Ni** 3.00-3.75 **P** 0.03 max **S** 0.04 max **Si** 0.50 max	**ASME** SFA5.5 (E7015-C2L) **AWS** A5.5 (E7015-C2L)
W23116	Low Alloy Steel Arc Welding Electrode (E7016-C2L)	**C** 0.05 max **Mn** 1.25 max **Ni** 3.00-3.75 **P** 0.03 max **S** 0.04 max **Si** 0.50 max	**ASME** SFA5.5 (E7016-C2L) **AWS** A5.5 (E7016-C2L)
W23118	Low Alloy Steel Arc Welding Electrode (E7018-C2L)	**C** 0.05 max **Mn** 1.25 max **Ni** 3.00-3.75 **P** 0.03 max **S** 0.04 max **Si** 0.50 max	**ASME** SFA5.5 (E7018-C2L) **AWS** A5.5 (E7018-C2L)
*W23218	Low Alloy Steel Arc Welding Electrode (E12018-M2)	**C** 0.10 max **Cr** 0.65 max **Mn** 0.80-1.60 **Mo** 0.20-0.30 **Ni** 3.00-3.80 **P** 0.015 max **S** 0.012 max **Si** 0.65 max **V** 0.05 max	**ASME** SFA5.5 (E12018-M2) **AWS** A5.5 (E12018-M2)

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W23228	Low Alloy Steel Arc Welding Electrode (12018-M2)	**C** 0.10 max **Cr** 0.65 max **Mn** 0.80-1.85 **Mo** 0.90 max **Ni** 1.50-4.00 **P** 0.025 max **S** 0.012 max **Si** 0.65 max **V** 0.05 max	**ASME** SFA5.5 (E12018-M2) **AWS** A5.5 (E12018-M2) **MIL SPEC** MIL-E-22200/10 (MIL-12018-M2)
W23230	Low Alloy Steel Flux Cored Wire for Welding HY 80	**C** 0.10 max **Cr** 0.20 max **Cu** 0.06 max **Mn** 0.50-1.50 **Mo** 0.50 max **Ni** 1.30-1.75 **P** 0.015 max **S** 0.015 max **Si** 0.60 max **V** 0.05 max	**ASME** SFA5.29 (ExxT1-K9) **AWS** A5.29 (ExxT1-K9) **MIL SPEC** MIL-E-24403/2 (MIL-10xTx)
W23318	Low Alloy Steel Arc Welding Electrode (14018-M1)	**C** 0.10 max **Cr** 0.35-1.20 **Mn** 0.75-1.35 **Mo** 0.30-1.10 **Ni** 3.10-3.90 **P** 0.013 max **S** 0.010 max **Si** 0.65 max **V** 0.09 max	**MIL SPEC** MIL-E-22200/9 (MIL-14018-M1)
W24230	Low Alloy Flux Cored Wire for Welding HY 100	**C** 0.10 max **Cr** 0.55 max **Cu** 0.06 max **Mn** 0.60-1.80 **Mo** 0.70 max **Ni** 1.75-4.00 **P** 0.015 max **S** 0.012 max **Si** 0.60 max **V** 0.05 max	**MIL SPEC** MIL-E-24403/2 (MIL-12xTx)
W25018	Nickel Alloy Steel Arc Welding Electrode (E9015-C5L)	**C** 0.05 max **Mn** 0.40-1.00 **Ni** 6.00-7.25 **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.5 (E9015-C5L) **AWS** A5.5 (E9015-C5L)
W26018	Nickel Alloy Steel Arc Welding Electrode (14018-HT)	**C** 0.10 max **Cr** 0.05-0.60 **Mn** 0.40-0.80 **Mo** 0.40-0.70 **Ni** 7.00-9.00 **P** 0.013 max **S** 0.010 max **Si** 0.50 max **V** 0.04-0.10	**MIL SPEC** MIL-E-22200/11 (MIL-14018-HT)
W30440	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC19-10H)	**C** 0.04-0.08 **Cb** 0.05 max **Cr** 18.5-20.0 **Cu** 0.75 max **Mn** 1.0-2.0 **Mo** 0.25 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.60 **Ti** 0.05 max	**ASME** SFA5.9 (EC19-10H) **AWS** A5.9 (EC19-10H)
W30710	Austenitic Cr-Ni-Mn Stainless Steel Arc Welding Electrode (E307)	**C** 0.04-0.14 **Cr** 18.0-21.5 **Cu** 0.75 max **Mn** 3.3-4.75 **Mo** 0.5-1.5 **Ni** 9.0-10.7 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E307) **AWS** A5.4 (E307) **MIL SPEC** MIL-E-13080 (MIL-307)
W30731	Austenitic Cr-Ni-Mn Stainless Steel Flux Cored Wire (E307T-x)	**C** 0.13 max **Cr** 18.0-20.5 **Cu** 0.5 max **Mn** 3.3-4.75 **Mo** 0.5-1.5 **Ni** 9.0-10.5 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E307T-x) **AWS** A5.22 (E307T-x)
W30733	Austenitic Cr-Ni-Mn Stainless Steel Flux Cored Wire (E307T-3)	**C** 0.13 max **Cr** 19.5-22.0 **Cu** 0.5 max **Mn** 3.3-4.75 **Mo** 0.5-1.5 **Ni** 9.0-10.5 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E307T-3) **AWS** A5.22 (E307T-3)
W30740	Austenitic Cr-Ni-Mn Stainless Steel Composite Welding Filler Metal (EC307)	**C** 0.04-0.14 **Cr** 19.5-22.0 **Cu** 0.75 max **Mn** 3.3-4.75 **Mo** 0.5-1.5 **Ni** 8.0-10.7 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC307) **AWS** A5.9 (EC307)
W30810	Austenitic Cr-Ni Stainless Steel Arc Welding Electrode (E308)	**C** 0.08 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 0.75 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E308, E308H) **AWS** A5.4 (E308, E308H) **MIL SPEC** MIL-E-22200/2 (MIL-308, MIL-308Co)
W30813	Austenitic Cr-Ni Stainless Steel Arc Welding Electrode (E308L)	**C** 0.04 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 0.75 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E308L) **AWS** A5.4 (E308L) **MIL SPEC** MIL-E-22200/2 (MIL-308L, MIL-308CoL)
W30815	Austenitic Cr-Ni Stainless Steel Arc Welding Electrode (308HC) High Carbon	**C** 0.08-0.15 **Cr** 18.0-21.0 **Mn** 2.5 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 5xC max	**MIL SPEC** MIL-E-22200/2, MIL-308HC
W30816	Austenitic Cr-Ni-Si Heat Resisting Steel, Arc Welding Electrode (253MA)	**C** 0.08 max **Ce** 0.03-0.08 **Cr** 20.5-22.5 **Cu** 0.30 max **Mn** 0.5-1.5 **Mo** 0.5 max **Ni** 9.5-11.5 **N** 0.10-0.20 **P** 0.035 max **S** 0.030 max **Si** 1.0 - 2.0	
W30820	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E308MoL)	**C** 0.08 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E308MoL) **AWS** A5.4 (E308MoL)

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W30821	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode - for Armor	**C** 0.07-0.17 **Cr** 18.00-21.50 **Mn** 1.25-2.25 **Mo** 1.85-2.25 **Ni** 9.00-10.7 **P** 0.04 max **S** 0.03 max **Si** 0.80 max	**MIL SPEC** MIL-E-13080 (MIL-308)
W30823	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E308MoL) - Low Carbon	**C** 0.04 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 9.0-12.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E308MoL) **AWS** A5.4 (E308MoL)
W30830	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire	**C** 0.07-0.12 **Cr** 19.0-21.5 **Mn** 1.25-2.25 **Mo** 1.8-2.4 **Ni** 9.0-10.7 **P** 0.04 max **S** 0.03 max **Si** 0.25-0.80	**ASME** SFA5.22 (E308HMoT0-3) **AWS** A5.22 (E308HMoT0-3)
W30831	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E308T-x)	**C** 0.08 max **Cr** 18.0-21.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E308T-x) **AWS** A5.22 (E308T-x)
W30832	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E308MoT-x)	**C** 0.08 max **Cr** 18.0-21.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E308MoT-x) **AWS** A5.22 (E308MoT-x)
W30833	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E308T-3)	**C** 0.08 max **Cr** 19.5-22.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E308T-3) **AWS** A5.22 (E308T-3)
W30835	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E308LT-x)	**C** 0.03 max **Cr** 18.0-21.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E308LT-x) **AWS** A5.22 (E308LT-x)
W30837	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E308LT-3)	**C** 0.03 max **Cr** 19.5-22.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E308LT-3) **AWS** A5.22 (E308LT-3)
W30838	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E308LT-x)	**C** 0.03 **Cr** 18.0-21.0 **Cu** 0.5 **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 9.0-12.0 **P** 0.04 **S** 0.03 **Si** 1.0	**ASME** SFA5.22 (E308MoLT-x) **AWS** A5.22 (E308MoLT-x)
W30840	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal EC308	**C** 0.08 max **Cr** 19.5-22.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC308, EC308H) **AWS** A5.9 (EC308, EC308H)
W30841	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal EC308Si	**C** 0.08 max **Cr** 19.5-22.0 **Cu** 0.5 max **Fe** rem **Mn** 1.0-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (EC308Si) **AWS** A5.9 (EC308Si)
W30843	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC308L)	**C** 0.03 max **Cr** 19.5-22.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC308L) **AWS** A5.9 (EC308L)
W30848	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal EC308LSi	**C** 0.03 max **Cr** 19.5-22.0 **Cu** 0.5 max **Fe** rem **Mn** 1.0-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (EC308LSi) **AWS** A5.9 (EC308LSi)
W30850	Austenitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (EC308Mo)	**C** 0.08 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 9.0-12.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC308Mo) **AWS** A5.9 (EC308Mo)
W30853	Austenitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (EC308MoL)	**C** 0.04 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 9.0-12.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC308MoL) **AWS** A5.9 (EC308MoL)
W30910	Austenitic Cr-Ni Stainless Steel Arc Welding Electrode (E309)	**C** 0.15 max **Cr** 22.0-25.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 0.75 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E309) **AWS** A5.4 (E309) **MIL SPEC** MIL-E-22200/2 (MIL-309, MIL-309Co)
W30913	Austenitic Cr-Ni Stainless Steel Arc Welding Electrode (E309L)	**C** 0.04 max **Cr** 22.0-25.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 0.75 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E309L) **AWS** A5.4 (E309L) **MIL SPEC** MIL-E-22200/2, (MIL-309L0, MIL-309CoL)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
W30917	Austenitic Cr-Ni-Cb Stainless Steel Arc Welding Electrode (E309Cb)	**C** 0.12 max **Cb** 0.70-1.00 includes Ta **Cr** 22.0-25.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 0.75 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E309Cb) **AWS** A5.4 (E309Cb) **MIL SPEC** MIL-E-22200/2 (MIL-309Cb)
W30920	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E309Mo)	**C** 0.12 max **Cr** 22.0-25.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E309Mo) **AWS** A5.4 (E309Mo)
W30923	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E309MoL)	**C** 0.04 max **Cr** 22.0-25.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E309MoL) **AWS** A5.4 (E309MoL)
W30931	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E309T-x)	**C** 0.10 *max* **Cr** 22.0-25.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309T-x) **AWS** A5.22 (E309T-x)
W30932	Austenitic Cr-Ni-Cb Stainless Steel Flux Cored Wire (E309CbLT-x)	**C** 0.03 max **Cb** 0.70-1.00 includes Ta **Cr** 22.0-25.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309CbLT-x) **AWS** A5.22 (E309CbLT-x)
W30933	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E309T-3)	**C** 0.10 max **Cr** 23.0-25.5 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.04 *max* **S** 0.03 *max* **Si** 1.0 *max*	**ASME** SFA5.22 (E309T-3) **AWS** A5.22 (E309T-3)
W30934	Austenitic Cr-Ni-Cb Stainless Steel Flux Cored Wire (E309CbLT-3)	**C** 0.03 max **Cb** 0.70-1.00 includes Ta **Cr** 23.0-25.5 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309CbLT-3) **AWS** A5.22 (E309CbLT-3)
W30935	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E309LT-x)	**C** 0.03 max **Cr** 22.0-25.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309LT-x) **AWS** A5.22 (E309LT-x)
W30936	Austenitic Cr-Ni Stainless Steel Flux Cored Wire	**C** 0.04 max **Cr** 20.5-23.5 **Cu** 0.5 *max* **Mn** 0.5-2.5 **Mo** 2.5-3.5 **Ni** 15.0-17.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309LNiMoTx-X) **AWS** A5.22 (E309LNiMoTx-X)
W30937	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E309LT-3)	**C** 0.03 max **Cr** 23.0-25.5 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.04 *max* **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309LT-3) **AWS** A5.22 (E309LT-3)
W30938	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire	**C** 0.04 max **Cr** 21.0-25.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 12.0-16.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309LMoTx-X) **AWS** A5.22 (E309LMoTx-X)
W30939	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire	**C** 0.12 max **Cr** 21.0-25.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 12.0-16.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E309MoTx-X) **AWS** A5.22 (E309MoTx-X)
W30940	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC309)	**C** 0.12 max **Cr** 23.0-25.0 **Cu** 0.75 *max* **Mn** 1.0-2.5 **Mo** 0.75 *max* **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC309) **AWS** A5.9 (EC309)
W30941	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC309Si)	**C** 0.12 max **Cr** 23.0-25.0 **Cu** 0.5 max **Fe** rem **Mn** 1.0-2.5 **Mo** 0.5 max **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (EC309Si) **AWS** A5.9 (EC309Si)
W30943	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC309L)	**C** 0.03 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 12.0-14.0 **P** 0.03 *max* **S** 0.03 *max* **Si** 0.30-0.65	**ASME** SFA5.9 (EC309L) **AWS** A5.9 (EC309L)
W30950	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC309Mo)	**C** 0.12 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC309Mo) **AWS** A5.9 (EC309Mo)
W30953	Austenitic Cr-Ni Stainless Steel Composite Filler Metal (EC309MoL)	**C** 0.03 max **Cr** 23.0-25.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 12.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC309MoL) **AWS** A5.9 (EC309MoL)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
W31010	Austenitic Cr-Ni Stainless Steel Arc Welding Electrode (E310)	**C** 0.08-0.20 **Cr** 25.0-28.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 20.0-22.5 **P** 0.03 max **S** 0.03 max **Si** 0.75 max	**AMS** 5695 **ASME** SFA5.4 (E310) **AWS** A5.4 (E310) **MIL SPEC** MIL-E-22200/2 (MIL-310)
W31015	Austenitic Cr-Ni Stainless Steel Arc Welding Electrode (E310H) High Carbon	**C** 0.35-0.45 **Cr** 25.0-28.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.50 max **Ni** 20.0-22.5 **P** 0.03 max **S** 0.03 max **Si** 0.75 max	**ASME** SFA5.4 (E310H) **AWS** A5.4 (E310H)
W31017	Austenitic Cr-Ni-Cb Stainless Steel Arc Welding Electrode (E310Cb)	**C** 0.12 max **Cb** 0.70-1.00 **Cr** 25.0-28.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 20.0-22.0 **P** 0.03 max **S** 0.03 max **Si** 0.75 max	**ASME** SFA5.4 (E310Cb) **AWS** A5.4 (E310Cb)
W31020	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E310Mo)	**C** 0.12 max **Cr** 25.0-28.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 20.0-22.0 **P** 0.03 max **S** 0.03 max **Si** 0.75 max	**ASME** SFA5.4 (E310Mo) **AWS** A5.4 (E310Mo)
W31031	Austenitic Cr-Ni Stainless Steel Flux Cored Wire (E310T-x)	**C** 0.20 max **Cr** 25.0-28.0 **Cu** 0.5 max **Mn** 1.0-2.50 **Mo** 0.5 max **Ni** 20.0-22.5 **P** 0.03 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E310T-x) **AWS** A5.22 (E310T-x)
W31040	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC310)	**C** 0.08-0.15 **Cr** 25.0-28.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 20.0-22.5 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC310) **AWS** A5.9 (EC310)
W31310	Austenitic-Ferritic Cr-Ni Stainless Steel Arc Welding Electrode (E312)	**C** 0.15 max **Cr** 28.0-32.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 0.75 max **Ni** 8.0-10.5 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**AMS** 5785 **ASME** SFA5.4 (E312) **AWS** A5.4 (E312) **MIL SPEC** MIL-E-22200/2 (MIL-312)
W31331	Austenitic-Ferritic Cr-Ni Stainless Steel Arc Welding Electrode (E312T-x)	**C** 0.15 max **Cr** 28.0-32.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 8.0-10.5 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E312T-x) **AWS** A5.22 (E312T-x)
W31340	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC312)	**C** 0.15 max **Cr** 28.0-32.0 **Mn** 1.00-2.50 **Mo** 0.75 max **Ni** 8.00-10.5 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC312) **AWS** A5.9 (EC312)
W31610	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E316)	**C** 0.08 max **Cr** 17.0-20.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**AMS** 5691 **ASME** SFA5.4 (E316, E316H) **AWS** A5.4 (E316, E316H) **MIL SPEC** MIL-E-22200/2 (MIL-316)
W31613	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E316L)	**C** 0.04 max **Cr** 17.0-20.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E316L) **AWS** A5.4 (E316L) **MIL SPEC** MIL-E-22200/2 (MIL-316L)
W31630	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire	**C** 0.04 max **Cr** 17.0-20.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E316LKT0-3) **AWS** A5.22 (E316LKT0-3)
W31631	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E316T-x)	**C** 0.08 max **Cr** 17.0-20.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E316T-x) **AWS** A5.22 (E316T-x)
W31633	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E316T-3)	**C** 0.08 max **Cr** 18.0-20.5 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E316T-3) **AWS** A5.22 (E316T-3)
W31635	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E316LT-x)	**C** 0.03 max **Cr** 17.0-20.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E316LT-x) **AWS** A5.22 (E316LT-x)
W31637	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E316LT-3)	**C** 0.03 max **Cr** 18.0-20.5 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E316LT-3, E316LKT-3) **AWS** A5.22 (E316LT-3, E316LKT-3)
W31640	Austenitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (EC316)	**C** 0.08 max **Cr** 18.0-20.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC316, EC316H) **AWS** A5.9 (EC316, EC316H)

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W31641	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC316Si)	**C** 0.08 max **Cr** 18.0-20.0 **Cu** 0.5 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (EC316Si) **AWS** A5.9 (EC316Si)
W31643	Austenitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (EC316L)	**C** 0.03 max **Cr** 18.0-22.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC316L) **AWS** A5.9 (EC316L)
W31648	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC316LSi)	**C** 0.03 max **Cr** 18.0-20.0 **Cu** 0.5 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (EC316LSi) **AWS** A5.9 (EC316LSi)
W31710	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E317)	**C** 0.08 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 3.0-4.0 **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E317) **AWS** A5.4 (E317) **MIL SPEC** MIL-E-22200/2 (MIL-317)
W31713	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E317L)	**C** 0.04 max **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 3.0-4.0 **Ni** 12.0-14.0 **P** 0.04 *max* **S** 0.03 *max* **Si** 0.90 max	**ASME** SFA5.4 (E317L) **AWS** A5.4 (E317L)
W31735	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E317LT-x)	**C** 0.03 max **Cr** 18.0-21.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 3.0-4.0 **Ni** 12.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E317LT-x) **AWS** A5.22 (E317LT-x)
W31737	Austenitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E317LT-3)	**C** 0.03 max **Cr** 18.5-21.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 3.0-4.0 **Ni** 13.5-15.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E317LT-3) **AWS** A5.22 (E317LT-3)
W31740	Austenitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (EC317)	**C** 0.08 max **Cr** 18.5-20.5 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 3.0-4.0 **Ni** 13.0-15.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC317) **AWS** A5.9 (EC317)
W31743	Austenitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (EC317L)	**C** 0.03 max **Cr** 18.5-20.5 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 3.0-4.0 **Ni** 13.0-15.0 **P** 0.04 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC317L) **AWS** A5.9 (EC317L)
W31810	Replaced by W39209		
W31831	Replaced by W39239		
W31910	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E318)	**C** 0.08 max **Cb** 6xC-1.00 includes Ta **Cr** 17.0-20.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 2.0-2.5 **Ni** 11.0-14.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E318) **AWS** A5.4 (E318) **MIL SPEC** MIL-E-22200/2 (MIL-318)
W31940	Austenitic Cr-Ni-Mo-Cb Stainless Steel Composite Welding Filler Metal (EC318)	**C** 0.08 max **Cb** 8xC-1.0 includes Ta **Cr** 18.0-20.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 2.0-3.0 **Ni** 11.0-14.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC318) **AWS** A5.9 (EC318)
W32140	Austenitic Cr-Ni-Ti Stainless Steel Composite Welding Filler Metal (EC321)	**C** 0.08 max **Cr** 18.5-20.5 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 9.0-10.5 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65 **Ti** 9xC-1.0	**ASME** SFA5.9 (EC321) **AWS** A5.9 (EC321)
W32210	Nitrogen Strengthened Cr-Ni-Mn-Mo Stainless Steel Arc Welding Electrode (22-10-5)	**C** 0.06 max **Cr** 20.5-24.0 **Cu** 0.75 max **Mn** 4.0-7.0 **Mo** 1.5-3.0 **N** 0.10-0.30 **Ni** 9.5-12.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max **V** 0.10-0.30	**ASME** SFA5.4 (E209) **AWS** A5.4 (E209)
W32240	Nitrogen Strengthened Austenitic Cr-Ni-Mn-Mo Stainless Steel Composite Welding Filler Metal (22-10-5)	**C** 0.05 max **Cr** 20.5-24.0 **Cu** 0.75 max **Mn** 4.0-7.0 **Mo** 1.5-3.0 **N** 0.10-0.30 **Ni** 9.5-12.0 **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.9 (EC209) **AWS** A5.9 (EC209)
W32310	Nitrogen Strengthened Austenitic Cr-Ni-Mn-Mo Stainless Steel Arc Welding Electrode (21-6-9)	**C** 0.06 max **Cr** 19.0-21.5 **Cu** 0.75 max **Mn** 8.0-10.0 **Mo** 0.75 *max* **N** 0.10-0.30 **Ni** 5.5-7.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.4 (E219) **AWS** A5.4 (E219)
W32340	Nitrogen Strengthened Austenitic Cr-Mn-Ni Stainless Steel Composite Welding Filler Metal (EC 219)	**C** 0.05 max **Cr** 19.0-21.5 **Cu** 0.75 max **Mn** 8.0-10.0 **Mo** 0.75 max **N** 0.10-0.30 **Ni** 5.5-7.0 **P** 0.03 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.9 (EC219) **AWS** A5.9 (EC219)

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W32410	Nitrogen Strengthened Cr-Ni-Mn-Mo Stainless Steel Arc Welding Electrode (E240)	**C** 0.06 max **Cr** 17.0-19.0 **Cu** 0.75 max **Mn** 10.5-13.5 **Mo** 0.75 max **N** 0.10-0.20 **Ni** 4.0-6.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.4 (E240) **AWS** A5.4 (E240)
W32440	Nitrogen Strengthened Austenitic Cr-Mn-Ni Stainless Steel Composite Welding Filler Metal (EC240)	**C** 0.05 max **Cr** 17.0-19.0 **Cu** 0.75 max **Mn** 10.5-13.5 **Mo** 0.75 max **N** 0.10-0.20 **Ni** 4.0-6.0 **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.9 (EC240) **AWS** A5.9 (EC240)
W32540	Nitrogen Strengthened Austenitic Cr-Ni-Mn Stainless Steel Composite Welding Filler Metal (Nitronic 60W)	**C** 0.10 max **Cr** 16.0-18.0 **Cu** 0.75 max **Mn** 7.0-9.0 **Mo** 0.75 max **N** 0.08-0.18 **Ni** 8.0-9.0 **P** 0.03 max **S** 0.03 max **Si** 3.5-4.5	**ASME** SFA5.9 (EC218) **AWS** A5.9 (EC218)
W32550	Changed to W39553		
W32561	Replaced by W39533		
W34710	Austenitic Cr-Ni-Cb Stainless Steel Arc Welding Electrode (E347)	**C** 0.08 max **Cb** 8xC-1.00 includes Ta **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**AMS** 5681 **ASME** SFA5.4 (E347) **AWS** A5.4 (E347) **MIL SPEC** MIL-E-22200/2 (MIL-347, MIL-347Co)
W34712	Austenitic Cr-Ni-Cb Stainless Steel Arc Welding Electrode (347HC) High Carbon	**C** 0.08-0.15 **Cb** 8xC-1.4 includes Ta **Cr** 18.0-21.0 **Mn** 2.5 max **Ni** 9.0-11.0 **P** 0.025 max **S** 0.025 max **Si** 5xC max	**MIL SPEC** MIL-E-22200/2 (MIL-347HC)
W34731	Austenitic Cr-Ni-Cb Stainless Steel Flux Cored Wire (E347T-x)	**C** 0.08 max **Cb** 8xC-1.0 **Cr** 18.0-21.0 **Cu** 0.5 max **Mn** 0.5-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E347T-x) **AWS** A5.22 (E347T-x)
W34733	Austenitic Cr-Ni-Cb Stainless Steel Flux Cored Wire (E347T-3)	**C** 0.08 max **Cb** 8xC-1.0 **Cr** 19.0-21.5 **Cu** 0.5 max **Mn** 0.5-2.50 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E347T-3) **AWS** A5.22 (E347T-3)
W34740	Austenitic Cr-Ni-Cb Stainless Steel Composite Welding Filler Metal (EC347)	**C** 0.08 max **Cb** 10xC-1.0 **Cr** 19.0-21.5 **Cu** 0.75 max **Mn** 1.0-2.5 max **Mo** 0.75 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC347) **AWS** A5.9 (EC347)
W34748	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC347Si)	**C** 0.08 max **Cb** 10xC-1.0 includes Ta **Cr** 19.0-21.5 **Cu** 0.5 max **Mn** 1.0-2.5 **Mo** 0.5 max **Ni** 9.0-11.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.00	**ASME** SFA5.9 (EC347Si) **AWS** A5.9 (EC347Si)
W34910	Austenitic Cr-Ni-W-Mo Heat Resisting Arc Welding Electrode (E349)	**C** 0.13 max **Cb** 0.75-1.2 **Cr** 18.0-21.0 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 0.35-0.65 **Ni** 8.0-10.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max **Ti** 0.15 max **W** 1.25-1.75	**AMS** 5783 **ASME** SFA5.4 (E349) **AWS** A5.4 (E349) **MIL SPEC** MIL-E-22200/2 (MIL-349)
*W34940	Austenitic Cr-Ni Stainless Steel Composite Welding Filler Metal (EC349)	**C** 0.07-0.13 **Cb** 1.00-1.40 **Cr** 19.0-21.5 **Mn** 1.00-2.50 **Mo** 0.35-0.65 **Ni** 8.00-9.50 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC349) **AWS** A5.9 (EC349)
W35010	Precipitation Hardenable Cr-Ni-Mo Stainless Steel Arc Welding Electrode (350)	**C** 0.08-0.12 **Cr** 16.00-17.00 **Mn** 0.50-1.25 **Mo** 2.50-3.25 **N** 0.07-0.13 **Ni** 4.00-5.00 **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**AMS** 5775
W35510	Precipitation Hardenable Stainless Steel Arc Welding Electrode	**C** 0.10-0.15 **Cr** 15.0-16.0 **Cu** 0.50 max **Mn** 0.50-1.25 **Mo** 2.50-3.25 **N** 0.07-0.13 **Ni** 4.00-5.00 **P** 0.040 max **S** 0.030 max **Si** 0.50 max	**AMS** 5781
W36810	Austenitic Cr-Ni-Mo Stainless Steel Arc Welding Electrode (E16-8-2)	**C** 0.10 max **Cr** 14.5-16.5 **Cu** 0.75 max **Mn** 0.5-2.5 **Mo** 1.0-2.0 **Ni** 7.5-9.5 **P** 0.03 max **S** 0.03 max **Si** 0.60 max	**ASME** SFA5.4 (E16-8-2) **AWS** A5.4 (E16-8-2) **MIL SPEC** MIL-E-22200/2 Type MIL-16-8-2

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W36840	Austenitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (16-8-2)	**C** 0.10 max **Cr** 14.5-16.5 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 1.0-2.0 **Ni** 7.5-9.5 **P** 0.03 max **S** 0.03 max **Si** 0.30-0.65	**ASME** SFA5.9 (EC16-8-2) **AWS** A5.9 (EC16-8-2)
W37410	Precipitation Hardenable Cr-Ni-Cu Stainless Steel Arc Welding Electrode (17-4PH) (E630)	**C** 0.05 max **Cb** 0.15-0.30 includes Ta **Cr** 16.00-16.75 **Cu** 3.25-4.00 **Mn** 0.25-0.75 **Mo** 0.75 max **Ni** 4.50-5.00 **P** 0.04 max **S** 0.03 max **Si** 0.75 max	**AMS** 5827 **ASME** SFA5.4 (E630) **AWS** A5.4 (E630)
W37440	Precipitation Hardenable Cr-Ni-Cu Stainless Steel Composite Welding Filler Metal (17-4PH) (EC630)	**C** 0.05 max **Cb** 0.15-0.30 includes Ta **Cr** 16.00-16.75 **Cu** 3.25-4.00 **Mn** 0.25-0.75 **Mo** 0.75 max **Ni** 4.50-5.00 **P** 0.04 max **S** 0.03 max **Si** 0.75 max	**ASME** SFA5.9 (EC630) **AWS** A5.9 (EC630)
W39209	Duplex Stainless Steel Electrodes (E2209)	**C** 0.04 max **Cr** 21.5-23.5 **Cu** 0.75 max **Mn** 0.5-2.0 **Mo** 2.5-3.5 **N** 0.08-0.20 **Ni** 8.5-10.5 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E2209) **AWS** A5.4 (E2209)
W39239	Duplex Stainless Steel Flux Cored Wire (E2209T-3)	**C** 0.04 max **Cr** 21.0-23.0 **Cu** 0.5 max **Mn** 0.5-2.0 **Mo** 3.0-4.0 **N** 0.08-0.20 **Ni** 7.5-9.5 **P** 0.04 max **S** 0.03 max **Si** 0.75 max	**ASME** SFA5.22 (E2209T-3) **AWS** A5.22 (E2209T-3)
W39240	Duplex Stainless Steel Welding Composite Filler Metal (EC2209)	**C** 0.03 max **Cr** 21.5-23.5 **Cu** 0.75 max **Mn** 0.50-2.0 **Mo** 2.5-3.5 **N** 0.08-0.20 **Ni** 7.5-9.5 **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.9 (EC2209) **AWS** A5.9 (EC2209)
W39533	Duplex Stainless Steel Flux Cored Wire (E2553T-3)	**C** 0.04 max **Cr** 24.0-27.0 **Cu** 1.5-2.5 **Mn** 0.5-1.5 **Mo** 2.9-3.9 **N** 0.10-0.20 **Ni** 8.5-10.5 **P** 0.04 max **S** 0.03 max **Si** 0.75 max	**ASME** SFA5.22 (E2553T-3) **AWS** A5.22 (E2553T-3)
W39540	Duplex Stainless Steel Composite Welding Filler Metal (EC2553)	**C** 0.04 max **Cr** 24.0-27.0 **Cu** 1.5-2.5 **Mn** 1.5 max **Mo** 2.9-3.9 **N** 0.10-0.25 **Ni** 4.5-6.5 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.9 (EC2553) **AWS** A5.9 (EC2553)
W39553	Duplex Stainless Steel Electrodes (E2553)	**C** 0.06 max **Cr** 24.0-27.0 **Cu** 1.5-2.5 **Mn** 0.5-1.5 **Mo** 2.9-3.9 **N** 0.10-0.25 **Ni** 6.5-8.5 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.4 (E2553) **AWS** A5.4 (E2553)
W40931	Ferritic Cr-Ti Stainless Steel Flux Cored Wire (E409T-x)	**C** 0.10 max **Cr** 10.5-13.5 **Cu** 0.5 max **Mn** 0.80 max **Mo** 0.5 max **Ni** 0.60 max **P** 0.04 max **S** 0.03 max **Si** 1.0 max **Ti** 10xC-1.5	**ASME** SFA5.22 (E409T-x) **AWS** A5.22 (E409T-x)
W40947	Ferritic Cr-Cb Stainless Steel Composite Welding Filler Metal (EC409Cb)	**C** 0.08 max **Cb** 10(C) min - 0.75 max **Cr** 10.5-13.5 **Cu** 0.75 max **Mn** 0.8 max **Mo** 0.50 max **Ni** 0.6 max **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.9 (EC409Cb) **AWS** A5.9 (EC409Cb)
W41010	Martensitic Cr Stainless Steel Arc Welding Electrode (E410)	**C** 0.12 max **Cr** 11.0-13.5 **Cu** 0.75 max **Mn** 1.0 max **Mo** 0.75 max **Ni** 0.75 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**AMS** 5777 **ASME** SFA5.4 (E410) **AWS** A5.4 (E410) **MIL SPEC** MIL-E-22200/8 (MIL-410)
W41016	Martensitic Cr-Ni-Mo *Stainless Steel Arc Welding* Electrode (E410NiMo)	**C** 0.06 max **Cr** 11.0-12.5 **Cu** 0.75 max **Mn** 1.0 max **Mo** 0.40-0.70 **Ni** 4.0-5.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E410NiMo) **AWS** A5.4 (E410NiMo)
W41031	Martensitic Cr Stainless Steel Flux Cored Wire (E410T-x)	**C** 0.12 max **Cr** 11.0-13.5 **Cu** 0.5 max **Mn** 1.2 max **Mo** 0.5 max **Ni** 0.60 max **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E410T-x) **AWS** A5.22 (E410T-x)
W41036	Martensitic Cr-Ni-Mo Stainless Steel Flux Cored Wire (E410NiMoT-x)	**C** 0.06 max **Cr** 11.0-12.5 **Cu** 0.5 max **Mn** 1.0 max **Mo** 0.40-0.70 **Ni** 4.0-5.0 **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E410NiMoT-x) **AWS** A5.22 (E410NiMoT-x); A5.33 (CW-FeCr-1)
W41038	Martensitic Cr-Ni-Ti Stainless Steel Flux Cored Wire (E410NiTiT-x)	**C** 0.03 max **Cr** 11.0-12.0 **Cu** 0.5 max **Mn** 0.70 max **Mo** 0.05 max **Ni** 3.6-4.5 **P** 0.03 max **S** 0.03 max **Si** 0.50 max **Ti** 10xC-1.5	**ASME** SFA5.22 (E410NiTiT-x) **AWS** A5.22 (E410NiTiT-x)

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W41039	Composite Thermal Spray Wire (CW-FeCr-2)	**C** 0.06 max **Cr** 12-14 **Fe** rem **Mn** 1.0 max **Ni** 3.0-4.0	**AWS** A5.33 (CW-FeCr-2)
W41040	Martensitic Cr Stainless Steel Composite Welding Filler Metal (EC410)	**C** 0.12 max **Cr** 11.5-13.5 **Cu** 0.75 max **Mn** 0.6 max **Mo** 0.75 max **Ni** 0.6 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (EC410) **AWS** A5.9 (EC410)
W41046	Martensitic Cr-Ni-Mo Stainless Steel Composite Welding Filler Metal (EC410NiMo)	**C** 0.06 max **Cr** 11.0-12.5 **Cu** 0.75 max **Mn** 0.6 max **Mo** 0.4-0.7 **Ni** 4.0-5.0 **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (EC410NiMo) **AWS** A5.9 (EC410NiMo)
W42040	Martensitic Cr Stainless Steel Composite Welding Filler Metal (EC420)	**C** 0.25-0.40 **Cr** 12.0-14.0 **Cu** 0.75 max **Mn** 0.6 max **Mo** 0.75 max **Ni** 0.6 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (EC420) **AWS** A5.9 (EC420); A5.33 (CW-FeCr-3)
W43010	Ferritic Cr Stainless Steel Arc Welding Electrode (E430)	**C** 0.10 max **Cr** 15.0-18.0 **Cu** 0.75 max **Mn** 1.0 max **Mo** 0.75 max **Ni** 0.60 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E430) **AWS** A5.4 (E430)
W43031	Ferritic Cr Stainless Steel Flux Cored Wire (E430T-x)	**C** 0.10 max **Cr** 15.0-18.0 **Cu** 0.5 max **Mn** 1.2 max **Mo** 0.5 max **Ni** 0.60 max **P** 0.04 max **S** 0.03 **Si** 1.0 max	**ASME** SFA5.22 (E430T-x) **AWS** A5.22 (E430T-x)
W43040	Ferritic Cr Stainless Steel Composite Welding Filler Metal (EC430)	**C** 0.10 max **Cr** 15.5-17.0 **Cu** 0.75 max **Mn** 0.6 max **Mo** 0.75 max **Ni** 0.6 max **P** 0.03 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (EC430) **AWS** A5.9 (EC430)
W43070	Composite Thermal Spray Wire (CW-FeCr-4)	**C** 0.60-0.80 **Cr** 16-18 **Fe** rem **Mn** 1.0 max **Mo** 0.75 max **Si** 1.0 max	**AWS** A5.33 (CW-FeCr-4)
W44647	Ferritic Cr-Mo Stainless Steel Composite Welding Filler Metal (EC446MoL)	**C** 0.01 max **Cr** 25.0-27.5 **Cu** 0.20 max **Mn** 0.40 max **Mo** 0.75-1.50 **N** 0.015 max **Ni** 0.5 max includes Cu **P** 0.02 max **S** 0.02 max **Si** 0.40 max	**ASME** SFA5.9 (EC446MoL) **AWS** A5.9 (EC446MoL)
W46440	Composite Thermal Spray Wire (CW-FeCrB)	**B** 4.3 max **C** 0.2 max **Cr** 32 max **Fe** rem **Mn** 1.8 max **Si** 2.1 max	**AWS** A5.33 (CW-FeCrB)
W46540	Composite Thermal Spray Wire (CW-FeCrNiB)	**B** 2.5 max **C** 0.2 max **Cr** 25 max **Cu** 2.2 max **Fe** rem **Mn** 1.25 max **Mo** 4.2 max **Ni** 10 max **Si** 1.5 max	**AWS** A5.33 (CW-FeCrNiB)
W46640	Composite Thermal Spray Wire (CW-FeCrNiMoB)	**B** 3.0 max **C** 0.2 max **Cr** 25 max **Cu** 2.7 max **Fe** rem **Mn** 1.5 max **Mo** 3. 5 max **Ni** 8.0 max **Si** 2.2 max	**AWS** A5.33 (CW-FeCrNiMoB)
W50140	Martensitic 5% Cr-Mo Steel Composite Wire for Submerged Arc Welding (ECB6H) High Carbon	**C** 0.10 max **Cr** 4.50-6.00 **Cu** 0.35 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECB6H) **AWS** A5.23 (ECB6H)
W50141	Martensitic 5% Cr-Mo Steel Composite Wire for Submerged Arc Welding (ECB6HN) High Carbon-Nuclear Grade	**C** 0.10 max **Cr** 4.50-6.00 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB6HN) **AWS** A5.23 (ECB6HN)
W50205	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8015-B6L)	**C** 0.05 max **Cr** 4.0-6.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8015-B6L) **AWS** A5.5 (E8015-B6L) **MIL SPEC** MIL-E-22200/8 (MIL-502-15L)
W50206	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8016-B6L)	**C** 0.05 max **Cr** 4.0-6.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8016-B6L) **AWS** A5.5 (E8016-B6L) **MIL SPEC** MIL-E-22200/8 (MIL-502-16L)
W50208	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8018-B6L)	**C** 0.05 max **Cr** 4.0-6.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8018-B6L) **AWS** A5.5 (E8018-B6L)
W50210	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E502)	**C** 0.05 max **Cr** 4.0-6.0 **Cu** 0.75 max **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**AMS** 6467 **ASME** SFA5.4 (E502) **AWS** A5.4 (E502)

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*W50213	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (502L)	**C** 0.05 max **Cr** 4.00-6.00 **Mn** 1.00 max **Mo** 0.45-0.65 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E801X-B6L) **AWS** A5.5 (E801X-B6L) **MIL SPEC** MIL-E-22200/8 (MIL-502-1x-L)
W50215	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8015-B6)	**C** 0.05-0.10 **Cr** 4.0-6.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8015-B6) **AWS** A5.5 (E8015-B6) **MIL SPEC** MIL-E-22200/8 (MIL-502-15)
W50216	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8016-B6)	**C** 0.05-0.10 **Cr** 4.0-6.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8016-B6) **AWS** A5.5 (E8016-B6) **MIL SPEC** MIL-E-22200/8 (MIL-502-16)
W50218	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8018-B6)	**C** 0.05-0.10 **Cr** 4.0-6.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8018-B6) **AWS** A5.5 (E8018-B6)
W50230	Martensitic 5% Cr-Mo Steel, Flux Cored Welding Wire (B6L)	**C** 0.05 max **Cr** 4.00-6.00 **Cu** 0.50 max **Mn** 1.25 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.04 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.29 (E8xT5-B6L) **AWS** A5.29 (E8xT5-B6L)
W50231	Martensitic 5% Cr-Mo Steel Flux Cored Wire (E502T-x)	**C** 0.10 max **Cr** 4.0-6.0 **Cu** 0.5 max **Mn** 1.2 max **Mo** 0.45-0.65 **Ni** 0.4 max **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E502T-x); SFA5.29 (E8xT5-B6) **AWS** A5.22 (E502T-x); A5.29 (E8xT5-B6)
W50240	Martensitic 5% Cr-Mo Steel Composite Wire for Submerged Arc Welding (ECB6)	**C** 0.12 max **Cr** 4.50-6.00 **Cu** 0.35 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECB6); SFA5.9 (EC502) **AWS** A5.23 (ECB6); A5.9 (EC502)
W50241	Martensitic 5% Cr-Mo Steel Composite Wire for Submerged Arc Welding (ECB6N) Nuclear Grade	**C** 0.12 max **Cr** 4.50-6.00 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB6N) **AWS** A5.23 (ECB6N)
W50305	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8015-B7L)	**C** 0.05 max **Cr** 6.0-8.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8015-B7L) **AWS** A5.5 (E8015-B7L)
W50306	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8016-B7L)	**C** 0.05 max **Cr** 6.0-8.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.45 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8016-B7L) **AWS** A5.5 (E8016-B7L)
W50308	Martensitic 5% Cr-Mo Steel Arc Welding Electrode (E8018-B7L)	**C** 0.05 max **Cr** 6.0-8.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8018-B7L) **AWS** A5.5 (E8018-B7L)
W50310	Martensitic 7% Cr-Mo Steel Arc Welding Electrode (E7Cr)	**C** 0.05 max **Cr** 6.0-8.0 **Cu** 0.75 max **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E7Cr) **AWS** A5.4 (E7Cr)
W50315	Martensitic 7% Cr-Mo Steel Arc Welding Electrode (E8015-B7)	**C** 0.05-0.10 **Cr** 6.0-8.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8015-B7) **AWS** A5.5 (E8015-B7)
W50316	Martensitic 7% Cr-Mo Steel Arc Welding Electrode (E8016-B7)	**C** 0.05-0.10 **Cr** 6.0-8.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8016-B7) **AWS** A5.5 (E8016-B7)
W50318	Martensitic 7% Cr-Ni Steel Arc Welding Electrode (E8018-B7)	**C** 0.05-0.10 **Cr** 6.0-8.0 **Mn** 1.0 max **Mo** 0.45-0.65 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8018-B7) **AWS** A5.5 (E8018-B7)
W50405	Martensitic 9% Cr-Mo Steel Arc Welding Electrode (E8015-B8L)	**C** 0.05 max **Cr** 8.0-10.5 **Mn** 1.0 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8015-B8L) **AWS** A5.5 (E8015-B8L)
W50406	Martensitic 9% Cr-Ni Steel Arc Welding Electrode (E8016-B8L)	**C** 0.05 max **Cr** 8.0-10.5 **Mn** 1.0 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8016-B8L) **AWS** A5.5 (E8016-B8L)
W50408	Martensitic 9% Cr-Ni Steel Arc Welding Electrode (E8018-B8L)	**C** 0.05 max **Cr** 8.0-10.5 **Mn** 1.0 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8018-B8L) **AWS** A5.5 (E8018-B8L)

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W50410	Martensitic 9% Cr-Mo Steel Arc Welding Electrode (E505)	**C** 0.05 max **Cr** 8.0-10.5 **Cu** 0.75 max **Mn** 1.0 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E505) **AWS** A5.4 (E505)
*W50411	Martensitic 9% Cr-Mo Steel Arc Welding Electrode (365)	**C** 0.10 max **Cr** 8.50-10.50 **Mo** 1.00-1.50 **Si** 0.60 max	
W50415	Martensitic 9% Cr-Mo Steel Arc Welding Electrode (E8015-B8)	**C** 0.05-0.10 **Cr** 8.0-10.5 **Mn** 1.0 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8015-B8) **AWS** A5.5 (E8015-B8) **MIL SPEC** MIL-E-22200/8 (MIL-505-15)
W50416	Martensitic 9% Cr-Mo Steel Arc Welding Electrode (E8016-B8)	**C** 0.05-0.10 **Cr** 8.0-10.5 **Mn** 1.0 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8016-B8) **AWS** A5.5 (E8016-B8) **MIL SPEC** MIL-E-22200/8 (MIL-505-16)
W50418	Martensitic 9% Cr-Mo Steel Arc Welding Electrode (E8018-B8)	**C** 0.05-0.10 **Cr** 8.0-10.5 **Mn** 1.0 max **Mo** 0.85-1.20 **Ni** 0.40 amx **P** 0.03 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.5 (E8018-B8) **AWS** A5.5 (E8018-B8)
W50425	Martensitic 9% Cr-Mo-V Steel Arc Welding Electrode (E9015-B9)	**Al** 0.04 max **C** 0.08-0.13 **Cb** 0.02-0.10 **Cr** 8.0-10.5 **Cu** 0.25 max **Mn** 1.0 max **Mo** 0.85-1.20 **N** 0.03-0.07 **Ni** 0.40 max **P** 0.02 max **S** 0.02 max **Si** 0.80 max **V** 0.15-0.80	**ASME** SFA5.5 (E9015-B9) **AWS** A5.5 (E9015-B9)
W50426	Martensitic 9% Cr-Mo-V Steel Arc Welding Electrode (E9016-B9)	**Al** 0.04 max **C** 0.08-0.13 **Cb** 0.02-0.10 **Cr** 8.0-10.5 **Cu** 0.25 max **Mn** 1.0 max **Mo** 0.85-1.20 **N** 0.03-0.07 **Ni** 0.40 max **P** 0.02 max **S** 0.02 max **Si** 0.80 max **V** 0.15-0.30	**ASME** SFA5.5 (E9016-B9) **AWS** A5.5 (E9016-B9)
W50428	Martensitic 9% Cr-Mo-V Steel Arc Welding Electrode (E9018-B9)	**Al** 0.04 max **C** 0.08-0.13 **Cb** 0.02-0.10 **Cr** 8.0-10.5 **Cu** 0.25 max **Mn** 1.0 max **Mo** 0.85-1.20 **N** 0.03-0.07 **Ni** 0.40 max **P** 0.02 max **S** 0.02 max **Si** 0.80 max **V** 0.15-0.80	**ASME** SFA5.5 (E9018-B9) **AWS** A5.5 (E9018-B9)
W50430	Martensitic 9% Cr-Mo Steel, Flux Cored Wire (B8L)	**C** 0.05 max **Cr** 8.00-10.5 **Cu** 0.50 max **Mn** 1.25 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.03 max **S** 0.03 max **Si** 1.00 max	**ASME** SFA5.29 (E6xT5-B8L) **AWS** A5.29 (E6xT5-B8L)
W50431	Martensitic 9% Cr-Mo Steel Flux Cored Wire (E505T-x)	**C** 0.10 max **Cr** 8.0-10.5 **Cu** 0.5 max **Mn** 1.2 max **Mo** 0.85-1.20 **Ni** 0.40 max **P** 0.04 max **S** 0.03 max **Si** 1.0 max	**ASME** SFA5.22 (E505T-x); SFA5.29 (E6xT5-B8) **AWS** A5.22 (E505T-x); A5.29 (E6xT5-B8)
W50440	Martensitic Cr-Mo Stainless Steel Composite Welding Filler Metal (EC-505)	**C** 0.10 max **Cr** 8.0-10.5 **Cu** 0.75 max **Mn** 0.6 max **Mo** 0.8-1.2 **Ni** 0.5 max **P** 0.04 max **S** 0.03 max **Si** 0.50 max	**ASME** SFA5.9 (EC505); SFA5.23 (EC-B8) **AWS** A5.9 (EC505); A5.23 (EC-B8)
W50441	Martensitic 9% Cr-Mo Steel Composite Wire for Submerged Arc Welding (ECB8N) Nuclear Grade	**C** 0.12 max **Cr** 8.00-10.00 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.80-1.20 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB8N) **AWS** A5.23 (ECB8N)
W50442	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB 9)	**Al** 0.04 max **C** 0.07-0.13 **Cr** 8.00-9.50 **Cu** 0.03 max **Mn** 1.25 max **Mo** 0.80-1.20 **N** 0.03-0.0 **Nb** 0.03-0.10 **Ni** 1.00 max **P** 0.010 max **S** 0.010 max **Si** 0.15-0.30 **V** 0.15-0.25	**ASME** SFA5.23 (ECB 9) **AWS** A5.23 (ECB 9)
W51016	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8016-B1)	**C** 0.05-0.12 max **Cr** 0.40-0.65 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E8016-B1) **AWS** A5.5 (E8016-B1)
W51018	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8018-B1)	**C** 0.05-0.12 max **Cr** 0.40-0.65 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-B1) **AWS** A5.5 (E8018-B1)
W51031	Cr-Mo Low Alloy Steel Flux Cored Wire (E8xT1-B1)	**C** 0.05-0.12 max **Cr** 0.40-0.65 **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT1-B1) **AWS** A5.29 (E8xT1-B1)

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W51040	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB1)	**C** 0.12 max **Cr** 0.40-0.65 **Cu** 0.35 max **Mn** 1.60 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECB1) **AWS** A5.23 (ECB1)
W51041	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB1N) Nuclear Grade	**C** 0.12 max **Cr** 0.40-0.65 **Cu** 0.08 max **Mn** 1.60 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB1N) **AWS** A5.23 (ECB1N)
W51131	Cr-Mo Low Alloy Steel, Flux Cored Wire (B1L)	**C** 0.05 max **Cr** 0.40-0.65 **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT1-B1L) **AWS** A5.29 (E8xT1-B1L)
W51316	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8016-B5)	**C** 0.07-0.15 **Cr** 0.40-0.60 **Mn** 0.40-0.70 **Mo** 1.00-1.25 **P** 0.03 max **S** 0.04 max **Si** 0.30-0.60 **V** 0.05 max	**ASME** SFA5.5 (E8016-B5) **AWS** A5.5 (E8016-B5)
W51340	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB5)	**C** 0.18 max **Cr** 0.40-0.65 **Cu** 0.35 max **Mn** 1.20 max **Mo** 0.90-1.20 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECB5) **AWS** A5.23 (ECB5)
W51341	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (EB5N) Nuclear Grade	**C** 0.18 max **Cr** 0.40-0.65 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.90-1.20 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB5N) **AWS** A5.23 (ECB5N)
W52015	Cr-Mo Low Alloy Steel Arc Welding Electrode (8015-B2)	**C** 0.10 max **Cr** 1.00-1.50 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**MIL SPEC** MIL-E-22200/8 (MIL-8015-B2)
W52016	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8016B-2)	**C** 0.05-0.12 max **Cr** 1.00-1.50 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E8016-B2) **AWS** A5.5 (E8016-B2) **MIL SPEC** MIL-E-22200/8 (MIL-8016-B2)
W52018	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8018-B2)	**C** 0.05-0.12 max **Cr** 1.00-1.50 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-B2) **AWS** A5.5 (E8018-B2) **MIL SPEC** MIL-E-22200/8 (MIL-8018-B2)
W52030	Cr-Mo Low Alloy Steel Composite Wire for Gas Shielded Arc Welding	**C** 0.07-0.12 **Cr** 1.00-1.50 **Cu** 0.35 max **Mn** 0.40-1.00 **Mo** 0.40-0.65 **Ni** 0.20 max **P** 0.025 max **S** 0.030 max **Si** 0.25-0.60	**ASME** SFA5.28 (E80C-B2) **AWS** A5.28 (E80C-B2)
W52031	Cr-Mo Low Alloy Steel Flux Cored Wire (E8xT1-B2)	**C** 0.05-0.12 **Cr** 1.00-1.50 **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT1-B2) **AWS** A5.29 (E8xT1-B2)
W52035	Cr-Mo Low Alloy Steel Flux Cored Wire (E8xT5-B2)	**C** 0.05-0.12 max **Cr** 1.00-1.50 **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT5-B2) **AWS** A5.29 (E8xT5-B2)
W52040	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB2)	**C** 0.15 max **Cr** 1.00-1.50 **Cu** 0.35 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECB2) **AWS** A5.23 (ECB2)
W52041	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB2N) Nuclear Grade	**C** 0.15 max **Cr** 1.00-1.50 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB2N) **AWS** A5.23 (ECB2N)
W52042	Cr-Mo Low Alloy Steel Submerged Arc Welding (B2RR)	**As** 0.005 max **C** 0.15 max **Cr** 1.00-1.50 **Cu** 0.15 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.010 max **S** 0.010 max **Sb** 0.005 max **Si** 0.80 max **Sn** 0.005 max	**ASME** SFA5.23 (B2LR) **AWS** A5.23 (B2LR)
W52115	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8015-B2L)	**C** 0.05 max **Cr** 1.00-1.50 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 1.00 max	**ASME** SFA5.5 (E8015-B2L) **AWS** A5.5 (E8015-B2L) **MIL SPEC** MIL-E-22200/8 (MIL-8015-B2L)
W52116	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8016-B2L)	**C** 0.05 max **Cr** 1.00-1.50 **Mn** 0.90 max **Mo** 0.45-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.6 max	**ASME** SFA5.5 (E8016-B2L) **AWS** A5.5 (E8016-B2L)

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W52118	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8018-B2L)	**C** 0.05 max **Cr** 1.00-1.50 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E8018-B2L) **AWS** A5.5 (E8018-B2L) **MIL SPEC** MIL-E-22200/8 (MIL-8018-B2L)
W52130	Cr-Mo Low Alloy Steel Composite Wire for Gas Shielded Arc Welding (E70C-B2L)	**C** 0.05 max **Cr** 1.00-1.50 **Cu** 0.35 max **Mn** 0.40-1.00 **Mo** 0.40-0.65 **Ni** 0.20 max **P** 0.025 max **S** 0.030 max **Si** 0.25-0.60	**ASME** SFA5.28 (E70C-B2L) **AWS** A5.28 (E70C-B2L)
W52131	Cr-Mo Low Alloy Steel, Flux Cored Wire (E8XT1-B2L)	**C** 0.05 max **Cr** 1.00-1.50 **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8XT1-B2L) **AWS** A5.29 (E8XT1-B2L)
W52135	Cr-Mo Low Alloy Steel Flux Cored Wire (E8xT5-B2L)	**C** 0.05 max **Cr** 1.00-1.50 **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT5-B2L) **AWS** A5.29 (E8xT5-B2L)
W52231	Cr-Mo Low Alloy Steel Flux Cored Wire (E8xT1-B2H)	**C** 0.10-0.15 **Cr** 1.00-1.50 **Mn** 1.25 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E8xT1-B2H) **AWS** A5.29 (E8xT1-B2H)
W52240	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB2H)	**C** 0.10 - 0.25 **Cr** 1.00-1.50 **Cu** 0.35 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max **V** 0.30 max	**ASME** SFA5.23 (ECB2H) **AWS** A5.23 (ECB2H)
W52241	Cr-Mo Low Alloy Steel Flux Cored Wire for Submerged Arc Welding (ECB2HN) Nuclear Grade	**C** 0.10 - 0.25 **Cr** 1.00-1.50 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB2HN) **AWS** A5.23 (ECB2HN)
W53015	Cr-Mo Low Alloy Steel Arc Welding Electrode (E9015-B3)	**C** 0.05 - 0.12 **Cr** 2.00-2.50 **Mn** 0.90 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.04 max **Si** 1.0 max	**ASME** SFA5.5 (E9015-B3) **AWS** A5.5 (E9015-B3) **MIL SPEC** MIL-E-22200/8 (MIL-9015-B3)
W53016	Cr-Mo Low Alloy Steel Arc Welding Electrode (E9016-B3)	**C** 0.05 - 0.12 **Cr** 2.00-2.50 **Mn** 0.90 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.04 max **Si** 0.60 max	**ASME** SFA5.5 (E9016-B3) **AWS** A5.5 (E9016-B3) **MIL SPEC** MIL-E-22200/8 (MIL-9016-B3)
W53018	Cr-Mo Low Alloy Steel Arc Welding Electrode (E9018B-3)	**C** 0.05 - 0.12 **Cr** 2.00-2.50 **Mn** 0.90 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E9018-B3) **AWS** A5.5 (E9018-B3) **MIL SPEC** MIL-E-22200/8 (MIL-9018-B3)
W53030	Cr-Mo Low Alloy Steel Composite Wire for Gas Shielded Arc Welding (E90C-B3)	**C** 0.07-0.12 **Cr** 2.00-2.50 **Cu** 0.35 max **Mn** 0.40-1.00 **Mo** 0.90-1.20 **Ni** 0.20 max **P** 0.025 max **S** 0.030 max **Si** 0.25-0.60	**ASME** SFA5.28 (E90C-B3) **AWS** A5.28 (E90C-B3)
W53031	Cr-Mo Low Alloy Steel Flux Cored Wire (ExxxT1-B3)	**C** 0.05 - 0.12 **Cr** 2.00-2.50 **Mn** 1.25 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E9xT1-B3), (E10xT1-B3) **AWS** A5.29 (E9xT1-B3), (E10xT1-B3)
W53035	Cr-Mo Low Alloy Steel Flux Cored Wire (E9xT5-B3)	**C** 0.05 - 0.12 **Cr** 2.00-2.50 **Mn** 1.25 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E9xT5-B3) **AWS** A5.29 (E9xT5-B3)
W53040	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB3)	**C** 0.15 max **Cr** 2.00-2.50 **Cu** 0.35 max **Mn** 1.20 max **Mo** 0.90-1.20 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECB3) **AWS** A5.23 (ECB3)
W53041	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB3N) Nuclear Grade	**C** 0.15 max **Cr** 2.00-2.50 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.90-1.20 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB3N) **AWS** A5.23 (ECB3N)
W53042	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB3RR)	**As** 0.005 max **C** 0.15 max **Cr** 2.00-2.50 **Cu** 0.15 max **Mn** 1.20 max **Mo** 0.90-1.20 **P** 0.010 max **S** 0.015 max **Sb** 0.005 max **Si** 0.80 max **Sn** 0.010 max	**ASME** SFA5.23 (ECB3RR) **AWS** A5.23 (ECB3RR)
W53043	Cr-Mo Low Alloy Steel Composite Wire for Submerged Arc Welding (ECB3LRN) Nuclear Grade	**As** 0.005 max **C** 0.15 max **Cr** 2.00-2.50 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.90-1.20 **P** 0.010 max **S** 0.015 max **Sb** 0.005 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB3LRN) **AWS** A5.23 (ECB3LRN)

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W53115	Cr-Mo Low Alloy Steel Arc Welding Electrode (E9015-B3L)	**C** 0.05 max **Cr** 2.00-2.50 **Mn** 0.90 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.04 max **Si** 1.00 max	**ASME** SFA5.5 (E9015-B3L) **AWS** A5.5 (E9015-B3L) **MIL SPEC** MIL-E-22200/8 (MIL-9015-B3L)
W53116	Cr-Mo Low Alloy Steel Arc Welding Electrode	**C** 0.05 max **Cr** 2.0-2.50 **Mn** 0.60-0.85 **Mo** 0.90-1.20 **Si** 0.50-0.90	
W53118	Cr-Mo Low Alloy Steel Arc Welding Electrode (E9018-B3L)	**C** 0.05 max **Cr** 2.00-2.50 **Mn** 0.90 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.04 max **Si** 0.80 max	**ASME** SFA5.5 (E9018-B3L) **AWS** A5.5 (E9018-B3L) **MIL SPEC** MIL-E-22200/8 (MIL-9018-B3L)
W53130	Cr-Mo Low Alloy Steel Composite Wire for Gas Shielded Arc Welding (E90C-B3L)	**C** 0.05 max **Cr** 2.00-2.50 **Cu** 0.35 max **Mn** 0.40-1.00 **Mo** 0.90-1.20 **Ni** 0.20 max **P** 0.025 max **S** 0.030 max **Si** 0.25-0.60	**ASME** SFA5.28 (E90C-B3L) **AWS** A5.28 (E90C-B3L)
W53131	Cr-Mo Low Alloy Steel Flux Cored Wire (E9xT1-B3L)	**C** 0.05 max **Cr** 2.00-2.50 **Mn** 1.25 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E9xT1-B3L) **AWS** A5.29 (E9xT1-B3L)
W53231	Cr-Mo Low Alloy Steel Flux Cored Wire (E9xT1-B3H)	**C** 0.10-0.15 **Cr** 2.00-2.50 **Mn** 1.25 max **Mo** 0.90-1.20 **P** 0.03 max **S** 0.03 max **Si** 0.80 max	**ASME** SFA5.29 (E9xT1-B3H) **AWS** A5.29 (E9xT1-B3H)
*W53315	Cr-Mo Low Alloy Steel Arc Welding Electrode	**C** 0.10 max **Cr** 1.75-2.25 **Mo** 0.40-0.60 **Si** 0.60 max	
*W53316	Cr-Mo Low Alloy Steel Arc Welding Electrode	**C** 0.10 **Cr** 1.75-2.25 **Mo** 0.40-0.60 **Si** 0.60 max	
W53340	Cr-Mo Low Alloy Steel Tubular Wire for Submerged Arc Welding (ECB4)	**C** 0.12 max **Cr** 1.75-2.25 **Cu** 0.35 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.030 max **S** 0.040 max **Si** 0.80 max	**ASME** SFA5.23 (ECB4) **AWS** A5.23 (ECB4)
W53341	Cr-Mo Low Alloy Composite Wire for Submerged Arc Welding (ECB4N) Nuclear Grade	**C** 0.12 max **Cr** 1.75-2.25 **Cu** 0.08 max **Mn** 1.20 max **Mo** 0.40-0.65 **P** 0.012 max **S** 0.040 max **Si** 0.80 max **V** 0.05 max	**ASME** SFA5.23 (ECB4N) **AWS** A5.23 (ECB4N)
W53415	Cr-Mo Low Alloy Steel Arc Welding Electrode (E8015-B4L)	**C** 0.05 max **Cr** 1.75-2.25 **Mn** 0.90 max **Mo** 0.40-0.65 **P** 0.03 max **S** 0.04 max **Si** 1.00 max	**ASME** SFA5.5 (E8015-B4L) **AWS** A5.5 (E8015-B4L)
*W53416	Cr-Mo Low Alloy Steel Arc Welding Electrode	**C** 0.05 max **Cr** 1.75-2.25 **Mn** 0.60-0.85 **Mo** 0.45-0.65 **Si** 0.50-0.90	
W60189	Copper Arc Welding Electrode (ECu)	**Al** 0.1 max **Cu** rem includes Ag **Fe** 0.2 max **Mn** 0.1 max **Si** 0.1 max	**ASME** SFA5.6 (ECu) **AWS** A5.6 (ECu)
W60518	Phosphor Bronze Composite Welding Wire (ERCuSn-A)	**Al** 0.01 max **Cu** rem **Fe** 0.25 max **P** 0.010-0.35 **Pb** 0.02 max **Sn** 4.0-6.0	**ASME** SFA5.6 (ERCCuSn-A); SFA5.13 (ERCCuSn-A); SFA5.21 (ERCCuSn-A) **AWS** A5.6 (ERCCuSn-A); A5.13 (ERCCuSn-A)
W60521	Phosphor Bronze C Arc Welding Electrode (ECuSn-C)	**Al** 0.01 max **Cu** rem **Fe** 0.25 max **P** 0.05-0.35 **Pb** 0.02 max **Sn** 7.0-9.0	**ASME** SFA5.6 (ECuSn-C); SFA5.13 (ECuSn-C) **AWS** A5.6 (ECuSn-C); A5.13 (ECuSn-C)
W60524	Phosphor Bronze Composite Welding Wire for Hard Facing (ERCCuSn-D)	**Cu** 88.5 min **Pb** 0.05 max **P** 0.10-0.35 **Sn** 9.0-11.0	**ASME** SFA 5.21 (ERCCuSn-D **AWS** A 5.21 (ERCCuSn-D)
W60614	Aluminum Bronze Arc Welding Electrode (ECuAl-A2)	**Al** 6.5-9.0 **Cu** rem **Fe** 0.5-5.0 **Pb** 0.02 max **Si** 1.5 max	**ASME** SFA5.6 (ECuAl-A2) **AWS** A5.6 (ECuAl-A2)
W60618	Aluminum Bronze Composite Welding Wire for Hard Facing (ERCCuAl-A2)	**Al** 8.5-11.0 **Cu** rem **Fe** 0.5-1.5 **Pb** 0.02 max **Si** 0.10 max **Zn** 0.02 max	**ASME** SFA 5.21 (ERCCuAl-A2) **AWS** A 5.21 (ERCCuAl-A2)
W60619	Aluminum Bronze Arc Welding Electrode (ECuAl-B)	**Al** 8.0-10.0 **Cu** rem **Fe** 2.5-5.0 **Pb** 0.02 max **Si** 1.0 max	**ASME** SFA5.6 (ECuAl-B); SFA5.13 (ECuAl-B) **AWS** A5.6 (ECuAl-B); A5.13 (ECuAl-B)

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W60624	Aluminum Bronze Composite Welding Wire for Hard Facing (ERCCuAl-A3)	**Al** 10.0-11.5 **Cu** rem **Fe** 2.0-4.5 **Pb** 0.02 max **Si** 0.10 max **Zn** 0.10 max	**ASME** SFA 5.21 (ERCCuAl-A3) **AWS** A 5.21 (ERCCuAl-A3)
W60625	Aluminum Bronze Arc Welding Electrode (ECuAl-C)	**Al** 9.0-11.0 **Cu** rem **Fe** 3.5-6.0 **Pb** 0.02 max **Si** 1.0 max **Zn** 0.02 max	**ASME** SFA5.13 (ECuAl-C) **AWS** A5.13 (ECuAl-C)
W60626	Aluminum Bronze Composite Welding Wire for Hard Facing (ERCCuAl-C)	**Al** 12-13 **Cu** rem **Fe** 3.0-5.0 **Pb** 0.02 max **Si** 0.04 max **Zn** 0.02 max	**ASME** SFA 5.21 (ERCCuAl-C) **AWS** A 5.21 (ERCCuAl-C)
W60632	Ni-Al Bronze Arc Welding Electrode (ECuNiAl)	**Al** 6.5-8.5 **Cu** rem **Fe** 3.0-6.0 **Mn** 0.5-3.5 **Ni** 4.0-6.0 **Pb** 0.02 max **Si** 1.0 max	**ASME** SFA5.6 (ECuNiAl); SFA5.13 (ECuNiAl) **AWS** A5.6 (ECuNiAl); A5.13 (ECuNiAl)
W60633	Mn-Al Bronze Arc Welding Electrode (ECuMnNiAl)	**Al** 5.5-7.5 **Cu** rem **Fe** 2.0-6.0 **Mn** 11.0-13.0 **Ni** 1.0-2.5 **Pb** 0.02 max **Si** 1.5 max	**ASME** SFA5.6 (ECuMnNiAl); SFA5.13 (ECuMnNiAl) **AWS** A5.6 (ECuMnNiAl); A5.13 (ECuMnNiAl)
W60656	Silicon Bronze Arc Welding Electrode (ECuSi)	**Al** 0.01 max **Cu** rem **Fe** 0.5 max **Mn** 1.5 max **Pb** 0.02 max **Si** 2.4-4.0 **Sn** 1.5 max	**ASME** SFA5.6 (ECuSi); SFA5.13 (ECuSi) **AWS** A5.6 (ECuSi); A5.13 (ECuSi)
W60657	Silicon Bronze Composite Welding Wire for Hard Facing (ERCCuSi-A)	**Al** 0.01 max **Cu** rem **Fe** 0.50 max **Pb** 0.02 max **Mn** 1.5 max **Si** 2.8-4.0 **Sn** 1.0 max **Zn** 1.0 max	**ASME** SFA 5.21 (ERCCuSi-A) **AWS** A 5.21 (ERCCuSi-A)
W60658	Composite Thermal Spray Wire (CW-CuSnSi)	**Al** 0.5-1.5 **Cu** rem **Si** 1.5-2.5 **Sn** 5.0-6.0	**AWS** A5.33 (CW-CuSnSi)
W60715	Copper-Nickel Arc Welding Electrode (ECuNi)	**Cu** rem **Fe** 0.4-0.75 **Mn** 1.0-2.5 **Ni** 29.0-33.0 **P** 0.020 max **Pb** 0.02 max **S** 0.015 max	**ASME** SFA5.6 (ECuNi); SFA5.13 (ECuNi) **AWS** A5.6 (ECuNi); A5.13 (ECuNi) **MIL SPEC** MIL-E-22200/4 (MIL-CuNi)
W61625	Aluminum Bronze Arc Welding Electrode (ECuAl-D)	**Al** 10.0-13.0 **Cu** rem **Fe** 3.5-6.5 **Pb** 0.02 max **Si** 1.0 max **Zn** 0.02 max	**ASME** SFA5.13 (ECuAl-D) **AWS** A5.13 (ECuAl-D)
W61626	Aluminum Bronze Composite Welding Wire for Hard Facing (ERCCuAl-D)	**Al** 13-14 **Cu** rem **Fe** 3.0-5.0 **Pb** 0.02 max **Si** 0.04 max **Zn** 0.02 max	**ASME** SFA 5.21 (ERCCuAl-D) **AWS** A 5.21 (ERCCuAl-D)
W62625	Aluminum Bronze Arc Welding Electrode (ECuAl-E)	**Al** 12.0-14.0 **Fe** 4.0-6.0 **Pb** 0.02 max **Si** 1.0 max **Zn** 0.02 max	**ASME** SFA5.13 (ECuAl-E) **AWS** A5.13 (ECuAl-E)
W62626	Aluminum Bronze Composite Welding Wire for Hard Facing (ERCCuAl-E)	**Al** 14-15 **Cu** rem **Fe** 3.0-5.0 **Pb** 0.02 max **Si** 0.04 max **Zn** 0.02 max	**ASME** SFA 5.21 (ERCCuAl-E) **AWS** A 5.21 (ERCCuAl-E)
W73001	Cobalt-Base Hard Facing Electrode (ECoCr-C) (Stellite 1)	**C** 1.75-3.00 **Co** rem **Cr** 25.0-33.0 **Fe** 5.00 max **Mn** 2.00 max **Mo** 1.00 max **Ni** 3.00 max **Si** 2.00 max **W** 11.0-14.0	**ASME** SFA5.13 (ECoCr-C) **AWS** A5.13 (ECoCr-C)
W73006	Cobalt-Base Hard Facing Electrode (ECoCr-A) (Stellite 6)	**C** 0.70-1.40 **Co** rem **Cr** 25.0-32.0 **Fe** 5.00 max **Mn** 2.00 max **Mo** 1.00 max **Ni** 3.00 max **Si** 2.00 max **W** 3.00-6.00	**ASME** SFA5.13 (ECoCr-A) **AWS** A5.13 (ECoCr-A)
W73012	Cobalt-Base Hard Facing Electrode (ECoCr-B) (Stellite 12)	**C** 1.00-1.70 **Co** rem **Cr** 25.0-32.0 **Fe** 5.00 max **Mn** 2.00 max **Mo** 1.00 max **Ni** 3.00 max **Si** 2.00 max **W** 7.00-9.50	**ASME** SFA5.13 (ECoCr-B) **AWS** A5.13 (ECoCr-B)
W73021	Cobalt Base Hard Facing Electrode (ECoCr-E)	**C** 0.15-0.40 **Cr** 24.0-29.0 **Co** rem **Fe** 5.0 max **Mn** 1.5 max **Mo** 4.5-6.5 **Ni** 2.0-4.0 **Si** 2.0 max **W** 0.50 max	**ASME** SFA5.13 (ECoCr-E) **AWS** A5.13 (ECoCr-E)
W73031	Cobalt-base Hard Facing Composite Welding Wire (ERCCoCr-C)	**C** 2.0-3.0 **Cr** 25-33 **Co** rem **Fe** 5.0 max **Mn** 2.0 max **Mo** 1.0 max **Ni** 3.0 max **Si** 2.0 max **W** 11-14	**ASME** SFA 5.21 (ERCCoCr-C) **AWS** A 5.21 (ERCCoCr-C)
W73032	Cobalt-base Hard Facing Composite Welding Wire (ERCCoCr-G)	**C** 3.0-4.0 **Cr** 24-30 **Co** rem **Fe** 5.0 max **Mn** 1.0 max **Mo** 1.0 max **Ni** 4.0 max **Si** 2.0 max **W** 12-16	**ASME** SFA 5.21 (ERCCoCr-G) **AWS** A 5.21 (ERCCoCr-G)
W73036	Cobalt-base Hard Facing Composite Welding Wire (ERCCoCr-A)	**C** 0.7-1.4 **Cr** 25-32 **Co** rem **Fe** 5.0 max **Mn** 2.0 max **Mo** 1.0 max **Ni** 3.0 max **Si** 2.0 max **W** 3.0-6.0	**ASME** SFA 5.21 (ERCCoCr-A) **AWS** A 5.21 (ERCCoCr-A)
W73041	Cobalt-base Hard Facing Composite Welding Wire (ERCCoCr-E)	**C** 0.15-0.40 **Cr** 25-30 **Co** rem **Fe** 5.0 max **Mn** 2.0 max **Mo** 4.5-7.0 **Ni** 1.5-4.0 **Si** 1.5 max **W** 0.5 max	**ASME** SFA 5.21 (ERCCoCr-E) **AWS** A 5.21 (ERCCoCr-E)

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W73042	Cobalt-base Hard Facing Composite Welding Wire (ERCCoCr-B)	**C** 1.2-2.0 **Cr** 25-32 **Co** rem **Fe** 5.0 max **Mn** 2.0 max **Mo** 1.0 max **Ni** 3.0 max **Si** 2.0 max **W** 7-10	**ASME** SFA 5.21 (ERCCoCr-B) **AWS** A 5.21 (ERCCoCr-B)
W73136	Composite Thermal Spray Wire (CW-CoCrW)	**C** 0.80-1.30 **Co** rem **Cr** 27-31 **Fe** 3 max **Mn** 1.0 max **Mo** 1.0 max **Ni** 3 max **Si** 1.5 max **W** 4.0-6.0	**AWS** A5.33 (CW-CoCrW)
W73138	Composite Thermal Spray Wire (CW-CoMoCr)	**C** 0.08 max **Co** rem **Cr** 17-19 **Mo** 27-30 **Si** 3.2-4.8	**AWS** A5.33 (CW-CoMoCr)
W73155	Fe-Cr-Ni-Co Superalloy Arc Welding Electrode	**C** 0.15 max **Cb** 0.75-1.25 **Co** 18.5-21.0 **Cr** 20.0-22.5 **Fe** rem **Mn** 1.00-2.50 **Mo** 2.5-3.5 **Ni** 19.0-21.0 **P** 0.040 max **S** 0.030 max **Si** 1.0 max **W** 2.0-3.0	**AMS** 5795 **MIL SPEC** MIL-E-22200/3 (MIL-3N1N)
W73605	Cobalt-Base Superalloy Arc Welding Electrode (L605)	**C** 0.15 max **Co** rem **Cr** 19.0-21.0 **Fe** 3.0 max **Mn** 0.5-2.0 **Ni** 9.0-11.0 **P** 0.030 max **S** 0.030 max **Si** 1.0 max **W** 14.0-16.0	**AMS** 5797 **MIL SPEC** MIL-E-22200/3 (MIL-3N1L)
W74001	Steel Arc Welding Electrodes for Surfacing (EFe-1)	**C** 0.04-0.20 **Cr** 0.50-3.5 **Mn** 0.50-2.0 **Mo** 1.5 max **P** 0.035 max **S** 0.035 max **Si** 1.0 max	**ASME** SFA5.13 (EFe-1) **AWS** A5.13 (EFe-1)
W74002	Steel Arc Welding Electrodes for Surfacing (EFe-2)	**C** 0.10-0.30 **Cr** 1.8-3.8 **Mn** 0.50-2.0 **Mo** 1.0 max **Ni** 1.0 max **P** 0.035 max **S** 0.035 max **Si** 1.0 max **V** 0.35 max	**ASME** SFA5.13 (EFe-2) **AWS** A5.13 (EFe-2)
W74003	Steel Arc Welding Electrodes for Surfacing (EFe-3)	**C** 0.50-0.80 **Cr** 4.0-8.0 **Mn** 0.50-1.5 **Mo** 1.0 max **P** 0.035 max **S** 0.035 max **Si** 1.0 max	**ASME** SFA5.13 (EFe-3) **AWS** A5.13 (EFe-3)
W74004	Steel Arc Welding Electrodes for Surfacing (EFe-4)	**C** 1.0-2.0 **Cr** 3.0-5.0 **Mn** 0.5-2.0 **P** 0.035 max **S** 0.035 max **Si** 1.0 max	**ASME** SFA5.13 (EFe-4) **AWS** A5.13 (EFe-4)
W74011	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A1)	**C** 3.5-4.5 **Cr** 20.0-25.0 **Fe** rem **Mn** 4.0-6.0 **Mo** 0.5 max **P** 0.035 max **S** 0.035 max **Si** 0.5-2.0	**ASME** SFA5.13 (EFeCr-A1A) **AWS** A5.13 (EFeCr-A1A)
W74012	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A2)	**C** 2.5-3.5 **Cr** 7.5-9.0 **Fe** rem **Mn** 0.5-1.5 **P** 0.035 max **S** 0.035 max **Si** 0.5-1.5 **Ti** 1.2-1.8	**ASME** SFA5.13 (EFeCr-A2) **AWS** A5.13 (EFeCr-A2)
W74013	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A3)	**C** 2.5-4.5 **Cr** 14.0-20.0 **Mn** 0.50-2.0 **Mo** 1.5 max **P** 0.035 max **S** 0.035 max **Si** 1.0-2.5	**ASME** SFA5.13 (EFeCr-A3) **AWS** A5.13 (EFeCr-A3)
W74014	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A4)	**C** 3.5-4.5 **Cr** 23.0-29.0 **Fe** rem **Mn** 1.5-3.5 **Mo** 1.0-3.0 **P** 0.035 max **S** 0.035 max **Si** 1.5 max	**ASME** SFA5.13 (EFeCr-A4) **AWS** A5.13 (EFeCr-A4)
W74015	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A5)	**C** 1.5-2.5 **Cr** 24.0-32.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 4.0 max **Ni** 4.0 max **P** 0.035 max **S** 0.035 max **Si** 2.0 max	**ASME** SFA5.13 (EFeCr-A5) **AWS** A5.13 (EFeCr-A5)
W74016	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A6)	**C** 2.5-3.5 **Cr** 24.0-30.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 0.5-2.0 **P** 0.035 max **S** 0.035 max **Si** 1.0-2.5	**ASME** SFA5.13 (EFeCr-A6) **AWS** A5.13 (EFeCr-A6)
W74017	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A7)	**C** 3.5-5.0 **Cr** 24.0-30.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 2.0-4.5 **P** 0.035 max **S** 0.035 max **Si** 1.0-2.5	**ASME** SFA5.13 (EFeCr-A7) **AWS** A5.13 (EFeCr-A7)
W74018	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-A8)	**C** 2.5-4.5 **Cr** 30.0-40.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 2.0 max **P** 0.035 max **S** 0.035 max **Si** 1.5 max	**ASME** SFA5.13 (EFeCr-A8) **AWS** A5.13 (EFeCr-A8)
W74030	Cr-Steel Composite Welding Rod for Machinable Surfaces (ERCFe-1)	**C** 0.04-0.20 **Cr** 0.5-3.5 **Fe** rem **Mn** 0.5-2.0 **Mo** 1.5 max **Si** 1.0 max	**ASME** SFA 5.21 (ERCFe-1) **AWS** A 5.21 (ERCFe-1)
W74031	Cr-Steel Composite Welding Rod for Machinable Surfaces (ERCFe-1A)	**C** 0.05-0.25 **Cr** 0.5-3.5 **Fe** rem **Mn** 1.7-3.5 **Si** 1.0 max	**ASME** SFA 5.21 (ERCFe-1A) **AWS** A 5.21 (ERCFe-1A)

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W74032	Cr-Steel Composite Welding Rod for Machinable Surfaces (ERCFe-2)	**C** 0.10-0.30 **Cr** 1.8-3.8 **Fe** rem **Mn** 0.5-2.0 **Mo** 1.0 max **Ni** 1.0 max **Si** 1.0 max **V** 0.35 max	**ASME** SFA 5.21 (ERCFe-2) **AWS** A 5.21 (ERCFe-2)
W74033	Cr-Steel Composite Welding Rod for Tool and Die Surfacing (ERCFe-3)	**C** 0.50-0.80 **Cr** 4.0-8.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 1.0 max **Si** 1.0 max	**ASME** SFA 5.21 (ERCFe-3) **AWS** A 5.21 (ERCFe-3)
W74035	Cr-Steel Composite Welding Rod for Tool and Die Surfacing (ERCFe-5)	**C** 0.50-0.80 **Cr** 1.5-3.0 **Fe** rem **Mn** 1.5-2.5 **Si** 0.9 max	**ASME** SFA 5.21 (ERCFe-5) **AWS** A 5.21 (ERCFe-5)
W74211	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-E1)	**C** 5.0-6.5 **Cr** 12.0-14.0 **Fe** rem **Mn** 2.5-3.0 **P** 0.035 max **S** 0.035 max **Si** 0.8-1.2 max **Ti** 4.0-7.0	**ASME** SFA5.13 (EFeCr-E1) **AWS** A5.13 (EFeCr-E1)
W74212	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-E2)	**C** 4.0-6.0 **Cr** 14.0-20.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 5.0-7.0 **P** 0.035 max **S** 0.035 max **Si** 1.5 max **V** 1.5 max	**ASME** SFA5.13 (EFeCr-E2) **AWS** A5.13 (EFeCr-E2)
W74213	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-E3)	**C** 5.0-7.0 **Cr** 18.0-28.0 **Fe** rem **Mn** 0.5-2.0 **Mo** 5.0-7.0 **P** 0.035 max **S** 0.035 max **Si** 0.5-2.0 **W** 3.0-5.0	**ASME** SFA5.13 (EFeCr-E3) **AWS** A5.13 (EFeCr-E3)
W74214	Austenitic Chromium Iron Arc Welding Electrodes for Surfacing (EFeCr-E4)	**C** 4.0-6.0 **Cb** 4.0-7.0 **Cr** 20.0-30.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 5.0-7.0 **P** 0.035 max **S** 0.035 max **Si** 1.0 max **V** 0.5-1.5 **W** 2.0 max	**ASME** SFA5.13 (EFeCr-E4) **AWS** A5.13 (EFeCr-E4)
•**W74510**	Austenitic Chromium Iron Arc Welding Electrode for Surfacing (EFeCr-A1)	**C** 3.0-5.0 **Cr** 26.0-32.0 **Fe** rem **Mn** 4.0-8.0 **Mo** 2.0 **Si** 1.0-2.5	**ASME** SFA5.13 (EFeCr-A1); SFA5.21 (EFeCr-A1) **AWS** A5.13 (EFeCr-A1); A5.21 (EFeCr-A1)
W74530	Austenitic Chromium Iron Composite Welding Rod for Surfacing (ERCFeCr-A1A)	**C** 3.5-5.5 **Cr** 20-25 **Fe** rem **Mn** 4.0-6.0 **Mo** 0.5 max **Si** 0.5-2.0	**ASME** SFA5.21 (ERCFeCr-A1A) **AWS** A5.21 (ERCFeCr-A1A)
W74531	Austenitic Chromium Iron Composite Welding Rod for Surfacing (ERCFeCr-A)	**C** 1.5-3.5 **Cr** 8.0-14.0 **Fe** rem **Mn** 0.5-1.5 **Mo** 1.0 max **Si** 2.0 max	**ASME** SFA 5.21 (ERCFeCr-A) **AWS** A 5.21 (ERCFeCr-A)
W74532	Composite Thermal Spray Wire (CW-FeCrC-1)	**C** 4.0-5.0 **Cr** 18-21 **Fe** rem **Mn** 2.5 max **Mo** 2.0 max **Si** 2.5 max	**AWS** A5.33 (CW-FeCrC-1)
W74533	Austenitic Chromium Iron Composite Welding Rod for Surfacing (ERCFeCr-A3A)	**C** 2.5-3.5 **Cr** 14-20 **Fe** rem **Mn** 1.5-3.5 **Si** 0.5-2.0	**ASME** SFA 5.21 (ERCFeCr-A3A); AWS A 5.21 (ERCFeCr-A3A)
W74534	Austenitic Chromium Iron Composite Welding Rod for Surfacing (ERCFeCr-A4)	**C** 3.5-4.5 **Cr** 23-29 **Fe** rem **Mn** 1.5-3.5 **Mo** 1.0-3.0 **Si** 1.5 max	**ASME** SFA 5.21 (ERCFeCr-A4) **AWS** A 5.21 (ERCFeCr-A4)
W74535	Austenitic Chromium Iron Composite Welding Rod for Surfacing (ERCFeCr-A5)	**C** 1.5-2.5 **Cr** 24-32 **Fe** rem **Mn** 0.5-1.5 **Mo** 4.0 max **Ni** 4.0 max **Si** 2.0 max	**ASME** SFA 5.21 (ERCFeCr-A5) **AWS** A 5.21 (ERCFeCr-A5)
W74539	Austenitic Chromium Iron Composite Welding Rod for Surfacing (ERCFeCr-A9)	**C** 3.5-5.0 **Cr** 24-30 **Fe** rem **Mn** 0.5-1.5 **Si** 2.5 max	**ASME** SFA 5.21 (ERCFeCr-A9) **AWS** A 5.21 (ERCFeCr-A9)
W74540	Austenitic Chromium Iron Composite Welding Rod for Surfacing (ERCFeCr-A10)	**C** 5.0-7.0 **Cr** 20-25 **Fe** rem **Mn** 0.5-2.5 **Si** 1.5 max	**ASME** SFA 5.21 (ERCFeCr-A10) **AWS** A 5.21 (ERCFeCr-A10)
W74630	Composite Thermal Spray Wire (CW-CrFeB)	**B** 7-9 **Cr** rem **Ir** 34-36 **Mo** 3.5-4.5 **Si** 2.5-3.5	**AWS** A5.33 (CW-CrFeB)
W75010	Air Hardening Steel Arc Welding Electrode for Surfacing (A2a)	**C** 0.30 max **Cr** 0.65 max **Mn** 0.50-1.60 **Mo** 0.70 max **P** 0.04 max **S** 0.04 max **Si** 0.20-0.65	**MIL SPEC** MIL-E-19141 (MIL-I-A2a)
•**W75110**	Steel Arc Welding Electrodes for Surfacing (EFe-5)	**C** 0.80 max **Cr** 1.5-3.0 **Mn** 1.5-2.5 **P** 0.035 max **S** 0.035 max **Si** 0.90 max	**ASME** SFA5.13 (EFe-5) **AWS** A5.13 (EFe-5) **MIL SPEC** MIL-E-19141 (MIL-I-A2c)

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*W77310	High-Speed Steel Arc Welding Electrode for Surfacing (EFe5-C)	**C** 0.3-0.5 **Cr** 3.0-5.0 **Fe** rem **Mn** 0.60 max **Mo** 5.0-9.0 **Si** 0.80 max **V** 0.8-1.2 **W** 1.0-2.5	**ASME** SFA5.13 (EFe5-C); SFA5.21 (EFe5-C) **AWS** A5.13 (EFe5-C); A5.21 (EFe5-C)
*W77410	Austenitic Manganese Steel Arc Welding Electrodes for Surfacing (EFeMn-D)	**C** 0.50-1.0 **Cr** 4.5-7.5 **Mn** 15.0-20.0 **P** 0.035 max **Si** 1.3 max **S** 0.035 max **V** 0.4-1.2	**ASME** SFA5.13 (EFeMn-D) **AWS** A5.13 (EFeMn-D)
W77510	Steel Arc Welding Electrodes for Surfacing (EFe-6)	**C** 0.60 - 1.0 **Cr** 3.0-5.0 **Mn** 0.40 - 1.0 **Mo** 7.0-9.0 **P** 0.035 max **S** 0.035 max **Si** 1.0 max **V** 0.50 - 1.5 **W** 0.50 - 1.5	**ASME** SFA5.13 (EFe-6) **AWS** A5.13 (EFe-6) **MIL SPEC** MIL-E-19141 (MIL-Fe5-B)
W77530	High Speed Steel Composite Welding Rod for Surfacing (ERCFe-6)	**C** 0.06-1.0 **Cr** 3.0-5.0 **Fe** rem **Mn** 0.4-1.0 **Mo** 7.5-9.5 **Si** 1.0 max **V** 0.5-1.5 **W** 0.5-1.5	**ASME** SFA5.21 (ERCFe-6) **AWS** A5.21 (ERCFe-6)
W77538	High Speed Steel Composite Welding Rod for Surfacing (ERCFe-8)	**C** 0.30-0.60 **Cr** 4.0-8.0 **Fe** rem **Mn** 1.0-2.0 **Mo** 1.0-2.0 **Si** 1.0 max **W** 1.0-2.0 **V** 0.5 max	**ASME** SFA 5.21 (ERCFe-8) **AWS** A 5.21 (ERCFe-8)
W77540	Composite Thermal Spray Wire (CW-FeVWC)	**B** 1.0 max **C** 3.5-4.5 **Fe** rem **Mn** 1.5 max **Mo** 1.0 max **Ni** 1.0 max **Si** 2.0 max **V** 15-17 **W** 5.0-7.0	**AWS** A5.33 (CW-FeVWC)
W77610	Steel Arc Welding Electrodes for Surfacing (EFe-7)	**C** 1.5-3.0 **Cr** 4.0-8.0 **Mn** 0.50-2.0 **Mo** 1.0 max **P** 0.035 max **S** 0.035 max **Si** 1.5 max	**ASME** SFA5.13 (EFe-7) **AWS** A5.13 (EFe-7)
W77640	Composite Thermal Spray Wire (CW-FeWC)	**C** 2.0-3.0 **Fe** rem **Mn** 1.0 max **W** 56-60	**AWS** A5.33 (CW-FeWC)
*W77710	High-Speed Steel Arc Welding Electrode for Surfacing (EFe5-A)	**C** 0.7-1.0 **Cr** 3.0-5.0 **Fe** rem **Mn** 0.60 max **Mo** 4.0-6.0 **Si** 0.80 max **V** 1.0-2.5 **W** 5.0-7.0	**ASME** SFA5.13 (EFe5-A); SFA5.21 (EFe5-A) **AWS** A5.13 (EFe5-A); A5.21 (EFe5-A)
*W77730	High-Speed Steel Composite Welding Rod for Surfacing (RFe5-A)	**C** 0.7-1.0 **Cr** 3.0-5.0 **Fe** rem **Mn** 0.50 max **Mo** 4.0-6.0 **Si** 0.50 max **V** 1.0-2.5 **W** 5.0-7.0	**ASME** SFA5.21 (RFe5-A) **AWS** A5.21 (RFe5-A)
W79110	Austenitic Manganese Steel Arc Welding Electrode for Surfacing (EFe-Mn-A)	**C** 0.50-1.0 **Mn** 12.0-16.0 **Ni** 2.5-5.0 **P** 0.035 max **S** 0.035 **Si** 1.3 max	**ASME** SFA5.13 (EFe-Mn-A) **AWS** A5.13 (EFeMn-A) **MIL SPEC** MIL-E-19141 (MIL-FeMn-A)
W79210	Austenitic Manganese Steel Arc Welding Electrodes for Surfacing (EFeMn-C)	**C** 0.50-1.0 **Cr** 2.5-5.0 **Mn** 12.0-16.0 **Ni** 2.5-5.0 **P** 0.035 max **Si** 1.3 max **S** 0.035 max	**ASME** SFA5.13 (EFeMn-C) **AWS** A5.13 (EFeMn-C)
W79230	Austenitic Manganese Composite Welding Rod for Surfacing (ERCFeMn-C)	**C** 0.5-1.0 **Cr** 2.5-5.0 **Fe** rem **Mn** 12-16 **Ni** 2.5-5.0 **Si** 1.3 max	**ASME** SFA 5.21 (ERCFeMn-C) **AWS** A 5.21 (ERCFeMn-C)
W79231	Austenitic Manganese Composite Welding Rod for Surfacing (ERCFeMn-G)	**C** 0.5-1.0 **Cr** 2.5-5.0 **Fe** rem **Mn** 12-16 **Ni** 1.0 max **Si** 1.3 max	**ASME** SFA 5.21 (ERCFeMn-G) **AWS** A 5.21 (ERCFeMn-G)
W79232	Austenitic Manganese Composite Welding Rod for Surfacing (ERCFeMn-H)	**C** 0.30-0.80 **Cr** 4.5-7.5 **Fe** rem **Mn** 12-16 **Ni** 2.0 max **Si** 1.3 max	**ASME** SFA 5.21 (ERCFeMn-H) **AWS** A 5.21 (ERCFeMn-H)
W79310	Austenitic Manganese Steel Arc Welding Electrode for Surfacing (EFeMn-B)	**C** 0.50-1.0 **Mn** 12.0-16.0 **Mo** 0.5-1.5 **P** 0.03 max **Si** 1.3 max	**ASME** SFA5.13 (EFeMn-B) **AWS** A5.13 (EFeMn-B)
W79410	Austenitic Manganese Steel Arc Welding Electrode for Surfacing (EFeMn-D)	**C** 0.50-1.0 **Cr** 4.5-7.5 **Mn** 15.0-20.0 **P** 0.035 max **S** 0.035 max **Si** 1.3 max **V** 0.4-1.2	**ASME** SFA5.13 (EFeMn-D) **AWS** A5.13 (EFeMn-D)

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W79510	Austenitic Manganese Steel Arc Welding Electrodes for Surfacing (EFeMn-E)	**C** 0.50-1.0 **Cr** 3.0-6.0 **Mn** 15.0-20.0 **Ni** 1.0 max **P** 0.035 max **S** 0.035 max **Si** 1.3 max	**ASME** SFA5.13 (EFeMn-E) **AWS** A5.13 (EFeMn-E)
W79610	Austenitic Manganese Steel Arc Welding Electrodes for Surfacing (EFeMn-F)	**C** 0.8-1.2 **Cr** 3.0-6.0 **Mn** 17.0-21.0 **Ni** 1.0 max **P** 0.035 max **S** 0.035 max **Si** 1.3 max	**ASME** SFA5.13 (EFeMn-F) **AWS** A5.13 (EFeMn-F)
W79630	Austenitic Manganese Composite Welding Rod for Surfacing (ERCFeMn-F)	**C** 0.7-1.1 **Cr** 2.5-5.0 **Fe** rem **Mn** 16-22 **Ni** 1.0 max **Si** 1.3 max	**ASME** SFA 5.21 (ERCFeMn-F) **AWS** A 5.21 (ERCFeMn-F)
W79710	Austenitic Manganese Steel Arc Welding Electrodes for Surfacing (EFeMnCr)	**C** 0.25-0.75 **Cr** 13.0-17.0 **Mn** 12.0-18.0 **Mo** 2.0 max **Ni** 0.50-2.0 **P** 0.035 max **S** 0.035 max **Si** 1.3 max **V** 1.0 max	**ASME** SFA5.13 (EFeMnCr) **AWS** A5.13 (EFeMnCr)
W79730	Austenitic Manganese Composite Welding Rod for Surfacing (ERCFeMn-Cr)	**C** 0.25-0.75 **Cr** 11-16 **Fe** rem **Mn** 12-18 **Mo** 2.0 max **Ni** 2.0 max **Si** 1.3 max	**ASME** SFA 5.21 (ERCFeMn-Cr) **AWS** A 5.21 (ERCFeMn-Cr)
W79840	Composite Thermal Spray Wire (CW-FeMnAl)	**Al** 4-5 **Fe** rem **Mn** 6-8 **Si** 1-2	**AWS** A5.33 (CW-FeMnAl)
W80001	Ni-Mo Arc Welding Electrode 3N1B (Hastelloy B)	**C** 0.07 max **Co** 2.5 max **Cr** 1.0 max **Cu** 0.50 max **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 26.0-30.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 1.0 max **V** 0.60 max **W** 1.0 max	**ASME** SFA5.11 (ENiMo-1) **AWS** A5.11 (ENiMo-1) **MIL SPEC** MIL-E-22200/3 (MIL-3N1B)
W80002	Ni-Mo Arc Welding Electrode 3N1C (Hastelloy C)	**C** 0.10 max **Co** 2.50 max **Cr** 14.50-16.50 **Cu** 0.50 max **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 15.0-17.0 **Ni** rem **P** 0.040 max **S** 0.030 max **Si** 1.0 max **W** 3.00-4.50	**ASME** SFA5.11 (ENiCrMo-5); SFA5.13 (ENiCrMo-5A) **AWS** A5.11 (ENiCrMo-5); A5.13 (ENiCrMo-5A) **MIL SPEC** MIL-E-22200/3 (MIL-3N1C)
W80004	Ni-Mo Arc Welding Electrode ENiMo-3 (Hastelloy W)	**C** 0.12 max **Co** 2.5 max **Cr** 2.5-5.5 **Cu** 0.50 max **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 23.0-27.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 1.0 max **V** 0.60 max **W** 1.0 max	**AMS** 5787 **ASME** SFA5.11 (ENiMo-3) **AWS** A5.11 (ENiMo-3) **MIL SPEC** MIL-E-22200/3 (MIL-4N1W)
W80008	Ni-Mo-W Arc Welding Electrode (ENiMo-8)	**C** 0.10 max **Cr** 0.5-3.5 **Cu** 0.50 max **Fe** 10.0 max **Mn** 1.5 max **Mo** 17.0-20.0 **Ni** 60.0 min **P** 0.02 max **Si** 0.75 max **S** 0.015 max **W** 2.0-4.0	**ASME** SFA 5.11 (ENiMo-8) **AWS** A 5.11 (ENiMo-8)
W80009	Ni-Mo-W Arc Welding Electrode (ENiMo-9)	**C** 0.10 max **Cu** 0.30-1.3 **Fe** 7.0 max **Mn** 1.5 max **Mo** 18.0-22.0 **Ni** 62.0 min **P** 0.02 max **Si** 0.75 max **S** 0.015 max **W** 2.0-4.0	**ASME** SFA 5.11 (ENiMo-9) **AWS** A 5.11 (ENiMo-9)
W80032	Ni-Cr-Mo Composite Wire for Hard Facing (ERCNiCrMo-5A)	**C** 0.12 max **Cr** 14-18 **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 14-18 **Ni** rem **Si** 2.0 max **W** 3.0-5.0 **V** 0.40 max	**ASME** SFA 5.21 (ERCNiCrMo-5A) **AWS** A5.21 (ERCNiCrMo-5A)
W80276	Ni-Cr-Mo Arc Welding Electrodes (ENiCrMo-4) (Hastelloy C-276)	**C** 0.02 max **Co** 2.5 max **Cr** 14.5-16.5 **Cu** 0.50 max **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 15.0-17.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 0.2 max **V** 0.35 max **W** 3.0-4.5	**ASME** SFA5.11 (ENiCrMo-4); SFA5.34 (ENiCrMo4T-X) **AWS** A5.11 (ENiCrMo-4); A5.34 (ENiCrMo4T-X)
W80665	Ni-Mo Arc Welding Electrode ENiMo-7 (Hastelloy B-2)	**C** 0.02 max **Co** 1.0 max **Cr** 1.0 max **Cu** 0.50 max **Fe** 2.0 max **Mn** 1.75 max **Mo** 26.0-30.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 0.2 max **W** 1.0 max	**ASME** SFA5.11 (ENiMo-7) **AWS** A5.11 (ENiMo-7)
W80675	Ni-Mo Arc Welding Electrode (ENiMo-10)	**C** 0.02 max **Cr** 1.0-3.0 **Co** 3.0 max **Cu** 0.50 max **Fe** 1.0-3.0 **Mn** 2.0 max **Mo** 27.0-32.0 **Ni** rem **P** 0.04 max **Si** 0.2 max **S** 0.03 max **W** 3.0 max	**ASME** SFA 5.11 (ENiMo-10) **AWS** A 5.11 (ENiMo-10)
W82001	Ni Arc Welding Electrode for Cast Iron (ENi-CI)	**Al** 1.0 max **C** 2.00 max **Cu** 2.50 max **Fe** 8.0 max **Mn** 2.5 max **Ni** 85.00 min **S** 0.03 max **Si** 4.00 max **Other** 1.0 max total	**AWS** A5.15 (ENi-CI)

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W82002	Ni-Fe Arc Welding Electrode for Cast Iron (ENiFe-CI)	**Al** 1.0 max **C** 2.00 max **Cu** 2.50 max **Fe** rem **Mn** 2.5 max **Ni** 45.0-60.0 **S** 0.03 max **Si** 4.00 max **Other** 1.0 max total	**AWS** A5.15 (ENiFe-CI)
W82003	Ni Arc Welding Electrode for Cast Iron (ENi-CI-A)	**Al** 1.00-3.00 **C** 2.00 max **Cu** 2.50 max **Fe** 8.00 max **Mn** 2.5 max **Ni** 85.0 min **S** 0.03 max **Si** 4.00 max **Other** 1.0 max total	**ASME** SFA5.15 (ENi-CI-A) **AWS** A5.15 (ENi-CI-A)
W82004	Ni-Fe Arc Welding Electrode for Cast Iron (ENiFe-CI-A)	**Al** 1.00-3.00 **C** 2.00 max **Cu** 2.50 max **Fe** rem **Mn** 2.5 max **Ni** 45.0-60.0 **S** 0.03 max **Si** 4.0 max **Other** 1.0 max total	**ASME** SFA5.15 (ENiFe-CI-A) **AWS** A5.15 (ENiFe-CI-A)
W82006	Ni Arc Welding Electrode for Cast Iron (ENiFeMn-CI)	**Al** 1.0 max **C** 2.0 max **Cu** 2.5 max **Fe** rem **Mn** 10.0-14.0 **Ni** 35.0-45.0 **S** 0.03 max **Si** 1.0 max **Other** 1.0 max total	**ASME** SFA5.15 (ENiFeMn-CI) **AWS** A5.15 (ENiFeMn-CI)
W82032	Ni Alloy Flux Cored Wire for Welding Cast Iron (ENiFeT3-CI)	**Al** 1.0 max **C** 2.0 max **Cu** 2.5 max **Fe** rem **Mn** 3.0-5.0 **Ni** 45.0-60.0 **S** 0.03 max **Si** 1.0 max **Other** 1.0 max total	**ASME** SFA5.15 (ENiFeT3-CI) **AWS** A5.15 (ENiFeT3-CI)
W82141	Ni Arc Welding Electrode ENi-1 (Nickel W.E.141)	**Al** 1.0 max **C** 0.10 max **Cu** 0.25 max **Fe** 0.75 max **Mn** 0.75 max **Ni** 92.0 min **P** 0.03 max **S** 0.02 max **Si** 1.25 max **Ti** 1.0-4.0	**ASME** SFA5.11 (ENi-1) **AWS** A5.11 (ENi-1) **MIL SPEC** MIL-E-22200/3 (MIL-4N11)
W83002	Ni-Cr-Mo Arc Welding Electrodes for Surfacing (ENiCrFeCo)	**C** 2.2-3.0 **Cr** 25.0-30.0 **Co** 10.0-15.0 **Fe** 20.0-25.0 **Mn** 1.0 max **Mo** 7.0-10.0 **Ni** rem **Si** 0.60-1.5 **W** 2.0-4.0	**ASME** SFA5.13 (ENiCrFeCo) **AWS** A5.13 (ENiCrFeCo)
W83032	Ni-Cr-Fe-Co Composite Welding Wire for Hard Facing (ERCNiCrFeCo)	**C** 2.2-3.0 **Cr** 25-30 **Co** 10-15 **Fe** 20-25 **Mn1.0** max **Mo** 7-10 **Ni** 10-33 **Si** 2.0 max **W** 2.0-4.0	**ASME** SFA 5.21 (ERCNiCrFeCo) **AWS** A 5.21 (ERCNiCrFeCo)
W84001	Ni-Cu Arc Welding Electrode for Cast Iron (ENiCu-A)	**C** 0.35-0.55 **Cu** 35.0-45.0 **Fe** 3.0-6.0 **Mn** 2.25 max **Ni** 50.0-60.0 **S** 0.025 max **Si** 0.75 max **Other** 1.0 max total	**AWS** A5.15 (ENiCu-A)
W84002	Ni-Cu Arc Welding Electrode for Cast Iron (ENiCu-B)	**C** 0.35-0.55 **Cu** 25.0-35.0 **Fe** 3.0-6.0 **Mn** 2.25 max **Ni** 60.0-70.0 **S** 0.025 max **Si** 0.75 max **Other** 1.0 max total	**AWS** A5.15 (ENiCu-B)
W84190	Ni-Cu Arc Welding Electrode ENiCu-7 (Monel W.E.190)	**Al** 0.50 max **C** 0.15 max **Cu** rem **Fe** 2.5 max **Mn** 4.0 max **Ni** 62.0-68.0 **P** 0.02 max **S** 0.015 max **Si** 1.5 max **Ti** 1.0 max	**ASME** SFA5.11 (ENiCu-7) **AWS** A5.11 (ENiCu-7) **MIL SPEC** MIL-E-22200/3 (MIL-9N10)
W86002	Ni-Cr-Mo Arc Welding Electrodes ENiCrMo-2 (Hastelloy X)	**C** 0.05-0.15 **Co** 0.50-2.50 **Cr** 20.5-23.0 **Cu** 0.50 max **Fe** 17.0-20.0 **Mn** 1.0 max **Mo** 8.0-10.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 1.0 max **W** 0.20-1.0	**AMS** 5677; 5799 **ASME** SFA5.11 (ENiCrMo-2) **AWS** A5.11 (ENiCrMo-2)
W86003	Ni-Cr Welding Electrodes (75Ni-20Cr)	**C** 0.15 max **Cb** 1.0-2.2 includes Ta **Co** 1.0 max **Cr** 18.0-21.0 **Fe** 4.0 max **Mn** 1.50 max **Ni** 71.0 min **S** 0.015 max **Si** 0.75 max	**AMS** 5677
W86007	Ni-Cr-Mo Welding Electrodes (ENiCrMo-1) (Hastelloy G)	**C** 0.05 max **Cb** 1.75-2.50 **Co** 2.5 max **Cr** 21.0-23.5 **Cu** 1.5-2.5 **Fe** 18.0-21.0 **Mn** 1.0-2.0 **Mo** 5.5-7.5 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 1.0 max **W** 1.0 max	**ASME** SFA5.11 (ENiCrMo-1) **AWS** A5.11 (ENiCrMo-1)
W86022	Ni-Cr-Mo Arc Welding Electrode (ENiCrMo-10) (Hastelloy C-22)	**C** 0.02 max **Co** 2.5 max **Cr** 20.0-22.5 **Cu** 0.50 max **Fe** 2.0-6.0 **Mn** 1.0 max **Mo** 12.5-14.5 **Ni** rem **P** 0.03 max **S** 0.015 max **Si** 0.2 max **V** 0.35 **W** 2.5-3.5	**ASME** A5.11 (ENiCrMo-10) **AWS** A5.11 (ENiCrMo-10)
W86026	Ni-Cr-Mo-W Arc Welding Electrode (ENiCrMo-14)	**C** 0.02 max **Cr** 19.0-23.0 **Cu** 0.50 max **Fe** 5.0 max **Mn** 1.0 max **Mo** 15.0-17.0 **Ni** rem **P** 0.02 max **Si** 0.25 max **S** 0.02 max **Ti** 0.25 max **W** 3.0-4.0	**ASME** SFA 5.11 (ENiCrMo-14) **AWS** A 5.11 (ENiCrMo-14)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
W86030	Ni-Cr-Mo Arc Welding Electrode (ENiCrMo-11) (Hastelloy G30)	**C** 0.03 max **Cb** 0.30-1.50 **Co** 5.0 max **Cr** 28.0-31.5 **Cu** 1.0-2.4 **Fe** 13.0-17.0 **Mn** 1.5 max **Mo** 4.0-6.0 **Ni** rem **P** 0.04 max **S** 0.02 max **Si** 1.0 max **Ti** 1.5-4.0	**ASME** A5.11 (ENiCrMo-11) **AWS** A5.11 (ENiCrMo-11)
W86032	Ni-Cr-Mo Welding Electrode (Avesta P12R)	**C** 0.03 max **Cr** 20.5-22.5 **Cb** 1.0-2.8 **Cu** 0.50 max **Fe** 5.0 max **Mn** 2.2 max **Mo** 8.8-10.0 **Ni** rem **P** 0.03 max **S** 0.02 max **Si** 0.7 max **Other** 0.50 max	**AWS** A5.11 (ENiCrMo-12)
W86040	Replaced by W86032		
W86059	Ni-Cr-Mo Arc Welding Electrode (ENiCrMo-13)	**C** 0.02 max **Cr** 22.0-24.0 **Fe** 1.5 max **Mn** 1.0 max **Mo** 15.0-16.5 **Ni** rem **P** 0.015 max **Si** 0.2 max **S** 0.01 max	**ASME** SFA 5.11 (ENiCrMo-13) **AWS** A 5.11 (ENiCrMo-13)
W86082	Ni-Cr Electrode for Flux-Cored Arc Welding	**C** 0.10 max **Cr** 18.0-22.0 **Cb** 2.0-3.0 **Cu** 0.50 max **Fe** 3.0 max **Mn** 2.5-3.5 **Ni** 67.0 min **P** 0.03 max **S** 0.015 max **Si** 0.50 max **Ti** 0.75 max	**ASME** SFA5.34 (ENiCr3T-X) **AWS** A5.34 (ENiCr3T-X)
W86094	Ni-Cr-Fe-Mo Arc Welding Electrode (ENiCrFe-9)	**C** 0.15 max **Cr** 12.0-17.0 **(Cb+Ta)** 0.5-3.0 **Cu** 0.50 max **Fe** 12.0 max **Mn** 1.0-4.5 **Mo** 2.5-5.5 **Ni** 55.0 min **P.** 0.02 max **Si** 0.75 max **S** 0.015 max **W** 1.5 max	**ASME** SFA 5.11 (ENiCrFe-9) **AWS** A 5.11 (ENiCrFe-9)
W86095	Ni-Cr-Fe-W-Mo Arc Welding Electrode (ENiCrFe-10)	**C** 0.20 max **Cr** 13.0-17.0 **(Cb+Ta)** 1.0-3.5 **Cu** 0.50 max **Fe** 12.0 max **Mn** 1.0-3.5 **Mo** 1.0-3.5 **Ni** 55.0 min **P** 0.02 max **Si** 0.75 max **S** 0.015 max **W** 1.5-3.5	**ASME** SFA 5.11 (ENiCrFe-10) **AWS** A 5.11 (ENiCrFe-10)
W86112	Ni-Cr-Mo Arc Welding Electrode ENiCrMo-3 (Inconel W.E. 112)	**C** 0.10 max **Cb** 3.15-4.15 includes Ta **Co** 0.12 max **Cr** 20.0-23.0 **Cu** 0.50 max **Fe** 7.0 max **Mn** 1.0 max **Mo** 8.0-10.0 **Ni** 55.0 min **P** 0.03 max **S** 0.02 max **Si** 0.75 max	**ASME** SFA5.11 (ENiCrMo3); SFA5.34 (ENiCrMo 3T-X) **AWS** A5.11 (ENiCrMo3); A5.34 (ENiCrMo3T-X) **MIL SPEC** MIL-E-22200/3 (MIL-1N12)
W86117	Ni-Cr-Co-Mo Arc Welding Electrode (ENiCrCoMo-1) (Inconel W. E. 117)	**C** 0.05-0.15 **Cb** + Ta 1.0 max **Co** 9.0-15.0 **Cr** 21.0-26.0 **Cu** 0.50 max **Fe** 5.0 max **Mn** 0.30-2.5 **Mo** 8.0-10.0 **Ni** rem **P** 0.03 max **S** 0.015 max **Si** 0.75 max	**ASME** SFA5.11 (ENiCrCoMo-1) **AWS** A5.11 (ENiCrCoMo-1)
W86130	Ni-Cr Arc Welding Electrode	**Al** 0.1-1.0 **C** 0.25 max **Cb** 4xSi min includes Ta **Co** 1.0 max **Cr** 12.5-17.0 **Fe** 11.0 max **Mn** 1.0 max **Ni** 66.0 min **S** 0.015 max **Si** 1.0 max **Ti** 1.0-2.75	**AMS** 5779
W86132	Ni-Cr Arc Welding Electrode ENiCrFe-1 (Inconel W.E. 132)	**C** 0.08 max **Cb** 1.5-4.0 includes Ta **Cr** 13.0-17.0 **Cu** 0.50 max **Fe** 11.0 max **Mn** 3.5 max **Ni** 62.0 min **P** 0.03 max **S** 0.02 max **Si** 0.75 max	**AMS** 5684 **ASME** A5.34 (ENiCrFe1T-X); SFA5.11 (ENiCrFe-1) **AWS** A5.11 (ENiCrFe-1); A5.34 (ENiCrFe1T-X) **MIL SPEC** MIL-E-22200/3 (MIL-3N12, MIL-3N12H)
W86133	Ni-Cr Arc Welding Electrode ENiCrFe-2 (Inco-Weld A)	**C** 0.10 max **Cb** 0.5-3.0 includes Ta **Cr** 13.0-17.0 **Cu** 0.50 max **Fe** 12.0 max **Mn** 1.0-3.5 **Mo** 0.50-2.50 **Ni** 62.0 min **P** 0.03 max **S** 0.02 max **Si** 0.75 max	**ASME** SFA5.11 (ENiCrFe-2); SFA5.34 (ENiCrFe2T-x) **AWS** A5.11 (ENiCrFe-2); A5.34 (ENiCrFe2T-x) **MIL SPEC** MIL-E-22200/3 (MIL-4N1A, MIL-4N1AH)
W86134	Ni-Cr Arc Welding Electrode ENiCrFe-4 (Inco-Weld B)	**C** 0.20 max **Cb** 1.0-3.5 includes Ta **Cr** 13.0-17.0 **Cu** 0.50 max **Fe** 12.0 max **Mn** 1.0-3.5 **Mo** 1.0-3.5 **Ni** 60.0 min **P** 0.03 max **S** 0.02 max **Si** 1.0 max	**ASME** SFA5.11 (ENiCrFe-4) **AWS** A5.11 (ENiCrFe-4)
W86135	Ni-Cr-Fe-Mo Arc Welding Electrode (ENiCrFe-9)	**C** 0.15 max **Cr** 12.0-17.0 **(Cb** + Ta) 0.5-3.0 **Cu** 0.50 max **Fe** 12.0 max **Mn** 1.0-4.5 **Mo** 2.5-5.5 **Ni** 55.0 min **P** 0.02 max **Si** 0.75 max **S** 0.015 max **W** 1.5 max	**ASME** SFA 5.11 (ENiCrMo-9) **AWS** A 5.11 (ENiCrMo-9)
W86136	Ni-Cr-Fe Arc Welding Electrode (ENiCrFe-10)	**C** 0.20 max **Cr** 13.0-17.0 **(Cb** + Ta) 1.0-3.5 **Cu** 0.50 max **Fe** 12.0 max **Mn** 1.0-3.5 **Mo** 1.0-3.5 **Ni** 55.0 min **P** 0.02 max **Si** 0.75 max **S** 0.015 max **W** 1.5-3.5	**ASME** SFA 5.11 (ENiCrMo-10) **AWS** A 5.11 (ENiCrMo-10)

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W86142	Composite Thermal Spray Wire (CW-NiCrMo)	**C** 0.10 max **Cb** 3.2-4.2 **Cr** 20-23 **Fe** 5 max **Mo** 8.0-10.0 **Ni** rem	**AWS** A5.33 (CW-NiCrMo)
W86152	Ni-Cr Arc Welding Electrode (Inconel WE 152)	**Al** 0.50 max **C** 0.05 max **Cb** 1.0-2.5 **Cr** 28.0-31.5 **Cu** 0.50 max **Fe** 7.0-12.0 **Mn** 5.0 max **Mo** 0.50 max **Ni** rem **P** 0.030 max **S** 0.015 max **Si** 0.75 max **Ti** 0.50 max **Other** elements 0.50 max total	**ASME** SFA5.11 (ENiCrFe-7) **AWS** A5.11 (ENiCrFe-7)
W86182	Ni-Cr Arc Welding Electrode ENiCrFe-3 (Inconel W.E. 182)	**C** 0.10 max **Cb** 1.0-2.5 includes Ta **Cr** 13.0-17.0 **Cu** 0.50 **Fe** 10.0 **Mn** 5.0-9.5 **Ni** 59.0 min **P** 0.03 max **S** 0.015 **Si** 1.0 max **Ti** 1.0 max	**ASME** SFA5.11 (ENiCrFe-3); SFA5.34 (ENiCrFe3T-X) **AWS** A5.11 (ENiCrFe-3); A5.34 (ENiCrFe3T-X) **MIL SPEC** MIL-E-22200/3 (MIL-8N12, MIL-8N12H)
W86333	Ni-Cr-Mo-Co Arc Welding Electrode (RA333)	**C** 0.08 max **Co** 2.50-4.00 **Cr** 24.0-27.0 **Fe** rem **Mn** 3.50 max **Mo** 2.50-4.00 **Ni** 44.0-47.0 **P** 0.030 max **S** 0.030 max **Si** 0.75-1.50 **W** 2.50-4.00	
W86455	Ni-Mo-Cr Arc Welding Electrode (ENiCrMo-7)	**C** 0.015 max **Co** 2.0 max **Cr** 14.0-18.0 **Cu** 0.50 max **Fe** 3.0 max **Mn** 1.5 max **Mo** 14.0-17.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 0.2 max **Ti** 0.7 max **W** 0.5 max	**ASME** SFA5.11 (ENiCrMo-7) **AWS** A5.11 (ENiCrMo-7)
W86620	Ni-Cr-Mo Arc Welding Electrode (ENiCrMo-6)	**C** 0.10 max **Cb** 0.5-2.0 includes Ta **Cr** 12.0-17.0 **Cu** 0.50 max **Fe** 10.0 max **Mn** 2.0-4.0 **Mo** 5.0-9.0 **Ni** 55.0 min **P** 0.03 max **S** 0.02 max **Si** 1.0 max **W** 1.0-2.0	**ASME** SFA5.11 (ENiCrMo-6) **AWS** A5.11 (ENiCrMo-6)
W86685	Ni-Cr-Mo Composite Welding Wire for Hard Facing (ERCNiCrMo-5A)	**C** 0.12 max **Cr** 14-18 **Fe** 4.0-7.0 **Mn** 1.0 max **Mo** 14-18 **Ni** rem **Si** 2.0 max **W** 3.0-5.0 **V** 0.040 max	**ASME** SFA 5.21 (ERCNiCrMo-5A) **AWS** A 5.21 (ERCNiCrMo-5A)
W86686	Ni-Cr-Mo-W Arc Welding Electrode (ENiCrMo-14)	**C** 0.02 max **Cr19.0-23.0Cu** 0.50 max **Fe** 5.0 max **Mn** 1.0 max **Mo** 15.0-17.0 **Ni** rem **P** 0.02 max **Si** 0.25 max **S** 0.02 max **Ti** 0.25 max **W** 3.0-4.0	**ASME** SFA 5.11 (ENiCrMo-14) **AWS** A 5.11 (ENiCrMo-14)
W86985	Ni-Cr-Mo Arc Welding Electrode (ENiCrMo-9)	**C** 0.02 max **Cb** 0.5 max includes Ta **Co** 5.0 max **Cr** 21.0-23.5 **Cu** 1.5-2.5 **Fe** 18.0-21.0 **Mn** 1.0 max **Mo** 6.0-8.0 **Ni** rem **P** 0.04 max **S** 0.03 max **Si** 1.0 max **W** 1.5 max	**ASME** SFA5.11 (ENiCrMo-9) **AWS** A5.11 (ENiCrMo-9)
W87718	Ni-Fe-Cr Electrode for Flux-Cored Arc Welding	**Al** 0.20-0.80 **B** 0.006 max **C** 0.08 max **Cr** 17.0-21.0 **Co** 1.0 max **Cb** 4.75-5.5 **Cu** 0.30 max **Fe** rem **Mn** 0.50 max **Mo** 2.8-3.3 **Ni** 50.0-55.0 **P** 0.015 max **S** 0.015 max **Si** 0.75 max **Ti** 0.65-1.15	**ASME** SFA5.34 (ENiFeCr2T-X) **AWS** A5.34 (ENiFeCr2T-X)
W87740	Composite Thermal Spray Wire (CW-NiCrFe)	**Cr** 17-19 **Fe** 18-20 **Mo** 2.5-3.5 **Ni** rem **Ta** 4.5-5.5 **Ti** 0.5-1.5	**AWS** A5.33 (CW-NiCrFe)
W88021	Ni-Fe-Cr Arc Welding Electrode (E320) (Carpenter 20Cb3)	**C** 0.07 max **Cb** 8xC-1.00 includes Ta **Cr** 19.0-21.0 **Cu** 3.0-4.0 **Mn** 0.5-2.5 **Mo** 2.0-3.0 **Ni** 32.0-36.0 **P** 0.04 **S** 0.03 **Si** 0.60	**ASME** SFA5.4 (E320); SFA5.9 (EC320) **AWS** A5.4 (E320); A5.9 (EC320)
W88022	Ni-Fe-Cr Arc Welding Electrode (E320LR) Low Residuals (Carpenter 20Cb3LR.)	**C** 0.03 max **Cb** 8xC-0.40 includes Ta **Cr** 19.0-21.0 **Cu** 3.0-4.0 **Mn** 1.50-2.50 **Mo** 2.0-3.0 **Ni** 32.0-36.0 **P** 0.020 max **S** 0.015 max **Si** 0.30 max	**ASME** SFA5.4 (E320LR); SFA5.9 (EC320LR) **AWS** A5.4 (E320LR); A5.9 (EC320LR)
W88028	Ni-Fe-Cr Welding Electrode (E383)	**C** 0.03 max **Cr** 26.5-29.0 **Cu** 0.60-1.50 **Mn** 0.50-2.50 **Mo** 3.20-4.20 **Ni** 30.0-33.0 **P** 0.02 max **S** 0.02 max **Si** 0.90 max	**ASME** SFA5.4 (E383) **AWS** A5.4 (E383)
W88331	Ni-Fe-Cr Arc Welding Electrode (E330)	**C** 0.18-0.25 **Cr** 14.0-17.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.75 max **Ni** 33.0-37.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E330) **AWS** A5.4 (E330) **MIL SPEC** MIL-E-22200/2 (MIL-330)

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W88334	Ni-Fe-Cr-Mn Arc Welding Electrode (RA 330-04)	**C** 0.18-0.29 **Cr** 17.0-20.0 **Cu** 0.5 max **Fe** rem **Mn** 4.25-6.5 **Mo** 0.7 max **Ni** 33.0-37.0 **P** 0.03 max **S** 0.02 max **Si** 0.7-1.3	
W88335	Ni-Fe-Cr Arc Welding Electrode (E330H) High Carbon	**C** 0.35-0.45 **Cr** 14.0-17.0 **Cu** 0.75 max **Mn** 1.0-2.5 **Mo** 0.50 max **Ni** 33.0-37.0 **P** 0.04 max **S** 0.03 max **Si** 0.90 max	**ASME** SFA5.4 (E330H) **AWS** A5.4 (E330H)
W88338	Ni-Fe-Cr Arc Welding Electrode, High Carbon (RA330-80)	**C** 0.75-0.95 **Cr** 17.0-20.0 **Fe** rem **Mn** 2.50 max **Ni** 33.0-37.0 **P** 0.03 max **S** 0.03 max **Si** 0.65-1.3 max	
W88904	Ni-Fe-Cr Arc Welding Electrode (904L)	**C** 0.03 **Cr** 19.0-21.5 **Cu** 1.2-2.0 **Mn** 1.0-2.5 **Mo** 4.0-5.2 **Ni** 24.0-26.0 **P** 0.03 **S** 0.02 **Si** 0.90	**ASME** SFA5.4 (E385) **AWS** A5.4 (E385)
W89240	Composite Thermal Spray Wire (CW-NiFeAl)	**Al** 14-16 **Cr** 3-5 **Fe** 17-23 **Ni** rem	**AWS** A5.33 (CW-NiFeAl)
W89341	Composite Thermal Spray Wire (CW-NiCrAl)	**Al** 6-7 **Cr** 18-20 **Ni** rem **Other** all others total 6 max	**AWS** A5.33 (CW-NiCrAl)
W89343	Composite Thermal Spray Wire (CW-NiCrAlY)	**Al** 9-11 **Cr** 21-23 **Ni** rem **Other** Y 0.5-1.5	**AWS** A5.33 (CW-NiCrAlY)
W89432	Composite Thermal Spray Wire (CW-NiAlMo)	**Al** 5.0-6.0 **Mo** 4.5-5.5 **Ni** rem	**AWS** A5.33 (CW-NiAlMo)
W89604	Ni-Cr-B Arc Welding Electrode for Hard Surfacing (ENiCr-A)	**B** 2.00-3.00 **C** 0.30-0.60 **Co** 1.50 max **Cr** 8.0-14.0 **Fe** 1.25-3.25 **Ni** rem **Si** 1.25-3.25	**AWS** A5.13 (ENiCr-A)
W89605	Ni-Cr-B Arc Welding Electrode for Hard Surfacing (ENiCr-B)	**B** 2.00-4.00 **C** 0.40-0.80 **Co** 1.25 max **Cr** 10.0-16.0 **Fe** 3.00-5.00 **Ni** rem **Si** 3.00-5.00	**AWS** A5.13 (ENiCr-B)
W89606	Ni-Cr-B Arc Welding Electrode for Hard Surfaciang (ENiCr-C)	**B** 2.50-4.50 **C** 0.50-1.00 **Co** 1.00 max **Cr** 12.0-18.0 **Fe** 3.50-5.50 **Ni** rem **Si** 3.50-5.50	**AWS** A5.13 (ENiCr-C)
W89634	Ni-Cr-B Composite Welding Wire for Hard Facing (ERCNiCr-A)	**B** 1.5-3.0 **C** 0.20-0.60 **Cr** 6.5-14.0 **Fe** 1.0-3.5 **Ni** rem **Si** 1.2-4.0	**ASME** SFA 5.21 (ERCNiCr-A) **AWS** A 5.21 (ERCNiCr-A)
W89635	Ni-Cr-B Composite Welding Wire for Hard Facing (ERCNiCr-B)	**B** 2.0-4.0 **C** 0.30-0.80 **Cr** 9.5-16.0 **Fe** 2.0-5.0 **Ni** rem **Si** 3.0-5.0	**ASME** SFA 5.21 (ERCNiCr-B) **AWS** A 5.21 (ERCNiCr-B)
W89636	Ni-Cr-B Composite Welding Wire for Hard Facing (ERCNiCr-C)	**B** 2.5-4.5 **C** 0.50-1.00 **Cr** 12-18 **Fe** 3.0-5.5 **Ni** rem **Si** 3.0-5.5	**ASME** SFA 5.21 (ERCNiCr-C) **AWS** A 5.21 (ERCNiCr-C)
W89640	Composite Thermal Spray Wire (CW-FeCrNiB)	**B** 2.5-3.5 **Cr** 30-32 **Cu** 2.5-3.5 **Fe** rem **Mo** 3.5-4.5 **Ni** 29-31	**AWS** A5.33 (CW-FeCrNiB)
W89740	Composite Thermal Spray Wire (CW-NiCrSiB)	**B** 2.5-3.0 **C** 0.5-1.0 **Cr** 12-18 **Fe** 1.0-3.5 **Mn** 0.5 max **Ni** rem **Si** 3.5-5.5	**AWS** A5.33 (CW-NiCrSiB)

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With Description of Each Material Covered and References To Documents In Which The Same or Similar Materials are Described

Zxxxxx Number Series
Zinc and Zinc Alloys

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ZINC AND ZINC ALLOYS

UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
Z12001	99.995 Zinc	**Al** 0.005 max **Cd** 0.003 max **Cu** 0.001 max **Fe** 0.002 max **Pb** 0.003 max **Sn** 0.001 max **Zn** 99.995 min **Other** 0.005 max total non-zinc impurities	**Other:** ISO 752 (99.995)
Z12002	99.995 Zinc	**Al** 0.001 max **Cd** 0.003 max **Cu** 0.001 max **Fe** 0.002 max **Pb** 0.003 max **Sn** 0.001 max **Zn** 99.995 min **Other** 0.005 max total non-zinc impurities	**Other:** CEN EN1179 (Z1)
Z12003	99.995 Zinc	**Cd** 0.002 max **Fe** 0.002 max **Pb** 0.003 max **Sn** 0.001 max **Zn** 99.995 min **Other** Fe 0.001 max for anticorrosive use.	**Other:** JIS H2107 (Highest Purity Zinc Metal)
Z13000	Zinc Anodes (Type II)	**Al** 0.005 max **Cd** 0.003 max **Cu** 0.002 max **Fe** 0.0014 max **Pb** 0.003 max	**ASTM** B418 (Zinc Anodes Type II)
Z13001	Zinc Metal	**Al** 0.002 max **Cd** 0.003 max **Cu** 0.002 max **Fe** 0.003 max **Pb** 0.003 max **Sn** 0.001 max **Zn** 99.990 min	**ASTM** B6 (Special High Grade) **AWS** A5.33 (W-Zn-1)
Z13002	99.99 Zinc	**Al** 0.005 max **Cd** 0.003 max **Cu** 0.002 max **Fe** 0.003 max **Pb** 0.003 max **Sn** 0.001 max **Zn** 99.99 min **Other** 0.010 max total non-zinc impurities, Pb max is 0.005 if not intended for pressure casting use	**Other:** ISO 752 (99.99)
Z13003	99.99 Zinc	**Cd** 0.005 max **Cu** 0.002 max **Fe** 0.003 max **Pb** 0.005 max **Sn** 0.001 max **Zn** 99.99 min **Other** 0.01 max total non-zinc impurities	**Other:** CEN EN1179 (Z2)
Z13004	Rolled Special High Grade Zinc	**Al** 0.002 max **Cd** 0.003 max **Cu** 0.003 max **Fe** 0.003 max **Pb** 0.003 max **Sn** 0.001 max **Zn** rem	**ASTM** B 69
Z13005	99.99 Zinc Wire for Thermal Spraying (Metallizing)	**Al** 0.002 max **Cu** 0.005 max **Fe** 0.003 max **Pb** 0.003 max **Sn** 0.001 max **Zn** 99.99 min **Other** Cd 0.003 max	**ANSI** A5.33 **ASTM** B 833 **AWS** A5.33
Z13006	99.99 Zinc	**Cd** 0.004 max **Fe** 0.005 max **Pb** 0.007 max **Zn** 99.99 min	**Other:** JIS H2107 (Special Zinc Metal)
Z14001	99.95 Zinc	**Al** 0.005 max **Cd** 0.02 max **Cu** 0.002 max **Fe** 0.02 max **Pb** 0.03 max **Sn** 0.001 max **Zn** 99.95 min **Other** 0.050 max total non-zinc impurities	**Other:** ISO 752 (99.95)
Z14002	99.95 Zinc	**Cd** 0.01 max **Cu** 0.002 max **Fe** 0.02 max **Pb** 0.03 max **Sn** 0.001 max **Zn** 99.95 min **Other** 0.05 max total non-zinc impurities; Cd 0.02 max for five (5) years from adoption of standard	**Other:** CEN EN 1179 (Z3)
Z14051	99.97 Zinc	**Cd** 0.005 max **Fe** 0.01 max **Pb** 0.02 max **Zn** 99.97 min	**Other:** JIS H2107 (Ordinary Zinc Metal)
Z15001	Zinc Metal	**Al** 0.01 max **Cd** 0.02 max **Fe** 0.02 max **Pb** 0.03 max **Zn** 99.90 min	**ASTM** B6 (High Grade) **AWS** A5.33 (W-Zn-2)
Z15005	99.9 Zinc Wire for Thermal Spraying (Metallizing)	**Al** 0.01 max **Cu** 0.02 max **Fe** 0.02 max **Pb** 0.03 max **Zn** 99.9 min **Other** Cd 0.02 max, total non-zinc 0.10 max	**ANSI** A5.33 **ASTM** B 833 **AWS** A5.33
Z15006	Commercially Pure Rolled Zinc	**Al** 0.01 max **Cd** 0.01 max **Cu** 0.08 max **Fe** 0.02 max **Pb** 0.03 max **Sn** 0.003 max **Ti** 0.02 max **Zn** rem	**ASTM** B 69
***Z16001**	Zinc Metal	**Cd** 0.40 max **Fe** 0.03 max **Pb** 0.20 max **Zn** 99.5 min	

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
Z16002	99.5 Zinc	**Al** 0.01 max **Cd** 0.15 max **Fe** 0.05 max **Pb** 0.45 max **Zn** 99.5 min **Other** 0.05 max, total non-zinc impurities; Al 0.005 max for rolling quality; Sn 0.003 max for rolling quality	**Other:** ISO 752 (99.5)
Z16003	99.5 Zinc	**Cd** 0.01 max **Fe** 0.05 max **Pb** 0.45 max **Zn** 99.5 min **Other** 0.05 max total non-zinc impurities; Cd 0.050 max for five (5) years after adoption of standard	**Other:** CEN EN 1179 (Z4)
Z16004	99.6 Zinc	**Cd** 0.1 max **Fe** 0.02 max **Pb** 0.3 max **Zn** 99.6 min	**Other:** JIS H2107 (Distilled Zinc Metal, Special)
*Z17001	Zinc Metal	**Cd** 0.05 max **Fe** 0.03 max **Pb** 0.6 max **Zn** 99.0 min	
Z18001	98.5 Zinc	**Al** 0.02 max **Cd** 0.20 max **Fe** 0.05 max **Pb** 1.4 max **Zn** 98.5 min **Other** 1.50 max total non-zinc impurities; Al 0.005 max for rolling quality; Sn 0.003 max for rolling quality	**Other:** ISO 752 (98.5)
Z18002	98.5 Zinc	**Cd** 0.01 max **Fe** 0.05 max **Pb** 1.4 max **Zn** 98.5 min **Other** 1.5 max total non-zinc impurities; Cd 0.050 max for five (5) years after adoption of standard	**Other:** CEN EN 1179 (Z5)
Z18003	98.5 Zinc	**Cd** 0.4 max **Fe** 0.025 max **Pb** 1.3 max **Zn** 98.5 min	**Other:** JIS H2107 (Distilled Zinc Metal, Class 1)
Z19001	Zinc Metal	**Al** 0.01 max **Cd** 0.20 max **Cu** 0.20 max **Fe** 0.05 max **Pb** 0.5-1.4 **Zn** 98.0 min	**ASTM** B6 (Prime Western)
Z19002	98.0 Zinc	**Cd** 0.5 max **Fe** 0.1 max **Pb** 1.8 max **Zn** 98.0 min	**Other:** JIS H2107 (Distilled Zinc Metal, Class 2)
Z20301	Zinc-Lead Rolled Zinc Alloy	**Al** 0.002 max **Cd** 0.01 max **Cu** 0.005 max **Fe** 0.01 max **Pb** 0.10 max **Ti** 0.02 max **Zn** rem	**ASTM** B 69
*Z21210	Zinc Rolled	**Al** 0.001 max **Cd** 0.005 max **Cu** 0.001 max **Fe** 0.012 max **Pb** 0.10 max **Sn** 0.001 max **Zn** rem	**ASTM** B69 (Zn-0.08Pb)
*Z21220	Zinc Alloy Rolled	**Al** 0.001 max **Cd** 0.05-0.08 **Cu** 0.005 max **Fe** 0.012 max **Pb** 0.05-0.10 **Sn** 0.001 max **Zn** rem	**ASTM** B69 (Zn-0.06Pb-0.06Cd)
*Z21310	Zinc Alloy Rolled	**Cd** 0.005 max **Cu** 0.001 max **Fe** 0.012 max **Pb** 0.05-0.12 **Zn** rem	
Z21540	Zinc Alloy Rolled	**Al** 0.001 max **Cd** 0.25-0.45 **Cu** 0.005 max **Fe** 0.002 max **Pb** 0.25-0.50 **Zn** rem	**ASTM** B69 (Zn-0.3Pb-0.3Cd)
Z21721	Zinc-Lead-Cadmium Rolled Zinc Alloy	**Al** 0.002 max **Cd** 0.07 max **Cu** 0.005 max **Fe** 0.01 max **Pb** 1.0 max **Ti** 0.02 max **Zn** rem	**ASTM** B 69
Z24311	Zinc-Lead-Manganese Rolled Zinc Alloy	**Al** 0.002 max **Cd** 0.005 max **Cu** 0.005 max **Fe** 0.01 max **Mg** 0.0015 max **Mn** 0.015 max **Pb** 0.03-0.08 **Ti** 0.02 max **Zn** rem	**ASTM** B 69

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
Z30401	ZnAl Thermal Spray Wire (Metallizing) (W-ZnAl-1)	**Al** 1.5-2.5 **Zn** rem **Other** total 0.1 max	**AWS** A 5.33 (W-ZnAl-1)
Z30500	Zinc Alloy (B) Slush Casting	**Al** 5.25-5.75 **Cd** 0.005 max **Cu** 0.1 max **Fe** 0.10 max **Pb** 0.007 max **Sn** 0.005 max **Zn** rem	**ASTM** B792
Z30700	ZnAl Alloy Thermal Spray Wire (Metallizing) (W-ZnAl-2)	**Al** 14.0-16.0 **Zn** rem **Other** total non (Zn + Al) 0.05 max	**ANSI** A5.33; ASTM B 833; AWS A5.33 (W-ZnAl-2)
Z30750	Hot Dip Galvanizing Master Alloy (Type A-1)	**Al** 9.5-10.5 **Cd** 0.004 max **Cu** 0.035 max **Fe** 0.05 max **Pb** 0.005 max **Sn** 0.003 max **Zn** rem **Other** total 0.01 max	**ASTM** B 860
Z31710	Hot Dip Galvanizing Master Alloy (Type A-2)	**Al** 9.5-10.5 **Cu** 0.5 max **Fe** 0.15 max **Pb** 0.4 max **Zn** rem **Other** total 0.25 max	**ASTM** B 860
Z32120	Zinc Anodes (Type I)	**Al** 0.10-0.5 **Cd** 0.025-0.07 **Cu** 0.005 max **Fe** 0.005 max **Pb** 0.006 max **Other** 0.1 max	**ASTM** B418 (Zinc Anodes - Type I)
Z32121	Zinc Anodes (Type III)	**Al** 0.1-0.5 **Cd** 0.025-0.15 **Cu** 0.005 max **Fe** 0.005 max **Pb** 0.006 max **Si** 0.125 max	**MIL SPEC** MIL-A-18001
Z33520	Zinc Alloy (AG40A) Die Casting	**Al** 3.5-4.3 **Cd** 0.004 max **Cu** 0.25 max **Fe** 0.100 max **Mg** 0.02-0.05 **Pb** 0.005 max **Sn** 0.003 max **Zn** rem	**AMS** 4803 **ASTM** B86 (AG40A) **FED** QQ-Z-363 **SAE** J468 (903) (Castings) (Ingot)
Z33521	Zinc Alloy (AG40A) Ingot Form	**Al** 3.9-4.3 **Cd** 0.003 max **Cu** 0.10 max **Fe** 0.075 max **Pb** 0.004 max **Mg** 0.025-0.05 **Sn** 0.002 max **Zn** rem	**ASTM** B240 (AG40A) **SAE** J468 (903)(Ingot)
Z33522	Zinc Alloy (AG40B) Ingot Form	**Al** 3.9-4.3 **Cd** 0.0020 max **Cr** 0.02 max **Cu** 0.10 max **Fe** 0.075 max **Mg** 0.010-0.020 **Mn** 0.05 max **Ni** 0.005-0.020 **Pb** 0.0020 max **Si** 0.035 max **Sn** 0.0010 max **Zn** rem	**ASTM** B240
Z33523	Zinc Alloy, (AG40B) Die Casting	**Al** 3.5-4.3 **Cd** 0.0020 max **Cr** 0.02 max **Cu** 0.25 max **Fe** 0.075 max **Mg** 0.005-0.020 **Mn** 0.5 max **Ni** 0.005-0.020 **Pb** 0.0030 max **Si** 0.035 max **Sn** 0.0010 max **Zn** rem	**ASTM** B86
Z33730	Zinc Die Cast Master Alloy (V12)	**Al** 11.7-12.6 **Cd** 0.004 max **Cu** 0.25 max **Fe** 0.070 max **Mg** 0.075-0.12 **Pb** 0.005 max **Sn** 0.003 max **Zn** rem	**ASTM** B 327
Z34510	Zinc Alloy (A), Slush Casting	**Al** 4.5-5.0 **Cd** 0.005 max **Cu** 0.2-0.3 **Fe** 0.100 max **Pb** 0.007 max **Sn** 0.005 max **Zn** rem	**ASTM** B792
Z34961	Zinc-Aluminum Rolled Zinc Alloy	**Al** 1.4-3.4 **Cd** 0.15 max **Cu** 5.0 max **Fe** 0.1 max **Mg** 0.10 max **Pb** 0.05 max **Sn** 0.003 max **Ti** 0.2 max **Zn** rem	**ASTM** B 69
Z35530	Zinc Alloy (AC41A) Ingot Form	**Al** 3.9-4.3 **Cd** 0.003 max **Cu** 0.75-1.25 **Fe** 0.075 max **Pb** 0.004 max **Mg** 0.03-0.06 **Sn** 0.002 max **Zn** rem	**ASTM** B240 **SAE** J468 (925)(Ingot)
Z35531	Zinc Alloy (AC41A) Die Casting	**Al** 3.5-4.3 **Cd** 0.004 max **Cu** 0.75-1.25 **Fe** 0.100 max **Mg** 0.03-0.08 **Pb** 0.005 max **Sn** 0.003 max **Zn** rem	**ASTM** B86 **FED** QQ-Z-363 **SAE** J468 (925) (Castings)
Z35540	Zinc Alloy, (AC43A), Ingot Form	**Al** 3.9-4.3 **Cd** 0.003 max **Cu** 2.6-2.9 **Fe** 0.075 max **Pb** 0.004 max **Mg** 0.025-0.050 **Sn** 0.002 max **Zn** rem	**ASTM** B240
Z35541	Zinc Alloy (AC43A) Die Casting	**Al** 3.5-4.3 **Cd** 0.004 max **Cu** 2.5-3.0 **Fe** 0.100 max **Mg** 0.020-0.050 **Pb** 0.005 max **Sn** 0.003 max **Zn** rem	**ASTM** B86 (AC43A)

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UNIFIED NUMBER	DESCRIPTION	CHEMICAL COMPOSITION	CROSS REFERENCE SPECIFICATIONS
Z35542	Zinc Alloy (Kirksite II or B) Forming Die	**Al** 3.9-4.3 **Cd** 0.003 max **Cu** 2.5-2.9 **Fe** 0.075 max **Mg** 0.02-0.05 **Pb** 0.003 max **Sn** 0.001 max **Zn** rem	**ASTM** B793 **MIL SPEC** MIL-I-7068 (II) **SAE** J469 (921) **Other:** ISO 301-1981 (E) (ZnAl4Cu3)
Z35543	Zinc Alloy (Kirksite I or A) Forming Die	**Al** 3.5-4.5 **Cd** 0.005 max **Cu** 2.5-3.5 **Fe** 0.100 max **Mg** 0.02-0.10 **Pb** 0.007 max **Sn** 0.005 max **Zn** rem	**ASTM** B793 **MIL SPEC** MIL-I-7068 (I)
Z35630	Zinc-Aluminum Alloy, (ZA12) Ingot Form	**Al** 10.8-11.5 **Cd** 0.005 max **Cu** 0.50-1.2 **Fe** 0.065 max **Mg** 0.020-0.030 **Pb** 0.005 max **Sn** 0.002 max **Zn** rem	**ASTM** B669 (ZA-12) **Other:** ZI ZA-12
Z35631	Zinc-Aluminum Alloy (ZA-12) Casting	**Al** 10.5-11.5 **Cd** 0.004 max **Cu** 0.5-1.2 **Fe** 0.075 max **Pb** 0.006 max **Mg** 0.015-0.030 **Sn** 0.003 max **Zn** rem	**ASTM** B791 **Other:** Australian AS 1881; British DD 139; ZI ZA-12
Z35635	Zinc-Aluminum Alloy (ZA-8) Ingot Form	**Al** 8.2-8.8 **Cd** 0.005 max **Cu** 0.8-1.3 **Fe** 0.10 max **Mg** 0.020-0.030 **Pb** 0.005 max **Sn** 0.002 max **Zn** rem	**ASTM** B669 (ZA-8) **Other:** ZI ZA-8
Z35636	Zinc-Aluminum Alloy (ZA-8) Casting	**Al** 8.0-8.8 **Cd** 0.006 max **Cu** 0.8-1.3 **Fe** 0.075 max **Pb** 0.006 max **Mg** 0.015-0.030 **Sn** 0.003 max **Zn** rem	**ASTM** B791 **Other:** Australian AS 1881; British DD 139; ZI (ZA-8)
Z35840	Zinc-Aluminum Alloy (ZA-27) Ingot Form	**Al** 25.5-28.0 **Cd** 0.005 max **Cu** 2.0-2.5 **Fe** 0.072 max **Mg** 0.012-0.020 **Pb** 0.005 max **Sn** 0.002 max **Zn** rem	**ASTM** B669 (ZA-27) **Other:** ZI ZA-27
Z35841	Zinc-Aluminum Alloy (ZA-27) Casting	**Al** 25.0-28.0 **Cd** 0.006 max **Cu** 2.0-2.5 **Fe** 0.075 max **Pb** 0.006 max **Mg** 0.010-0.020 **Sn** 0.003 max **Zn** rem	**ASTM** B791 **Other:** Australian AS 1881; British DD 139; ZI ZA-27
Z38510	Zinc Alloy Ingot Form	**Al** 4.2-6.2 **Cd** 0.005 max **Cu** 0.1 max **Fe** 0.075 max **Mg** 0.05 max **Pb** 0.005 max **Sb** 0.002 max **Si** 0.015 max **Sn** 0.002 max **Ti** 0.02 max **Zn** rem **Zr** 0.02 max **Other** Ce + La 0.03-0.10 **Other** each 0.02 max, total 0.04 max	**ASTM** B750
Z40101	Zinc-Low Copper Rolled Zinc Alloy	**Al** 0.01 max **Cd** 0.005 max **Cu** 0.08-0.49 **Fe** 0.01 max **Pb** 0.01 max **Sn** 0.003 max **Ti** 0.02 max **Zn** rem	**ASTM** B 69
Z40301	Zinc-High Copper Rolled Zinc Alloy	**Al** 0.01 max **Cd** 0.005 max **Cu** 0.50-1.0 **Fe** 0.01 max **Pb** 0.01 max **Sn** 0.003 max **Ti** 0.04 max **Zn** rem	**ASTM** B 69
Z40330	Zinc Alloy, Rolled	**Al** 0.005 max **Cd** 0.02 max **Cu** 0.70-0.90 **Fe** 0.01 max **Pb** 0.02 max **Ti** 0.02 max **Zn** rem	**ASTM** B69 (Zn-0.8Cu)
Z41121	Zinc-Low Copper-Titanium Rolled Zinc Alloy	**Al** 0.01 max **Cd** 0.005 max **Cu** 0.08-0.49 **Fe** 0.01 max **Pb** 0.01 max **Sn** 0.003 max **Ti** 0.05-0.18 **Zn** rem	**ASTM** B 69
Z41320	Zinc Alloy, Rolled	**Al** 0.001 max **Cd** 0.05 max **Cu** 0.50-1.50 **Fe** 0.012 max **Pb** 0.10 max **Sn** 0.001 max **Ti** 0.12-0.50 **Zn** rem	**ASTM** B69 (Zn-0.8Cu-0.15Ti)
Z41321	Zinc-High Copper-Titanium Rolled Zinc Alloy	**Al** 0.01 max **Cd** 0.005 max **Cu** 0.05-1.0 **Fe** 0.01 max **Pb** 0.01 max **Sn** 0.003 max **Ti** 0.08-0.18 **Zn** rem	**ASTM** B 69
Z44330	Zinc Alloy Rolled	**Al** 0.001 max **Cd** 0.005 max **Cu** 0.85-1.25 **Fe** 0.012 max **Pb** 0.10 max **Sn** 0.001 max **Zn** rem	**ASTM** B69 (Zn-1Cu)
Z45330	Zinc Alloy Rolled	**Al** 0.001 max **Cd** 0.04 max **Cu** 0.85-1.25 **Fe** 0.015 max **Mg** 0.006-0.016 **Pb** 0.15 max **Sn** 0.001 max **Zn** rem	**ASTM** B69 (Zn-1Cu-0.01Mg)
Z46540	Zinc-Copper-Aluminum Alloy, Ingot Form (ACuZinc 5)	**Al** 2.8-3.3 **Cd** 0.003 max **Cu** 5.2-6.0 **Fe** 0.05 max **Mg** 0.035-0.050 **Pb** 0.004 max **Sn** 0.002 max **Zn** rem	**ASTM** New specification in ballot

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Z46541	Zinc-Copper-aluminum Alloy Die Casting (ACuZinc 5)	**Al** 2.5-3.3 **Cd** 0.004 max **Cu** 5.0-6.0 **Cr** 0.075 max Mg 0.025-0.05 **Pb** 0.005 max **Sn** 0.003 max **Zn** rem	**ASTM** New specification in ballot
Z55710	Hot Dip Galvanizing Master Alloy (Type S-1)	**As** 0.015 max **Cd** 0.003 max **Cu** 0.003 max **Fe** 0.03 max **Pb** 0.015 max **Sb** 9.5-10.5 **Sn** 0.01 max **Zn** rem **Other** total 0.03 max	**ASTM** B 860
Z80410	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.32-0.38 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.01 max **Zn** rem **Other** total 0.01 max	**ASTM** B 852
Z80510	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.42-0.48 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.01 max **Zn** rem **Other** total 0.01 max	**ASTM** B 852
Z81330	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.22-0.28 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.01-0.02 **Zn** rem **Other** total 0.01 max	**ASTM** B 852
Z81430	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.32-0.38 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.01-0.03 **Zn** rem **Other** total 0.01 max	**ASTM** B 852
Z81450	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.32-0.38 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.075-0.125 **Zn** rem **Other** total 0.01 max	**ASTM** B 852
Z81530	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.42-0.48 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.01-0.03 **Zn** rem **Other** total 0.01 max	**ASTM** B 852
Z81540	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.42-0.48 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.025-0.075 **Zn** rem **Other** total 0.01 max	**ASTM** B 852
Z81550	Continuous Galvanizing Grade (CGG) Alloy	**Al** 0.42-0.48 **Cd** 0.01 max **Cu** 0.02 max **Fe** 0.01 max **Pb** 0.075-0.125 **Zn** rem **Other** total 0.01 max	**ASTM** B 852

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Cross Index of Commonly Known Documents Which Describe Materials Same as or Similar to These Covered by UNS Numbers

AA (Aluminum Association) NUMBERS

(The Symbol *ob* Indicates an Obsolete UNS Number.)

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AA

CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
1-1/2% Alclad 2024	A82024
1-1/2% Alclad One Side 2024	A82024
2-1/2% Alclad 7075	A87075
2-1/2% Alclad One Side 7075	A87075
100.1	A01001
130.1	A01301
150.1	A01501
160.1	A01601
170.1	A01701
201.0	A02010
201.2	A02012
202.0	A02020 ob
202.2	A02022 ob
203.0	A02030
203.2	A02032
204.0	A02040
204.2	A02042
206.0	A02060
206.2	A02062
208.0	A02080 ob
208.1	A02081 ob
208.2	A02082 ob
213.0	A02130 ob
213.1	A02131 ob
222.0	A02220 ob
222.1	A02221 ob
224.0	A02240 ob
224.2	A02242 ob
238.0	A02380 ob
238.1	A02381 ob
238.2	A02382 ob
240.0	A02400
240.1	A02401
242.0	A02420
242.1	A02421
242.2	A02422
243.0	A02430 ob
243.1	A02431 ob
249.0	A02490 ob
249.2	A02492 ob
295.0	A02950
295.1	A02951
295.2	A02952
296.0	A02960
296.1	A02961
296.2	A02962
301.0	A03010
301.1	A03011
302.0	A03020
302.1	A03021
303.0	A03030
303.1	A03031
305.0	A03050 ob
305.2	A03052 ob
308.0	A03080
308.1	A03081
308.2	A03082
318.0	A03180
318.1	A03181
319.0	A03190
319.1	A03191
319.2	A03192
320.0	A03200
320.1	A03201
324.0	A03240 ob
324.1	A03241 ob
324.2	A03242 ob
328.0	A03280 ob
328.1	A03281 ob
332.0	A03320
332.1	A03321
332.2	A03322
333.0	A03330
333.1	A03331
336.0	A03360
336.1	A03361
336.2	A03362
337.0	A03370 ob
337.1	A03371 ob
338.0	A03380 ob
338.1	A03381 ob
339.0	A03390
339.1	A03391
343.0	A03430 ob
343.1	A03431 ob
354.0	A03540
354.1	A03541
355.0	A03550
355.1	A03551
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No. 22 Brazing Sheet	A86951
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No. 24 Brazing Sheet	A86951
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SFA5.9 (EC317L)	W31743
SFA5.9 (EC318)	W31940
SFA5.9 (EC320)	W88021
SFA5.9 (EC320LR)	W88022
SFA5.9 (EC321)	W32140
SFA5.9 (EC347)	W34740
SFA5.9 (EC347Si)	W34748
SFA5.9 (EC349)	W34940 ob
SFA5.9 (EC409Cb)	W40947
SFA5.9 (EC410)	W41040
SFA5.9 (EC410NiMo)	W41046
SFA5.9 (EC420)	W42040
SFA5.9 (EC430)	W43040
SFA5.9 (EC446MoL)	W44647
SFA5.9 (EC502)	W50240
SFA5.9 (EC505)	W50440
SFA5.9 (EC630)	W37440
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SFA5.9 (ER410NiMo)	S41086
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SFA5.9 (ER502)	S50280
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SFA5.9 (ER505Si)	S50488
SFA5.9 (ER630)	S17480
SFA5.9 (ER2209)	S39209
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SFA5.9 (ER2553)	S39553
SFA5.10 (ER1100)	A91100
SFA5.10 (ER1188)	A91188
SFA5.10 (ER2319)	A92319
SFA5.10 (ER4043)	A94043
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SFA5.13 (EFe-5)	W75110
SFA5.13 (EFe5-A)	W77710 ob
SFA5.13 (EFe5-C)	W77310 ob
SFA5.13 (EFe-6)	W77510
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SFA5.13 (EFeCr-A1)	W74510 ob
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SFA5.15 (ENiFe-CI-A)	W82004
SFA5.15 (ENiFeMn-CI)	W82006
SFA5.15 (ENiFeT3-CI)	W82032
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SFA5.15 (ERNiFeMn-CI)	N02216
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SFA5.18 (E70C-6X)	W07706
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SFA5.19 (ER AZ61A)	M11611
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SFA5.19 (ER EZ33A)	M12331
SFA5.20 (E6xT-1)	W06601 ob
SFA5.20 (E6xT-11)	W06611 ob
SFA5.20 (E6XT-13)	W06613
SFA5.20 (E6xT-4)	W06604 ob
SFA5.20 (E6xT-5)	W06605 ob
SFA5.20 (E6xT-6)	W06606 ob
SFA5.20 (E6xT-7)	W06607 ob
SFA5.20 (E6xT-8)	W06608 ob
SFA5.20 (E7xT-1, E7xT-1M)	W07601
SFA5.20 (E7xT-10)	W07610
SFA5.20 (E7xT-11)	W07611
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SFA5.20 (E7xT-13)	W07613
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SFA5.20 (E7xT-3)	W07603
SFA5.20 (E7xT-4)	W07604
SFA5.20 (E7xT-5, E7xT-5M)	W07605
SFA5.20 (E7xT-6)	W07606
SFA5.20 (E7xT-7)	W07607
SFA5.20 (E7xT-8)	W07608
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SFA5.21 (EFe5-A)	W77710 ob
SFA5.21 (EFe5-C)	W77310 ob
SFA5.21 (EFeCr-A1)	W74510 ob
SFA5.21 (ERCCuSn-A)	W60518
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SFA5.21 (ERCFeCr-A1A)	W74530
SFA5.21 (ERCoCr-A)	R30006
SFA5.21 (ERCoCr-B)	R30012
SFA5.21 (ERCoCr-C)	R30001
SFA5.21 (ERCoCr-E)	R30021
SFA5.21 (ERCoCr-F)	R30002
SFA5.21 (ERCoCr-F)	R30003
SFA5.21 (ERCuAl-A2)	C61800
SFA5.21 (ERCuAl-A3)	C62400
SFA5.21 (ERCuAl-C)	C62580
SFA5.21 (ERCuAl-D)	C62581
SFA5.21 (ERCuAl-E)	C62582
SFA5.21 (ERCuSi-A)	C65600
SFA5.21 (ERCuSn-A)	C51800
SFA5.21 (ERCuSn-D)	C52400
SFA5.21 (ERNiCr-A)	N99644
SFA5.21 (ERNiCr-B)	N99645
SFA5.21 (ERNiCr-C)	N99646
SFA5.21 (ERNiCrMo-5A)	N10002
SFA5.21 (RFe5-A)	W77730 ob
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SFA5.22 (E307T-x)	W30731
SFA5.22 (E308HMoT0-3)	W30830
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SFA5.23 (EA3N)	K11323
SFA5.23 (EA4)	K11424
SFA5.23 (EA4N)	K11324
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SFA5.23 (EB2RR)	K11173
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SFA5.25 (EM13K-EW)	K01313
SFA5.25 (EM15K-EW)	K01515
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SFA5.25 (EWT3)	W22340
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SFA5.26 (EG6xT2)	W06302
SFA5.26 (EG7xT1)	W07301
SFA5.26 (EG7xT2)	W07302
SFA5.26 (EGxxS-D2)	K10945
SFA5.26 (EGxxS-1)	K01313
SFA5.26 (EGxxS-2)	K10726
SFA5.26 (EGxxS-3)	K11022
SFA5.26 (EGxxS-5)	K11325 ob
SFA5.26 (EGxxS-6)	K11140
SFA5.26 (EGxxT-Ni1)	W21033
SFA5.26 (EGxxT-NM1)	W22334
SFA5.26 (EGxxT-NM2)	W22333
SFA5.26 (EGxxT-W)	W20131
SFA5.27 (RBCuZn-C)	C68100
SFA5.27 (RBCuZn-D)	C77300
SFA5.27 (RCu)	C18980
SFA5.27 (RCuNi)	C71581
SFA5.28 (E70C-B2L)	W52130
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Cross Index of Commonly Known Documents Which Describe Materials Same as or Similar to These Covered by UNS Numbers

ASTM (American Society for Testing and Materials) NUMBERS

(The Symbol *ob* Indicates an Obsolete UNS Number.)

NOTE: **ASTM Standards are grouped according to the committee responsible: A=Ferrous Metals and Alloys, B=Nonferrous Metals and Alloys, F=Specialty Applications**

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A199 (T7)	S50300
A199 (T9)	S50400
A199 (T11)	K11597
A199 (T21)	K31545
A199 (T22)	K21590
A199 (T91)	K90901
A200 (T4)	K31509
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A200 (T22)	K21590
A202 (A)	K11742
A202 (B)	K12542
A203 (A)	K21703
A203 (B)	K22103
A203 (D)	K31718
A203 (E)	K32018
A204 (A)	K11820
A204 (B)	K12020
A204 (C)	K12320
A209 (T1)	K11522
A209 (T1a)	K12023
A209 (T1b)	K11422
A210 (A-1)	K02707
A210 (C)	K03501
A213	K41650
A213	K92460
A213	K92930
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A213	S32615
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A213	S34751
A213	S50460
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A213 (304)	S30400
A213 (304 H)	S30409

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A213 (316)	S31600
A213 (316 H)	S31609
A213 (316 L)	S31603
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A213 (321)	S32100
A213 (321 H)	S32109
A213 (347)	S34700
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A213 (348)	S34800
A213 (348 H)	S34809
A213 (T2)	K11547
A213 (T5)	K41545
A213 (T5b)	K51545
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A213 (T9)	S50400
A213 (T11)	K11597
A213 (T12)	K11562
A213 (T17)	K12047
A213 (T21)	K31545
A213 (T22)	K21590
A213 (TP 304 LN)	S30453
A213 (TP 309 Cb)	S30940
A213 (TP 309 H)	S30909
A213 (TP 309 HCb)	S30941
A213 (TP 309 S)	S30908
A213 (TP 310 Cb)	S31040
A213 (TP 310 H)	S31009
A213 (TP 310 HCb)	S31041
A213 (TP 310 S)	S31008
A213 (TP 316 LN)	S31653
A213 (TP 317)	S31700
A213 (TP 317 L)	S31703
A213 (TP201)	S20100
A213 (TP202)	S20200
A213 (XM-15)	S38100
A214	K01807
A216 (WCA)	J02502
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A217 (C5)	J42045
A217 (C12)	J82090
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A217 (WC1)	J12524
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A220 (50005)	F23530
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A228	K08500
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A231	K15048
A232	K15047
A234	S50460
A234 (WP1)	K12821

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A240 (316 Ti)	S31635
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A249 (TP 310 HCb)	S31041
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A249 (TP 317 L)	S31703
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A268	S44735
A268 (18Cr-2Mo)	S44400
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A269 (304)	S30400
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A269 (316 L)	S31603
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A269 (321)	S32100
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A269 (348)	S34800
A269 (TP XM-10)	S21900
A269 (TP 304 LN)	S30453

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A270 (TP 316)	S31600
A270 (TP 316 L)	S31603
A271	S34751
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A271 (TP 316)	S31600
A271 (TP 316 H)	S31609
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A284	K01804
A284	K02001
A284 (C)	K02401
A284 (C, D)	K02702
A285/A285M (A)	K01700
A285/A285M (B)	K02200
A285 (C)	K02801
A288 (1)	K05002
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A291 (4 to 7)	K24245
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A297 (HC)	J92605
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A299	K02803
A302 (A)	K12021
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A304 (15B35H)	H15351
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A304 (15B41H)	H15411
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A304 (15B62H)	H15621
A304 (50B40 H)	H50401
A304 (50B44 H)	H50441
A304 (50B46 H)	H50461
A304 (50B50 H)	H50501
A304 (50B60 H)	H50601
A304 (51B60 H)	H51601
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A304 (86B30 H)	H86301
A304 (86B45 H)	H86451
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A304 (94B30 H)	H94301
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A304 (8660 H)	H86600
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A304 (8740 H)	H87400
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A304 (9260 H)	H92600
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A304 (E4340 H)	H43406
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A311 (1144)	G11440
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A314 (502)	S50200
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A314 (XM-11)	S21904
A314 (XM-27)	S44625 ob
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A319 (III)	F10003
A320 (303, B8F, B8FA)	S30300
A320 (303 Se, B8F, B8FA)	S30323
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A320 (L7B, L72)	G41370
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A351 (CG6MMN)	J93790
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A351 (HK-30)	J94203
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A451 (CPK20)	J94202
A452 (TP304H)	J92590
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A473 (446)	S44600
A473 (501)	S50100

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A473 (XM-11)	S21904
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A681 (H-24)	T20824
A681 (H-25)	T20825 ob
A681 (H-26)	T20826
A681 (H-41)	T20841 ob
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A681 (H-43)	T20843 ob
A681 (L-2)	T61202
A681 (L-3)	T61203 ob
A681 (L-6)	T61206
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A681 (P-4)	T51604 ob
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A758	K02741
A759	K07500
A765 (I)	K03046

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A765 (II)	K03047
A765 (III)	K32026
A766	K11711
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A778 (TP 317 L)	S31703
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A787 (MT 1020)	G10200
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A789	S31500
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A789	S32304
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A789	S32950
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A789 (329)	S32900
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A791 (18-2)	S44400
A791 (25-4-4)	S44635
A791 (26-3-3)	S44660
A791 (29-4)	S44700
A791 (29-4-2)	S44800
A791 (29-4C)	S44735
A791 (TP XM-27)	S44627
A791 (TP XM-33)	S44626
A791 (TP 409)	S40900
A791 (TP 439)	S43035
A794 (10	G10150
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A794 (1021)	G10210
A794 (1023)	G10230
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A803 (TP XM-27)	S44627
A803 (TP XM-33)	S44626
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A812 (65, 80)	K12001
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A813 (TP XM-29)	S24000
A813 (TP 304 H)	S30409
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A813 (TP 310 S)	S31008
A813 (TP 316 H)	S31609
A813 (TP 317 L)	S31703
A813 (TP 321 H)	S32109
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A872	J93183
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A890 (4A)	J92205
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A890 Grade 1B	J93372
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A895 (303 Se)	S30323
A895 (416)	S41600
A895 (416 Se)	S41623
A895 (420 F Se)	S42023
A895 (420 F)	S42020

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A895 (430 F Se)	S43023
A895 (430 F)	S43020
A923	S31803
A928	S31803
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A928M	S32520
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B 69	Z34961
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B 69	Z41121
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B 93 (AM100A)	M10101
B 163	N06603
B 166	N06603
B 167	N06603
B 168	N06603
B 265	R55111
B 265 (Gr 23)	R56407
B 265 (Gr 26)	R52404
B 265 (Gr 27)	R52254
B 327	Z33730
B 333	N10624
B 335	N10624
B 337 (Gr 26)	R52404
B 337 (Gr 27)	R52254
B 338 (Gr 26)	R52404
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B26 (355.0)	A03550
B26 (356.0)	A03560
B26 (443.0)	A04430
B26 (514.0)	A05140
B26 (520.0)	A05200
B26 (535.0)	A05350
B26 (705.0)	A07050
B26 (707.0)	A07070

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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
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B26 (713.0)	A07130
B26 (771.0)	A07710
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B26 (851.0)	A08510
B26 (A242.0)	A12420
B26 (A356.0)	A13560
B26 (B443.0)	A24430
B26 (B852.0)	A08520
B26 (C355.0)	A33550
B26 (D712.0)	A07120
B29 (Chemical Lead)	L51120
B29 (Common Lead)	L50045
B29 (Copper Bearing Lead)	L51121
B29 (Corroding Lead)	L50042
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B30 (3C, 14C)	C82200
B30 (4A)	C83600
B30 (10C)	C82000
B30 (20C, 20CT)	C82500
B30 (21C)	C82510
B30 (72C)	C96700
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B30 (245C, 245CT)	C82600
B30 (275C, 275CT)	C82800
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B32 (2.5S)	L50150
B32 (2A, Sn2)	L54210
B32 (2B)	L54211
B32 (5A)	L54320
B32 (5B)	L54321
B32 (10B, Sn10A)	L54520
B32 (15B, Sn15)	L54560
B32 (20B, Sn20A)	L54711
B32 (20C, Sn20B)	L54712
B32 (25A)	L54720
B32 (25B, Sn25A)	L54721
B32 (25C, Sn25B)	L54722
B32 (30A)	L54820 ob
B32 (30B, Sn30A)	L54821
B32 (30C, Sn30B)	L54822
B32 (35A)	L54850
B32 (35B, Sn35A)	L54851
B32 (35C, Sn35B)	L54852
B32 (40A, Sn40A)	L54915
B32 (40B)	L54916
B32 (40C, Sn40B)	L54918
B32 (45A)	L54950
B32 (45B, Sn45)	L54951
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B32 (50B, Sn50)	L55031
B32 (60A)	L13600
B32 (60B)	L13601
B32 (63A, Sn63)	L13630
B32 (63B)	L13631
B32 (70A, Sn70)	L13700
B32 (70B)	L13701
B32 (95TA, Sb5)	L13950
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B69 (Zn-0.08Pb)	Z21210 ob
B69 (Zn-0.3Pb-0.3Cd)	Z21540
B69 (Zn-0.8Cu)	Z40330
B69 (Zn-0.8Cu-0.15Ti)	Z41320
B69 (Zn-1Cu)	Z44330
B69 (Zn-1Cu-0.01Mg)	Z45330
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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
B80 (AZ63A)	M11630
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B80 (QH21A)	M18210
B80 (WE43A)	M18430
B80 (WE54A)	M18410
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B179 (222.1)	A02221 ob
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B413 (99.99)	P07010
B418 (Zinc Anodes Type II)	Z13000
B418 (Zinc Anodes - Type I)	Z32120
B422	C19025
B422	C63800
B422	C64400 ob
B422	C72400 ob
B423	N08221
B423	N08825
B423	N08826
B424	N08221
B424	N08825
B424	N08826
B425	N08221
B425	N08825
B425	N08826
B427	C90700
B427	C90800
B427	C91600
B427	C91700
B427	C92900
B429 (6061)	A96061
B429 (6063)	A96063
B432	C10100
B432	C10200
B432	C10300
B432	C10800
B432	C12200
B432	C36500
B432	C36600 ob
B432	C36700 ob
B432	C36800 ob
B432	C44300
B432	C44400
B432	C44500
B432	C46400
B432	C46500
B432	C46600 ob
B432	C46700 ob
B432	C61300
B432	C61400
B432	C65100
B432	C65500
B432	C70600
B432	C71500
B434	N10003
B435	N06002
B435	N06230
B435	N12160
B435	R30556
B440	L01900
B441	C17500
B441	C17510
B442 (DHP)	C12200
B442 (DHPS)	C12300
B442 (DLP)	C12000
B442 (DPA)	C14200
B442 (DPTE)	C14500
B442 (STP)	C11300
B442 (STP)	C11400
B442 (STP)	C11500
B442 (STP)	C11600
B443	N06625
B444	N06625
B445	N06102
B446	N06625
B447	C10100
B447	C10200
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B451	C11000
B451	C12000
B453	C33500
B453	C34000
B453	C34500
B453	C35000
B453	C35300
B453	C35340 ob
B453	C35600
B455	C38000
B455	C38500
B458 (1)	C75200
B462	N08020
B462	N08024
B462	N08026
B462	N08367
B462	R20033
B463	N08020
B463	N08024
B463	N08026
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B464	N08024
B464	N08026
B465	C19200
B465	C19400
B465	C19500
B465	C19600 ob
B466	C70400
B466	C70600
B466	C71000
B466	C71500
B466	C72200
B467	C70600
B467	C71500
B468	N08020
B468	N08024
B468	N08026
B468 (7075)	A97075
B469	C19200

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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
B469	C70600
B470	C10100
B470	C11000
B470	C11300
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B470	C11500
B470	C11600
B471	N08020
B471	N08024
B471	N08026
B472	N08020
B472	N08024
B472	N08026
B472	N08367
B472	R20033
B473	N08020
B473	N08024
B473	N08026
B474	N08020
B474	N08024
B474	N08026
B475	N08020
B475	N08024
B475	N08026
B477	P00750
B479 (1100)	A91100
B479 (1145)	A91145
B479 (1235)	A91235
B479 (8079)	A98079
B479 (8111)	A98111
B483	M15102
B483 (1060)	A91060
B483 (1100)	A91100
B483 (1435)	A91435
B483 (3003)	A93003
B483 (3102)	A93102
B483 (5005)	A95005
B483 (5050)	A95050 ob
B483 (5052)	A95052
B483 (6061)	A96061
B483 (6063)	A96063
B483 (6262)	A96262
B491 (1050)	A91050
B491 (1100)	A91100
B491 (1200)	A91200
B491 (1235)	A91235
B491 (3003	A93003
B491 (3102)	A93102
B491 (6063)	A96063
B493	R60702
B493	R60704
B493	R60705
B494	R60701
B494	R60702
B494	R60703
B495	R60702
B495	R60703
B495	R60704
B495	R60705
B495	R60706
B496	C10100
B496	C11300
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B505	C83600
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B505	C97800
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B506	C11300
B506	C11400
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B512	N08330
B514	N08120
B514	N08800
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B515	N08120
B515	N08800
B516	N06600
B517	N06600
B518	N06102
B519	N06102
B521	R05200
B521	R05240
B521	R05255
B521	R05400
B522 (I)	P00691
B522 (II)	P00692
B523	R60702
B523	R60704
B523	R60705
B524	A91350 ob
B524 (6201)	A96201
B531 (5005)	A95005
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B534	C17510
B535	N08330
B535	N08332
B536	N08330
B536	N08332
B540	P03350
B541	P00710
B543	C10800
B543	C12200
B543	C19400
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B543	C68700
B543	C70400
B543	C70600
B543	C71000
B543	C71500
B543	C71640
B543	C72200
B546	N08330
B546	N08332
B547 (1100)	A91100
B547 (3004)	A93004
B547 (5050)	A95050 ob
B547 (5052)	A95052
B547 (5083)	A95083
B547 (5086)	A95086
B547 (5154)	A95154
B547 (5454)	A95454
B547 (7072)	A97072
B548 (1060)	A91060
B548 (1100)	A91100
B548 (3004)	A93004
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B548 (5083)	A95083
B548 (5086)	A95086
B548 (5154)	A95154
B548 (5254)	A95254 ob
B548 (5454)	A95454
B548 (5456)	A95456
B548 (5652)	A95652 ob
B548 (6061)	A86061
B548 (Alclad 3003)	A83003
B549	A91350 ob
B550	R60701
B550	R60702
B550	R60704
B550	R60705
B551	R60702
B551	R60704
B551	R60705
B551	R60706
B552	C70600
B552	C71500
B552	C71640
B552	C72200
B560 (1)	L13911
B560 (2)	L13912

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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
B560 (3)	L13963
B561	P04980
B561 (99.95)	P04995
B562 (99.5)	P00025
B562 (99.95)	P00020
B562 (99.99)	P00015
B562 (99.995)	P00010
B563	P03440
B564	N04400
B564	N06022
B564	N06059
B564	N06110
B564	N06600
B564	N06625
B564	N06686
B564	N08031
B564	N08120
B564	N08367
B564	N08800
B564	N08810
B564	N08825
B564	N10276
B564	N10675
B564	N12160
B564	R20033
B569	C26000
B570	C17000
B570	C17200
B572	N06002
B572	N06230
B572	N12160
B572	R30556
B573	N10003
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B574	N06059
B574	N06455
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B575	N06455
B575	N06686
B575	N10276
B581	N06007
B581	N06030
B581	N06975
B581	N06985
B581 (pending)	N08031
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B582	N06030
B582	N06975
B582	N06985
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B584	C85700
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B584	C92600
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B584	C96800
B584 (formerly B132)	C86700
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B587	C27200
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B589 (99.95)	P03995
B591	C40500
B591	C40800 ob
B591	C40810
B591	C40850
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B591	C41500
B591	C42200
B591	C42500
B591	C42520
B591	C43000
B591	C43400
B592	C68800
B592	C69000 ob
B596	P00901
B599	N08700
B603 (I)	K92500
B603 (IIA)	K91870
B603 (IIB)	K92400
B603 (III)	K91670
B603 (IV)	K91470
B608	C61300
B608	C61400
B608	C70600
B608	C71500
B609	A91350 ob
B616 (99.80)	P05980
B616 (99.90)	P05981
B616 (99.95)	P05982
B617	P07900
B618 (201.0)	A02010
B618 (204.0)	A02040
B618 (208.0)	A02080 ob
B618 (222.0)	A02220 ob
B618 (242.0)	A02420
B618 (295.0)	A02950
B618 (319.0)	A03190
B618 (328.0)	A03280 ob
B618 (355.0)	A03550
B618 (356.0)	A03560
B618 (443.0)	A04430
B618 (514.0)	A05140
B618 (520.0)	A05200
B618 (535.0)	A05350
B618 (705.0)	A07050
B618 (707.0)	A07070
B618 (710.0)	A07100
B618 (712.0)	A07120
B618 (713.0)	A07130
B618 (771.0)	A07710
B618 (850.0)	A08500
B618 (851.0)	A08510
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B618 (A356.0)	A13560
B618 (B443.0)	A24430
B618 (C355.0)	A33550
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B619	R30556
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B622	N10276
B622	N10665
B622	N10675
B622	N12160
B622	R20033
B622	R30556
B623 (DHP)	C12200
B623 (DHPS)	C12300
B623 (DLP)	C12000
B623 (DPA)	C14200
B623 (DPTE)	C14500
B623 (STP)	C11400
B623 (STP)	C11500

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B623 (STP)	C11600
B624	C16200
B625	N08904
B625	N08925
B625	N08926
B625	N08932
B625	R20033
B626	N06002
B626	N06007
B626	N06022
B626	N06030
B626	N06059
B626	N06230
B626	N06455
B626	N06686
B626	N06975
B626	N06985
B626	N08031
B626	N08320
B626	N10001
B626	N10276
B626	N10665
B626	N10675
B626	N12160
B626	R20033
B626	R30556
B637	N07001
B637	N07080
B637	N07252
B637	N07500
B637	N07718
B637	N07750
B637	N07752
B638	C12000
B638	C12200
B638	C19200
B638	C19400
B638 (OFLP)	C10800
B638 (OFXLP)	C10300
B639 (661)	R30155
B639 (671)	R30816
B640	C10100
B640	C10300
B640	C10800
B640	C12000
B640	C12200
B640	C19200
B640	C19400
B641	C10300
B641	C10800
B641	C12000
B642	C21000
B643	C17200
B649	N08904
B649	N08925
B649	N08926
B649	R20033
B652	R04295
B653	R60702
B653	R60704
B653	R60705
B654	R04295
B655	R04295
B658	R60702
B658	R60704
B658	R60705
B661	M16710
B668	N08028
B669 (ZA-8)	Z35635
B669 (ZA-12)	Z35630
B669 (ZA-27)	Z35840
B670	N07718
B671	P06100
B672	N08700
B673	N08904
B673	N08925
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B674	N08904
B674	N08925
B674	N08926
B675	N08366
B675	N08367
B676	N08366
B676	N08367
B677	N08904
B677	N08925
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B686 (354.0)	A03540
B686 (A201.0)	A12010
B686 (A356.0)	A13560
B686 (A357.0)	A13570
B686 (C355.0)	A33550
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B691	N08366
B691	N08367
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B694	C22000
B694	C61550
B694	C66400
B694	C66410
B694	C71000
B698	C19200
B698	C19400
B698 (DLP)	C12000
B698 (Gilding-95%)	C21000
B698 (OFLP)	C10800
B698 (OFXLP)	C10300
B698 (Red Brass-85%)	C23000
B704	N06625
B704	N08825
B705	N06625
B705	N08825
B706	C69100
B708	R05240
B708	R05255
B708	R05400
B709	N08028
B710	N08330
B710	N08332
B711 (6201)	A96201
B716	C10300
B716	C10800
B718	N06333
B719	N06333
B720	N08310
B722	N06333
B723	N06333
B725	N02200
B725	N02202
B726	N06333
B729	N08020
B729	N08024
B729	N08026
B730	N02200
B730	N02202
B739	N08330
B739	N08332
B740	C72700
B740	C72900
B743	C10300
B743	C10800
B747	C15100
B749	L50042
B749	L51120
B749	L51121
B749	L51123
B750	Z38510
B751	N06600
B751	N06625
B752 (702C)	R60702
B752 (704C)	R60704
B752 (705C)	R60705
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B756	N06110
B757	N06110
B758	N06110
B759	N06110
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B763	C95800
B763	C97300
B763	C97600
B763	C97800
B763	C99400
B763	C99500

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B768	C17400 ob
B768	C17410
B770	C81400
B770	C82000
B770	C82200
B770	C82400
B770	C82500
B770	C82510
B770	C82600
B770	C82800
B770	C96700
B774 (291-325)	L54935
B778 (1350)	A91350 ob
B779 (1350)	A91350 ob
B791	Z35631
B791	Z35636
B791	Z35841
B792	Z30500
B792	Z34510
B793	Z35542
B793	Z35543
B800 (8017)	A98017
B800 (8030)	A98030
B800 (8076)	A98076
B800 (8130)	A98130
B800 (8176)	A98176
B800 (8177)	A98177 ob
B804	N08367
B805	N07773
B805	N07776
B805	N09777
B806	C87500
B806	C87800
B806	C95300
B806	C95400
B806	C95410
B806	C95500
B806	C95800
B815	R31233
B818	R31233
B843	M11634
B843	M11636
B843 (AZ 31D)	M11313
B853	S31905
B861	R56323
B861	R56404
B862	R56323
B862	R56404
B863	R56323
B863	R56404
B872	N09908
F 467/F 467M	R55111
F 468/F 468M	R55111
F 1108	R56406
F 1537	R31538
F 1537	R31539
F 1586	S31675
F 1713	R58130
F 1813	R58120
F1	N02205
F1	N02233
F1	N02270
F1 (Grade 3)	N02253
F3	N02205
F3	N02233
F3	N02270
F3 (Grade 3)	N02253
F4	N02233
F9	C10200
F9	C18200
F15	K94610
F29	K94101
F30 (42)	K94100
F30 (46)	K94600
F30 (48)	K94800
F30 (52)	N14052
F31	K94760
F67 (1)	R50250
F67 (2)	R50400
F67 (3)	R50550
F67 (4)	R50700
F68	C10100
F68	C46200
F72	P00016
F73 (Electronic Grade)	R07031
F75 (Cast)	R30075
F90	R30605
F96	C70690
F96	C71580
F96	C71590
F96	N04400
F96	N04404
F106 (TB Ag)	P07016
F136	R56401
F138	S31670
F138	S31673
F139	S31670
F139	S31673
F256 (I)	K91800
F256 (II)	K92801
F270	M18410
F288 (1A and 1B)	R07005
F290	N02211
F290	N03300
F290	R07005
F364 (1)	R03604
F364 (II)	R03603
F467	A92024
F467	A96262
F467	C27000
F467	C46200
F467	C46400
F467	C61400
F467	C63000
F467	C64200
F467	C65100
F467	C65500
F467	C66100
F467	C67500
F467	C71000
F467	C71500
F467 (1)	R50250
F467 (2)	R50400
F467 (4)	R50700
F467 (5)	R56401
F467 (7)	R52400
F467 (276)	N10276
F467 (335)	N10001
F467 (400)	N04400
F467 (405)	N04405
F467 (500)	N05500
F467 (510)	C51000
F467 (613)	C61300
F468	A92024
F468	C27000
F468	C46200
F468	C46400
F468	C61400
F468	C63000
F468	C64200
F468	C65100
F468	C65500
F468	C66100
F468	C67500
F468	C71000
F468	C71500
F468 (1)	R50250
F468 (2)	R50400
F468 (4)	R50700
F468 (5)	R56401
F468 (7)	R52400
F468 (276)	N10276
F468 (335)	N10001
F468 (400)	N04400
F468 (405)	N04405
F468 (500)	N05500
F468 (510)	C51000
F468 (613)	C61300
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F1684	K93603
New specification in ballot	Z46540
New specification in ballot	Z46541
New specification pending	N94620
New specification pending	N94630

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Cross Index of Commonly Known Documents Which Describe Materials Same as or Similar to These Covered by UNS Numbers

AWS (American Welding Society) NUMBERS

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A 5.21 (ERCNiCrMo-5A)	W86685
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A 5.21 (ERFe-2)	T74002
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A 5.21 (ERFe-5)	T74005
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A 5.33 (W-ZnAl-1)	Z30401
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A5.5 (E9015-B9)	W50425
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A5.7 (ERCuAl-A3)	C62400
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A5.11 (ENiCrFe-2)	W86133
A5.11 (ENiCrFe-3)	W86182
A5.11 (ENiCrFe-4)	W86134
A5.11 (ENiCrFe-7)	W86152
A5.11 (ENiCrMo-1)	W86007
A5.11 (ENiCrMo-2)	W86002
A5.11 (ENiCrMo3)	W86112
A5.11 (ENiCrMo-4)	W80276
A5.11 (ENiCrMo-5)	W80002
A5.11 (ENiCrMo-6)	W86620
A5.11 (ENiCrMo-7)	W86455
A5.11 (ENiCrMo-9)	W86985
A5.11 (ENiCrMo-10)	W86022
A5.11 (ENiCrMo-11)	W86030
A5.11 (ENiCrMo-12)	W86032
A5.11 (ENiCu-7)	W84190
A5.11 (ENiMo-1)	W80001
A5.11 (ENiMo-3)	W80004
A5.11 (ENiMo-7)	W80665
A5.12 (EWCe-2)	R07932
A5.12 (EWLa-1)	R07941
A5.12 (EWP)	R07900
A5.12 (EWTh-1)	R07911
A5.12 (EWTh-2)	R07912
A5.12(EWTh-3)	R07913 ob
A5.12 (EWZr-1)	R07920
A5.13 (ECoCr-A)	W73006
A5.13 (ECoCr-B)	W73012
A5.13 (ECoCr-C)	W73001
A5.13 (ECoCr-E)	W73021
A5.13 (ECuAl-B)	W60619
A5.13 (ECuAl-C)	W60625
A5.13 (ECuAl-D)	W61625
A5.13 (ECuAl-E)	W62625
A5.13 (ECuMnNiAl)	W60633
A5.13 (ECuNi)	W60715
A5.13 (ECuNiAl)	W60632
A5.13 (ECuSi)	W60656
A5.13 (ECuSn-C)	W60521
A5.13 (EFe-1)	W74001
A5.13 (EFe-2)	W74002
A5.13 (EFe-3)	W74003
A5.13 (EFe-4)	W74004
A5.13 (EFe-5)	W75110
A5.13 (EFe5-A)	W77710 ob
A5.13 (EFe5-C)	W77310 ob
A5.13 (EFe-6)	W77510
A5.13 (EFe-7)	W77610
A5.13 (EFeCr-A1)	W74510 ob
A5.13 (EFeCr-A1A)	W74011
A5.13 (EFeCr-A2)	W74012
A5.13 (EFeCr-A3)	W74013
A5.13 (EFeCr-A4)	W74014
A5.13 (EFeCr-A5)	W74015
A5.13 (EFeCr-A6)	W74016
A5.13 (EFeCr-A7)	W74017
A5.13 (EFeCr-A8)	W74018
A5.13 (EFeCr-E1)	W74211
A5.13 (EFeCr-E2)	W74212
A5.13 (EFeCr-E3)	W74213
A5.13 (EFeCr-E4)	W74214
A5.13 (EFeMn-A)	W79110
A5.13 (EFeMn-B)	W79310
A5.13 (EFeMn-C)	W79210
A5.13 (EFeMn-D)	W77410 ob
A5.13 (EFeMn-D)	W79410
A5.13 (EFeMn-E)	W79510
A5.13 (EFeMn-F)	W79610
A5.13 (EFeMnCr)	W79710
A5.13 (ENiCr-A)	W89604
A5.13 (ENiCr-B)	W89605
A5.13 (ENiCr-C)	W89606
A5.13 (ENiCrFeCo)	W83002
A5.13 (ENiCrMo-5A)	W80002
A5.13 (ERCCuSn-A)	W60518
A5.14 (ERNi-1)	N02061
A5.14 (ERNiCr-3)	N06082
A5.14 (ERNiCr-4)	N06072
A5.14 (ERNiCrCoMo-1)	N06617
A5.14 (ERNiCrFe-5)	N06062
A5.14 (ERNiCrFe-6)	N07092
A5.14 (ERNiCrFe-7)	N06052
A5.14 (ERNiCrMo-1)	N06007
A5.14 (ERNiCrMo-2)	N06002
A5.14 (ERNiCrMo-3)	N06625
A5.14 (ERNiCrMo-4)	N10276
A5.14 (ERNiCrMo-7)	N06455
A5.14 (ERNiCrMo-8)	N06975
A5.14 (ERNiCrMo-9)	N06985
A5.14 (ERNiCrMo-10)	N06022
A5.14 (ERNiCrMo-11)	N06030
A5.14 (ERNiCrMo-13)	N06059
A5.14 (ERNiCrWMo-1)	N06231
A5.14 (ERNiCu-7)	N04060
A5.14 (ERNiFeCr-1)	N08065
A5.14 (ERNiFeCr-2)	N07718
A5.14 (ERNiMo-1)	N10001
A5.14 (ERNiMo-2)	N10003
A5.14 (ERNiMo-3)	N10004
A5.14 (ERNiMo-7)	N10665
A5.14 (ERNiMo-8)	N10008
A5.14 (ERNiMo-9)	N10009
A5.15 (ENi-CI)	W82001
A5.15 (ENi-CI-A)	W82003
A5.15 (ENiCu-A)	W84001
A5.15 (ENiCu-B)	W84002
A5.15 (ENiFe-CI)	W82002
A5.15 (ENiFe-CI-A)	W82004
A5.15 (ENiFeMn-CI)	W82006
A5.15 (ENiFeT3-CI)	W82032
A5.15 (ERNi-CI)	N02215
A5.15 (ERNiFeMn-CI)	N02216
A5.15 (ESt)	K01520
A5.15 (RCI)	F10090
A5.15 (RCI-A)	F10091
A5.15 (RCI-B)	F10092
A5.16 (ERTi-1)	R50100
A5.16 (ERTi-2)	R50120
A5.16 (ERTi-3)	R50125
A5.16 (ERTi-4)	R50130
A5.16 (ERTi-5)	R56400
A5.16 (ERTi-5ELI)	R56402
A5.16 (ERTi-6)	R54522
A5.16 (ERTi-6ELI)	R54523
A5.16 (ERTi-7)	R52401
A5.16 (ERTi-9)	R56320
A5.16 (ERTi-9ELI)	R56321
A5.16 (ERTi-12)	R53401
A5.16 (ERTi-15)	R56210
A5.17 (EC 1)	W06041
A5.17 (EH10K)	K01210
A5.17 (EH11K)	K11140
A5.17 (EH12K)	K01213
A5.17 (EH14)	K11585
A5.17 (EL8)	K01008
A5.17 (EL8K)	K01009
A5.17 (EL12)	K01012
A5.17 (EM11K)	K01111
A5.17 (EM12)	K01112
A5.17 (EM12K)	K01113
A5.17 (EM13K)	K01313
A5.17 (EM14K)	K01314
A5.17 (EM15K)	K01515
A5.18 (E70C-3X)	W07703
A5.18 (E70C-6X)	W07706
A5.18 (ER70S-2)	K10726
A5.18 (ER70S-3)	K11022
A5.18 (ER70S-4)	K11132
A5.18 (ER70S-5)	K11357
A5.18 (ER70S-6)	K11140
A5.18 (ER70S-7)	K11125
A5.19 (ER AZ101A)	M11101
A5.19 (ER AZ61A)	M11611
A5.19 (ER AZ92A)	M11922
A5.19 (ER EZ33A)	M12331
A5.20 (E6xT-1)	W06601 ob
A5.20 (E6xT-11)	W06611 ob
A5.20 (E6XT-13)	W06613
A5.20 (E6xT-4)	W06604 ob
A5.20 (E6xT-5)	W06605 ob
A5.20 (E6xT-6)	W06606 ob
A5.20 (E6xT-7)	W06607 ob
A5.20 (E6xT-8)	W06608 ob
A5.20 (E7xT-1, E7xT-1M)	W07601
A5.20 (E7xT-10)	W07610
A5.20 (E7xT-11)	W07611
A5.20 (E7xT-12, E7xT-12M)	W07612
A5.20 (E7xT-13)	W07613

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A5.20 (E7xT-14)	W07614
A5.20 (E7xT-2, E7xT-2M)	W07602
A5.20 (E7xT-3)	W07603
A5.20 (E7xT-4)	W07604
A5.20 (E7xT-5, E7xT-5M)	W07605
A5.20 (E7xT-6)	W07606
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A5.20 (E7xT-8)	W07608
A5.20 (E7xT-9, E7xT-9M)	W07609
A5.21 (ECoCr-F)	R30002
A5.21 (EFe5-A)	W77710 ob
A5.21 (EFe5-C)	W77310 ob
A5.21 (EFeCr-A1)	W74510 ob
A5.21 (ERCFe-6)	W77530
A5.21 (ERCFeCr-A1A)	W74530
A5.21 (ERCNiCrMo-5A)	W80032
A5.21 (ERCoCr-A)	R30006
A5.21 (ERCoCr-B)	R30012
A5.21 (ERCoCr-C)	R30001
A5.21 (ERCoCr-E)	R30021
A5.21 (ERCoCr-F)	R30003
A5.21 (ERCuAl-A2)	C61800
A5.21 (ERCuAl-A3)	C62400
A5.21 (ERCuAl-C)	C62580
A5.21 (ERCuAl-D)	C62581
A5.21 (ERCuAl-E)	C62582
A5.21 (ERCuSi-A)	C65600
A5.21 (ERCuSn-A)	C51800
A5.21 (ERCuSn-D)	C52400
A5.21 (ERFe-1)	T74000
A5.21 (ERNiCr-A)	N99644
A5.21 (ERNiCr-B)	N99645
A5.21 (ERNiCr-C)	N99646
A5.21 (ERNiCrFeCo)	F46100
A5.21 (ERNiCrMo-5A)	N10002
A5.21 (RFe5-A)	W77730 ob
A5.22 (E307T-3)	W30733
A5.22 (E307T-x)	W30731
A5.22 (E308HMoT0-3)	W30830
A5.22 (E308LT-3)	W30837
A5.22 (E308LT-x)	W30835
A5.22 (E308MoLT-x)	W30838
A5.22 (E308MoT-x)	W30832
A5.22 (E308T-3)	W30833
A5.22 (E308T-x)	W30831
A5.22 (E309CbLT-3)	W30934
A5.22 (E309CbLT-x)	W30932
A5.22 (E309LMoTx-X)	W30938
A5.22 (E309LNiMoTx-X)	W30936
A5.22 (E309LT-3)	W30937
A5.22 (E309LT-x)	W30935
A5.22 (E309MoTx-X)	W30939
A5.22 (E309T-3)	W30933
A5.22 (E309T-x)	W30931
A5.22 (E310T-x)	W31031
A5.22 (E312T-x)	W31331
A5.22 (E316LKT0-3)	W31630
A5.22 (E316LT-3, E316LKT-3)	W31637
A5.22 (E316LT-x)	W31635
A5.22 (E316T-3)	W31633
A5.22 (E316T-x)	W31631
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A5.22 (E317LT-x)	W31735
A5.22 (E347T-3)	W34733
A5.22 (E347T-x)	W34731
A5.22 (E409T-x)	W40931
A5.22 (E410NiMoT-x)	W41036
A5.22 (E410NiTiT-x)	W41038
A5.22 (E410T-x)	W41031
A5.22 (E430T-x)	W43031
A5.22 (E502T-x)	W50231
A5.22 (E505T-x)	W50431
A5.22 (E2209T-3)	W39239
A5.22 (E2553T-3)	W39533
A5.23 (B2LR)	W52042
A5.23 (EA1)	K11222
A5.23 (EA1N)	K11122
A5.23 (EA2)	K11223
A5.23 (EA2N)	K11123
A5.23 (EA3)	K11423
A5.23(EA3K)	K21451
A5.23(EA3KN)	K21351
A5.23 (EA3N)	K11323
A5.23 (EA4)	K11424
A5.23 (EA4N)	K11324
A5.23 (EB 9)	S50482
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A5.23 (EB1N)	K10943
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A5.23 (EB2HN)	K23116
A5.23 (EB2N)	K11072
A5.23 (EB2RR)	K11173
A5.23 (EB3)	K31115
A5.23 (EB3LRN)	K31117
A5.23 (EB3N)	K31015
A5.23 (EB3RR)	K31116
A5.23 (EB5)	K12187
A5.23 (EB5N)	K12087
A5.23 (EB6)	S50280
A5.23 (EB6H)	S50180
A5.23 (EB6HN)	S50181
A5.23 (EB6N)	S50281
A5.23 (EB8)	S50480
A5.23 (EB8N)	S50481
A5.23 (EC-B8)	W50440
A5.23 (ECA1)	W17041
A5.23 (ECA1N)	W17141
A5.23 (ECA2)	W17042
A5.23 (ECA2N)	W17142
A5.23 (ECA3)	W17043
A5.23 (ECA3N)	W17143
A5.23 (ECA4)	W17044
A5.23 (ECA4N)	W17144
A5.23 (ECB 9)	W50442
A5.23 (ECB1)	W51040
A5.23 (ECB1N)	W51041
A5.23 (ECB2)	W52040
A5.23 (ECB2H)	W52240
A5.23 (ECB2HN)	W52241
A5.23 (ECB2N)	W52041
A5.23 (ECB3)	W53040
A5.23 (ECB3LRN)	W53043
A5.23 (ECB3N)	W53041
A5.23 (ECB3RR)	W53042
A5.23 (ECB4)	W53340
A5.23 (ECB4N)	W53341
A5.23 (ECB5)	W51340
A5.23 (ECB5N)	W51341
A5.23 (ECB6)	W50240
A5.23 (ECB6H)	W50140
A5.23 (ECB6HN)	W50141
A5.23 (ECB6N)	W50241
A5.23 (ECB8N)	W50441
A5.23 (ECF1)	W21150
A5.23 (ECF1N)	W21151
A5.23 (ECF2)	W20240
A5.23 (ECF2N)	W20241
A5.23 (ECF3)	W21140
A5.23 (ECF3N)	W21141
A5.23 (ECF4)	W20440
A5.23 (ECF4N)	W20441
A5.23 (ECF5)	W22540
A5.23 (ECF6)	W22640
A5.23 (ECF6N)	W22641
A5.23 (ECM1)	W21240
A5.23 (ECM1N)	W21241
A5.23 (ECM2)	W21340
A5.23 (ECM2N)	W21341
A5.23 (ECM3)	W22240
A5.23 (ECM3N)	W22241
A5.23 (ECM4)	W22440
A5.23 (ECM4N)	W22441
A5.23 (ECNi1)	W21040
A5.23 (ECNi1N)	W21041
A5.23 (ECNi2)	W22040
A5.23 (ECNi2N)	W22041
A5.23 (ECNi3)	W23040
A5.23 (ECNi3N)	W23041
A5.23 (ECNi4)	W21250
A5.23 (ECNi4N)	W21251
A5.23 (ECW)	W20140
A5.23 (EF1)	K11160
A5.23 (EF1N)	K11060
A5.23 (EF2)	K21450
A5.23 (EF2N)	K21350
A5.23 (EF3)	K21485
A5.23 (EF3N)	K21385
A5.23 (EF4)	K12048
A5.23 (EF4N)	K11948
A5.23 (EF5)	K41370
A5.23 (EF6)	K21135
A5.23 (EF6N)	K21035
A5.23 (EL12)	K01012
A5.23 (EL12N)	K00912
A5.23 (EM4N)	K20930
A5.23 (EM12K)	K01113
A5.23 (EM12KN)	K01013
A5.23 (ENi1K)	K11058
A5.23 (ENi1KN)	K10958
A5.23 (ENi1N)	K10940
A5.23 (ENi2)	K21010
A5.23 (ENi2N)	K20910
A5.23 (ENi3)	K31310
A5.23 (ENi3N)	K31210
A5.23 (ENi4)	K11485
A5.23 (ENi4N)	K11385
A5.23 (ENi5)	K11240
A5.23 (ENi5N)	K11241
A5.23 (ENil)	K11040
A5.23 (EW)	K11245
A5.24 (ERZr2)	R60702
A5.24 (ERZr3)	R60704
A5.24 (ERZr4)	R60705
A5.24 (ERZr4)	R60707 ob
A5.25 (EA3K-EW)	K10945
A5.25 (EH10K-EW)	K01010
A5.25 (EH11K-EW)	K11140
A5.25 (EH14-EW)	K11585
A5.25 (EM5K-EW)	K10726
A5.25 (EM12-EW)	K01112
A5.25 (EM12K-EW)	K01113
A5.25 (EM13K-EW)	K01313
A5.25 (EM15K-EW)	K01515
A5.25 (EWS-EW)	K11245
A5.25 (EWT1)	W06040
A5.25 (EWT2, EWT4)	W20140

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A5.25 (EWT3)	W22340
A5.26 (EG6xT1)	W06301
A5.26 (EG6xT2)	W06302
A5.26 (EG7xT1)	W07301
A5.26 (EG7xT2)	W07302
A5.26 (EGxxS-D2)	K10945
A5.26 (EGxxS-1)	K01313
A5.26 (EGxxS-2)	K10726
A5.26 (EGxxS-3)	K11022
A5.26 (EGxxS-5)	K11325 ob
A5.26 (EGxxS-6)	K11140
A5.26 (EGxxT-Ni1)	W21033
A5.26 (EGxxT-NM1)	W22334
A5.26 (EGxxT-NM2)	W22333
A5.26 (EGxxT-W)	W20131
A5.28 (E70C-B2L)	W52130
A5.28 (E70C-Ni2, E80C-Ni2)	W22030
A5.28 (E80C-A1)	W17030
A5.28 (E80C-B2)	W52030
A5.28 (E80C-Ni1)	W21030
A5.28 (E80C-Ni3)	W23030
A5.28 (E90C-B3)	W53030
A5.28 (E90C-B3L)	W53130
A5.28 (E90C-D2)	W19230
A5.28 (ER70S-A1)	K11235
A5.28 (ER80S-B2)	K20900
A5.28 (ER80S-B2L)	K20500
A5.28 (ER80S-D2, ER90S-D2)	K10945
A5.28 (ER80S-D3L)	K30560
A5.28 (ER80S-Ni2)	K21240
A5.28 (ER80S-Ni3)	K31240
A5.28 (ER80S-Nil)	K11260
A5.28 (ER90S-B3)	K30960
A5.28 (ER90S-B9)	S59180
A5.28 (ER100S-1)	K10882
A5.28 (ER110S-1)	K21015
A5.28 (ER120S-1)	K21030
A5.29 (E1xxT5-K4)	W22235
A5.29 (E6xT5-B8)	W50431
A5.29 (E6xT5-B8L)	W50430
A5.29 (E7xT4-K2)	W21234
A5.29 (E7xT5-A1)	W17035
A5.29 (E7xT6-Ni1)	W21036
A5.29 (E7xT7-K2)	W21237
A5.29 (E7xT8-K2)	W21238
A5.29 (E7XT8-Ni1)	W21038
A5.29 (E7xT8-Ni2)	W22038
A5.29 (E8xT1-A1)	W17031
A5.29 (E8xT1-B1)	W51031
A5.29 (E8xT1-B1L)	W51131
A5.29 (E8xT1-B2)	W52031
A5.29 (E8xT1-B2H)	W52231
A5.29 (E8XT1-B2L)	W52131
A5.29 (E8xT1-W2)	W20131
A5.29 (E8xT5-B2)	W52035
A5.29 (E8xT5-B2L)	W52135
A5.29 (E8xT5-B6)	W50231
A5.29 (E8xT5-B6L)	W50230
A5.29 (E8xT5-K1)	W21135
A5.29 (E8xT5-Ni1)	W21035
A5.29 (E8xT5-Ni2)	W22035
A5.29 (E9xT1-B3), (E10xT1-B3)	W53031
A5.29 (E9xT1-B3H)	W53231
A5.29 (E9xT1-B3L)	W53131
A5.29 (E9xT1-D1)	W19131
A5.29 (E9xT1-D3)	W19331
A5.29 (E9xT5-B3)	W53035
A5.29 (E9xT5-D2, E10xT5-D2)	W19235
A5.29 (E10xT1-K7)	W22051
A5.29 (E11xT1-K4)	W22231
A5.29 (E12xT1-K5)	W21631
A5.29 (E100T5-D2)	W10235 ob
A5.29 (ExxT1-K2)	W21231
A5.29 (ExxT1-K9)	W23230
A5.29 (ExxT1-Ni1)	W21031
A5.29 (ExxT1-Ni2)	W22031
A5.29 (ExxT5-K2)	W21235
A5.29 (ExxT5-Ni3)	W23035
A5.29 (ExxT8-K6)	W21048
A5.29 (ExxxT1-K3)	W21331
A5.29 (ExxxT5-K3)	W21335
A5.30 (IN6A)	N07092
A5.30 (IN52)	N06052
A5.30 (IN60)	N04060
A5.30 (IN61)	N02061
A5.30 (IN62)	N06062
A5.30 (IN67)	C71581
A5.30 (IN82)	N06082
A5.30 (IN308)	S30880
A5.30 (IN308L)	S30883
A5.30 (IN309)	S30980
A5.30 (IN309L)	S30983
A5.30 (IN310)	S31080
A5.30 (IN312)	S31380
A5.30 (IN316)	S31680
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A5.30 (IN348)	S34780
A5.30 (IN502)	S50280
A5.30 (IN515)	K20900
A5.30 (IN521)	K30960
A5.30 (INMs1)	K10726
A5.30 (INMs2)	K01313
A5.30 (INMs3)	K11140
A5.33	Z13005
A5.33	Z15005
A5.33 (CW-CoCrW)	W73136
A5.33 (CW-CoMoCr)	W73138
A5.33 (CW-CrFeB)	W74630
A5.33 (CW-CuSnSi)	W60658
A5.33 (CW-FeCr-1)	W41036
A5.33 (CW-FeCr-2)	W41039
A5.33 (CW-FeCr-3)	W42040
A5.33 (CW-FeCr-4)	W43070
A5.33 (CW-FeCrB)	W46440
A5.33 (CW-FeCrC-1)	W74532
A5.33 (CW-FeCrNiB)	W46540
A5.33 (CW-FeCrNiB)	W89640
A5.33 (CW-FeCrNiMoB)	W46640
A5.33 (CW-FeMnAl)	W79840
A5.33 (CW-FeVWC)	W77540
A5.33 (CW-FeWC)	W77640
A5.33 (CW-NiAlMo)	W89432
A5.33 (CW-NiCrAl)	W89341
A5.33 (CW-NiCrAlY)	W89343
A5.33 (CW-NiCrFe)	W87740
A5.33 (CW-NiCrMo)	W86142
A5.33 (CW-NiCrSiB)	W89740
A5.33 (CW-NiFeAl)	W89240
A5.33 (W-Al-1100)	A91100
A5.33 (W-Al-1350)	A91350 ob
A5.33 (W-Al-4043)	A94043
A5.33 (W-Al-4047)	A94047
A5.33 (W-Al-5356)	A95356
A5.33 (W-Al-Al2O3)	A71001
A5.33 (W-Cd)	L01950
A5.33 (W-CuSn)	C51800
A5.33 (W-CuZn-1)	C22000
A5.33 (W-CuZn-2)	C26800
A5.33 (W-CuZn-3)	C47000
A5.33 (W-FeC-1)	G10090
A5.33 (W-FeC-2)	H15220
A5.33 (W-FeC-3)	G10200
A5.33 (W-FeC-4)	G10750
A5.33 (W-FeC-5)	G10800
A5.33 (W-FeCrC)	T87510
A5.33 (W-FeCrMn)	T87515
A5.33 (W-FeCrNi-1)	S30481
A5.33 (W-FeCrNi-2)	S30280
A5.33 (W-FeCrNi-3)	S20281
A5.33 (W-FeCrNi-4)	S20280
A5.33 (W-FeCrNi-5)	S31680
A5.33 (W-FeCrNi-7)	S31681
A5.33 (W-FeCrNi-8)	S41683
A5.33 (W-FeCrNi-9)	S42080
A5.33 (W-FeNiCr)	T87520
A5.33 (W-Ni-2)	N02200
A5.33 (W-Ni-3)	N02202
A5.33 (W-NiAl-1)	N01001
A5.33 (W-NiAl-2)	N01002
A5.33 (W-NiCrFe-1)	N04405
A5.33 (W-NiCrFe-2)	N06078
A5.33 (W-NiCrFe-3)	N06004
A5.33 (W-NiCrMo)	N06021
A5.33 (W-NiCrTi)	N06070
A5.33 (W-NiCu-1)	N06076
A5.33 (W-NiCu-2)	N04406
A5.33 (W-Pb)	L50045
A5.33 (W-Pb-Sb)	L53105
A5.33 (W-PbSbSn)	L53465
A5.33 (W-Sn)	L13012
A5.33 (W-SnCuSb)	L13910
A5.33 (W-SnSbCu-1)	L13890
A5.33 (W-Ti)	R50120
A5.33 (W-Zn-1)	Z13001
A5.33 (W-Zn-2)	Z15001
A5.34 (ENiCr3T-X)	W86082
A5.34 (ENiCrFe1T-X)	W86132
A5.34 (ENiCrFe2T-x)	W86133
A5.34 (ENiCrFe3T-X)	W86182
A5.34 (ENiCrMo3T-X)	W86112
A5.34 (ENiCrMo4T-X)	W80276
A5.34 (ENiFeCr2T-X)	W87718
A533 (W-FeCrNi-6)	S31683
B2.2	A83003

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Cross Index of Commonly Known Documents Which Describe Materials Same as or Similar to These Covered by UNS Numbers

FEDERAL SPECIFICATION NUMBERS

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FEDERAL SPECIFICATIONS

CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
QQ-A-225/1	A91100
QQ-A-225/2	A93003
QQ-A-225/3	A92011
QQ-A-225/4	A92014
QQ-A-225/5	A92017
QQ-A-225/6	A92024
QQ-A-225/7	A95052
QQ-A-225/8	A96061
QQ-A-225/9	A97075
QQ-A-225/10	A96262
QQ-A-250/1	A91100
QQ-A-250/2	A93003
QQ-A-250/3	A82014
QQ-A-250/4	A92024
QQ-A-250/5	A82024
QQ-A-250/6	A95083
QQ-A-250/7	A95086
QQ-A-250/8	A95052
QQ-A-250/9	A95456
QQ-A-250/10	A95454
QQ-A-250/11	A96061
QQ-A-250/13, /18, /25, /26	A87075
QQ-A-250/14	A97178
QQ-A-250/15, /28	A87178
QQ-A-250/21	A97178
QQ-A-250/24	A97075
QQ-A-250/29	A92124
QQ-A-250/30	A92219
QQ-A-430	A91100
QQ-A-430	A92017
QQ-A-430	A92024
QQ-A-430	A92117
QQ-A-430	A92219
QQ-A-430	A93003
QQ-A-430	A95052
QQ-A-430	A95056 ob
QQ-A-430	A96053
QQ-A-430	A96061
QQ-A-430	A97050
QQ-A-430	A97075
QQ-A-430	A97178
QQ-A-430 (5005)	A95005
QQ-A-1876	A91100
QQ-A-1876	A91145
QQ-A-1876	A91235
QQ-B-575	C10100
QQ-B-575	C10200
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QQ-B-650	C10700
QQ-B-650	C11700
QQ-B-650	C12100
QQ-B-650	C14400 ob
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QQ-B-650 (BCuP-1)	C55180
QQ-B-650 (BCuP-2)	C55181
QQ-B-650 (BCuP-3)	C55281
QQ-B-650 (BCuP-4)	C55283
QQ-B-650 (BCuP-5)	C55284
QQ-B-650 (BCuP-6)	C55280
QQ-B-650 (BCuP-7)	C55282
QQ-B-650 (BCuZn-A)	C47000
QQ-B-650 (BCuZn-D)	C77300
QQ-B-654 (BAg-4)	P07400
QQ-B-654 (BAg-5)	P07453
QQ-B-654 (BAg-7)	P07563
QQ-B-654 (BAg-8a)	P07723
QQ-B-654 (BAg-9)	P07650
QQ-B-654 (BAg-10)	P07700
QQ-B-654 (BAg-13a)	P07560
QQ-B-654 (BAg-18)	P07600
QQ-B-654 (BAg-20)	P07301
QQ-B-654 (BAg-22)	P07490
QQ-B-654 (BAg-23)	P07850
QQ-B-654 (BCuP-5)	C55284
QQ-B-654 (IV)	P07500
QQ-B-654 (V)	P07501
QQ-B-654 (VI)	P07502
QQ-B-654 (VII)	P07450
QQ-B-654 (VIII)	P07350
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QQ-C-40 (D)	L51124
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QQ-C-390	C82500
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QQ-C-390 (D3)	C92300
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QQ-C-523	C86400
QQ-C-523	C86500
QQ-L-171	L50050
QQ-L-171	L50080
QQ-L-171 (C)	L51121
QQ-L-201	L50070
QQ-L-201 (C)	L51121
QQ-L-201 (D)	L51123
QQ-M-38	M11910
QQ-M-40	M11311
QQ-M-40	M11610
QQ-M-40	M11800
QQ-M-40	M13210
QQ-M-40	M15100
QQ-M-40	M16600
QQ-M-40	M18540
QQ-M-44	M11311
QQ-N-281	N04400
QQ-N-281	N04405
QQ-N-286	N05500
QQ-P-00428	P04995
QQ-S-571 (Ag1.5)	L50132
QQ-S-571 (Ag2.5)	L50151
QQ-S-571 (Ag5.5)	L50180
QQ-S-571 (Pb65)	L54851
QQ-S-571 (Pb70)	L54821
QQ-S-571 (Pb80)	L54711
QQ-S-571 (Sb5)	L13940
QQ-S-571 (Sn5)	L54322
QQ-S-571 (Sn10)	L54525
QQ-S-571 (Sn20)	L54712
QQ-S-571 (Sn30)	L54822
QQ-S-571 (Sn35)	L54852
QQ-S-571 (Sn40)	L54916
QQ-S-571 (Sn50)	L55031
QQ-S-571 (Sn60)	L13600
QQ-S-571 (Sn63)	L13630
QQ-S-571 (Sn70)	L13700
QQ-S-571 (Sn96)	L13961
QQ-S-700 (C1025)	G10250
QQ-S-700 (C1030)	G10300
QQ-S-700 (C1035)	G10350
QQ-S-700 (C1045)	G10450
QQ-S-700 (C1050)	G10500
QQ-S-700 (C1055)	G10550
QQ-S-700 (C1065)	G10650
QQ-S-700 (C1074)	G10740
QQ-S-700 (C1080)	G10800
QQ-S-700 (C1084)	G10840

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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
QQ-S-700 (C1085)	G10850
QQ-S-700 (C1086)	G10860
QQ-S-700 (C1095)	G10950
QQ-S-763	S31008
QQ-S-763	S41623
QQ-S-763	S44300
QQ-S-763 (202)	S20200
QQ-S-763 (302)	S30200
QQ-S-763 (304)	S30400
QQ-S-763 (304 L)	S30403
QQ-S-763 (305)	S30500
QQ-S-763 (309)	S30900
QQ-S-763 (310)	S31000
QQ-S-763 (316)	S31600
QQ-S-763 (316 L)	S31603
QQ-S-763 (317)	S31700
QQ-S-763 (321)	S32100
QQ-S-763 (347)	S34700
QQ-S-763 (403)	S40300
QQ-S-763 (405)	S40500
QQ-S-763 (410)	S41000
QQ-S-763 (414)	S41400
QQ-S-763 (420)	S42000
QQ-S-763 (429)	S42900
QQ-S-763 (430)	S43000
QQ-S-763 (440 A)	S44002
QQ-S-763 (440 B)	S44003
QQ-S-763 (440 C)	S44004
QQ-S-763 (446)	S44600
QQ-S-766 (201)	S20100
QQ-S-766 (202)	S20200
QQ-S-766 (301)	S30100
QQ-S-766 (302)	S30200
QQ-S-766 (304)	S30400
QQ-S-766 (304 L)	S30403
QQ-S-766 (305)	S30500
QQ-S-766 (309)	S30900
QQ-S-766 (310)	S31000
QQ-S-766 (316)	S31600
QQ-S-766 (316 L)	S31603
QQ-S-766 (321)	S32100
QQ-S-766 (347)	S34700
QQ-S-766 (348)	S34800
QQ-S-766 (410)	S41000
QQ-S-766 (420)	S42000
QQ-S-766 (429)	S42900
QQ-S-766 (430)	S43000
QQ-S-766 (446)	S44600
QQ-T-371	L13007
QQ-T-390	L05120
QQ-T-390	L13840
QQ-T-390	L13890
QQ-T-390	L13910
QQ-W-321	C21000
QQ-W-321	C22000
QQ-W-321	C23000
QQ-W-321	C24000
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QQ-W-321	C51000
QQ-W-321	C74500
QQ-W-321	C75200
QQ-W-321	C75700
QQ-W-321	C76400
QQ-W-321	C77000
QQ-W-343	C10100
QQ-W-343	C11500
QQ-W-390	N06600
QQ-W-428	K07001
QQ-Z-363	Z33520
QQ-Z-363	Z35531
WW-P-351	C23000
WW-P-377	C10200
WW-P-377	C10300
WW-P-377	C10800
WW-P-377	C11000
WW-P-377	C12000
WW-P-377	C12200
WW-P-460	C83600
WW-P-460	C84200
WW-P-460	C92200
WW-T-700/1	A91100
WW-T-700/2	A93003
WW-T-700/3	A92024
WW-T-700/4	A95052
WW-T-700/5	A95086
WW-T-700/6	A96061
WW-T-700/7	A97075
WW-T-725	C83600
WW-T-725	C83800
WW-T-725	C84400
WW-T-725	C92200
WW-T-791	C23000
WW-T-791	C26000
WW-T-791	C28000
WW-T-791	C33000
WW-T-799	C10200
WW-T-799	C12000
WW-T-799	C12200
WW-U-516	C83600
WW-U-516	C83800
WW-U-516	C84400
WW-V-1967	C82600
WW-V-1967	C82700
WW-V-1967	C82800
WW-V-1967	C83800
WW-V-1967	C85200
WW-V-1967	C85400
WW-V-1967	C85500
WW-V-1967	C86100
WW-V-1967	C86200
WW-V-1967	C86300
WW-V-1967	C86400
WW-V-1967	C86500
WW-V-1967	C86800
WW-V-1967	C87300
WW-V-1967	C87400
WW-V-1967	C90300
WW-V-1967	C92200
WW-V-1967	C92500
WW-V-1967	C94700
WW-V-1967	C94800
WW-V-1967	C95200
WW-V-1967	C95300
WW-V-1967	C95400
WW-V-1967	C95500
WW-V-1967	C95800
WW-V-1967	C96400

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MIL (Military Specification) NUMBERS

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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER

MIL

DOD-C-24689A (Alloy 20)	R30106
MIL-G--S-24149/2	A95083
MIL-W-85	A91100
MIL-W-85	A96061
MIL-W-85	A96063
MIL-W-85	C10100
MIL-W-85	C10200
MIL-W-85	C12000
MIL-W-85	C22000
MIL-S-645	K01602
MIL-S-870	J12520
MIL-S-980	K19964
MIL-S-980 (52100)	G52986
MIL-T-1368	N04400
MIL-B-2029	C10200
MIL-S-3039	K04600
MIL-T-3235	C10300
MIL-T-3235	C12000
MIL-T-3235	C12200
MIL-S-3289	G10350
MIL-S-3289	K02901
MIL-W-3318	C10100
MIL-W-3318	C10400
MIL-W-3318	C10700
MIL-C-3383	C22000
MIL-T-3520	G10200
MIL-T-3520	G10250
MIL-T-3595	C51000
MIL-F-3922	A02080 ob
MIL-F-3922	A02950
MIL-F-3922	A03550
MIL-F-3922	A03560
MIL-F-3922	A05180
MIL-F-3922	A13600
MIL-F-3922	A96061
MIl-F-3922 (C712.0)	A07110
MIL-F-3922 (D712.0)	A07120
MIL-S-4043	S30403
MIL-S-5000	G43400
MIL-S-5000	G43406
MIL-S-5059	S30200
MIL-S-5059 (301)	S30100
MIL-S-5059 (304)	S30400
MIL-S-5059 (316)	S31600
MIL-T-5066	G10250
MIL-S-5626	G41400
MIL-T-5695	S30400
MIL-S-6049	G87400
MIL-S-6050	G86300
MIL-S-6098	G87350
MIL-S-6709	K24065
MIL-W-6712	A91100
MIL-W-6712	A94043
MIL-W-6712	C10200
MIL-W-6712	C11000
MIL-W-6712	C22000
MIL-W-6712	C26800
MIL-W-6712	C46400
MIL-W-6712	C51000
MIL-W-6712	C61800
MIL-S-6758	G41300
MIL-B-6812	A92024
MIL-T-6845 (304)	S30400
MIL-I-7068 (I)	Z35543
MIL-I-7068 (II)	Z35542
MIL-S-7108	K32550
MIL-S-7393	G33106
MIL-S-7420	G52986
MIL-S-7720	S30200
MIL-S-7720 (316)	S31600
MIL-N-7786	N07750
MIL-B-7883 (BAg-1)	P07450
MIL-B-7883 (BAg-1a)	P07500
MIL-B-7883 (BAg-2)	P07350
MIL-B-7883 (BAg-3)	P07501
MIL-B-7883 (BAg-8)	P07720
MIL-B-7883 (BAg-8a)	P07723
MIL-B-7883 (BAg-13)	P07540
MIL-B-7883 (BAg-19)	P07925
MIL-B-7883 (BAg-23)	P07850
MIL-B-7883 (BAlSi-2)	A94343
MIL-B-7883 (BAlSi-3)	A94145
MIL-B-7883 (BAlSi-4)	A94047
MIL-B-7883 (BAlSi-5)	A94045
MIL-B-7883 (BCu-1)	C14180
MIL-B-7883 (BCuP-3)	C55281
MIL-B-7883 (BCuP-5)	C55284
MIL-B-7883 (BNi-1)	N99600
MIL-B-7883 (BNi-1a)	N99610
MIL-B-7883 (BNi-2)	N99620
MIL-B-7883 (BNi-3)	N99630
MIL-B-7883 (BNi-4)	N99640
MIL-B-7883 (BNi-5)	N99650
MIL-B-7883 (Mn-Ni-Co-B)	M26800
MIL-B-7883 (RBCuZn-A)	C47000
MIL-S-7947	G10950
MIL-S-7952	G10200
MIL-S-7952	G10250
MIL-T-8231	C65500
MIL-S-8503	G33106
MIL-S-8503	G61500
MIL-T-8504 (304)	S30400
MIL-T-8506 (304)	S30400
MIL-S-8559	G10950
MIL-S-8690	G86200
MIL-S-8699	K23080
MIL-R-8814	A92117
MIL-R-8814	A95056 ob
MIL-S-8840	S35000
MIL-S-8840	S35500
MIL-S-8844 (3)	K44220
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MIL-M-8917	M13210
MIL-S-8949	K24728
MIL-W-8957	K08700
MIL-S-8967	S43100
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MIL-S-10520	G10550
MIL-A-10841	M00995
MIL-A-10841	M00998
MIL-S-11310 (CS1005)	G10050
MIL-S-11310 (CS1006)	G10060
MIL-S-11310 (CS1008)	G10080
MIL-S-11310 (CS1010)	G10100
MIL-S-11310 (CS1012)	G10120
MIL-S-11310 (CS1017)	G10170
MIL-S-11310 (CS1018)	G10180
MIL-S-11310 (CS1020)	G10200
MIL-S-11310 (CS1022)	G10220
MIL-S-11310 (CS1025)	G10250
MIL-S-11310 (CS1030)	G10300
MIL-S-11310 (CS1040)	G10400
MIL-A-11356	J13025
MIL-S-11595 (ORD4150)	G41500
MIL-S-11713	G10690
MIL-S-11713 (2)	G10700
MIL-C-12168	C11000
MIL-S-12504	G10700
MIL-S-12504 (Mn-Cr-Mo)	K15747
MIL-S-12504 (Mn-Mo)	K17145
MIL-A-12545	A91100
MIL-A-12545	A92014
MIL-A-12545	A96061
MIL-A-12545	A96070
MIL-A-12545	A97075
MIL-A-12560	K11918 ob
MIL-E-13080 (MIL-307)	W30710
MIL-E-13080 (MIL-308)	W30821
MIL-A-13259	K91209
MIL-S-13282	P07015
MIL-B-13501	C41100
MIL-B-13501	C51000
MIL-B-13501	C54600 ob
MIL-B-13506	C98400
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MIL-T-15005	C71500
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MIL-T-15089	A92024
MIL-C-15345 (Alloy 22)	R30103
MIL-C-15726	C70600
MIL-C-15726	C71500
MIL-B-16166	C62300
MIL-B-16166	C63000
MIL-S-16216	K31820
MIL-S-16216	K32045

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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
MIL-S-16216 (HY80)	J42015
MIL-S-16216 (HY100)	J42240
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MIL-S-16788	G10400
MIL-S-16788 (C10)	G10950
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MIL-R-17131 (MIL-RCoCr-C)	R30001
MIL-R-17131 (MIL-RNiCr-B)	N99645
MIL-R-17131 (MIL-RNiCr-C)	N99646
MIL-V-17547	C92200
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MIL-E-19141 (MIL-FeMn-A)	W79110
MIL-E-19141 (MIL-I-A2a)	W75010
MIL-E-19141 (MIL-I-A2c)	W75110
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MIL-S-19434	G10350
MIL-S-19434	G98500
MIL-C-19654 (MIL-RCu-2)	C18980
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MIL-E-19933 (MIL-308, MIL-308Co)	S30880
MIL-E-19933 (MIL-308L, MIL-308CoL)	S30883
MIL-E-19933 (MIL-309, MIL-309Co)	S30980
MIL-E-19933 (MIL-310)	S31080
MIL-E-19933 (MIL-312, MIL-312Co)	S31380
MIL-E-19933 (MIL-316)	S31680
MIL-E-19933 (MIL-316L)	S31683
MIL-E-19933 (MIL-317)	S31780
MIL-E-19933 (MIL-318)	S31980
MIL-E-19933 (MIL-321)	S32180
MIL-E-19933 (MIL-347, MIL-347Co)	S34780
MIL-E-19933 (MIL-349)	S63197
MIL-E-19933 (MIL-410)	S41080
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MIL-B-20148	A94343
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MIL-E-21562 (EN61, RN61)	N02061
MIL-E-21562 (EN62, RN62)	N06062
MIL-E-21562 (EN64, RN64)	N05504
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MIL-E-21562 (RN7, EN67, RN67)	C71581
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MIL-E-21562 (RN69)	N07069
MIL-E-21562 (RN625, EN625)	N06625
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MIL-S-22141 (8735)	J13442
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MIL-E-22200/1 (MIL-8018-C3, MIL-8018-C3SR)	W21018
MIL-E-22200/1 (MIL-9018-M)	W21218
MIL-E-22200/1 (MIL-10018-M)	W21318
MIL-E-22200/1 (MIL-11018-M)	W21418
MIL-E-22200/2 (MIL-308, MIL-308Co)	W30810
MIL-E-22200/2, MIL-308HC	W30815
MIL-E-22200/2 (MIL-308L, MIL-308CoL)	W30813
MIL-E-22200/2 (MIL-309, MIL-309Co)	W30910
MIL-E-22200/2 (MIL-309Cb)	W30917
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MIL-E-22200/2 (MIL-310)	W31010
MIL-E-22200/2 (MIL-312)	W31310
MIL-E-22200/2 (MIL-316)	W31610
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MIL-E-22200/2 (MIL-330)	W88331
MIL-E-22200/2 (MIL-347, MIL-347Co)	W34710
MIL-E-22200/2 (MIL-347HC)	W34712
MIL-E-22200/2 (MIL-349)	W34910
MIL-E-22200/2 Type MIL-16-8-2	W36810
MIL-E-22200/3 (MIL-1N12)	W86112
MIL-E-22200/3 (MIL-3N12, MIL-3N12H)	W86132
MIL-E-22200/3 (MIL-3N1B)	W80001
MIL-E-22200/3 (MIL-3N1C)	W80002
MIL-E-22200/3 (MIL-3N1L)	W73605
MIL-E-22200/3 (MIL-3N1N)	W73155
MIL-E-22200/3 (MIL-4N11)	W82141
MIL-E-22200/3 (MIL-4N1A, MIL-4N1AH)	W86133
MIL-E-22200/3 (MIL-4N1W)	W80004
MIL-E-22200/3 (MIL-8N12, MIL-8N12H)	W86182
MIL-E-22200/3 (MIL-9N10)	W84190
MIL-E-22200/4 (MIL-CuNi)	W60715
MIL-E-22200/5 (MIL-10018-N1)	W22718
MIL-E-22200/8 (MIL-410)	W41010
MIL-E-22200/8 (MIL-502-15)	W50215
MIL-E-22200/8 (MIL-502-15L)	W50205
MIL-E-22200/8 (MIL-502-16)	W50216
MIL-E-22200/8 (MIL-502-16L)	W50206
MIL-E-22200/8 (MIL-502-1x-L)	W50213 ob
MIL-E-22200/8 (MIL-505-15)	W50415
MIL-E-22200/8 (MIL-505-16)	W50416
MIL-E-22200/8 (MIL-8015-B2)	W52015
MIL-E-22200/8 (MIL-8015-B2L)	W52115
MIL-E-22200/8 (MIL-8016-B2)	W52016
MIL-E-22200/8 (MIL-8018-B2)	W52018
MIL-E-22200/8 (MIL-8018-B2L)	W52118
MIL-E-22200/8 (MIL-9015-B3)	W53015
MIL-E-22200/8 (MIL-9015-B3L)	W53115
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MIL-E-22200/8 (MIL-9018-B3L)	W53118
MIL-E-22200/9 (MIL-14018-M1)	W23318
MIL-E-22200/10 (MIL-7018M)	W07018
MIL-E-22200/10 (MIL-10018-M1)	W21328
MIL-E-22200/10 (MIL-12018-M2)	W23228
MIL-E-22200/11 (MIL-14018-HT)	W26018
MIL-T-22214	C12200

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MIL-A-22771	A92219
Mil-A-22771	A94032
MIL-A-22771	A96061
MIL-A-22771	A96151
MIL-A-22771	A97039
MIL-A-22771	A97075
MIL-A-22771	A97175
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MIL-S-23008 (HY100)	J42240
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MIL-S-23009 (HY100)	J42240
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MIL-S-23195 (304 L)	S30403
MIL-S-23195 (347)	S34700
MIL-S-23195 (348)	S34800
MIL-S-23196 (304)	S30400
MIL-S-23196 (304 L)	S30403
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MIL-T-23227	N06600
MIL-N-23228	N06600
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MIL-I-23413 (MIL-61)	N02061
MIL-I-23413 (MIL-62)	N06062
MIL-I-23413 (MIL-67)	C71581
MIL-I-23413 (MIL-82)	N06082
MIL-I-23413 (MIL-308, MIL-308Co)	S30880
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MIL-I-23413 (MIL-310)	S31080
MIL-I-23413 (MIL-316)	S31680
MIL-I-23413 (MIL-316L)	S31683
MIL-I-23413 (MIL-348, MIL-348Co)	S34780
MIL-I-23413 (MIL-515)	K20900
MIL-I-23413 (MIL-521)	K30960
MIL-I-23413 (MIL-1100)	A91100
MIL-I-23413 (MIL-4043)	A94043
MIL-I-23431 (MIL-505)	S50280
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MIL-E-23765/1 (MIL-70S-3)	K11022
MIL-E-23765/1 (MIL-70S-4)	K11132
MIL-E-23765/1 (MIL-70S-5)	K11357
MIL-E-23765/1 (MIL-70S-6)	K11140
MIL-E-23765/1 (MIL-70S-7)	K11585
MIL-E-23765/1 (MIL-70S-8)	K11123
MIL-E-23765/1 (MIL-70S-8)	K11223
MIL-E-23765/1 (MIL-706-9)	K11423
MIL-E-23765/2 (MIL-80S-1)	K21485
MIL-E-23765/2 (MIL-80S-2)	K11423
MIL-23765/2 (MIL-80S-3)	K21451
MIL-E-23765/2 (MIL-100S-1)	K10882
MIL-E-23765/2 (MIL-110S-1)	K21015
MIL-E-23765/2 (MIL-120S-1), (MIL-120S-2)	K21030
MIL-E-23765/3 (MIL-CuAl-A2)	C61800
MIL-E-23765/3 (MIL-CuMnNiAl)	C63380
MIL-E-23765/3 (MIL- CuNiAl)	C63280
MIL-E-23765/3 (MIL-CuSi)	C65600
MIL-E-23765/3 (MIL-CuSn-C)	C52100
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MIL-E-23765/4 (MIL-EL12)	K01012
MIL-E-23765/4 (MIL-EL8)	K01008
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MIL-E-23765/4 (MIL-EM12K)	K01113
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MIL-S-24149/2	A95456
MIL-S-24149/5	A91100
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MIL-E-24355 (MIL-140S-1)	K31200
MIL-S-24371	K51255
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MIL-E-24403/1 (MIL-7xT-8)	W07608
MIL-E-24403/1 (MIL-8xT1-Ni1)	W21031
MIL-E-24403/1 (MIL-8xT8-Ni2)	W22031
MIL-E-24403/1 (MIL-70T-5)	W07605
MIL-E-24403/1 (MIL-70T-6)	W07606
MIL-E-24403/1 (MIL-71T-1A)	W07701
MIL-E-24403/1 (MIL-71T8-K6)	W21048
MIL-E-24403/1 (MIL-71T8-Ni1)	W21038
MIL-E-24403/2 (MIL-10xTx)	W23230
MIL-E-24403/2 (MIL-12xTx)	W24230
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MIL-N-24422	N26641
MIL-S-24451	K31820
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MIL-P-25995	A96063
MIL-C-26094	A91100
MIL-C-26094	A95005
MIL-C-26094	A95052
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MIL-F-39000 (C712.0)	A07110
MIL-F-39000 (D712.0)	A07120
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MIL-A-46118	A92219
MIL-S-46128	K23080
MIL-M-46143	M14142
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MIL-A-46173	K33370
MIL-S-46409 (1065)	G10650
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MIL-S-46850	K92810
MIL-S-46850	K92820
MIL-S-46850	K92890
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MIL-S-46889	S30115
MIL-A-47182	R30005
MIL-S-47262	T20811
MIL-T-50777	A92024
MIL-C-81021	C17500
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MIL-T-81556	R56400
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MIL-T-81556	R56620
MIL-T-81556	R56740
MIL-S-81591	S17400

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CROSS REFERENCE SPECIFICATIONS	UNIFIED NUMBER
MIL-S-81591 (IC-303)	J92511
MIL-S-81591 (IC-1030)	J03006
MIL-S-81591 (17-4)	J92150
MIL-S-81591 (302)	J92501
MIL-S-81591 (304)	J92610
MIL-S-81591 (304L)	J92620
MIL-S-81591 (310)	J94302
MIL-S-81591 (316)	J92810
MIL-S-81591 (321)	J92630
MIL-S-81591 (347)	J92640
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Alloy	UNS Number
0022	J01700
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0030	J03010
020	N08020
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1	J03502
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1	K14501
1	K19667
1	K23550
1	K32800
1	K91800
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1	S65007
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1½% Alclad One Side 2024	A82024
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8CA S34700
8F S30323
8FA S30323
8LN S30453
8LNA S30453
8M S31600
8MA S31600
8MN S31651
8MNA S31651
8P S30500
8PA S30500
8Q J14049
8R S20910
8R40 ..... S34709
8RA S20910
8RE10 ..... S31008
8T S32100
8TA S32100
9 ..... J13345
9 ..... J21610
9 ..... K22035
9 ..... R56320
9 ..... S50400
9B Solder L54250
9Cr-1Mo-V-Cb-N K91560
9Q J23055
10 ..... J22090
10 ..... J23015
10 ..... K23205
10 ..... R58030
10 ..... S38400
10 ..... S63014
10/90 Solder L54520
10B Solder L54520
10C C82000
10N S63015
10Q J24025
10W-2.5Zr R042711
11 ..... J12082
11 ..... K11789
11 ..... K42598
11 ..... R52401
11 Babbitt L13870
11 Brazing Sheet A83003
11C K11572
11Q J12094
12 ..... J22000
12 ..... K11757
12 ..... K51255
12 ..... R53400
12 Brazing Sheet A83003
12Cr-Al S40500
12L13 ..... G12134
12L14 ..... G12144
12Q J15048
13 ..... J13080
13 ..... K13051
13 ..... L53345
13 ..... L53346
13 ..... R53413
13Q J12048
13-8Mo S13800
13Cr-4Ni S41500
14 ..... J15580
14 ..... R53414
14-Karat Yellow Gold P00032
14-4PH J92240
14-8Mo S14800
14C C82200
14Q J13051
15 ..... L53520
15 ..... R53415
15A J19966
15B L54560
15B21H H15211
15B35H H15351
15B37H H15371
15B41H H15411
15B48H H15481
15B62H H15621
15Cr-5Ni S15500
15-5PH J92110
15-5PH S15500
15-7Mo S15700
15-15LC S21300
15/85 Solder L54560
16 ..... L52860
16 ..... R52402
16-18-2-H S16800
17 ..... R52252
17Cr-4Ni S17400
17Cr-7Ni S17700
17-4 ..... J92150
17-4 ..... J92200
17-4PH S17400
17-4PH S17480

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17-4PH W37410
17-4PH W37440
17-7PH S17700
17-7PH S17780
17-14-4LN S31726
17-22A K14675
18 ..... R56322
18Cr-2Mo S44400
18Cr-2Ni-12Mn S24100
18-2 ..... S44400
18-2FM S18200
18-2Mn S24100
18-3Mn S24000
18-4Mn W32440
18-5-11 ..... S32440
18-5-11 ..... W32410
18-8Mo S31600
18-8Ti S32100
18-9-LW S30430
18-9LW S30430
18-15 ..... S30600
18-15LCSi S30600
18-17LC S30601
18-18 Plus S28200
18-18-2 ..... S38100
19 ..... C87300
19 ..... L54510
19D S32001
19-9DL S63198
19-9DX S63199
19-9-W-Mo S63199
20 ..... F11401
20 ..... N08020
20 ..... R30106
20 ..... R58645
20B Solder L54711
20C C82500
20Cb3 ..... N08020
20Cb3 ..... W88021
20Cb3 Mod N08321
20CT C82500
20Mo4 ..... N08024
20Mo6 ..... N08026
20 Solder L54712
21 ..... K23477
21 ..... K31545
21 Brazing Sheet A86951
21C C82510
21Cr-6Ni-9Mn S21904
21-2N S63012
21-4N S63008
21-4N+Nb+W S63019
21-4NB S63019
21-6-9 ..... S21900
21-6-9 ..... S21980
21-6-9 ..... W32310
21-6-9 ..... W32340
21-6-9LC S21904
21-12 ..... S63016
21-12N S63017
21-55N S63007
22 ..... C95300
22 ..... K21590
22 ..... K24070
22 ..... N06022
22 ..... R30103
22B K21390
22B K21590
22 Brazing Sheet A86951
22C K21390
22Cr-13Ni-5Mn S20910
22D K21390
22L K21590
22-10-5 ..... S20980
22-10-5 ..... W32210
22-10-5 ..... W32240
22-13-5 ..... S20910
23 ..... C95410
23 ..... K24728
23-8N S63018
C C83600
25 ..... F11701
25-4-4 ..... S44635
25/75 Solder L54720
25A Solder L54720
25B L54721
25B Solder L54721
25C Solder L54722
25-6Mo N08926
26-1 ..... S44626
26-1Ti S44626
26-3-3 ..... S44660
28 ..... R56323
28-2-3.5 ..... S32803
28-4Mn S23980
29Cr-4Mo S44700
29-4 ..... S44700
29-4C S44735
29-4-2 ..... S44800
29-4-2C S44736
29-9 ..... S64299
30 ..... F12101
30 ..... K02502
30 Solder L54820
30B Solder L54821
30C Solder L54822
30/70 Solder L54820
31 ..... K32550
31 ..... N08031
32 ..... K44220
33 ..... K02502
33 ..... K14394
33 ..... R20033
35 ..... A04430
35 ..... A04431
35 ..... F12401
35/65 Solder L54850
35A Solder L54850
35B C82200
35B Solder L54851
35C C82200
35C Solder L54852
36 ..... K02502
38 ..... A02950
38 ..... A02952
39 ..... A02420
40 ..... F12803
40 ..... K02502
40A Solder L54915
40B Solder L54916
40C Solder L54918
40E A07120
40/60 Solder L54915
42 ..... K94100
44LN S31200
45 ..... F13101
45 ..... F13102
45 ..... K02507
45A Solder L54950
45B Solder L54951
45/55 Solder L54950
46 ..... K94600
46Fe-32Ni N08151
48 ..... K94800
50 ..... F13501
50-1 ..... K02303
50-2 ..... K02304
50-3 ..... K02305
50-4 ..... K02306
50A Solder L55030
50B Solder L55031
50B40 ..... G50401
50B40H H50401
50B44 ..... G50441
50B44H H50441
50B46 ..... G50461
50B46H H50461
50B50 ..... G50501
50B50H H50501
50B60 ..... G50601
50B60H H50601
50C C81800
50/50 Solder L55030
50Cr-50Ni R20500
51 ..... S41001
51B60 ..... G51601
51B60H H51601
52 ..... N14052

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52 ..... S42201
53 ..... K71040
55 ..... F13801
55 ..... K01800
55 ..... K02001
55 ..... K02202
55 ..... K02507
58 ..... K02301
59 ..... N06059
60 ..... F14101
60 ..... F14102
60 ..... K02100
60 ..... K02401
60 ..... K02402
60-30 ..... J03000
60/40 Brass,
2% Leaded C37710
60-40-18 ..... F32800
60A Solder L13600
60B Solder L13601
60Cr-40Ni R20600
61 ..... S35000
61-80 ..... K06100
62 ..... S17700
63 ..... S43100
63A Solder L13630
63B Solder L13631
65 ..... K02403
65 ..... K02404
65 ..... K02800
65 ..... K12001
65-35 ..... J03002
65-45-12 ..... F33100
68A A05180
70 ..... F14801
70 ..... J03503
70 ..... K02700
70 ..... K02701
70 ..... K03101
70-36 ..... J03501
70-40 ..... J02501
70A Solder L13700
70B Solder L13701
70C C81400
71 ..... K92820
72 ..... K92940
72C ..... C96700.
73 ..... K93120
74 ..... K91930
75 ..... K91940
77.5Cu-22.5Ni C71110
80 ..... F15501
80 ..... K12001
80-55-06 ..... F33800
81-89 ..... K07000
81 ..... K91122
81B45 ..... G81451
81B45H H81451
82 ..... K91283
83 ..... K91094
86B30H H86301
86B45 ..... G86451
86B45H H86451
88-10-2 Solder L54525
90/10 Copper nickel C70610
90-114 ..... K07301
94B15 ..... G94151
94B15H H94151
94B30 ..... G94301
94B30H H94301
94B40 ..... G94401
95TA Solder L13950
96TS Solder L13960
96.5TS Solder L13965
99.8 Pb L52510
99.5 Gold P00025
99.80 Palladium P03980
99.80 Rhodium P05980
99.90 Rhodium P05981
99.90 Silver P07015
99.95 Gold P00020
99.95 Palladium P04995
99.95 Platinum P04995
99.95 Rhodium P05982
99.95 Silver P07015
99.99 Gold P00015
99.99 Silver P07010
99.995 Gold P00010
100.1 ..... A01001
100-70-03 ..... F34800
105-85 ..... J31575
115 and over K07500
120-90-02 ..... F36200
130.1 ..... A01301
13 ..... K24065
150.1 ..... A01501
153MA S30415
160.1 ..... A01601
165C C82400
165CT C82400
170.1 ..... A01701
182-FM S18200
190 ..... L54370
200 ..... N02200
201 ..... N02201
201 ..... S20100
201.1 ..... A02010
201.2 ..... A02012
201L S20103
201LN S20153
202 ..... S20200
202.0 ..... A02020
202.2 ..... A02022
203 ..... S20300
203.0 ..... A02030
203.2 ..... A02032
203EZ S20300
204.0 ..... A02040
204.2 ..... A02042
205 ..... N02205
205 ..... S20500
206.0 ..... A02060
206.2 ..... A02062
208.0 ..... A02080
208.1 ..... A02081
211 ..... N02211
213.0 ..... A02130
213.1 ..... A02131
214 ..... A05140
214 ..... N07214
216 ..... S21600
216L S21603
220 ..... N02220
222.0 ..... A02220
222.1 ..... A02221
224.0 ..... A02240
224.2 ..... A02242
225 ..... N02225
226 ..... P03300
230 ..... N02230
233 ..... N02233
238.0 ..... A02380
238.1 ..... A02381
238.2 ..... A02382
240.0 ..... A02400
240.1 ..... A02401
242.0 ..... A02420
242.1 ..... A02421
242.2 ..... A02422
243.0 ..... A02430
243.1 ..... A02431
245C C82600
245CT C82600
249.0 ..... A02490
249.2 ..... A02492
253MA S30815
253MA W30816
254SMO S31254
255 ..... S32550
270 ..... N02270
275C C82800
275CT C82800
291-325 ..... L54935
295.0 ..... A02950
295.1 ..... A02951
295.2 ..... A02952
296.0 ..... A02960
296.1 ..... A02961

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296.2 ..... A02962
300M K44220
300M-8 ..... K44220
301 ..... S30100
301L S30103
301LN S30153
302 ..... J92501
302 ..... S30200
302B S30215
303 ..... A03840
303 ..... A30841
303 ..... S30300
303Al-Modified S30345
303Cu S30330
303MA S30345
303Pb S30360
303 Plus X S30310
303Se S30323
303 Super-X S30310
304 ..... J92610
304 ..... S30400
304B S30460
304B1 ..... S30461
304B2 ..... S30462
304B3 ..... S30463
304B4 ..... S30464
304B5 ..... S30465
304B6 ..... S30466
304B7 ..... S30467
304Cu S30430
304H S30409
304L J92620
304L S30403
304LHN S30454
304LN S30453
304N S30451
305 ..... A14130
305 ..... A14131
305 ..... S30500
305.0 ..... A03050
305.2 ..... A03052
306 ..... A13800
306 ..... A13801
306 ..... S30600
308 ..... A03080
308 ..... S30800
308.0 ..... A03080
308.1 ..... A03081
308.2 ..... A03082
309 ..... A13600
309 ..... A13601
309 ..... S30900
309Cb S30940
309H S30909
309HCb S30941
309S S30909
310 ..... A07120
310 ..... J94302
310 ..... S31000
310Cb S31040
310H S31009
310HCb S31041
310HCbN S31042
310MoLN S31050
310S S31008
311 ..... A07050
311 ..... A07051
312 ..... A07070
312 ..... A07071
313 ..... A07100
314 ..... A07110
315 ..... A07130
315 ..... A07131
316 ..... J92804
316 ..... S31600
316Cb S31640
316F S31620
316H S31609
316L S31603
316LHN S31654
316LN S31653
316N S31653
316Ti S31635
317 ..... S31700
317L S31703
317L4 ..... S31726
317LM S31725
317LMN S31726
317LN S31753
317LX S31725
317LXN S31726
318.0 ..... A03180
318.1 ..... A03181
319 ..... A03190
319.0 ..... A03190
319.1 ..... A03191
319.2 ..... A03192
320 ..... A05140
320.0 ..... A03200
320.1 ..... A03201
321 ..... J92630
321 ..... A03360
321 ..... S32100
321H S32109
322 ..... A03550
323 ..... A03560
323 ..... A03561
324 ..... A05200
324.0 ..... A03240
324.1 ..... A03241
324.2 ..... A03242
326 ..... A03190
326 ..... A03191
327 ..... A03280
327 ..... A03281
328.0 ..... A03280
328.1 ..... A03281
329 ..... A23190
329 ..... A23191
329 ..... S32900
330 ..... N08330
331 ..... A03330
332 ..... A03320
332 ..... A03321
332.0 ..... A03320
332.1 ..... A03321
332.2 ..... A03322
333 ..... A03330
333.0 ..... A03330
333.1 ..... A03331
335 ..... A33550
336 ..... A03360
336 ..... A13560
336.0 ..... A03360
336.1 ..... A03361
336.2 ..... A03362
339.0 ..... A03390
339.1 ..... A03391
343.0 ..... A03430
343.1 ..... A03431
347 ..... J92640
347 ..... S34700
347F S34720
347FSe S34723
347H S34709
348 ..... S34800
348H S34809
353MA S35315
355 ..... A03550
354.0 ..... A03540
354.1 ..... A03451
355.0 ..... A03550
355.1 ..... A03551
355.2 ..... A03552
356 ..... A03560
356.0 ..... A03560
356.1 ..... A03561
356.2 ..... A03562
357 ..... A03570
357.0 ..... A03570
357.1 ..... A03571
358.0 ..... A03580
358.2 ..... A03582
359.0 ..... A03590
359.2 ..... A03592
360 ..... R03600
360.0 ..... A03600
360.2 ..... A03602

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361 ..... R03610
361.0 ..... A03610
361.1 ..... A03611
363 ..... R03630
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363.1 ..... A03631
364 ..... R03640
364.0 ..... A03640
364.2 ..... A03642
365 ..... R03650
369.0 ..... A03690
369.1 ..... A03691
380 ..... A02960
380 ..... A03800
380.0 ..... A03800
380.2 ..... A03802
382 ..... A02010
383 ..... A03830
383 ..... A03831
383.0 ..... A03830
383.1 ..... A03831
383.2 ..... A03832
384 ..... S38400
384.0 ..... A03840
384.1 ..... A03841
384.2 ..... A03842
385.0 ..... A03850
385.1 ..... A03851
388 ..... C72650
390.0 ..... A03900
390.2 ..... A03902
392.0 ..... A03920
392.1 ..... A03921
393.0 ..... A03930
393.1 ..... A03931
393.2 ..... A03932
400 ..... N04400
401 ..... N04401
403 ..... S40300
404 ..... N04404
405 ..... N04405
405 ..... S40500
408.2 ..... A04082
409 ..... S40900
409.2 ..... A04092
409Ni S40975
410 ..... C97300
410 ..... J91152
410 ..... S41000
410Cb S41040
410L S41003
410NiMo S41086
410S S41008
411 ..... C97400
411.2 ..... A04112
412 ..... C97600
413.0 ..... A04130
413.2 ..... A04132
413B C97800
415 ..... S41500
415C+Ni C95410
415D C95500
415E C95600
415F C95700
415G C95800
416 ..... S41600
416L S41603
416 Plus-X S41610
416Se S41623
420 ..... J91201
420 ..... S42000
420ESR S42000
420F J91154
420F S42020
420FSe S42023
420L S42003
422 ..... J91422
422 ..... S42200
429 ..... S42900
430 ..... S43000
430F S43020
430FSe S43023
430Se S43023
430Ti K91800
430Ti S43036
431 ..... J91651
431 ..... S43100
434 ..... S43400
435.2 ..... A04352
436 ..... S43600
439 ..... S43035
439LT S43932
440A J91606
440A S44002
440B S44003
440C J91639
440C S44004
440F S44020
440FSe S44023
442 ..... S44200
443 ..... S44300
443.0 ..... A04430
443.1 ..... A04431
443.2 ..... A04432
444.0 ..... A04440
444.2 ..... A04442
445.2 ..... A04452
446 ..... S44600
446-1 ..... S44600
446-2 ..... S44600
485 ..... L51180
500 ..... N05500
502 ..... N05502
510 ..... C51000
511.0 ..... A05110
511.1 ..... A05111
511.2 ..... A05112
512.0 ..... A05120
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518.1 ..... A05181
518.2 ..... A05182
520.0 ..... A05200
520.2 ..... A05202
535.0 ..... A05350
535.2 ..... A05352
600 ..... N06600
601 ..... N06601
613 ..... C61300
615 ..... S41800
616 ..... S42200
617 ..... N06617
619 ..... S42300
625 ..... N06625
625LCF N06626
630 ..... S17400
631 ..... S17700
632 ..... S15700
633 ..... S35000
634 ..... S35500
635 ..... S17600
651 ..... S63198
654SMO S32654
660 ..... S66286
661 ..... R30155
662 ..... S66220
665 ..... S66545
671 ..... R30816
686 ..... N06686
690 ..... N06690
700Si S70003
702C R60702
704C R60704
705.0 ..... A07050
705.1 ..... A07051
705C R60705
705 ..... A07050
707 ..... A07070

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707.0 ..... A07070
707.1 ..... A07071
710.0 ..... A07100
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711.0 ..... A07110
711.1 ..... A07111
712.0 ..... A07120
712.2 ..... A07122
713.0 ..... A07130
713.1 ..... A07131
713 Tenzaloy A07131
744X S31100
746 ..... S63011
771.0 ..... A07710
772.2 ..... A07722
804 ..... N06804
850 ..... A08500
850.0 ..... A08500
850.1 ..... A08501
851 ..... A08510
851.0 ..... A08510
851.1 ..... A08511
852 ..... A08520
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852.1 ..... A08521
853.0 ..... A08530
853.2 ..... A08532
903 ..... Z33520
903 ..... Z33521
921 ..... Z35542
925 ..... Z35530
925 ..... Z35531
904L N08904
958 ..... J93404
990 Gold P00100
1005 ..... G10050
1006 ..... G10060
1008 ..... G10080
1009 ..... G10090
1010 ..... G10100
1011 ..... G10110
1012 ..... G10120
1015 ..... G10150
1016 ..... G10160
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1018 ..... G10180
1019 ..... G10190
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1020 ..... J02000
1020 ..... J02001
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1026 ..... G10260
1027 ..... G10270
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1033 ..... G10330
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1035 ..... A91035
1035 ..... G10350
1036 ..... G10360
1037 ..... G10370
1038 ..... G10380
1038H H10380
1039 ..... G10390
1040 ..... A91040
1040 ..... G10400
1040 ..... J04000
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1044 ..... G10440
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1045H H10450
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1080 ..... A91080
1080 ..... G10800
1084 ..... G10840
1085 ..... G10850
1086 ..... G10860
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1109 ..... G11090
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1135 ..... A91135
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B3N J31500
B3Q J31500
B-4 ..... J91149
B-4 ..... N10629
B4B K91353
B4C K91352
B4D K14072
B4N J41501
B4Q J41501
B5 ..... S50001
B6 ..... S41000
B6X S41000
B8 ..... S30400
B8A S30400
B8C S34700
B8CA S34700
B8F S30323
B8FA S30323
B8LN S30453
B8LNA S30453
B8M S31600
B8MA S31600
B8M2 ..... S31600
B8M3 ..... S31600
B8MLN S31653
B8MLNA S31653
B8MN S31651
B8MNA S31651
B8N S30451
B8NA S30451
B8P S30500
B8PA S30500
B8R S20910
B8RA S20910
B8T S32100
B8TA S32100
B11 ..... K11797
B16 ..... K14072
B21 ..... K14073
B24 ..... K24064
B24V K24070
B201.0 ..... A22010
B237.0 ..... A23570
B319.0 ..... A23190
B319.1 ..... A23191
B356.0 ..... A23560
B356.2 ..... A23562
B357.2 ..... A23572
B380.0 ..... A23800
B380.1 ..... A23801
B384.1 ..... A23841
B390.0 ..... A23900
B390.1 ..... A23901
B413.0 ..... A24130
B413.1 ..... A24131
B443.0 ..... A24430
B443.1 ..... A24431
B535.0 ..... A25350
B535.2 ..... A25352
Babbitt L13840
Babbitt L13870
Babbitt L13890
Babbitt L13910
Babbitt G L53480
BAg-1 ..... P07450
BAg-1a P07500
BAg-2 ..... P07350
BAg-2a P07300
BAg-3 ..... P07501
BAg-4 ..... P07400
BAg-5 ..... P07453
BAg-6 ..... P07503
BAg-7 ..... P07563
BAg-8 ..... P07720
BAg-8a P07723
BAg-9 ..... P07650
BAg-10 ..... P07700
BAg-13 ..... P07540
BAg-13a P07560
BAg-18 ..... P07600
BAg-19 ..... P07925
Bag-20 ..... P07301
BAg-21 ..... P07630
BAg-22 ..... P07490
BAg-23 ..... P07850
BAg-24 ..... P07505
BAg-25 ..... P07200
BAg-26 ..... P07250
BAg-27 ..... P07251
BAg-28 ..... P07401
BAg-33 ..... P07252
BAg-34 ..... P07380
BAg-35 ..... P07351
BAg-36 ..... P07454
BAg-37 ..... P07253
Bahnmetal Bearing L50810
Bahnmetal Bearing L50820
BAlSi-2 ..... A94343
BAlSi-3 ..... A94145
BAlSi-4 ..... A94047
BAlSi-5 ..... A94045
BAlSi-7 ..... A94004
BAlSi-9 ..... A94004
BAlSi-11 ..... A94104
BAu-1 ..... P00375
BAu-2 ..... P00800
BAu-3 ..... P00350
BAu-4 ..... P00820
BAu-5 ..... P00300
BAu-6 ..... P00700
B Cable Sheathing L52570
BCo-1 ..... R39001
BCu-1 ..... C14180
BCu-1x C14181
BCuP-1 ..... C55180
BCuP-2 ..... C55181
BCuP-3 ..... C55281
BCuP-4 ..... C55283
BCuP-5 ..... C55284
BCuP-6 ..... C55280
BCuP-7 ..... C55282
BCuZn-F C49080
BCuZn-G C26380
Beryllium Copper C17000
Beryllium Copper C17200
Beryllium Copper C17500
Beryllium Copper 20C C82500
Beryllium Copper 35B C82200
Beryllium Copper 35C C82200
Beryllium Copper 165C .. C82400

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Beryllium Copper 245C C82600
Beryllium Copper 275C C82800
BHT K06702
BMg-1 ..... M19001
BNi-1 ..... N99600
BNi-1a N99610
BNi-2 ..... N99620
BNi-3 ..... N99630
BNi-4 ..... N99640
BNi-5 ..... N99650
BNi-5a N99651
BNi-6 ..... N99700
BNi-7 ..... N99710
BNi-8 ..... N99800
BNi-9 ..... N99612
BNi-10 ..... N99622
BNi-11 ..... N99624
Brass 60% C28000
Brass 62% C35000
Brass 62% C35300
Brass, 62%, Med. Leaded C35000
Brass 63% C27400
Brass 64.5% C34000
Brass 64.5% C34200
Brass 65% C27000
Brass 66% C26800
Brass 70% C26000
Brass 80% C24000
Brass, 85%, Red C23000
Brass, Aluminum, Arsenical C68700
Brass, Extra High Leaded C35600
Brass, Forging C37700
Brass, Free-Cutting C36000
Brass, High Leaded C34200
Brass, High Leaded C35300
Brass, Leaded, Red C32000
Brass, Low Leaded C33000
Brass, Medium Leaded C34000
Brass, Medium Leaded C35000
Brass, Silicon, Red C69400
Brass, Tube, High Lead C33200
Brass,Tube, Low Leaded C33000
Brightray B N06004
Brightray C N06003
Brightray S N06003
Bronze 85% C23000
Bronze 87.5% C22600
Bronze 90% C22000
Bronze, Architectural C38500
Bronze, Architectural, Low Leaded C38000
Bronze, Phosphor C51800
Bronze ,1.25% E, Phosphor C50500
Bronze, 5% A, Phosphor C51000
Bronze, 8%C, Phosphor C52100
Bronze, 10%D, Phosphor C52400
Bronze, Low Fuming C68100
Bronze, Low Fuming (Ni) C68000
Bronze A, Manganese ... C67500
Bronze B, High Silicon ... C65500
Bronze B, Low Silicon ... C65100
Bronze B, Manganese ... C67000
Bronze B-1, Phosphor ... C54400
Bronze B-2, Phosphor ... C54400
Bullet Alloy L52725
Bullet Alloy, Lyman's 2 ... L53020
BVAg-0 ..... P07017
BVAg-6c P07507
BVAg-8 ..... P07727
BVAg-8b P07728
BVAg-18 ..... P07607
BVAg-29 ..... P07627
BVAg-30 ..... P07687
BVAg-31 ..... P07587
BVAg-32 ..... P07547
BVAg-32 ..... P07547
BVAu-2 ..... P00807
BVAu-4 ..... P00827
BVAu-7 ..... P00507
BVAu-8 ..... P00927
BVPd-1 ..... P03657
C J22092
C J91309
C K02007
C K02204
C K02401
C K02503
C K02702
C K02705
C K02801
C K03004
C K03501
C K03503
C K04500
C K04700
C K05802
C K07201
C K07701
C K08201
C K11511
C K11526
C K11538
C K12000
C K12033
C K12037
C K12039
C K12202
C K12320
C K12524
C K12554
C K31830
C K52440
C K93120
C Lead L50065
C Lead L51121
C, Manganese M29953
C1Q J12582
C2 ..... K03006
C2 ..... K03505
C2 ..... K03006
C-2 ..... R50400
C-2 ..... R52550
C-3 ..... R50550
C-3 ..... R52550
C3A K13643
C3B K14358
C3C K12033
C3D K12059
C3E K12254
C3F K12238
C5 ..... J42045
C-6 ..... R54520
C10 ..... G10950
C23 ..... J12080
C24 ..... J12094
C-110 ..... K01907
C355 ..... A33550
C355.0 ..... A33550
C355.1 ..... A33551
C355.2 ..... A33552
C356.0 ..... A33560
C356.2 ..... A33562
C357.0 ..... A33570
C357.2 ..... A33572
C380.0 ..... A33800
C380.1 ..... A33801
C384.0 ..... A33840
C384.1 ..... A33841
C443.0 ..... A34430
C443.1 ..... A34431
C443.2 ..... A34432
C1035 ..... G10350
C1050 ..... G10500
C1055 ..... G10550

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C1065 ..... G10650
C1084 ..... G10840
C1085 ..... G10850
C1086 ..... G10860
CA-2 Cast Tool Steel T90102
CA6NM J91540
CA6NM S41500
CA15 ..... J91150
CA28MWV J91422
CA40 ..... J91153
Cable Sheathing L50712
Cable Sheathing L50713
Cadmium L01xxx
Cadmium Copper C16200
Cadmium Copper, Deox C14300
Carpenter 7Mo Plus S32950
Carpenter 15-15LC S21300
Carpenter 20Cb3 ..... N08020
Carpenter 20Mo4 ..... N08024
Carpenter 20M06 ..... N08026
Carpenter 303 Al-Mod S30345
Cartridge Brass, 70% C26000
Cast 14-4 PH J92240
Cast 15-5 PH J92110
Cast 17-4 PH J92150
Cast 17-4 PH J92200
Cast 4130 ..... J13048
Cast 4140 ..... J14047
Cast 4330 Mod J23260
Cast 4335M J13432
Cast 4340 ..... J24055
Cast 4620 ..... J12093
Cast 8630 ..... J13049
Cast 8630 Mod J13050
Cast 8640 ..... J14048
Cast 8735 ..... J13442
Cast 52100 ..... J19965
Cast Alloy 958 ..... J93404
Cast CG6MMN J93790
Cast Durcomet 5 ..... J93900
Cast Durcomet 101 ..... J93900
Cast ESCOLOY J93345
Cast HY-80 ..... J42015
Cast HY-100 ..... J42240
Cast KCR-D183 ..... J93183
Cast KCR-D283 ..... J93550
Cast Nitralloy J24056
CB7Cu-1 ..... J92180
CB7Cu-2 ..... J92110
CB30 ..... J91803
CBS600 ..... K21940
CC50 ..... J92615
CD-2 Cast Tool Steel T90402
CD3MN J92205
CD4MCu J93370
CD-4MCuN J93372
CD-5 Cast Tool Steel T90405
CE-8N J92805
CE20N J92802
CE30.J J93423
Cerium E01xxx
CF Copper C10200
CF3 ..... J92500
CF3A J92500
CF3M J92900
CF-3 Modified J92700
CF3A J92500
CF3MN J92804
CF8 ..... J92600
CF8A J92600
CF8C J92710
CF8M J92900
CF10 ..... J92590
CF10MC J92171
CF10SMnN J92972
CF16F J92701
CF20 ..... J92602
CG6MMN J93790
CG-8M J93000
CG12 ..... J93001
CG27 ..... N09027
CH8 ..... J93400
CH10 ..... J93401
CH-12 Cast Tool Steel T90812
CH-13 Cast Tool Steel T90813
CH20 ..... J93402
CH21A Magnesium Alloy M18210
Chemical Lead L51120
Chromel N06010
Chromium Alloys R2xxxx
Chromium Copper C18200
Chromium Copper C18400
Chromium Copper 50C C81800
Chromium Copper 70C C81400
CHT K07701
CK3MCuN J93245
C Lead L50065
C Lead L51121
CK20 ..... J94202
CN3MN J94651
CN7M N08007
CN7MS J94650
CNS Valve Steel S63005
CO-1 Cast Tool Steel T91501
Cobalt Alloys R30xxx
Colmonoy 4 ..... N99644
Colmony 5 ..... N99645
Colmony 6 ..... N99646
Colmonoy 44 ..... N99644
Colmonoy 45 ..... N99645
Colmony 46 ..... N99646
Columbium (Niobium) Alloys R04xxx
Commercial Bronze, 90% C22000
Commercial Bronze, Leaded C31400
Commercial Bronze, Leaded, Nickel-Bearing C31600
Comp. 19 ..... C87300
Comp. 23 ..... C95410
Copper Cxxxxx
Copper-Nickel, 5% C70400
Copper-Nickel, 7% C70500
Copper-Nickel, 11% C70800
Copper-Nickel, 10% C70600
Copper-Nickel, 20% C71000
Copper-Nickel, 30% C71500
CP1 ..... J12521
CP2 ..... J11547
CP5 ..... J42045
CP5b J51545
CP7 ..... J61594
CP9 ..... J82090
CP11 ..... J12072
CP12 ..... J11562
CP12 ..... J82090
CP15 ..... J11522
CP21 ..... J31545
CP22 ..... J21890
CPCA-15 ..... J91150
CPCA-15 ..... J91171
CPF3 ..... J92500
CPF3A J92500
CPF3M J92800
CPF8A J92600
CPF8C J92710
CPF8M J92804
CPH8 ..... J93400
CPH20 ..... J93402
CPK20 ..... J94202
Cr 15 ..... S42500
CRH556 ..... R30556
Croloy 16-6PH S16600
Cromweld 3CR12 ..... S41003
Cronifer 1713LCN S31726
Cronifer 1812LCN S31653
Cronifer 1925LC N08020
Cronifer 2520nv S31008
Cronifer 2803Mo S32803
Cronifer 3718 ..... N08330
CRTP C11020
Cryogenic Tenelon S21460

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CS K01600
CS-5 Cast Tool Steel T91905
CS1005 ..... G10050
CS1006 ..... G10060
CS1008 ..... G10080
CS1010 ..... G10100
CS1012 ..... G10120
CS1017 ..... G10170
CS1018 ..... G10180
CS1020 ..... G10200
CS1022 ..... G10220
CS1025 ..... G10250
CS1030 ..... G10300
CT Metal L53470
CT Metal L53505
CT2MCoCu N26985
CU5MCuSiC N28825
Custom 450 ..... S45000
Custom 455 ..... S45500
Custom 630 ..... S17400
CW2M N26455
CW6M N30107
CW6MC N26625
CW12MW N30002
CX2MW N26022
CY5SnBiM N26055
CY40 ..... N06040
CY44A L13913
CZ12SiCu N22000
CZ-100 ..... N02100
D K02101
D K02505
D K02702
D K03011
D K04500
D K04700
D K05801
D K12037
D K12054
D K12059
D K12202
D K12529
D K23510
D K31718
D, Manganese M29450
D-1 ..... G10180
D1N J22092
D1N1 ..... J22092
D1N2 ..... J22092
D1N3 ..... J22092
D1Q J22092
D1Q1 ..... J22092
D1Q2 ..... J22092
D1Q3 ..... J22092
D-2 ..... F43000
D-2 Tool Steel T30402
D-2B F43001
D-2C F43002
D-2M F43010
D-3 ..... F43003
D-3 Tool Steel T30403
D-3A F43004
D-4 ..... F43004
D-4 Tool Steel T30404
D-5 ..... F43006
D-5 Tool Steel T30405
D-5B F43007
D-6 Alloy Steel K24728
D-7 Tool Steel T30407
D357.0 ..... A43570
D380.0 ..... A43800
D380.1 ..... A43801
D 979 ..... N09979
D4018 ..... F32800
D4512 ..... F33100
D5506 ..... F33800
D7003 ..... F34800
Depleted Uranium M08990
DH K03800
DH3 ..... K13650
DH32 ..... K11846
DH36 ..... K11852
DHP Copper C12200
DHP Copper C12300
DHPS Copper C12300
DHT K07701
DIN 17640 ..... L52555
Discaloy S66220
D Lead L51123
D Lead L51124
DLP Copper C12000
DLPS Copper C12100
DP1 ..... S31500
DP3 ..... S31260
DP3W S39274
DP6 ..... S32900
DP8 ..... S31803
DP11 ..... S32304
DP12 ..... S31260
DPA Copper C14200
DPTE Copper C14500
DS K01601
DTD 900 ..... R30404
DUMET K94101
Duracorr S41003
Duranickel 301 ..... N03301
Duratherm 477 ..... R30477
Duratherm 600 ..... R30600
Duratherm 700 ..... R30700
Duratherm 2602 ..... R30260
Durcomet 5 ..... J93900
Durcomet 101 ..... J92740
Dysprosium E46xxx
E K01801
E K02704
E K03012
E K04700
E K11695
E K12202
E K12254
E K14048
E K21604
E K32018
E, Manganese M29350
E1 ..... J91249
E1Q J42220
E2 ..... J91339
E2N J42065
E2Q J42065
E3N J91550
E-4 ..... S41050
E7Cr W50310
E7XT-13 ..... W07613
E16-8-2 ..... W36810
E70C-3X W07703
E70C-6X W07706
E209 ..... W32210
E219 ..... W32310
E240 ..... W32410
E307 ..... W30710
E307T-3 ..... W30733
E307T-x W30731
E308 ..... W30810
E308H W30810
E308L W30813
E308LT-3 ..... W30837
E308LT-x W30835
E308MoL W30820
E308MoL W30820
E308MoLT-x W30838
E308MoT-x W30822
E308T-3 ..... W30833
E308T-x W30831
E309. ..... W30910
E309Cb W30917
E309CbLT-3 ..... W30934
E309CbLT-x W30932
E309L W30913
E309LT-3 ..... W30937
E309LT-x W30935
E309Mo W30920
E309MoL W30820
E309T-3 ..... W30933
E309T-x W30931
E310 ..... W31010
E310Cb W31017
E310H W31015
E310Mo W31020

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E310T-x W31031
E312 ..... W31310
E312T-x W31331
E316 ..... W31610
E316H W31610
E316L W31613
E316LKT-3 ..... W31637
E316LT-3 ..... W31637
E316LT-x W31635
E317 ..... W31710
E317L W31713
E317LT-3 ..... W31737
E317LT---x W31735
E318 ..... W31910
E320 ..... W88021
E320LR W88022
E330 ..... W88331
E330H W88335
E347 ..... W34710
E347T-3 ..... W34733
E347T-x W34731
E349 ..... W34910
E383 ..... W88028
E385 ..... W88904
E409-x W40931
E410 ..... W41010
E410NiMo W41016
E410NiMoT-x W41036
E410NiTiT-x W41038
E430 ..... W43010
E430T-x W43031
E502 ..... W50210
E502T-x W50231
E505 ..... W50410
E630 ..... W34710
E1100 ..... A91100
E2209 ..... W39209
E2209T-3 ..... W39239
E2553 ..... W39553
E2553T-3 ..... W39533
E3003 ..... A93003
E3310 ..... G33106
E4043 ..... A94043
E4337 ..... G43376
E6010 ..... W06010
E6011 ..... W06011
E6012 ..... W06012
E6013 ..... W06013
E6019 ..... W06019
E6020 ..... W06020
E6022 ..... W06022
E6027 ..... W06027
E7010-A1 ..... W17010
E7010-P1 ..... W17110
E7011-A1 ..... W17011
E7014 ..... W07014
E7015 ..... W07015
E7015-A1 ..... W17015
E7015-C1L W22115
E7015-C2L W23115
E7016 ..... W07016
E7016-1 ..... W07116
E7016-A1 ..... W17016
E7016-C1L W22116
E7016-C2L W23116
E7018 ..... W07018
E7018-A1 ..... W17018
E7018-C1L W22118
E7018-C2L W23118
E7018-C3L W20918
E7018M W07018
E7018-W1 ..... W20018
E7018-1 ..... W07118
E7020-A1 ..... W17020
E7024 ..... W07024
E7024-1 ..... W07124
E7027 ..... W07027
E7027-A1 ..... W17027
E7048 ..... W07048
E7140 ..... K24065
E8010-P1 ..... W18110
E801X-B6L W50213
E8015-B2L W52115
E8015-B4L W53415
E8015-B6 ..... W50215
E8015-B6L W50205
E8015-B7 ..... W50315
E8015-B7L W50305
E8015-B8 ..... W50415
E8015-B8L W50405
E8016-B1 ..... W51016
E8016-B2 ..... W52016
E8016-B2L W52116
E8016-B5 ..... W51316
E8016-B6 ..... W50216
E8016-B6L W50206
E8016-B7 ..... W50316
E8016-B7L W50306
E8016-B8 ..... W50416
E8016-B8L W50406
E8016-C1 ..... W22016
E8016-C2 ..... W23016
E8016-C3 ..... W21016
E8016-C4 ..... W21916
E8016-D3 ..... W18016
E8018-B1 ..... W51018
E8018-B2 ..... W52018
E8018-B2L W52118
E8018-B6 ..... W50218
E8018-B6L W50218
E8018-B7 ..... W50318
E8018-B7L W50308
E8018-B8 ..... W50418
E8018-B8L W50408
E8018-C1 ..... W22018
E8018-C2 ..... W23018
E8018-C3 ..... W21018
E8018-C4 ..... W21918
E8018-D1 ..... W18118
E8018-D3 ..... W18018
E8018-NM1 ..... W21118
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E9015-C5L W25018
E9015-D1 ..... W19015
E9016-B3 ..... W53016
E9016-B9 ..... W50426
E9018-B3 ..... W53018
E9018-B3L W53118
E9018-B9 ..... W50428
E9018--D1 ..... W19018
E9018-D3 ..... W19118
E9018-M W21218
E9310 ..... G93106
E10015-D2 ..... W10015
E10016-D2 ..... W10016
E10016M W21216
E10018-D2 ..... W10018
E10018-M W21318
E10018-M1 ..... W21328
E11018-M W21428
E12018-M W22218
E12018-M2 ..... W23218
E12018-M2 ..... W23228
E50100 ..... G50986
E51100 ..... G51986
E52100 ..... G52986
E-A K02504
EA1 ..... K11222
EA1N K11122
EA2 ..... K11223
EA2N K11123
EA3 ..... K11423
EA3K K21451
EA3KN K21351
EA3N K11323
EA4 ..... K11424
EA4N K11324
EB1 ..... K11043
EB1N K10943
EB2 ..... K11172
EB2H K23016
EB2HN K23116
EB2N K11072
EB3 ..... K31115
EB3N K31015

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EB5 ..... K12187
EB5N K12087
EB6 ..... S50280
EB6H S50180
EB6HN S50181
EB6N S50281
EB8 ..... S50480
EB8N S50481
Eatonite N06005
Eatonite 3 ..... N06013
Eatonite 5 ..... N06015
Eatonite 6 ..... S68000
E-B K03005
EB2RR K11173
EB 9 ..... S50482
EB26-1 ..... S44627
E-Brite S44627
EC 1 ..... W06041
EC16-8-2 ..... W36840
EC19-10H W30440
EC209 ..... W32240
EC218 ..... W32540
EC219 ..... W32340
EC240 ..... W32440
EC307 ..... W30740
EC308 ..... W30840
EC308H W30840
EC308L W30843
EC308LSi W30848
EC308Mo W30850
EC308MoL W30853
EC308Si W30841
EC309 ..... W30940
EC309L W30943
EC309Mo W30950
EC309MoL W30953
EC309Si W30941
EC310 ..... W31040
EC312 ..... W31340
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EC320 ..... W88021
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EC410 ..... W41040
EC410NiMo W41046
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EC430 ..... W43040
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ECB2 ..... W52040
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ECB2HN W52241
ECB2N W52041
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ECB3LRN W53043
ECB3N W53041
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ECB4 ..... W53340
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ECB5N W51341
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ECB6HN W50141
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ECB 9 ..... W50442
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ECF1N W21151
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ECF3 ..... W21140
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ECF4N W20441
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ECoCr-B W73012
ECoCr-C W73001
ECoCr-E W73021
ECu W60189
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EFeMn-E W79510
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EH12K K01213
EH14 ..... K11585
EH32 ..... K11846
EH36 ..... K11852
EK30A M12300
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EL8 ..... K01008
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EL12 ..... K01012
Electrotype-General L52730
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EM12 ..... K01112
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ENiFe-CI W82002
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ENiFeT3-CI W82032
EQ21A M18330
ENi-1 ..... W82141
ENiCr-A W89604
ENiCr-B W89605
ENiCr-C W89606
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ENiMo-1 ..... W80001
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ER70S-6 ..... K11140
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ER308LSi S30888
ER308Mo S30882
ER308MoL S30886
ER308Si S30881
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ER309LSi S30988
ER309Mo S30982
ER309MoL S30986
ER309MoSiL S30989
ER309Si S30981
ER310 ..... S31080
ER312 ..... S31380
ER316 ..... S31680
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ER316L S31683
ER316LSi S31688
ER316Si S31681
ER317 ..... S31780
ER317L S31783
ER318 ..... S31980
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ER410 ..... S41080
ER410NiMo S41086
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ER505Si S50488
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ERCoCr-A R30006
ERCoCr-B R30012
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ERCoCr-E R30021
ERCoCr-F R30003
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ERCuAl-A2 ..... C61800
ERCuAl-A3 ..... C62400
ERCuAl-A1 ..... C61000
ERCuMnNiAl C63380
ERCuNi C71581
ERCuNiAl C63280
ERCuSi-A C65600
ERCuSn-A C51800
ERCuSn-C C52100
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ER EZ33A M12331
ERFe(C)-6 ..... W77530
ERNi-1 ..... N02061
ERNi-CI N02215
ERNiCr-3 ..... N06082
ERNiCr-4 ..... N06072
ERNiCr-A N99644
ERNiCr-B N99645
ERNiCr-C N99646
ERNiCrCoMo-1 ..... N06617
ERNiCrFe-5 ..... N06062
ERNiCrFe-6 ..... N07092
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ERNiCrMo-2 ..... N06002
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ERNiCrMo-4 ..... N10276
ERNiCrMo-7 ..... N06445
ERNiCrMo-8 ..... N06975
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ERNiCu-7 ..... N04060
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ERNiMo-1 ..... N10001
ERNiMo-2 ..... N10003
ERNiMo-3 ..... N10004
ERNiMo-7 ..... N10665
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ERTi-2 ..... R50120
ERTi-3 ..... R50125
ERTi-4 ..... R50130
ERTi-5 ..... R56400
ERTi-5ELI R56402
ERTi-6 ..... R54522
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EV-6 ..... S63018
EV-7 ..... S63007
EV-8 ..... S63008
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EV-12 ..... S63012
EV-13 ..... S63013
EV17 ..... S30430
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EWLa-1 ..... R07941
EWP R07900
EWTh-1 ..... R07911
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EWTh-3 ..... R07913
EWZr-1 ..... R07920
EX15 ..... G41200
EX24 ..... G41210
EX30 ..... G47150
EZ33A M12330
EZ33A M12331
F K03102
F K05200
F K11576
F K12238
F K14044
F, Manganese M29954
F Valve Steel S64006
F1 ..... K12520
F1 ..... K12822
F-1 ..... R50400
F-1 Tool Steel T60601
F-2 Tool Steel T60602
F2 ..... K12122
F-3 ..... R50550
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F5 ..... K41545
F6 ..... S41000
F6a S41000
F6NM S41500
F7 ..... S50100
F7 ..... S50300
F9 ..... K90941
F-9 ..... R56320
F-10 ..... S33100
F-11 ..... R52250
F11A K11572
F11B K11597
F11-1 ..... K11597
F11-2 ..... K11572
F12 ..... K11564
F-12 ..... R53400
F12-1 ..... K11562
F21 ..... K31545
F21a K31545
F21b K31830
F22 ..... K21590
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F22-1 ..... K21590
F44 ..... S31254
F45 ..... S30815
F46 ..... S30600
F47 ..... S31725
F48 ..... S31726
F50 ..... S31200
F91 ..... K91560
F304 ..... S30400
F304L S30403
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F309H S30909
F310 ..... S31000
F310H S31009
F316 ..... S31600
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F317 ..... S31700
F317L S31703
F321 ..... S32100
F321H S32109
F347H S34709
F348 ..... S34800
F348H S34809
F356.0 ..... A63560
F356.2 ..... A63562
Falc 100 ..... S32760
Falc 223 ..... S31803
Ferallium 255 ..... S32550
FM60. ..... N04060
FM82 ..... N06082
FN K11572
FP1 ..... K11522
FP2 ..... K11547
FP3b K21509
FP5 ..... K41545
FP7 ..... S50300
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FP21 ..... K31545
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FPA K02501
FPB K03006
FR K22035
FRHC Copper C11020
Frary Metal L50540
Frary Metal L50541
Frary Metal L50542
Frary Metal F50543
FRSTP Copper C12500
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FRSTP Copper C13000
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FXM-11 ..... S21904
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FXM-27Cb S44627
G K05200
G3 ..... N06985
G8A A05181
G1800 ..... F10004
G2500 ..... F10005
G2500a F10009
G3000 ..... F10006
G3500 ..... F10007
G3500b F10010
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G4000 ..... F10008
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G K03103
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H-13 Tool Steel T20811
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Hastelloy B W80001
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Hastelloy B-3 ..... N10675
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Hastelloy C N30002
Hastelloy C W80002
Hastelloy C-4 ..... N06455
Hastelloy C-4 ..... N26455
Hastelloy C-22 ..... N26022
Hastelloy C-22 ..... W86022
Hastelloy C-276 ..... N10276
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Hastelloy F N06001
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Hastelloy G-2 ..... N06975
Hastelloy G-3 ..... N06985
Hastelloy G-30 ..... N06030
Hastelloy G-30 ..... W86030
Hastelloy G-50 ..... N06950
Hastelloy H-9M N06920
Hastelloy N N10003
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Haynes 6B N07718
Haynes 20 Mod N08320
Haynes 25 ..... R30605
Haynes 36 ..... R30036
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Haynes 263 ..... N07263
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Haynes HR-120 ..... N08120
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HCM2S K41650
HC-30 ..... J92613
HD J93005
HD-35 ..... J93413
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HK J94224
HK-30 ..... J94203
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HK-40 ..... J94204
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HM21A M13210
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HN J94213
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HNV 8 ..... S42200
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HP9-4-20 ..... K91472
HP9-4-25 ..... K91122
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HT-50 ..... N08005
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HW-50 ..... N08001
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HX N06006
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HY-30 ..... K51255
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HY-80 ..... K31820
HY-100 ..... J42240
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I F10001
I K00100
I K03046
I K03300
I K06500
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I K24045
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I K91800
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I P00691
I Z32120
I Z35543
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IB F45001
IC F45002
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III Z32121
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Ingot 197 ..... C91000
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Ingot 205 ..... C90700
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Ingot 206 ..... C92700
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Ingot 210 ..... C90500
Ingot 215 ..... C92600
Ingot 220 ..... C92400
Ingot 225 ..... C90300
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Ingot 242 ..... C90200
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Ingot 403 ..... C85400
Ingot 405.1 ..... C85800
Ingot 405.2 ..... C85700
Ingot 410 ..... C97300
Ingot 411 ..... C97400
Ingot 412 ..... C97600
Ingot 413B C97800
Ingot 415A C95200
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Ingot 420 ..... C86400
Ingot 421 ..... C86500
Ingot 423 ..... C86200
Ingot 424 ..... C86300
Ingot 500A C87300
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Ingot 500D C87600
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Jewelry Bronze C26600
JS 700 ..... N08700
K K24045
K1A M18010
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K500 ..... N05500
Kapalloy L91090
KCR-D283 ..... J93550
Kirksite I Z35543
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KLF 125 ..... C64730
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Krupp K51210
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L1 ..... K02302
L2 ..... K03301
L-2 Tool Steel T61202
L3 ..... K12510
L-3 Tool Steel T61203
L4 ..... K12089
L5 ..... K20934
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L-6 Tool Steel T61206
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L8 ..... K42247
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L605 ..... W73605
LA141A M14141
Lanston Standard Case Alloy L53685
Lanthanum E58xxx
Lapelloy S42300
Lead, 1% Antimonial L52605
Lead, 2% Antimonial L52705
Lead, 3% Antimonial L52805
Lead, 4% Antimonial L52901
Lead, 4.5% Antimonial ... L52920
Lead, 6% Antimonial L53105
Lead, 8% Antimonial L53230
Lead, 9% Antimonial L53305
Lead, 11% Antimonial L53405
Lead, 15% Antimonial L53550
Lead, Bullet Alloy L52560
Lead, Bullet, Lyman's 2.. L53020
Lead, Chemical L51120
Lead, Chemical B L50090
Lead, Grade A L50050
Lead, Grade AA L50065
Lead, Grade B L50080
Lead, Grade B, Remelted L50070
Lead, Grade C L50065
Lead, Type III L50060
Lead, LME, Pure Lead ... L50025
LC1 ..... J12522
LC2 ..... J22500
LC2-1 ..... J42215
LC3 ..... J31550
LC4 ..... J41500
LCA J02504
LCB J03003
LCC J02505
LCST K01504
LF1 ..... K03009
LF2 ..... K03011
LF3 ..... K32025
LF5 ..... K13051
LF6 ..... K12202
LF9 ..... K22036
Linotype Alloy L53420
Linotype B L53455
Linotype Special L53425
Lithium L06xxx
LME L50025
LS141A M14142
Lutetium E68xxx
LZ145A M14145
M K11683
M-1 Tool Steel T11301
M1A M15100
M1B M15102
M1C M15102
M-2 Tool Steel T11303
M-3 Tool Steel Class 1 ... T11313
M-3 Tool Steel Class 2 ... T11323
M-4 Tool Steel T11304
M-6 Tool Steel T11306
M-7 Tool Steel T11307
M-10 Tool Steel T11310
M25S N24025
M-30 Tool Steel T11330
M-30C N24130
M-30H N24030
M-33 Tool Steel T11333
M-34 Tool Steel T11334
M-35-1 ..... N24135
M-35-2 ..... N04020
M-36 Tool Steel T11336
M-41 Tool Steel T11341
M-42 Tool Steel T11342
M-43 Tool Steel T11343
M-44 Tool Steel T11344
M-46 Tool Steel T11346
M-52 Tool Steel T11352
M-61 Tool Steel T11361
M62 Tool Steel T11362
M152 ..... S64152
M188 ..... W21380
M220C N03220
M252 ..... S64152
M1017 ..... G10170
M1025 ..... G10250
M1044 ..... G10440
M3210 ..... F20000
M4504 ..... F20001
M5003 ..... F20003
M7002 ..... F70004
M8501 ..... F20005
MA 956 ..... S67956
Magnesium Alloys M1xxx
Manganese Alloys M2xxx
Manganese Bronze A C67500
Manganese Bronze B C67000
MAR-M, Hf Mod N13246
MF202 ..... C50710
MIL-6A N07092
MIL-60 ..... N04060
MIL-62 ..... N06062
MIL-82 ..... N06082
MIL-1100 ..... A91100
MIL-3003 ..... A93003
MIL-4043 ..... A94043
MIL CuAl-A2 ..... C61800
MIL CuNiAl C63280
MIL CuSi C65600
Mischmetal E2xxxx
Mn-Cr-Mo K15747
Mn-Mo K17145
Moly Ascoloy S41500
Molybdenum Alloys R03xxx
Monel 400 ..... N04400
Monel 401 ..... N04401
Monel 404 ..... N04404
Monel 450 ..... C71500
Monel 502 ..... N05502
Monel FM60 ..... N04060
Monel K500 ..... N05500
Monel R405 ..... N04405
Monit S44635
Monotype Ordinary L53570
Mn-Ni-Co-B M26800
MP-35-N R30035
MP-159 ..... R30159
MT 431 ..... S43100
MT1015 ..... G10150
MT1020 ..... G10200
Multimet R30155
Muntz Metal, 60% C28000
Muntz Metal, Free-Cutting C37000
Muntz Metal, Leaded C36500
MVMA S30415
N1 ..... J02500
N2 ..... J03500
N-7M N30007
N-12MV N30012
N-155 ..... R30155
Naval Brass, 63.5% C46200
Naval Brass, Arsenical .. C46500
Naval Brass, High Leaded C48500
Naval Brass, Med. Leaded C48200
Naval Brass, Uninhibited C46400
Naval Brass Welding and Brazing Rod C47000
NAX 9115-AC K11914
Neodymium E69xxx
NIC 25 ..... S32200
NIC 42M N08042
NIC 52 ..... N06952
Nichrome N06004
Nichrome V N06003
Nickel 200 ..... N02200
Nickel 201 ..... N02201
Nickel 205 ..... N02205
Nickel 211 ..... N02211

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Nickel 220 ..... N02220
Nickel 225 ..... N02225
Nickel 230 ..... N02230
Nickel 233 ..... N02233
Nickel 270 ..... N02270
Nickel FM61 ..... N02061
Nickel Silver, 55-18 ..... C76700
Nickel Silver, 56.5-15 .... C76700
Nickel Silver, 65-10 ..... C74500
Nickel Silver, 65-12 ..... C75700
Nickel Silver, 65-15 ..... C75400
Nickel Silver, 65-18 ..... C75200
Nicrofer 45 ..... N06045
Nicrofer 3033 ..... R20033
Nicrofer 3228 NbCe S33228
Nicrofer 3620 Nb..... N08020
Nicrofer 3718 ..... N08330
Nicrofer 6025 HT..... N06025
NILO 36.....K93600
NILO 42.....K94100
NILO 48.....K94800
NILO K K94610
Nimonic 75 ..... N06075
Nimonic 80A..... N07080
Nimonic 90 ..... N07090
Nimonic 263 ..... N07263
Nimonic 901 ..... N09901
Niobium (Columbium)
Alloys.....R04xxx
Nirosta 4000.....S41008
Nirosta 4002.....S40500
Nirosta 4006.....S41000
Nirosta 4016.....S43000
Nirosta 4113.....S43400
Nirosta 4301.....S30400
Nirosta 4306.....S30403
Nirosta 4401.....S31600
Nirosta 4439.....S31726
Nirosta 4462.....S31803
Nirosta 4510.....S43035
Nirosta 4512.....S40900
Nirosta 4521.....S44400
Nirosta 4539..... N08904
Nirosta 4541.....S32100
Nirosta 4550.....S34700
Nirosta 4571.....S31635
Nirosta 4565S S34565
Ni-Span-C 902 ..... N09902
Nitralloy, Cast..... J24056
Nitriding Steel.....K24064
Nitronic 20.....S63018
Nitronic 30.....S20400
Nitronic 33.....S24000
Nitronic 40.....S21900
Nitronic 40.....S21904
Nitronic 50.....S20910
Nitronic 60 ..... S21800
Nitronic 60W..... S21880
Nitronic 60W..... W32540
NKCr22..... S31803
Nu Monit..... S44635
NV-2 .....G15470
NV-4 .....G31400
NV-5 .....G86450
NV 8 ..... S64007
O..... K05802
O-1 Tool Steel T31501
O-2 Tool Steel T31502
O-6 Tool Steel T31506
O-7 Tool Steel T31507
OFE Copper C10100
OFLP Copper C10800
OFS Copper C10400
OFS Copper C10500
OFS Copper C10700
OFXLP Copper..... C10300
Ohmaloy 30 ..... K91470
Ohmaloy 40 ..... K91470
ORD 4150 .....G41500
P K21650
P1 ..... K11522
P2 ..... K11547
P-2 Tool Steel.....T51602
P-3 Tool Steel.....T51603
P-4 Tool Steel.....T51604
P5b K51545
P5c K41245
P-5 Tool Steel.....T51605
P-6 Tool Steel.....T51606
P9 ..... S50400
P11 ..... K11597
P12 ..... K11562
P15 ..... K11578
P-20 Tool Steel.....T51620
P21 ..... K31545
P-21 Tool Steel.....T51621
P22 ..... K21590
P24 ..... K11597
P91 ..... K91560
Paliney No. 7 ..... P03300
Palladium Alloys P03xxx
Pb 65 .....L54851
Pb 70 .....L54821
Pb 80 .....L54711
Permanickel..... N03300
Pewter L13911
Pewter L13912
PH3 ..... N07773
PH6 ..... N07776
PH7 ..... N09777
PH 13-8 Mo S13800
PH 13-8 Mo S13889
PH 14-8 Mo..... S14800
PH 15-7 Mo..... S15700
PH 15-7 Mo..... S15780
PH 15-7 Mo..... S15789
Phosphor Bronze,
5% A C51000
Phosphor Bronze,
8%.....C52100
Phosphor Bronze,
10% D C52400
Phosphor Bronze
B-1 .....C53400
Phosphor Bronze B-2 ....C54400
Phynox.....R30008
Platinum Alloys P04xxx
Plutonium Alloys M05xxx
Praesodymium.....E78xxx
Promethium E78xxx
Project 70
Stainless 182FM..... S18200
PS59.....G51210
PS64.....G51190
PS65.....G51240
PY 1815A..... L13650
Pyromet 31 .....N07031
Pyromet 31V.....N07031
Pyromet 350 ..... S35000
Pyromet 355 ..... S35500
Pyrowear 53 ..... K71040
Pyrowear 675 ..... S42670
QE22A M18220
QE22A M18221
QH21A..... M18210
QH21A..... M18211
R100 ..... K12147
R206.0 ..... A02060
R242.0 ..... A02420
R295.0 ..... A02950
R355.0 ..... A03550
R356.0 ..... A03560
R405 .....N04405
RA85H S30615
RA330.....N08330
RA 330-04.....N08334
RA 330 Mod.....N08331
RA 330TX.....N08332
RA 333.....N06333
Rare Earth Metals.....Exxxxx
RBCuZn-A C47000
RBCuZn-C C68100
RBCuZn-D C77300
RCI..... F10090
RCI-A..... F10091
RCI-B..... F10092
RFe5-A W77730
RFeCr-A1 ..... W74530

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Rene 41 ..... N07041
Remanit 4462 ..... S31803
Remanit 4522 ..... S44400
RG45 ..... K00045
RG60 ..... K00060
RG65 ..... K00065
RHC Copper C11010
Rhodium Alloys R05xxx
RN6N N06076
RN64 ..... N05504
RN69 ..... N07069
RODAR K94610
Rules Monotype Alloy L53580
Safurex S32906
S-1 Tool Steel T41901
S-2 Tool Steel T41902
S-4 Tool Steel T41904
S-5 Tools Steel T41905
S-6 Tool Steel T41906
S-7 Tool Steel T41907
S19 ..... A03920
S19 ..... A03921
S590 ..... R30590
S-A K02504
SAF 2205 ..... S31803
SAF 2304 ..... S32304
SAF 2507 ..... S32750
SAFUREX S32906
Samarium E79xxx
Sanicro 28 ..... N08028
S-B K03005
SB5 Solder L13940
SB5 Solder L13950
SC-1 ..... S44660
SC174A A03900
SC174A A03902
SC174B A23900
SC174B A23901
Sea-Cure S44660
Sealmet 4 ..... K94710
SHAPES K02600
Silchrome 1 ..... S65007
Silchrome XB S65006
Silicon Alloys M3xxxx
Silver Alloys P07xxx
SM13CRS S41426
SM22Cr S31803
SM2035 ..... N08135
SM2050 ..... N06250
SM2060Mo N06060
SM2535 ..... N08535
SM2550 ..... N06255
Sn 2 Solder L54210
Sn 5 Solder L54322
Sn 10 Solder L54525
Sn 10A Solder L54520
Sn 10B Solder L54520
Sn 15 Solder L54560
Sn 20 Solder L54712
Sn 20A Solder L54711
Sn 20B Solder L54712
Sn 25A Solder L54720
Sn 25B Solder L54722
Sn 30 Solder L54822
Sn 30A Solder L54821
Sn 30B Solder L54822
Sn 35 Solder L54852
Sn 35A Solder L54851
Sn 35B Solder L54852
Sn 40 Solder L54916
Sn 40B Solder L54918
Sn 45 Solder L54981
Sn 60 Solder L13600
Sn 63 Solder L13630
Sn 70 Solder L13700
Sn 96 Solder L13961
Solder, 2% Tin L54210
Solder, 2% Tin Antimonial L54211
Solder, 5% Tin Antimonial L54321
Solder, 5/95 ..... L54320
Solder, 8% Tin Antimonial L54410
Solder, 10/90 ..... L54520
Solder, 15/85 ..... L54560
Solder, 88-10-2 ..... L54525
Solder, 20% Antimonial L54710
Solder, 25/75 ..... L54720
Solder, 30/70 ..... L54820
Solder, 35/65 ..... L54850
Solder, 40/60 ..... L54915
Solder 45/55 ..... L54950
Solder, 50/50 ..... L55030
SR50 ..... S32050
Stainless Steels ..... Sxxxxx
Stainless W S17600
Stellite 1 ..... R30001
Stellite 3 ..... R30103
Stellite 4 ..... R30404
Stellite 6 ..... R30006
Stellite 6 ..... R30106
Stellite 6 ..... W73006
Stellite 6B R30016
Stellite 12 ..... R30012
Stellite 12 ..... W73012
Stellite 21 ..... R30021
Stellite 23 ..... R30023
Stellite 27 ..... R30027
Stellite 30 ..... R30030
Stellite 31 ..... R30031
Stellite F R30002
Stellite Star J R30102
Stellite Star J R31001
Stereotype-Curved L57575
Stereotype-Flat L53530
Stereotype-General L53510
Stoody 1 API R31000
Stoody 41H N26641
STP Copper C11300
STP Copper C11400
STP Copper C11500
STP Copper C11600
SUH 11M S64004
SUH 11 Mod S64004
Super Invar K93500
SX S32615
Syncoben R30563
T1 ..... K11522
T-1 Tool Steel T12001
T1a K12023
T1b K11422
T2 ..... K11547
T-2 Tool Steel T12002
T4 ..... K31509
T-4 Tool Steel T12004
T5 ..... K41545
T-5 Tool Steel T12005
T5b K51545
T5c K41545
T-6 Tool Steel T12006
T7 ..... S50300
T-8 Tool Steel T12008
T9 ..... S50400
T11 ..... K11597
T12 ..... K11562
T-15 Tool Steel T12015
T17 ..... K12047
T21 ..... K31545
T22 ..... K21590
T201L S20103
T201LN S20153
TA54A M18540
Tantalum Alloys R05xxx
TBAg Silver P07016
Tenelon S21400
Terbium E85xxx
Thulium E87xxx
Tin Alloys L13xxx
Tin, Pig L13008
Titanium Alloys R5xxxx
Tool Steels ..... Txxxxx
TP201 ..... S20100
TP202 ..... S20200
TP304 ..... S30400
TP304H J92590
TP304H S30409

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TP304L S30403
TP304LN S30453
TP304N S30451
TP305 ..... S30500
TP309Cb S30940
TP309H S30909
TP309HCb S30941
TP309S S30908
TP310Cb S31040
TP310H S31009
TP310HCb S31041
TP310S S31008
TP316H J92920
TP316 ..... S31600
TP316H S31609
TP316L S31603
TP316LN S31653
TP316N S31651
TP317 ..... S31700
TP317L S31703
TP321 ..... S32100
TP321H S32109
TP347 ..... S34700
TP347H J92660
TP347H S34709
TP348 ..... S34800
TP348H S34809
TP409 ..... S40900
TP439 ..... S43035
TPA Valve Steel S66099
TPM N07002
TPXM-10 ..... S21900
TPXM-11 ..... S21903
TPXM-15 ..... S38100
TPXM-19 ..... S20910
TPXM-27 ..... S44627
TPXM-29 ..... S24000
TPXM-33 ..... S44626
Tribaloy T-400 ..... R30400
TrimRite S42010
Tungsten (Wolfram) Alloys R07xxx
U-60-30 ..... J02500
U500 ..... M26800
U K04700
Udimet 500 ..... N07500
ULTIMET R31233
UR 35N S32304
UR 45N S31803
UR 47N S31260
Uranium Alloys M08xxx
Uranus 50 ..... S32404
Uranus 50 ..... S39240
Uranus 52N+ S32550
Uranus B66 ..... S31266
UR B6 ..... N08904
Usinor 290Mo S44735
USS 18-18-2 ..... S31800
V K22035
V P07501
V-1 ..... K13047
VI P07502
V-4 ..... K13547
V-5 ..... K13548
VF3 ..... N06005
VF-3 ..... R30006
VF4 ..... N06782
VF-5 ..... R30002
VF-6 ..... R30001
VF-7 ..... R30012
VF-8 ..... R30400
VF9 ..... N06013
VF10 ..... N06015
VI K11835
VI K31820
VI P07502
VII K24055
VII P07450
VIII G41370
VIII G41420
VIII G41470
VIII P07350
VS 22 ..... S31803
W-1 Tool Steel T72301
W-2 Tool Steel T72302
W-5 Tool Steel T72305
W545 ..... S66545
W Alloy 3350 ..... P03300
Waspaloy N07001
WC1 ..... J12524
WC4 ..... J12082
WC6 ..... J12072
WC9 ..... J21890
WC11 ..... J11872
WCA J02502
WCA J02504
WCB J03002
WCB J03003
WCC J02503
WCC J02505
WE54A M18410
White Metal Bearing Alloy L53320
White Metal Bearing Alloy L53565
White Metal Bearing Alloy L53585
Wolfram (Tungsten Alloys) R07xxx
WP1 ..... K12821
WP5 ..... K41545
WP9 ..... K90941
WP12 ..... K10262
WP22 ..... K21590
WP304LN S30453
WP316LN S31653
WP429 ..... S42900
WP430 ..... S43000
WP446 ..... S44600
WPB K03006
WPC K03501
WR K22035
X33CrNiMnN 23-8 ..... S63018
X45CrSi 9-3 ..... S65007
X50CrMnNiNbN 21-9 ..... S63019
X53CrMnNiN 21-9 ..... S63008
X-782 ..... N06782
X2094 ..... A92094
X2095 ..... A92095
X7093 ..... A97093
X8019 ..... A98019
XB Valve Steel S65006
XEV-1 ..... N07718
XEV3 ..... R56401
XEV-4 ..... N07001
XEV5 ..... R56401
XEV-F S63919
XM-1 ..... S20300
XM-2 ..... S30345
XM-3 ..... S30360
XM-5 ..... S30310
XM-6 ..... S41610
XM-7 ..... S30430
XM-8 ..... S43036
XM-9 ..... S36200
XM-10 ..... S21900
XM-11 ..... S21904
XM-12 ..... S15500
XM-13 ..... S13800
XM-14 ..... S21460
XM-15 ..... S38100
XM-16 ..... S45500
XM-17 ..... S21600
XM-18 ..... S21603
XM-19 ..... S20910
XM-21 ..... S30452
XM-25 ..... S45000
XM-26 ..... S31100
XM-27 ..... S44627
XM-28 ..... S24100
XM-29 ..... S24000
XM-30 ..... S41040
XM-31 ..... S21400
XM-32 ..... S64152
XM-33 ..... S44626
XM-34 ..... S18200
YC135A L13820
YT155A L53560

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Ytterbium..... E88xxx
Yttrium..... E9xxxx
YUS 190L.....S44400
ZA-8 .....Z35635
ZA-6 .....Z35636
ZA8.....Z35635
ZA8.....Z35636
ZA-12 .....Z35630
ZA-12 .....Z35631
ZA-27 .....Z35840
ZA-27 .....Z35841
ZC63 ..... M16631
ZC63A..... M16630
ZE10A M16100
ZE41A M16410
ZE41A M16411
Zeron 100..... J93380
Zeron 100.....S32760
ZH62A..... M16620
ZH62A..... M16621
Zinc Alloys.....Zxxxxx
Zinc, High Grade.....Z15001
Zinc, Prime Western Z19001
Zinc, Special
High Grade.....Z13001
Zirconium Alloys..... R6xxxx
Zn 0.06Pb-0.06Cb.....Z21220
Zn 0.08Pb.....Z21210
Zn 0.3Pb.....Z21540
Zn 0.8Cu Z40330
Zn 0.8Cu-0.15Ti Z41320
Zn-1Cu Z44330
Zn-1Cu-0.01Mg.....Z45330
ZnAl4Cu3 .....Z35542
ZK21A M16210
ZK40A M16400
ZK51A M16510
ZK51A M16511
ZK60A M16600
ZK60B M16601
ZK61A M16610
ZK61A M16611

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Appendix

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The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE RECOMMENDED PRACTICE

Submitted for recognition as an American National Standard

SAE J1086 and ASTM E 527 | REV. JUL95

Issued 1974-08
Revised 1995-07

Superseding J1086 DEC92

NUMBERING METALS AND ALLOYS

UNS designations shall not be used for metals and alloys which are not registered under the system described herein, or for any metal or alloy whose composition differs from those registered.

1. Scope

1.1 This SAE Recommended Practice describes a unified numbering system (UNS) for metals and alloys which have a "commercial standing" (see 6.1), and covers the procedure by which such numbers are assigned.

Section 2 describes the system of alphanumeric designations or "numbers" established for each family of metals and alloys.

Section 3 outlines the organization established for administering the system.

Section 4 describes the procedure for requesting number assignment to metals and alloys for which UNS numbers have not previously been assigned.

1.2 The UNS provides a means of correlating many nationally used numbering systems currently administered by societies, trade associations, and individual users and producers of metals and alloys, thereby avoiding confusion caused by use of more than one identification number for the same material; and by the opposite situation of having the same number assigned to two or more entirely different materials. It provides, also, the uniformity necessary for efficient indexing, record keeping, data storage and retrieval, and cross referencing.

1.3 *A UNS number is not in itself a specification,* since it establishes no requirements for form, condition, quality, etc. It is a unified identification of metals and alloys for which controlling limits have been established in specifications published elsewhere. (See 6.2.)

2. References

2.1 Related Publications—The following publications are provided for information purposes only and are not a required part of this document.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE HS-1086–Metals and Alloys in the Unified Numbering System

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2.1.2 ASTM PUBLICATIONS—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM E 527—Practice for Numbering Metals and Alloys (UNS)

ASTM Publication No. DS-56—Metals and Alloys and the Unified Numbering System

3. Description of Numbers (or Codes) Established for Metals and Alloys

3.1 The unified numbering system (UNS) establishes 18 series of numbers for metals and alloys, as shown in Table 1. Each UNS number consists of a single letter-prefix followed by five digits. In most cases the letter is suggestive of the family of metals identified, for example, A for aluminum, P for precious metals, S for stainless steels. Table 2 shows the secondary division of some primary series of numbers.

3.2 Whereas some of the digits in certain of the UNS number groups have special assigned meaning, each series is independent of the others in such significance; this practice permits greater flexibility and avoids complicated and lengthy UNS numbers. (See 6.3.)

TABLE 1 - PRIMARY SERIES OF NUMBERS

UNS Series	Metal
Nonferrous metals and alloys	
A00001-A99999	Aluminum and aluminum alloys
C00001-C99999	Copper and copper alloys
E00001-E99999	Rare earth and rare earth-like metals and alloys (18 Items, see Table 2)
L00001-L99999	Low melting metals and alloys (14 Items, see Table 2)
M00001-M99999	Miscellaneous nonferrous metals and alloys (12 Items, see Table 2)
N00001-N99999	Nickel and nickel alloys
P00001-P99999	Precious metals and alloys (8 Items, see Table 2)
R00001-R99999	Reactive and refractory metals and alloys (14 Items, see Table 2)
Z00001-Z99999	Zinc and zinc alloys
Ferrous metals and alloys	
D00001-D99999	Specified mechanical properties steels
F00001-F99999	Cast irons
G00001-G99999	AISI and SAE carbon and alloy steels (except tool steels)
H00001-H99999	AISI H-steels
J00001-J99999	Cast steels (except tool steels)
K00001-K99999	Miscellaneous steels and ferrous alloys
S00001-S99999	Heat and corrosion resistant (stainless) steels
T00001-T99999	Tool steels
Welding filler metals	
W00001-W99999	Welding filler metals, covered and tubular electrodes, classified by weld deposit composition (see Table 2)

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TABLE 2 - SECONDARY DIVISION OF SOME SERIES OF NUMBERS

UNS Series	Metal
E00001-E99999 Rare earth and rare earthlike metals and alloys	
E00000-E00999	Actinium
E01000-E20999	Cerium
E21000-E45999	Mixed rare earths[a]
E46000-E47999	Dysprosium
E48000-E49999	Erbium
E50000-E51999	Europium
E52000-E55999	Gadolinium
E56000-E57999	Holmium
E58000-E67999	Lanthanum
E68000-E68999	Lutetium
E69000-E73999	Neodymium
E74000-E77999	Praseodymium
E78000-E78999	Promethium
E79000-E82999	Samarium
E83000-E84999	Scandium
E85000-E86999	Terbium
E87000-E87999	Thulium
E88000-E89999	Ytterbium
E90000-E99999	Yttrium
F00001-F99999 Cast irons	Gray, malleable, pearlitic malleable, and ductile (nodular) cast irons
K00001-K99999 Miscellaneous steels and ferrous alloys	
L00001-L99999 Low-melting metals and alloys	
L00001-L00999	Bismuth
L01001-L01999	Cadmium
L02001-L02999	Cesium
L03001-L03999	Gallium
L04001-L04999	Indium
L06001-L06999	Lithium
L07001-L07999	Mercury
L08001-L08999	Potassium
L09001-L09999	Rubidium
L10001-L10999	Selenium
L11001-L11999	Sodium
L13001-L13999	Tin
L50001-L59999	Lead
M00001-M99999 Miscellaneous nonferrous metals and alloys	
M00001-M00999	Antimony
M01001-M01999	Arsenic
M02001-M02999	Barium
M03001-M03999	Calcium
M04001-M04999	Germanium
M05001-M05999	Plutonium
M06001-M06999	Strontium
M07001-M07999	Tellurium
M08001-M08999	Uranium
M10001-M19999	Magnesium
M20001-M29999	Manganese
M30001-M39999	Silicon
P00001-P99999 Precious metals and alloys	
P00001-P00999	Gold
P01001-P01999	Iridium
P02001-P02999	Osmium
P03001-P03999	Palladium
P04001-P04999	Platinum
P05001-P05999	Rhodium
P06001-P06999	Ruthenium
P07001-P07999	Silver
R00001-R99999 Reactive and refractory metals and alloys	
R01001-R01999	Boron
R02001-R02999	Hafnium
R03001-R03999	Molybdenum
R04001-R04999	Niobium (Columbium)
R05001-R05999	Tantalum
R06001-R06999	Thorium
R07001-R07999	Tungsten
R08001-R08999	Vanadium
R10001-R19999	Beryllium
R20001-R29999	Chromium
R30001-R39999	Cobalt
R40001-R49999	Rhenium
R50001-R59999	Titanium
R60001-R69999	Zirconium
W00001-W99999 Welding filler metals, classified by weld deposit composition	
W00001-W09999	Carbon steel with no significant alloying elements
W10000-W19999	Manganese-molybdenum low alloy steels
W20000-W29999	Nickel low alloy steels
W30000-W39999	Austenitic stainless steels
W40000-W49999	Ferritic stainless steels
W50000-W59999	Chromium low alloy steels
W60000-W69999	Copper base alloys
W70000-W79999	Surfacing alloys
W80000-W89999	Nickel base alloys
Z00001-Z99999 Zinc and zinc alloys	Zinc

a Alloys in which the rare earths are used in the ratio of their natural occurrence (that is, unseparated rare earths). In this mixture, cerium is the most abundant of the rare earth elements.

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3.3 Wherever feasible, identification "numbers" from existing systems are incorporated into the UNS numbers. For example: The carbon steel which is presently identified by "AISI 1020" (American Iron & Steel Institute) is covered by "UNS G10200" and the nickel alloy presently identified by "M252" is covered by "UNS N07252."

3.4 Welding filler metals fall into two general categories: those whose compositions are determined by the filler metal analysis (e.g., solid bare wire or rods and cast rods), and those whose composition is determined by the weld deposit analysis (e.g., covered electrodes, flux-cored and other composite wire electrodes). The latter are assigned to a new primary series with the letter W as shown in Table 1. The solid bare wire and rods continue to be assigned in the established number series according to their composition.

(Readers are cautioned *not* to make their own "assignments" of numbers from such listings, as this can result in unintended and unexpected duplication and conflict.)

3.5 The ASTM and the SAE periodically publish up-to-date listings of all UNS numbers assigned to specific metals and alloys, with appropriate reference information on each. (See 6.6.) Many trade associations also publish similar listings related to materials of primary interest to their organizations.

4. Organization for Administering Unified Numbering System for Metals and Alloys

4.1 The organization for administering the UNS consists of: (1) an advisory board, (2) several number-assigning offices, (3) a corps of volunteer consultants, and (4) staffs at ASTM and SAE. In addition, SAE and ASTM committees dealing with various groups of materials may be consulted.

4.1.1 The Advisory Board has approximately 20 volunteer members who are affiliated with major producing and using industries, trade associations, government agencies, and standards societies, and who have extensive experience with identification, classification, and specification of materials. The Board is the administrative arm of SAE and ASTM on all matters pertaining to the UNS. It coordinates thinking on the format of each series of numbers and the administration of each by selected experts. It sets up ground rules for determining eligibility of any material for a UNS number, for requesting such numbers, and for appealing unfavorable rulings. It is the final referee on matters of disagreement between requesters and assigners.

4.1.2 UNS number assigners for certain materials are set up at trade associations which have successfully administered their own numbering systems; for other materials, assigners are located at the offices of SAE and ASTM. Each of these assigners has the responsibility for administering a specific series of numbers, as shown in Table 3. Each considers requests for assignment of new UNS numbers, and informs applicants of the action taken. Trade association UNS number assigners also report immediately to both SAE and ASTM details of each number assignment. ASTM and SAE assigners collaborate with designated consultants when considering requests for assignment of new numbers.

4.1.3 Consultants are selected by the Advisory Board to provide expert knowledge of a specific field of materials. Since they are utilized primarily by the Board and the SAE and ASTM number assigners, they are not listed in this document. At the request of the ASTM or SAE number assigner, a consultant considers a request for a new number in light of the ground rules established for the material involved, decides whether a new number is justified, and informs the ASTM or SAE number assigner accordingly.

This utilization of experts (consultants and number assigners) is intended to insure prompt and fair consideration of all requests. It permits each decision to be based on current knowledge of the needs of a specific industry of producers and users.

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(R) TABLE 3 - NUMBER ASSIGNERS AND AREAS OF RESPONSIBILITY

The Aluminum Association 900 19th Street, NW, Suite 30 Washington, DC 20006 Telephone: (202) 862-5100	Aluminum and aluminum alloys UNS Number Series: A00001-A99999
American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959 Attention: Office for Unified Numbering System for Metals Telephone: (215) 299-5400	Rare earth and rare earth-like metals and alloys UNS Number Series: E00001-E99999 Cast irons UNS Number Series: F00001-F99999 Cast steels UNS Number Series: J00001-J99999 Miscellaneous steels and ferrous alloys UNS Number Series: K00001-K99999 Low melting metals and alloys UNS Number Series: L00001-L99999 Miscellaneous nonferrous metals and alloys UNS Number Series: M00001-M99999 Precious metals and alloys UNS Number Series: P00001-P99999
American Welding Society 550 N.W. LeJeune Road P.O. Box 351040 Miami, FL 33135 Attention: Office for Unified Numbering System Telephone: (800) 443-9353 Fax: 303-443-7559	Welding filler metals UNS Number Series: W00001-W99999
Copper Development Association 260 Madison Avenue New York, NY 10016-2401 Attention: Office for Unified Numbering System for Metals Telephone: (212) 251-7200	Copper and copper alloys UNS Number Series: C00001-C99999
SAE (Society of Automotive Engineers) 400 Commonwealth Drive Warrendale, PA 15096-0001 Attention: Office for Unified Numbering System for Metals Telephone: (724) 776-4841	Carbon and alloy steels UNS Number Series: G00001 - G99999 H-steels UNS Number Series: H00001-H99999 Nickel and nickel alloys UNS Number Series: N00001-N99999 Heat and corrosion resistant (stainless) steels UNS Number Series: S00001 - S99999 Tool steels UNS Number Series: T00001 - T99999
Zinc Institute, Inc. 292 Madison Avenue New York, NY 10017 Attention: Office for Unified Numbering System for Metals Telephone: (212) 578-4750	Zinc and zinc alloys UNS Number Series: Z00001 - Z99999

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4.1.4 Staff members at SAE and ASTM maintain duplicate master listings of all UNS numbers assigned.

4.1.5 Established SAE and ASTM committees which normally deal with standards and specifications for the materials covered by the UNS, and other knowledgeable persons, are called upon by the Advisory Board for advice when considering appeals from unfavorable rulings in the matter of UNS number assignments.

5. Procedure for Requesting Number Assignment to Metals and Alloys Not Already Covered by UNS Numbers (or Codes)

5.1 UNS numbers are assigned only to metals and alloys which have a commercial standing (as defined in 6.1).

5.2 The need for a new number should always be verified by determining from the latest complete listing of already assigned UNS numbers that a usable number is not available. (See 6.4.)

5.3 For a new UNS number to be assigned, the composition (or other properties, as applicable) must be significantly different from those of any metal or alloy which has already been assigned a UNS number.

5.3.1 In the case of metals or alloys that are normally identified or specified by chemical composition, the chemical composition limits must be reported.

5.3.2 In the case of metals or alloys which are normally identified or specified by mechanical (or other) properties, such properties and limits thereof must be reported. Only those chemical elements and limits, if any, which are significant in defining such materials need be reported.

5.4 Requests for new numbers shall be submitted on "Application for UNS Number Assignment" forms (Figure 1). Copies of these are available from any UNS number assigning office (Table 3) or facsimiles may be made of the one herein.

5.5 All instructions on the printed application form should be read carefully and all information provided as indicated. (See 6.5.)

5.6 To further assist in assigning UNS numbers, the requester is encouraged to suggest a possible UNS number in each request, giving appropriate consideration to any existing number presently used by a trade association, standards society, producer, or user.

5.7 Each completed application form shall be sent to the UNS number assigning office having responsibility for the series of numbers which appears to most closely relate to the material described on the form (Table 3).

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6. Notes

6.1 The terms "commercial standing," "production usage," and others, are intended to portray a material in active industrial use, although the actual amount of such use will depend, among other things, upon the type of materials. (Obviously gold will not be used in the same "tonnages" as hot rolled steel.)

Different standardizing groups use different criteria to define the status that a material has to attain before a standard number will be assigned to it. For instance, the American Iron and Steel Institute requires for stainless steels "two or more producers with combined production of 200 tons per year for at least two years"; the Copper Development Association requires that the material be "in commercial use (without tonnage limits)"; the Aluminum Association requires that the alloy must be "offered for sale (not necessarily in commercial use)"; the SAE Aerospace Materials Division calls for "repetitive procurement by at least two users."

While it is apparent that no hard and fast usage definition can be set up for an all-encompassing system, the UNS numbers are intended to identify metals and alloys that are in more or less regular production and use.

A UNS number will not ordinarily be issued for a material which has just been conceived or which is still in only experimental trial.

6.2 Organizations that issue specifications should report to appropriate UNS number assigning offices (see 4.1.2) any specification changes which affect descriptions shown in published UNS listings.

6.3 This arrangement of alphanumeric six character numbers is a compromise of the thinking that identification numbers should indicate many characteristics of the material, and the thinking that numbers should be short and uncomplicated to be widely accepted and used.

6.4 In assigning UNS numbers, and consequently in searching complete listings of numbers, the predominant element of the metal or alloy usually determines the prefix letter of the series to which it is assigned. In certain instances where no one element predominates, arbitrary decisions are made as to what prefix letter to use, depending upon the producing industry and other factors.

6.5 The application form is designed to serve also as a data input sheet to facilitate processing each request through to final printout of the data on electronic data processing equipment and to minimize transcription errors at number-assigning offices and data processing centers.

6.6 One such listing is ASTM Publication No. DS-56 and SAE Handbook Supplement HS-1086 (a joint ASTM-SAE publication).

6.7 Marginal Indicia—The (R) is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.

PREPARED BY THE SAE UNIFIED NUMBERING SYSTEM ADVISORY BOARD

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APPLICATION FOR UNS NUMBER ASSIGNMENT
and
Data Input Sheet for Entering a Specific Material in the SAE-ASTM Unified Numbering System for Metals and Alloys

(See Reverse Side for Instructions for Completing This Form)

Material Description _____

_____

_____

_____ *Suggested UNS No.*

*UNS Assigned Description _____

_____

_____ *UNS Assigned No. _____

*Chemical Composition (percent by wt.)

Silver	Ag	_____	Hafnium	Hf	_____	Sulfur	S	_____
Aluminum	Al	_____	Mercury	Hg	_____	Antimony	Sb	_____
Arsenic	As	_____	Indium	In	_____	Selenium	Se	_____
Gold	Au	_____	Iridium	Ir	_____	Silicon	Si	_____
Boron	B	_____	Lithium	Li	_____	Tin	Sn	_____
Beryllium	Be	_____	Magnesium	Mg	_____	Tantalum	Ta	_____
Bismuth	Bi	_____	Manganese	Mn	_____	Tellurium	Te	_____
Carbon	C	_____	Molybdenum	Mo	_____	Thorium	Th	_____
Columbium	Cb	_____	Nitrogen	N	_____	Titanium	Ti	_____
Cadmium	Cd	_____	Nickel	Ni	_____	Uranium	U	_____
Cobalt	Co	_____	Oxygen	O	_____	Vanadium	V	_____
Chromium	Cr	_____	Phosphorus	P	_____	Tungsten	W	_____
Copper	Cu	_____	Lead	Pb	_____	Zinc	Zn	_____
Iron	Fe	_____	Platinum	Pt	_____	Zirconium	Zr	_____
Germanium	Ge	_____	Rhenium	Re	_____			
Hydrogen	H	_____	Rhodium	Rh	_____			

Other _____

_____

_____

*Cross References

AA _____
ACI _____
AISI _____
AMS _____
ANSI _____
ASME _____
ASTM _____
AWS _____
CDA _____
FED _____
MIL SPEC _____
SAE _____
OTHER _____

Requesting Person and Organization (full address) _____

_____ Date of Request _____

*Assigning Org. _____ *Date of UNS Assignment _____

Assigner's Name and Office _____

Applicant: DO NOT write in shaded areas. * These items for Computer Operator

FIGURE 1—APPLICATION FORM FOR UNS NUMBER ASSIGNMENT (FRONT)

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GENERAL

Before attempting to complete this form, the applicant should be thoroughly familiar with the objectives of the UNS and the "ground rules" for assigning numbers, as stated in Section 4 of SAE J1086 and ASTM E 527.

MATERIAL DESCRIPTION

Identify: the base element; the single alloying element that constitutes 50% or more of the total alloy content; other distinguishing predominant characteristics (such as "casting"); and common or generic names if any (such as "ounce metal" or "Waspalloy"). When no single element makes up 50% or more of the total alloy content, list in decreasing order of abundance the two alloying elements which together constitute the largest portion of the total alloy content; except that if no two elements make up at least 50% of the total alloy content, list the three most abundant, and so on. Instead of "iron," use "steel" to identify the base element of those iron-low-carbon alloys commonly known as steels.

When mechanical properties or physical characteristics are the primary defining criteria and chemical composition is secondary or nonsignificant, enter such properties and characteristics with the appropriate values or limits for each.

SUGGESTED UNS NO.

While applicant's suggestion may or may not be the one finally assigned, it will assist proper identification of the material by the UNS Number Assigner.

CHEMICAL COMPOSITION

Enter limits such as 0.13-0.18 (not .13-.18 or 0.13 to 0.18), 1.5 max, 0.040 min, and balance. In space designated "other," enter information such as "0.05 max each, 0.15 max total" and "Sn+Pb 2.0 min." Additional specific elements not included in the list on this form may be entered in the spaces provided at the end of the list.

CROSS REFERENCES

Letter symbols listed indicate widely known trade associations and standards issuing organizations. Enter after appropriate symbols any known specification numbers or identification numbers issued by such groups to cover material equivalent to, similar to, or closely resembling the subject material.

Examples: SAE J404 (50B44), AISI 415, ASTM A 638 (660)

In space designated "other" enter any pertinent numbers issued by groups not listed above. In these instances, the full name and address of the issuing group shall be included.

SUBMIT COMPLETED FORM TO
SAE
TECHNICAL PUBLISHING
400 COMMONWEALTH DRIVE
WARRENDALE, PA 15096-0001
ATTENTION: UNS

FIGURE 1 - APPLICATION FORM FOR UNS NUMBER ASSIGNMENT (BACK) (CONTINUED)

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