



Designation: **A743/A743M – 13a^{ε1}**

Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application¹

This standard is issued under the fixed designation A743/A743M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

^{ε1} NOTE—Table 2 and Table S12.1 were editorially corrected in January 2014.

1. Scope*

1.1 This specification covers iron-chromium and iron-chromium-nickel alloy castings for general corrosion-resistant application. The grades covered by this specification represent types of alloy castings suitable for broad ranges of application which are intended for a wide variety of corrosion environments.

NOTE 1—For alloy castings for severe corrosion-resistant service, reference should be made to Specification **A744/A744M**. For general heat-resistant alloy castings, reference should be made to Specification **A297/A297M**. For nickel alloy castings for corrosion-resistant service, reference should be made to Specification **A494/A494M**.

1.2 The values stated in either inch-pound units or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification. Inch-pound units are applicable for material ordered to Specification A743 and SI units for material ordered to Specification A743M.

2. Referenced Documents

2.1 ASTM Standards:²

A262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels
A297/A297M Specification for Steel Castings, Iron-Chromium and Iron-Chromium-Nickel, Heat Resistant, for General Application

¹ This specification is under the jurisdiction of ASTM Committee **A01** on Steel, Stainless Steel and Related Alloys and is the direct responsibility of Subcommittee **A01.18** on Castings.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

A494/A494M Specification for Castings, Nickel and Nickel Alloy

A744/A744M Specification for Castings, Iron-Chromium-Nickel, Corrosion Resistant, for Severe Service

A781/A781M Specification for Castings, Steel and Alloy, Common Requirements, for General Industrial Use

A890/A890M Specification for Castings, Iron-Chromium-Nickel-Molybdenum Corrosion-Resistant, Duplex (Austenitic/Ferritic) for General Application

A957 Specification for Investment Castings, Steel and Alloy, Common Requirements, for General Industrial Use

3. General Conditions for Delivery

3.1 Except for investment castings, castings furnished to this specification shall conform to the requirements of Specification **A781/A781M**, including any supplementary requirements that are indicated on the purchase order. Failure to comply with the general requirements of Specification **A781/A781M** constitutes nonconformance with this specification. In case of conflict between the requirements of this specification and Specification **A781/A781M**, this specification shall prevail.

3.2 Steel investment castings furnished to this specification shall conform to the requirements of Specification **A957**, including any supplementary requirements that are indicated in the purchase order. Failure to comply with the general requirements of Specification **A957** constitutes nonconformance with this specification. In case of conflict between the requirements of this specification and Specification **A957**, Specification **A957** shall prevail.

4. Ordering Information

4.1 Orders for material to this specification should include the following, as required, to describe the material adequately:

4.1.1 Description of the casting by pattern number or drawing,

4.1.2 Grade,

*A Summary of Changes section appears at the end of this standard



- 4.1.3 Heat treatment,
 4.1.4 Options in the specification,
 4.1.5 Whether castings are to be produced using the investment casting process, and
 4.1.6 Supplementary requirements desired, including the standards of acceptance.

5. Process

5.1 The steel shall be made by the electric furnace process with or without separate refining such as argon-oxygen decarburization (AOD).

6. Heat Treatment

6.1 Castings shall be heat treated in accordance with the requirements in [Table 1](#).

NOTE 2—Proper heat treatment of these alloys is usually necessary to enhance corrosion resistance and in some cases to meet mechanical properties. Minimum heat treat temperatures are specified; however, it is sometimes necessary to heat treat at higher temperatures, hold for some minimum time at temperature and then rapidly cool the castings in order to enhance the corrosion resistance and meet mechanical properties.

7. Chemical Requirements

7.1 The chemical requirements are shown in [Table 2](#).

TABLE 1 Heat Treatment Requirements

Grade	Heat Treatment
CA6N	Heat to 1900°F [1040°C], air cool, reheat to 1500°F [815°C], air cool, and age at 800°F [425°C], holding at each temperature sufficient time to heat casting uniformly to temperature.
CA6NM	Heat to 1850°F [1010°C] minimum, air cool to 200°F [95°C] or lower prior to any optional intermediate temper and prior to the final temper. The final temper shall be between 1050°F [565°C] and 1150°F [620°C].
CA15, CA15M, CA40, CA40F	(1) Heat to 1750°F [955°C] minimum, air cool and temper at 1100°F [595°C] minimum, or (2) Anneal at 1450°F [790°C] minimum.
CA28MWV	(1) Heat to 1875–1925°F [1025–1050°C], quench in air or oil, and temper at 1150°F [620°C] minimum, or (2) Anneal at 1400°F [760°C] minimum.
CB30, CC50	(1) Heat to 1450°F [790°C] minimum, and air cool, or (2) Heat to 1450°F [790°C] minimum, and furnace cool.
CB6	Heat between 1800°F [980°C] and 1920°F [1050°C], forced air, cool to 120°F [50°C] maximum, and temper between 1100°F and 1160°F [595°C and 625°C].
CE30, CH10, CH20, CK20	Heat to 2000°F [1093°C] minimum, hold for sufficient time to heat casting to temperature, quench in water or rapid cool by other means.
CF3, CF3M, CF3MN	(1) Heat to 1900°F [1040°C] minimum, hold for sufficient time to heat casting to temperature, quench in water or rapid cool by other means. (2) As cast if corrosion resistance is acceptable.
CF8, CF8C, CF8M, CF16F, CF16Fa, CF20, CG3M, CG8M, CG12, CF10SMnN	Heat to 1900°F [1040°C] minimum, hold for sufficient time to heat casting to temperature, quench in water or rapid cool by other means. Heat to 1950°F [1065°C] minimum, hold for sufficient time to heat casting to temperature, quench in water or rapid cool by other means.
CK3MCuN, CK35MN, CN3M, CN3MN, CG6MMN, CN7M	Heat to 2200°F [1200°C] minimum, hold for 4 hours minimum, quench in water or rapid cool by other means. Heat to 2050°F [1120°C] minimum, hold for sufficient time to heat casting to temperature, quench in water or rapid cool by other means.
CN7MS	Heat to 2100°F [1150°C] minimum, 2150°F [1180°C] maximum, hold for sufficient time (2 h minimum) to heat casting to temperature and quench in water.
HG10MNN	As-cast

TABLE 2 Chemical Requirements

Grade (UNS)	Type	Composition, %													
		Carbon, max	Man- ganese, max	Silicon, max	Phospho- rus, max	Sulfur, max	Chromium	Nickel	Molybde- num	Colum- bium	Sele- nium	Copper	Tung- sten, max	Vana- dium, max	Nitrogen
CA6N	11 Chromium, 7 Nickel	0.06	0.50	1.00	0.02	0.02	10.5–12.5	6.0– 8.0	...	...	...	...	...	...	...
CA6NM (J91540)	12 Chromium, 4 Nickel	0.06	1.00	1.00	0.04	0.03	11.5–14.0	3.5– 4.5	0.40–1.0	...	...	...	...	...	...
CA15 (J91150)	12 Chromium	0.15	1.00	1.50	0.04	0.04	11.5–14.0	1.00 max	0.50 max	...	...	...	...	...	...
CA15M (J91151)	12 Chromium	0.15	1.00	0.65	0.040	0.040	11.5–14.0	1.0 max	0.15–1.0	...	...	...	...	...	...
CA28MWV (J91422)	12 Chromium, with Molybdenum, Tungsten and Vanadium	0.20– 0.28	0.50– 1.00	1.0	0.030	0.030	11.0–12.5	0.50– 1.00	0.90–1.25	...	...	...	0.90– 1.25	0.20– 0.30	...



TABLE 2 Continued

Grade (UNS)	Type	Composition, %													
		Carbon, max	Man- ganese, max	Silicon, max	Phospho- rus, max	Sulfur, max	Chromium	Nickel	Molybde- num	Colum- bium	Sele- nium	Copper	Tung- sten, max	Vana- dium, max	Nitrogen
CA40 (J91153)	12 Chromium	0.20– 0.40	1.00	1.50	0.04	0.04	11.5–14.0	1.0 max	0.5 max	...	...	...	...	...	...
CA40F (J91154)	12 Chromium, Free Machining	0.20– 0.40	1.00	1.50	0.04	0.20– 0.40	11.5–14.0	1.0 max	0.5 max	...	...	...	...	...	...
CB6 (J91804)	16 Chromium, 4 Nickel	0.06	1.00	1.00	0.04	0.03	15.5–17.5	3.5–5.5	0.5 max	...	...	...	...	...	...
CB30 (J91803)	20 Chromium	0.30	1.00	1.50	0.04	0.04	18.0–21.0	2.00 max	...	...	...	^B	...	...	...
CC50 (J92615)	28 Chromium	0.50	1.00	1.50	0.04	0.04	26.0–30.0	4.00 max	...	...	...	...	...	...	...
CE30 (J93423)	29 Chromium, 9 Nickel	0.30	1.50	2.00	0.04	0.04	26.0–30.0	8.0– 11.0	...	...	...	...	...	...	...
CF3 (J92500)	19 Chromium, 9 Nickel	0.03	1.50	2.00	0.04	0.04	17.0–21.0	8.0– 12.0	...	...	...	...	...	...	...
CF3M (J92800)	19 Chromium, 10 Nickel, with Molybdenum	0.03	1.50	1.50	0.04	0.04	17.0–21.0	9.0– 13.0	2.0–3.0	...	...	...	...	...	...
CF3MN (J92804)	19 Chromium, 10 Nickel, with Molybdenum, and Nitrogen	0.03	1.50	1.50	0.040	0.040	17.0–22.0	9.0– 13.0	2.0–3.0	...	...	...	...	...	0.10– 0.20
CF8 (J92600)	19 Chromium, 9 Nickel	0.08	1.50	2.00	0.04	0.04	18.0–21.0	8.0– 11.0	...	...	...	...	...	...	...
CF8C (J92710)	19 Chromium, 10 Nickel, with Columbium	0.08	1.50	2.00	0.04	0.04	18.0–21.0	9.0– 12.0	...	^A	...	...	...	...	...
CF8M (J92900)	19 Chromium, 10 Nickel, with Molybdenum	0.08	1.50	2.00	0.04	0.04	18.0–21.0	9.0– 12.0	2.0–3.0	...	...	...	...	...	...
CF10SMnN (J92972)	17 Chromium, 8.5 Nickel with Nitrogen	0.10	7.00– 9.00	3.50– 4.50	0.060	0.030	16.0–18.0	8.0– 9.0	...	...	...	...	...	...	0.08– 0.18
CF16F (J92701)	19 Chromium, 9 Nickel, Free Machining	0.16	1.50	2.00	0.17	0.04	18.0–21.0	9.0– 12.0	1.50 max	...	0.20– 0.35	...	...	...	...
CF16Fa	19 Chromium, 9 Nickel, Free Machining	0.16	1.50	2.00	0.04	0.20– 0.40	18.0–21.0	9.0– 12.0	0.40–0.80	...	...	...	...	...	...
CF20 (J92602)	19 Chromium, 9 Nickel	0.20	1.50	2.00	0.04	0.04	18.0–21.0	8.0– 11.0	...	...	...	...	...	...	...
CG3M (J92999)	19 Chromium, 11 Nickel, with Molybdenum	0.03	1.50	1.50	0.04	0.04	18.0–21.0	9.0– 13.0	3.0–4.0	...	...	...	...	...	...
CG6MMN (J93790)		0.06	4.00– 6.00	1.00	0.04	0.03	20.5–23.5	11.5– 13.5	1.50–3.00	0.10– 0.30	...	...	...	0.10– 0.30	0.20– 0.40
CG8M (J93000)	19 Chromium, 11 Nickel, with Molybdenum	0.08	1.50	1.50	0.04	0.04	18.0–21.0	9.0– 13.0	3.0–4.0	...	...	...	...	...	...
CG12 (J93001)	22 Chromium, 12 Nickel	0.12	1.50	2.00	0.04	0.04	20.0–23.0	10.0– 13.0	...	...	...	...	...	...	...
CH10 (J93401)	25 Chromium, 12 Nickel	0.10	1.50	2.00	0.04	0.04	22.0–26.0	12.0– 15.0	...	...	...	...	...	...	...



TABLE 2 Continued

Grade (UNS)	Type	Composition, %													
		Carbon, max	Man- ganese, max	Silicon, max	Phospho- rus, max	Sulfur, max	Chromium	Nickel	Molybde- num	Colum- bium	Sele- nium	Copper	Tung- sten, max	Vana- dium, max	Nitrogen
CH20 (J93402)	25 Chromium, 12 Nickel	0.20	1.50	2.00	0.04	0.04	22.0–26.0	12.0– 15.0	...	...	...	...	...	...	...
CK35MN	23 Chromium, 21 Nickel, with Molybdenum and Nitrogen	0.035	2.00	1.00	0.035	0.020	22.0–24.0	20.0– 22.0	6.0–6.8	...	...	0.40	...	...	0.21–0.32
CK3MCuN (J93254)	20 Chromium 18 Nickel, with Copper and Molybdenum	0.025	1.20	1.00	0.045	0.010	19.5–20.5	17.5– 19.5	6.0–7.0	...	...	0.50– 1.00	...	...	0.180– 0.240
CK20 (J94202)	25 Chromium, 20 Nickel	0.20	2.00	2.00	0.04	0.04	23.0–27.0	19.0– 22.0	...	...	...	...	...	...	...
CN3M (J94652)		0.03	2.0	1.0	0.03	0.03	20.0–22.0	23.0– 27.0	4.5–5.5	...	...	...	...	...	...
CN3MN (J94651)	21 Chromium, 24 Nickel with Molybdenum and Nitrogen	0.03	2.00	1.00	0.040	0.010	20.0–22.0	23.5– 25.5	6.0–7.0	...	...	0.75 max	...	...	0.18– 0.26
CN7M (N08007)	20 Chromium, 29 Nickel, with Copper and Molybdenum	0.07	1.50	1.50	0.04	0.04	19.0–22.0	27.5– 30.5	2.0–3.0	...	...	3.0– 4.0	...	...	...
CN7MS (J94650)	19 Chromium, 24 Nickel, with Copper and Molybdenum	0.07	1.00	2.50– 3.50	0.04	0.03	18.0–20.0	22.0– 25.0	2.5–3.0	...	...	1.5– 2.0	...	...	...
HG10MNN J92604	19 Chromium, 12 Nickel, 4 Manganese	0.07– 0.11	3.0– 5.0	0.70	0.040	0.030	18.5 – 20.5	11.5– 13.5	0.25– 0.45	^c	...	0.50	...	...	0.20– 0.30

^A Grade CF8C shall have a columbium content of not less than eight times the carbon content and not more than 1.0%. If a columbium-plus-tantalum alloy in the approximate Cb:Ta ratio of 3:1 is used for stabilizing this grade, the total columbium-plus-tantalum content shall not be less than nine times the carbon content and shall not exceed 1.1%.

^B For Grade CB30 a copper content of 0.90 to 1.20% is optional.

^C Grade HG10MNN shall have a columbium content of not less than eight times the carbon, but not over 1.00 %.

8. Repair by Welding

8.1 Repair welding of Grade CA28MWV is not permitted unless by agreement between the manufacturer and the purchaser.

8.2 When methods involving high temperature are used in the removal of discontinuities, castings shall be preheated in accordance with Table 3. Weld repairs shall be subject to the same quality standards as are used to inspect the castings.

8.3 Post weld heat treatment, if required, shall be in accordance with Table 1.

8.3.1 The martensitic grades CA6NM, CA15, CA15M, CB6, and CA40 shall be retempered after weld repairing,

except that local tempering will be permitted if, in the opinion of the manufacturer, furnace heat treating will be damaging to the finished surface of a machined casting. Heat treatment, other than tempering, of grades CA6NM, CA15, CA15M, CB6, and CA40 after weld repairing shall be performed only when agreed upon between the manufacturer and the purchaser. Weld repair on Grade CA40F is not recommended because of the risk of local hardening and possible cracking in the heat affected zone.

8.3.2 Post weld heat treatment is not required on the other grades of this specification. When post weld heat treatment is believed necessary for adequate corrosion resistance in the service environment, castings should be ordered in accordance with Specification A744/A744M.

8.3.3 For Grade HG10MNN, the filler metal to be used shall be established by mutual agreement between the manufacturer and the purchaser.

9. Product Marking

9.1 Castings shall be marked for material identification with the ASTM specification number (A743/A743M) and grade

TABLE 3 Minimum Preheat Temperatures

Grade	Minimum Preheat Temperatures	
	°F	°C
CA15, CA15M CA28MWV, CA40	400	[205]
Others	50	[10]

symbol, that is, CF8, CA15, CB30, etc. In addition, the manufacturer's name or identification mark and the pattern number shall be cast or stamped using the low-stress stamps on all castings. Small-size castings may be such that marking must be limited consistent with the available area. The marking of heat numbers on individual castings shall be agreed upon

between the manufacturer and the purchaser. Marking shall be in such position as not to injure the usefulness of the casting.

10. Keywords

10.1 corrosion resistant; iron-chromium; iron-chromium-nickel; steel castings

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirements shall not apply unless specified in the purchase order. A list of standardized supplementary requirements for use at the option of the purchaser is included in Specification **A781/A781M**. Those which are ordinarily considered suitable for use with this specification are given below. Others enumerated in **A781/A781M** may be used with this specification upon agreement between the manufacturer and purchaser.

S1. Magnetic Particle Examination

S2. Radiographic Examination

S3. Liquid Penetrant Examination

S4. Ultrasonic Examination

S5. Examination of Weld Preparation

S6. Certification

S7. Prior Approval of Major Weld Repairs

S11. Intergranular Corrosion Test

S11.1 An intergranular corrosion test shall be performed in accordance with the appropriate practice for the particular grade involved, as listed in Practices **A262**, or as agreed upon with the purchaser. Intergranular corrosion tests on stabilized or 0.03 % carbon maximum grades (CF3, CF3M, CF8C, and CG3M) shall be made on sensitized specimens. On all other grades of chromium-nickel steels, intergranular corrosion tests shall be made on specimens representative of the as-shipped condition.

S12 Tension Test

S12.1 Tensile properties shall be determined from material representing each heat. The bar from which the test specimen is taken shall be heat treated in production furnaces to the same procedure as the castings it represents. The results shall conform to the requirements specified in **Table S12.1**.

S12.2 Test bars shall be poured in separately cast keel blocks similar to Fig. 1 or Fig. 2 or Fig. 3 of **A781/A781M**.

S12.3 Tension test specimens may be cut from heat-treated castings, or from as-cast castings if no heat treatment is specified for the castings, instead of from test bars, when agreed upon between the manufacturer and the purchaser.

S12.4 Test specimens shall be machined to the form and dimensions of the standard round 2-in. [50-mm] gage length specimen shown in Fig. 4 and 5 of Test Methods and Definitions **A370**, and shall be tested in accordance with Test Methods and Definitions **A370**.

S12.5 If the results of the mechanical tests for any heat, lot, or casting do not conform to the requirements specified, retests are permitted as outlined in Test Methods and Definitions **A370**. At the manufacturer's option, castings may be reheat-treated and retested. When castings are reheat-treated, they may not be re-austenitized more than three times without the approval of the purchaser. Testing after reheat treatment shall consist of the full number of specimens taken from locations complying with the specification or order.

S12.6 If any test specimen shows defective machining or develops flaws, it may be discarded and another specimen substituted from the same heat.

S13. Post Weld-Heat Treatment

S13.1 Weld repairs shall be considered major in the case of a casting which has leaked on hydrostatic test or when the depth of the cavity after preparation for repair exceeds 20 % of the actual wall thickness, or 1 in. [25 mm], whichever is smaller, or when the extent of the cavity exceeds approximately 10 in.² [65 cm²]. All other weld repairs shall be considered minor.

S13.2 Grades CF8, CG3M, CG8M, CG12, CF20, CF8M, CF8C, CF16F, CF16Fa, CH10, CH20, CE30, CK3MCuN, CK35MN, CK20, CF3, CF3M, CF3MN, CN3M, CN3MN, CN7M, CN7MS, CB30, CC50, CA6N, and CK3MCuN shall be heat treated after major weld repairs, but it is not required after minor repairs except by agreement between the manufacturer and the purchaser.

S13.2.1 The post-weld treatment for grades CK3MCu, CK35MN, CN3M, and CN3MN shall be as specified in **Table 1**, except that the minimum soak time for castings that have already been heat treated according to **Table 1** may be 1 hour.

S14. Hardness Tests

S14.1 Brinell tests on non-austenitic grades shall be conducted. Grades CA15, CA15M, CB30, and CC50 shall have a Brinell hardness of 241 HB maximum. Grade CA6NM shall have a Brinell hardness of 285 HB maximum, Grade CA40 and CA40F, 269 HB maximum, and Grade CA28MWV, 302–352 HB, except for the annealed condition, when the Brinell hardness of this grade shall not exceed 269 HB.



TABLE S12.1 Tensile Requirements

Grade	Type	Tensile Strength, min		Yield Strength, min		Elongation in 2 in. [50 mm], min, % ^A	Reduction of Area, min, %
		ksi	[MPa]	ksi	[MPa]		
CA6N	11 Chromium, 7 Nickel	140	[965]	135	[930]	15	50
CA6NM	12 Chromium, 4 Nickel	110	[755]	80	[550]	15	35
CA15 and CA15M	12 Chromium	90	[620]	65	[450]	18	30
CA28MWV ^C	12 Chromium, with Molybdenum, Tungsten, and Vanadium	140	[965]	110	[760]	10	24
CA40	12 Chromium	100	[690]	70	[485]	15	25
CA40F	12 Chromium, Free Machining	100	[690]	70	[485]	12	...
CB6	16 Chromium, 4 Nickel	115	[790]	85	[580]	16	35
CB30	20 Chromium	65	[450]	30	[205]	...	...
CC50	28 Chromium	55	[380]	...	...	...	...
CE30	29 Chromium, 9 Nickel	80	[550]	40	[275]	10	...
CF3	19 Chromium, 9 Nickel	70	[485]	30	[205]	35	...
CF3M	19 Chromium, 10 Nickel, with Molybdenum	70	[485]	30	[205]	30	...
CF3MN	19 Chromium, 10 Nickel, with Molybdenum, and Nitrogen	75	[515]	37	[255]	35	...
CF8	19 Chromium, 9 Nickel	70 ^B	[485] ^B	30 ^B	[205] ^B	35	...
CF8C	19 Chromium, 10 Nickel with Columbium	70	[485]	30	[205]	30	...
CF8M	19 Chromium, 10 Nickel, with Molybdenum	70	[485]	30	[205]	30	...
CF10SMnN	17 Chromium, 8.5 Nickel with Nitrogen, 9 Nickel	85	[585]	42	[290]	30	...
CF16F and CF16Fa	19 Chromium, 9 Nickel, Free Machining	70	[485]	30	[205]	25	...
CF20	19 Chromium, 9 Nickel	70	[485]	30	[205]	30	...

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Grade	Type	Tensile Strength, min		Yield Strength, min		Elongation in 2 in. [50 mm], min, % ^A	Reduction of Area, min, %
		ksi	[MPa]	ksi	[MPa]		
CG3M	19 Chromium, 11 Nickel, with Molybdenum	75	[515]	35	[240]	25	...
CG6MMN	Chromium- Nickel- Manganese- Molybdenum	85	[585]	42	[290]	30	...
CG8M	19 Chromium, 11 Nickel, with Molybdenum	75	[520]	35	[240]	25	...
CG12	22 Chromium, 12 Nickel	70	[485]	28	[195]	35	...
CH10 and CH20	25 Chromium, 12 Nickel	70	[485]	30	[205]	30	...
CK3MCuN	20 Chromium 18 Nickel, with Copper and Molybdenum	80	[550]	38	[260]	35	...
CK35MN	23 Chromium, 21 Nickel, with Molybdenum and Nitrogen	83	[570]	41	[280]	35	...
CK20	25 Chromium, 20 Nickel	65	[450]	28	[195]	30	...
CN3M		63	[435]	25	[170]	30	...
CN3MN	21 Chromium, 24 Nickel, with Molybdenum, and Nitrogen	80	[550]	38	[260]	35	...
CN7M	20 Chromium, 29 Nickel, with Copper and Molybdenum	62	[425]	25	[170]	35	...
CN7MS	19 Chromium, 24 Nickel, with Copper and Molybdenum	70	[485]	30	[205]	35	...
HG10MNN	19 Chromium, 12 Nickel, 4 Manganese	76	[525]	33	[225]	20	...

^A When ICI test bars are used in tensile testing as provided for in this specification, the gage length to reduced section diameter ratio shall be 4:1.^B For low ferrite or nonmagnetic castings of this grade, the following values shall apply: tensile strength, min, 65 ksi [450 MPa]; yield point, min, 28 ksi [195 MPa].^C These mechanical properties apply only when heat-treatment (1) has been used.

S14.2 The location where the Brinell hardness reading is to be taken and the frequency of such Brinell hardness inspection of the castings shall be established by agreement between the manufacturer and the purchaser.

S15. Low Ferrite in CF8

S15.1 When low ferrite or non-magnetic properties are required, the mechanical property requirements and volume fraction of ferrite as determined by S 31, **A890/A890M**, shall be by agreement between the manufacturer and the purchaser.

SUMMARY OF CHANGES

Committee A01 has identified the location of selected changes to this standard since the last issue (A743/A743M – 13) that may impact the use of this standard. (Approved May 15, 2013.)

- | | |
|--|---|
| (1) Revised Table 1 to specify an improved heat treatment for grades CK3MCuN, CK35MN, CN3M, and CN3MN. | (2) Added CK3MCuN, CK35MN, CN3M, and CN3MN to S13.2, and added a new S13.2.1. |
|--|---|

Committee A01 has identified the location of selected changes to this standard since the last issue (A743/A743M – 12) that may impact the use of this standard. (Approved May 1, 2013.)

- (1) Add Grade HG10MNN in Tables 1, 2, S12.1 and 8.3.3.
(2) Revised option (1) quench for grades CF3, CF3M, CF3MN in Table 1 from cool rapidly to quench in water or rapid cool by other means.

Committee A01 has identified the location of selected changes to this standard since the last issue (A743/A743M – 06 (2010)) that may impact the use of this standard.

- (1) Complete revision of **Table 1**, **Table 2**, **Table 3** and **Table S12.1** to sort the grades in alpha-numeric order.

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