AN AMERICAN NATIONAL STANDARD

Preferred Metric Equivalents of Inch Sizes for Tubular Metal Products Other Than Pipe

ANSI/ASME B32.6M-1984

(REVISION OF ANSI B32.6-1977)

REAFFIRMED 1994

FOR CURRENT COMMITTEE PERSONNEL
PLEASE SEE ASME MANUAL AS-11

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THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

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This Standard will be revised when the Society approves the issuance of a new edition. There will be no addenda or written interpretations of the requirements of this Standard issued to this Edition.

FOREWORD

(This Foreword is not part of ANSI/ASME B32.6M-1984.)

The U.S. Department of Commerce in its July 1971 report to Congress titled, "A Metric America – A Decision Whose Time has Come," recommended that the United States should change to the metric system through a coordinated national program. This action along with subsequent increased metric activity in industry resulted in a number of requests from producers and users that the B32 Committee develop a preferred series of metric sizes for the various forms of wrought mill metal products.

On January 17, 1973, Subcommittees 1 and 2 were formed to establish preferred metric sizes of solid flat and round metal products, respectively. Subsequently Subcommittee 2 had its scope enlarged to include solid, square, and hexagon products. Subcommittee 4 was formed on October 24, 1973 to consider tubular products. Pipe products were excluded as they are under the jurisdiction of the ANSI B36 Committee. These Committees are composed of representatives of the major metal trade associations and user groups.

After several meetings, consensus agreement was reached by Subcommittee 4 on the preferred metric sizes for tubular metal products. Several considerations guided the Subcommittee: ISO preferred number sizes, sizes actually used in metric countries, and the need for rounded metric equivalents of high activity inch sizes.

The Subcommittee agreed to provide two sequentially numbered comparison standards, one specifying metric sizes designated ANSI B32.5, and one specifying metric equivalents of inch sizes designated ANSI B32.6. This latter standard reflects the metrication of commonly used inch sizes.

The proposals received Standards Committee B32 approval on March 30, 1977, and was approved as an American National Standard on August 12, 1977.

The present edition was approved as an American National Standard on December 28, 1984.

ASME STANDARDS COMMITTEE B32
Standardization of Metal and Metal Alloy Wrought Mill Product Nominal Sizes

(The following is the roster of the Committee at the time of approval of this Standard.)

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AN AMERICAN NATIONAL STANDARD

PREFERRED METRIC EQUIVALENTS OF INCH SIZES FOR TUBULAR METAL PRODUCTS OTHER THAN PIPE

1 SCOPE

This Standard establishes preferred metric equivalents of outside diameters, distance across flats, and wall thicknesses for the most commonly used inch size tubular metal products other than pipe. A companion standard, ANSI B32.5-1977(R1983), establishes preferred metric sizes, including lengths.

2 GENERAL

This Standard provides an orderly series of metric equivalents of inch sizes for tubular metal products. The series was developed to provide a reasonable selection of metal tube outside diameters from 3.18 mm to 406.40 mm and distances across flats from 12.70 mm to 381.00 mm. In the case of wall thickness, the series provides a reasonable selection of metal thickness from 0.30 mm to 31.75 mm.

Tubular products are generally ordered by specifying outside dimension and wall thickness. They may also be ordered by specifying inside dimension and wall thickness or outside and inside dimensions.

Sufficient coverage in logical steps is presented in the tables to serve most of the general requirements of industry.

It is recognized that for some applications, particularly large volume requirements for specific end uses, that precise engineering requirements dictate a need for sizes other than those presented in this Standard. This Standard is in no way meant to preclude the use of such sizes. However, for applications where requirements permit some latitude, the sizes given in this Standard should facilitate interchangeability of metals in design, reduce inventories and increase the availability from warehouse stock.

All the sizes included in this Standard are not necessarily produced in all metals and grades. Producers or distributors must be consulted to determine availability of a particular size for a given metal product.

3 BASIS OF TABLES

These tables are based upon a compilation of the most commonly used inch sizes, some of which are common to pipe outside diameters.

TABLE 1 PREFERRED METRIC EQUIVALENTS OF OUTSIDE DIAMETERS FOR TUBULAR METAL PRODUCTS OTHER THAN PIPE

O.D., in.	Metric Equivalent, mm	O.D., in.	Metric Equivalent, mm
0.125	3.18	2.896	73.56
0.188	4.78	3.000	76.20
0.250	6.35	3.125	79.38
0.312	7.92	3.250	82.55
0.375	9.52	3.500	88.90
0.405	10.29	3.750	95.25
0.435	11.05	3.839	97.51
0.500	12.70	4.000	101.60
0.540	13.72	4.125	104.78
0.562	14.27	4.250	107.95
0.625	15.88	4.500	114.30
0.675	17.14	4.750	120.65
0.750	19.05	5.000	127.00
0.840	21.34	5.125	130.18
0.875	22.22	5.500	139.70
0.961	24.41	5.562	141.27
1.000	25.40	6.000	152.40
1.050	26.67	6.125	155.58
1.250	31.75	6.500	165.10
1.315	33.40	6.625	168.28
1.336	33.93	6.750	171.45
1.375	34.92	7.000	177.80
1.410	35.81	7.500	190.50
1.465	37.21	7.750	196.85
1.480	37.59	8.000	203.20
1.500	38.10	8.052	204.52
1.550	39.37	8.125	206.38
1.625	41.28	8.500	215.90
1.660	42.16	8.625	219.08
1.750	44.45	9.000	228.60
1.900	48.26	9.125	231.78
2.000	50.80	9.250	234.95
2.104	53.44	9.500	241.30
2.125	53.98	10.125	257.18
2.250	57.15	10.750	273.05
2.375	60.32	12.125	307.98
2.500	63.50	13.000	330.20
2.625	66.68	14.000	355.60
2.750	69.85	15.000	381.00
2.875	73.02	16.000	406.40

GENERAL NOTE:
This Table is based upon commonly used inch sizes. The table presented herein is not intended to be restrictive in any manner. Other sizes are within the production capabilities of the different tubular metal products industries.

TABLE 2 PREFERRED METRIC EQUIVALENTS OF DISTANCES ACROSS FLATS FOR SQUARE AND RECTANGULAR TUBULAR METAL PRODUCTS

Across Flats, in.	Metric Equivalents, mm		Across Flats, in.	Metric Equivalents, mm
0.500	12.70		3.250	82.55
0.562	14.27		3.500	88.90
0.625	15.88		3.750	95.25
0.688	17.47		4.000	101.60
0.750	19.05		4.250	107.95
0.812	20.62		4.500	114.30
0.875	22.22		4.750	120.65
1.000	25.40		5.000	127.00
1.125	28.58		5.250	133.35
1.250	31.75		5.500	139.70
1.375	34.92		5.750	146.05
1.500	38.10		6.000	152.40
1.625	41.28		6.500	165.10
1.750	44.45		7.000	177.80
1.875	47.62		8.000	203.20
2.000	50.80		9.000	228.60
2.250	57.15		10.000	254.00
2.500	63.50		12.000	304.80
2.750	69.85		14.000	355.60
3.000	76.20		15.000	381.00

GENERAL NOTE:
This Table is based upon commonly used inch sizes. The table presented herein is not intended to be restrictive in any manner. Other sizes are within the production capabilities of the different tubular metal products industries.

TABLE 3 PREFERRED METRIC EQUIVALENTS OF WALL THICKNESSES FOR TUBULAR METAL PRODUCTS OTHER THAN PIPE

Wall Thickness, in.	Metric Equivalents, mm		Wall Thickness, in.	Metric Equivalents, mm
0.012	0.30		0.180	4.57
0.013	0.33		0.200	5.08
0.014	0.36		0.203	5.16
0.016	0.41		0.220	5.59
0.018	0.46		0.238	6.05
0.020	0.51		0.240	6.10
0.022	0.56		0.259	6.58
0.025	0.64		0.260	6.60
0.028	0.71		0.280	7.11
0.032	0.81		0.284	7.21
0.035	0.89		0.300	7.62
0.042	1.07		0.320	8.13
0.049	1.24		0.340	8.64
0.055	1.40		0.360	9.14
0.058	1.47		0.380	9.65
0.065	1.65		0.400	10.16
0.072	1.83		0.420	10.67
0.075	1.90		0.425	10.80
0.083	2.11		0.450	11.43
0.085	2.16		0.454	11.53
0.095	2.41		0.500	12.70
0.105	2.67		0.562	14.27
0.109	2.77		0.625	15.88
0.120	3.05		0.688	17.48
0.134	3.40		0.750	19.05
0.135	3.43		0.875	22.22
0.148	3.76		1.000	25.40
0.150	3.81		1.125	28.58
0.165	4.19		1.250	31.75

GENERAL NOTE:
This Table is based upon commonly used inch sizes. The table presented herein is not intended to be restrictive in any manner. Other sizes are within the production capabilities of the different tubular metal products industries.

AMERICAN NATIONAL STANDARDS FOR PRODUCT SIZES

TITLE OF STANDARD	
Preferred Thicknesses for Uncoated Thin Flat Metals (Under 0.250 In.)	B32.1-1952(R1983)
Preferred Diameters for Round Wire — 0.500 Inches and Under	B32.2-1969(R1979)
Preferred Metric Sizes for Flat Metal Products	B32.3M-1984
Preferred Metric Sizes for Round, Square, Rectangle and Hexagon Metal Products	B32.4M-1980
Preferred Metric Sizes for Tubular Metal Products Other Than Pipe	B32.5-1977(R1983)
Preferred Metric Equivalents of Inch Sizes for Tubular Metal Products Other Than Pipe	B32.6M-1984
Welded and Seamless Wrought Steel Pipe	B36.10-1979
Stainless Steel Pipe	B36.19-1976

The ASME Publications Catalog shows a complete list of all Standards published by the Society.

The catalog and binders for holding these Standards are available upon request.