



Designation: B483/B483M – 21

Standard Specification for Aluminum and Aluminum-Alloy Drawn Tube and Drawn Pipe for General Purpose Applications¹

This standard is issued under the fixed designation B483/B483M; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

NOTE—Tables 1 and 2 were corrected and the year date was changed on Oct. 22, 2021.

1. Scope*

1.1 This specification covers aluminum and aluminum-alloy drawn tube and drawn pipe in straight lengths and tube in coils for general purpose applications and climate control (HVAC) in the alloys (Note 2) and tempers shown in Tables 1-3. Coiled tubes are generally available only as round tubes with a wall thickness not exceeding 0.083 in. [2.00 mm] and only in non-heat-treatable alloys.

NOTE 1—For drawn seamless tubes, see Specification B210/B210M, for drawn seamless tubes to be used in condensers and heat exchangers, Specifications B234 and B234M, and for seamless pipe and tube, Specification B241/B241M. For extruded structural tube and pipe, see Specification B429/B429M.

NOTE 2—This specification's use of the term *alloy* in the general sense includes aluminum as well as aluminum alloy.

1.2 Alloy and temper designations are in accordance with ANSI H35.1/H35.1M. The equivalent Unified Number System alloy designations are those of Table 4 preceded by A9, for example A91060 for aluminum 1060 in accordance with Practice E527.

1.3 For acceptance criteria for inclusion of new aluminum and aluminum alloys in this specification, see Annex A2.

1.4 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 may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

¹ This specification is under the jurisdiction of ASTM Committee B07 on Light Metals and Alloys and is the direct responsibility of Subcommittee B07.03 on Aluminum Alloy Wrought Products.

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1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 The following documents of the issue in effect on date of order acceptance form a part of this specification to the extent referenced herein:

2.2 ASTM Standards:²

- B210/B210M Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes
- B234 Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes for Surface Condensers, Evaporators, and Heat Exchangers
- B234M Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes for Surface Condensers, Evaporators, and Heat Exchangers (Metric)
- B241/B241M Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube
- B429/B429M Specification for Aluminum-Alloy Extruded Structural Pipe and Tube
- B557 Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products
- B557M Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products (Metric)
- B660 Practices for Packaging/Packing of Aluminum and Magnesium Products
- B666/B666M Practice for Identification Marking of Aluminum and Magnesium Products
- B807/B807M Practice for Extrusion Press Solution Heat Treatment for Aluminum Alloys
- B881 Terminology Relating to Aluminum- and Magnesium-Alloy Products

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.

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

**B483/B483M – 21****TABLE 1 Tensile Property Limits, Tube (US Customary)^{A,B}**

Alloy and Temper	Specified Wall Thickness, in.	Tensile Strength, ksi				Elongation ^{C,E,I} min, %	
		Ultimate		Yield ^D (0.2 % Offset)		Full Section Specimen (2 in.) ^E	Cut-out Specimen ^F 4x Diameter ^C
		min	max	min	max		
1060 ^{F,H}							
1060-O	0.010–0.500	8.5	13.5	2.5	...	...	...
1060-H12	0.010–0.500	10.0	...	4.0	...	...	...
1060-H14	0.010–0.500	12.0	...	10.0	...	...	...
1060-H18	0.010–0.500	16.0	...	13.0	...	...	...
1060-H113 ^J	0.010–0.500	8.5	...	2.5	...	...	...
1100 ^{F,H}							
1100-O	0.014–0.500	11.0	15.5	3.5	...	...	...
1100-H12	0.014–0.500	14.0	...	11.0	...	...	...
1100-H14	0.014–0.500	16.0	...	14.0	...	...	...
1100-H16	0.014–0.500	19.0	...	17.0	...	...	...
1100-H18	0.014–0.500	22.0	...	20.0	...	...	...
1100-H113 ^J	0.014–0.500	11.0	...	3.5	...	...	...
3003 ^{F,H}							
3003-O	0.010–0.024	14.0	19.0	5.0	...	...	...
	0.025–0.049	14.0	19.0	5.0	...	30	20
	0.050–0.259	14.0	19.0	5.0	...	35	25
	0.260–0.500	14.0	19.0	5.0	...	...	30
3003-H12	0.010–0.500	17.0	...	12.0	...	...	...
3003-H14	0.010–0.024	20.0	...	17.0	...	3	...
	0.025–0.049	20.0	...	17.0	...	5	3
	0.050–0.259	20.0	...	17.0	...	8	4
	0.260–0.500	20.0	...	17.0	...	...	...
3003-H16	0.010–0.024	24.0	...	21.0	...	...	...
	0.025–0.049	24.0	...	21.0	...	3	2
	0.050–0.259	24.0	...	21.0	...	5	4
	0.260–0.500	24.0	...	21.0	...	...	...
3003-H18	0.010–0.024	27.0	...	24.0	...	2	...
	0.025–0.049	27.0	...	24.0	...	3	2
	0.050–0.259	27.0	...	24.0	...	5	3
	0.260–0.500	27.0	...	24.0	...	...	...
3003-H113 ^J	0.010–0.500	14.0	...	5.0	...	...	...
5050 ^{F,H}							
5050-O	0.010–0.500	18.0	24.0†	6.0	...	...	...
5050-H32	0.010–0.500	22.0	...	16.0	...	...	...
5050-H34	0.010–0.500	25.0	...	20.0	...	...	...
5050-H36	0.010–0.500	27.0	...	22.0	...	...	...
5050-H38	0.010–0.500	29.0	...	24.0	...	...	...
5052 ^{F,H}							
5052-O	0.010–0.450	25.0	35.0	10.0	...	...	...
5052-H32	0.010–0.450	31.0	...	23.0	...	...	...
5052-H34	0.010–0.450	34.0	...	26.0	...	...	...
5052-H36	0.010–0.450	37.0	...	29.0	...	...	...
5052-H38	0.010–0.450	39.0	...	31.0	...	...	...
6061							
6061-O	0.018–0.500	...	22.0	...	14.0	15	15
6061-T4	0.025–0.049	30.0	...	16.0	...	16	14
	0.050–0.259	30.0	...	16.0	...	18	16
	0.260–0.500	30.0	...	16.0	...	20	18
	0.025–0.049	30.0	...	14.0	...	16	14
6061-T42 ^G	0.050–0.259	30.0	...	14.0	...	18	16
	0.260–0.500	30.0	...	14.0	...	20	18
	0.025–0.049	42.0	...	35.0	...	10	8
6061-T6 and T62 ^G	0.050–0.259	42.0	...	35.0	...	12	10
	0.260–0.500	42.0	...	35.0	...	14	12
	0.035–0.350	45.0	...	40.0	...	8	...
6063							
6063-O	0.018–0.500	...	19.0	...	...	...	...
6063-T4 and T42 ^G	0.025–0.049	22.0	...	10.0	...	16	14
	0.050–0.259	22.0	...	10.0	...	18	16
	0.260–0.500	22.0	...	10.0	...	20	18
	0.025–0.049	33.0	...	28.0	...	12	8
6063-T6 and T62 ^G	0.050–0.259	33.0	...	28.0	...	14	10
	0.260–0.500	33.0	...	28.0	...	16	12
	0.025–0.049	33.0	...	30.0	...	5	...
6063-T831	0.025–0.049	28.0	...	25.0	...	5	...
6063-T832	0.025–0.049	41.0	...	36.0	...	8	5
	0.050–0.259†	40.0	...	35.0	...	8	5
6262							