



Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing¹

This standard is issued under the fixed designation A513/A513M; 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.

1. Scope*

1.1 This specification covers electric-resistance-welded carbon and alloy steel tubing for use as mechanical tubing.

1.2 This specification covers mechanical tubing made from hot- or cold-rolled steel.

1.3 This specification covers round, square, rectangular, and special shape tubing.

Type	Size Range (Round Tubing)
Electric-Resistance-Welded Tubing from Hot-Rolled Steel	outside diameter from ½ to 15 in. [10 to 380 mm] wall from 0.065 to 0.650 in. [1.65 to 16.50 mm]
Electric-Resistance-Welded Tubing from Cold-Rolled Steel	outside diameter from ⅝ to 12 in. [9.5 to 305 mm] wall from 0.022 to 0.134 in. [0.56 to 3.40 mm]

1.4 Optional supplementary requirements are provided and when desired, shall be so stated in the order.

1.5 The values stated in either SI units or inch-pound 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 non-conformance with the standard. The inch-pound units shall apply unless the “M” designation of this specification is specified in the order. In this specification hard or rationalized conversions apply to diameters, lengths and tensile properties. Soft conversion applies to other SI measurements.

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 A01.09 on Carbon Steel Tubular Products.

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2. Referenced Documents

2.1 ASTM Standards:²

- A370 Test Methods and Definitions for Mechanical Testing of Steel Products
- A700 Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment
- A751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products
- A1008/A1008M Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
- A1011/A1011M Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
- A1039/A1039M Specification for Steel, Sheet, Hot Rolled, Carbon, Commercial, Structural, and High-Strength Low-Alloy, Produced by Twin-Roll Casting Process
- A1040 Guide for Specifying Harmonized Standard Grade Compositions for Wrought Carbon, Low-Alloy, and Alloy Steels
- E213 Practice for Ultrasonic Testing of Metal Pipe and Tubing
- E273 Practice for Ultrasonic Testing of the Weld Zone of Welded Pipe and Tubing
- E309 Practice for Eddy-Current Examination of Steel Tubular Products Using Magnetic Saturation
- E570 Practice for Flux Leakage Examination of Ferromagnetic Steel Tubular 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.