



Designation: A519/A519M – 17

Standard Specification for Seamless Carbon and Alloy Steel Mechanical Tubing¹

This standard is issued under the fixed designation A519/A519M; 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 several grades of carbon and alloy steel seamless mechanical tubing. The grades are listed in [Tables 1-3](#). When welding is used for joining the weldable mechanical tube grades, the welding procedure shall be suitable for the grade, the condition of the components, and the intended service.

1.2 This specification covers both seamless hot-finished mechanical tubing and seamless cold-finished mechanical tubing in sizes up to and including 12 3/4 in. [325 mm] outside diameter for round tubes with wall thicknesses as required.

1.3 The tubes shall be furnished in the following shapes, as specified by the purchaser: round, square, rectangular, and special sections.

1.4 Supplementary requirements of an optional nature 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 the standard. Within the text, the SI units are shown in brackets or parentheses. 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 diameter, lengths and tensile properties. Soft conversion applies to other SI measurements.

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.*

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](#)

[A751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products](#)

[A1040 Guide for Specifying Harmonized Standard Grade Compositions for Wrought Carbon, Low-Alloy, and Alloy Steels](#)

[A1058 Test Methods for Mechanical Testing of Steel Products—Metric](#)

2.2 Military Standards:

[MIL-STD-129 Marking for Shipment and Storage³](#)

[MIL-STD-163 Steel Mill Products Preparation for Shipment and Storage³](#)

2.3 Federal Standard:

[Fed. Std. No. 123 Marking for Shipment \(Civil Agencies\)³](#)

3. Ordering Information

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

3.1.1 Quantity (feet, weight, or number of pieces),

3.1.2 Name of material (seamless carbon or alloy steel mechanical tubing),

3.1.3 Form (round, square, rectangular or special shapes, Section 1),

3.1.4 Dimensions (round, outside diameters and wall thickness, Section 8; square and rectangular, outside dimensions and wall thickness, Section 9; other, specify),

3.1.5 Length (specific or random, mill lengths, see 8.5 and 9.5),

3.1.6 Manufacture (hot finished or cold finished, 4.5 and 4.6),

3.1.7 Grade (Section 5),

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.

³ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

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