Designation: A 513 – 00

Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing[1]

This standard is issued under the fixed designation A 513; 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 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. (19.0 to 381.0 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 ⅜to 12 in. (9.92 to 304.8 mm) wall from 0.022 to 0.134 in. (0.71 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 inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 *ASTM Standards:*

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products[2]

E 1806 Practice for Sampling Steel and Iron for Determination of Chemical Composition[3]

E 213 Practice for Ultrasonic Examination of Metal Pipe and Tubing[4]

E 273 Practice for Ultrasonic Examination of Longitudinal Welded Pipe and Tubing[4]

E 309 Practice for Eddy-Current Examination of Steel Tubular Products Using Magnetic Saturation[4]

E 570 Practice for Flux Leakage Examination of Ferromagnetic Steel Tubular Products[4]

2.2 *ANSI Standard:*

B 46.1 Surface Texture[5]

2.3 *Military Standards:*

MIL-STD-129 Marking for Shipment and Storage[6]

MIL-STD-163 Steel Mill Products Preparation for Shipment and Storage[6]

2.4 *Federal Standard:*

Fed. Std. No. 123 Marking for Shipments (Civil Agencies)[6]

3. Ordering Information

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

3.1.1 Quantity (feet or number of lengths),

3.1.2 Name of material (electric resistance-welded carbon or alloy steel mechanical tubing),

3.1.3 Type, description and code letters, (Section 1 and 12.1),

3.1.4 Thermal condition, (12.2),

3.1.5 Flash condition, (12.3),

3.1.6 Grade designation, if required, (Section 5),

3.1.7 Report chemical analysis and product analysis, if required (Sections 6 and 7),

3.1.8 Individual supplementary requirements, if required (S1 to S10, inclusive),

3.1.9 Cross section (round, square, rectangular and special shapes),

3.1.10 Dimensions, round, outside and inside and wall thickness (see 8.1 and 8.2) or square and rectangular, outside dimension and wall thickness and corner radii, if required (see 9.1 and 9.2),

3.1.11 Surface finish (see 11.2),

3.1.12 Length, round, mill lengths or definite cut length (see 8.3), square and rectangular, specified length (see 9.4),

3.1.13 Squareness of cut, round tubing, if required, (see 8.4),

[1] This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel, and Related Alloysand is the direct responsibility of Subcommittee A01.09 on Carbon Steel Tubular Products.

Current edition approved March 10, 2000. Published May 2000. Originally published as A 513 – 64. Last previous edition A 513 – 98.

[2] *Annual Book of ASTM Standards,* Vol 01.03.

[3] *Annual Book of ASTM Standards,* Vol 03.06.

[4] *Annual Book of ASTM Standards,* Vol 03.03.

[5] Available from American National Standards Institute, 11 West 42nd St., 13th Floor, New York, NY 10036.

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

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