



Standard Specification for Steel Wire, Oil-Tempered for Mechanical Springs¹

This standard is issued under the fixed designation A 229/A 229M; 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 two classes of oil-tempered steel spring wire intended especially for the manufacture of mechanical springs and wire forms.

1.2 The values stated in either SI (metric) units or inch-pound units are to be regarded separately as standard. The values stated in each system are not exact equivalents; therefore, each system must be used independent of the other.

2. Referenced Documents

2.1 ASTM Standards:

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products²

A 510 Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel²

A 510M Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel [Metric]²

A 700 Practices for Packaging, Marking, and Loading Methods for Steel Products for Domestic Shipment³

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products²

A 941 Terminology Relating to Steel, Stainless Steel, Related Alloys and Ferroalloys²

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁴

E 1077 Test Methods for Estimating the Depth of Decarburization of Steel Specimens⁴

2.2 American National Standard:

B 32.4M Preferred Metric Sizes for Round, Square, Rectangle, and Hexagon Metal Products⁵

2.3 Military Standard:

MIL-STD-163 Steel Mill Products, Preparation for Shipment and Storage⁶

2.4 Federal Standard:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)⁶

2.5 AIAG Standard:

AIAGB-5 02.00 Primary Metals Identification Tag Application Standard⁷

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 For definition of terms used in this specification, refer to Terminology A 941.

4. Ordering Information

4.1 It shall be the responsibility of the purchaser to specify all requirements that are necessary for material under this specification. Such requirements may include, but are not limited to, the following:

4.1.1 Quantity (mass or weight),

4.1.2 Name of material (oil-tempered steel mechanical spring wire) and class (Table 1 or Table 2),

4.1.3 Dimensions (Section 10),

4.1.4 Chemical composition (Table 3), if required,

4.1.5 Packaging (Section 16),

4.1.6 Cast or heat analysis report, if desired (see 7.2),

4.1.7 Certification or test report, or both, if specified (Section 15), and

4.1.8 ASTM designation and date of issue.

NOTE 1—A typical metric ordering description is as follows: 10 000 kg oil-tempered steel mechanical spring wire, Class I, 8.00 mm diameter, in 250-kg coils to ASTM A 229 M – xx, or for inch-pound units, 20 000 lb oil-tempered steel mechanical Spring Wire, Class I 0.315 in. diameter, in 500-lb coils to ASTM A 229 – xx.

¹ This specification is under the jurisdiction of ASTM Committee A-1 on Steel, Stainless Steel, and Related Alloys, and is the direct responsibility of Subcommittee A01.03 on Steel Rod and Wire.

Current edition approved March 10, 1999. Published May 1999. Originally published as A 229 – 39 T. Last previous edition A 229/A 229M – 93.

² Annual Book of ASTM Standards, Vol 01.03.

³ Annual Book of ASTM Standards, Vol 01.05.

⁴ Annual Book of ASTM Standards, Vol 14.02.

⁵ Available from American National Standards Institute, 11 West 42nd Street, 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.

⁷ Available from the Automotive Industry Action Group, 26200 Lahser, Suite 200, Southfield, MI 48034.