



Designation: A228/A228M – 16

Standard Specification for Steel Wire, Music Spring Quality¹

This standard is issued under the fixed designation A228/A228M; 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 two types of round, cold-drawn steel music spring quality wire, uniform in mechanical properties, intended especially for the manufacture of springs subject to high stresses or requiring good fatigue properties.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. 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.

2. Referenced Documents

2.1 ASTM Standards:²

A370 Test Methods and Definitions for Mechanical Testing of Steel Products
A510/A510M Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel
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
A938 Test Method for Torsion Testing of Wire
A941 Terminology Relating to Steel, Stainless Steel, Related Alloys, and Ferroalloys
E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
E1077 Test Methods for Estimating the Depth of Decarburization of Steel Specimens

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 A01.03 on Steel Rod and Wire.

Current edition approved Dec. 1, 2016. Published January 2017. Originally approved in 1939. Last previous edition approved in 2014 as A228/A228M – 14. DOI: 10.1520/A0228_A0228M-16.

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.

2.2 Federal Standard:

Fed. Std. No. 123, Marking for Shipment (Civil Agencies)³

2.3 American National Standard:⁴

B32.100 Preferred Metric Sizes for Flat, Round, Square, Rectangular, and Hexagonal Metal Products

2.4 AIAG Standard:⁵

AIAG B-5 02.00 Primary Metals Identification Tag Application Standard

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminology A941.

4. Ordering Information

4.1 Orders for steel wire under this specification shall contain the following information:

- 4.1.1 Quantity (weight in lbs, or mass in kg),
- 4.1.2 Name (music steel spring wire) and type (Type 1 or Type 2) of material,
- 4.1.3 Diameter (Table 1 and Section 9),
- 4.1.4 Finish (see 10.2),
- 4.1.5 Packaging (Section 15), and
- 4.1.6 ASTM designation and year of issue.

4.2 The purchaser shall have the option to specify additional requirements, including but not limited to:

- 4.2.1 Requirements for certifications, heat, or test reports, (see Section 14),
- 4.2.2 Special packing, marking, and loading requirements (see Section 15), and
- 4.2.3 Other special requirements, if any,

NOTE 1—A typical inch-pound units ordering description is as follows: 10 000 lb Music Steel Spring Wire, Type 1, 0.055 in. diameter, phosphate

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁵ Available from Automotive Industry Action Group (AIAG), 26200 Lahser Rd., Suite 200, Southfield, MI 48033, <http://www.aiag.org>.

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