



Standard Specification for Metallic Coated Carbon Steel Wire, Coated at Size and Drawn to Size for Mechanical Springs¹

This standard is issued under the fixed designation A 764; 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.

1. Scope

1.1 This specification covers two finishes of round, metallic coated, hard-drawn, carbon steel spring wire having properties and quality for the manufacture of mechanical springs and wire forms that are not subject to high stress or require high fatigue properties.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values stated in SI units are for information purposes only.

2. Referenced Documents

2.1 ASTM Standards:

A 90 Test Method for Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles²

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products³

A 428 Test Method for Weight of Coating on Aluminum-Coated Iron or Steel Articles²

A 510 Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel³

A 700 Practices for Packaging, Marking, and Loading Methods for Steel Products for Domestic Shipment⁴

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products³

B 6 Specification for Zinc (Slab Zinc)⁵

B 750 Specification for Zinc-5 % Aluminum-Mischmetal Alloy (UNS Z 38510) in Ingot Form for Hot-Dip Coatings⁵

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁶

2.2 U.S. Government Standards:⁷

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

MIL-STD-129 Marking for Shipment and Storage

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

2.3 Automotive Industry Action Group Standard:

AIAG B-5 02.00 Primary Metals Identification Tag Application Standard⁸

3. Terminology

3.1 Definitions:

3.1.1 *coating class (regular, 1, or 3)*—specifies the minimum coating weight per unit area of uncoated wire surface. Aluminum coated wire is only specified in one class.

3.1.2 *coating finish (1 or 2)*—specifies whether a coating is applied prior to or after the final cold drawing operation.

3.1.3 *coating type (A, B, or C)*—specifies the required alloy content of the coating.

3.1.4 *tensile class (I or II)*—specifies the tensile range to which the wire is to conform.

4. Ordering Information

4.1 Orders for material under this specification should include the following information:

4.1.1 Quantity (weight),

4.1.2 Diameter, finish, class of coating if applicable, type of metallic coating, class of tensile strength, name of material,

4.1.3 ASTM designation and date of issue,

4.1.4 Packaging (Section 15),

4.1.5 Cast or heat analysis report, if desired (Section 6), and

4.1.6 Test report, if desired (Section 14).

NOTE 1—A typical ordering description is as follows: 30 000 lb 0.120 in. Finish 2, Class 1, Type B Metallic Coating, Tensile Class II, Steel Mechanical Spring Wire in 400-lb, 22-in. coils to ASTM A 764, dated .

5. Materials and Manufacture

5.1 The base metal of the wire shall be of good commercial quality steel. The steel may be either ingot cast or strand cast.

5.2 A sufficient discard shall be made to ensure freedom from injurious piping and undue segregation.

5.3 The wire shall be cold drawn to produce the desired mechanical properties.

5.4 Each coil shall be of one continuous length. Only welds made prior to cold drawing are permitted, unless otherwise

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

Current edition approved June 15, 1995. Published August 1995. Originally published as A 764 – 79. Last previous edition A 764 – 93.

² Annual Book of ASTM Standards, Vol 01.06.

³ Annual Book of ASTM Standards, Vol 01.03.

⁴ Annual Book of ASTM Standards, Vol 01.05.

⁵ Annual Book of ASTM Standards, Vol 02.04.

⁶ Annual Book of ASTM Standards, Vol 14.02.

⁷ Available from Standardization Documents Order Desk, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, ATTN: NPODS.

⁸ Available from Automotive Industry Action Group, 26200 Lahser, Suite 200, Southfield, MI 48034.