



Designation: A 809 – 98

Standard Specification for Aluminum-Coated (Aluminized) Carbon Steel Wire¹

This standard is issued under the fixed designation A 809; 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 soft, medium, and hard temper carbon steel wire coated with aluminum by a hot-dip process, supplied in coils for general use.

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

2. Referenced Documents

2.1 ASTM Standards:

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

A 428 Test Method for Weight of Coating on Aluminum-Coated Iron or Steel Articles³

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

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specification⁵

2.2 U.S. Military Standards:

MIL-STD-129 Marking for Shipment and Storage⁶

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

MIL-STD-1188 Commercial Packaging of Supplies and Equipment⁶

2.3 U.S. Federal Standard:

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

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *carbon steel*—steel is considered to be carbon steel (1) when no minimum content is specified or required for aluminum, chromium, cobalt, columbium, molybdenum, nickel,

titanium, tungsten, vanadium, or zirconium or any other element is added to obtain a desired alloying effect; (2) when the specified minimum copper content does not exceed 0.40 %; or (3) when the maximum specified content for any of the following elements does not exceed these percentages: manganese 1.65, silicon 0.60, or copper 0.60.

3.1.2 *aluminum-coated (aluminized) wire*—aluminum-coated (aluminized) wire is produced by passing individual wires through a bath of molten aluminum, after first being properly preheated, cleaned, and pickled.

3.1.3 *temper—as applied to aluminum-coated (aluminized) wire*, pertains to stiffness or resistance to bending. It has customarily been expressed by tensile strength as shown in the three ranges given in Table 1. The temper of a given chemical composition can be controlled by the use of a different thermal treatment for each temper. Different properties can also be obtained by varying the chemical composition for a given thermal treatment. A thorough understanding of the end use of the wire, which involves both tensile strength and ductility, should be reached between the user and the manufacturer of the aluminum-coated (aluminized) wire. Requirements for both chemical composition and mechanical properties may be technologically impracticable.

4. Ordering Information

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

4.1.1 Quantity (weight in pounds (kilograms)),

4.1.2 Coated wire diameter, expressed to 0.001 in. (0.025 mm),

4.1.3 Name of material (aluminum-coated carbon steel wire),

4.1.4 Temper (soft, medium, or hard) (Table 1),

4.1.5 Packaging requirements, and

4.1.6 ASTM designation and year of issue.

NOTE 1—A typical ordering description is as follows: 40 000 lb, 0.148-in. aluminum-coated carbon steel wire, medium temper, in 500- to 600-lb catch-weight coils on tubular carriers to ASTM A 809–88.

¹ This specification is under the jurisdiction of ASTM Committee A05 on Metallic-Coated Iron and Steel Products and is the direct responsibility of Subcommittee A05.12 on Wire Specifications.

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² Annual Book of ASTM Standards, Vol 01.03.

³ Annual Book of ASTM Standards, Vol 01.06.

⁴ Annual Book of ASTM Standards, Vol 01.05.

⁵ Annual Book of ASTM Standards, Vol 14.02.

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