



Designation: A809 – 23

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

This standard is issued under the fixed designation A809; 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 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 standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

A428/A428M Test Method for Weight [Mass] of Coating on Aluminum-Coated Iron or Steel Articles

A700 Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment

A902 Terminology Relating to Metallic Coated Steel Products

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

3. Terminology

3.1 *Definitions*—See Terminology A902 for definitions of general terminology relating to metallic-coated steel products.

3.2 *Definitions of Terms Specific to This Standard:*

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 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.

3.2.1 *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.

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 1000 to 1500 lb catch-weight coils on tubular carriers to ASTM A809–88.

5. Materials and Manufacture

5.1 The carbon steel rod from which the wire is produced shall be manufactured by any commercially accepted steel making practice.

5.2 The ingot or pig aluminum used for coating shall conform to the following impurity limits:

	max, %
Copper	0.10
Iron	0.50

6. Mechanical Properties

6.1 The aluminum-coated wire shall meet the tensile strength in accordance with Table 1 when tested in accordance with Test Methods and Definitions A370.

6.2 Test specimens containing a weld or an obvious defect shall be discarded and another test specimen obtained to verify conformance to the tensile strength requirements.

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