



Designation: A824 – 01 (Reapproved 2022)

Standard Specification for Metallic-Coated Steel Marcellled Tension Wire for Use With Chain Link Fence¹

This standard is issued under the fixed designation A824; 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 0.177 in. (4.50 mm) diameter metallic-coated carbon steel marcellled tension wire for use with chain-link fence. The 0.177 in. (4.50 mm) diameter metallic-coated wire shall be produced in accordance with Specification A817. Three types of coatings are covered:

- 1.1.1 *Type I*—Aluminum-coated (aluminized),
- 1.1.2 *Type II*—Zinc-coated (galvanized), and
- 1.1.3 *Type III*—Zinc-5 % Aluminum Mischmetal (Zn5Al-MM) alloy-coated.

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

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *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

- A700 Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment
- A817 Specification for Metallic-Coated Steel Wire for Chain-Link Fence Fabric and Marcellled Tension Wire
- A902 Terminology Relating to Metallic Coated Steel Products

¹ This specification is under the jurisdiction of ASTM Committee F14 on Fences and is the direct responsibility of Subcommittee F14.40 on Chain Link Fence and Wire Accessories.

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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. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in this specification, refer to Terminology A902.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *marcelling*—a process whereby either a uniform helix or a series of waves is put in a wire to facilitate tensioning the wire when installed to support the top or bottom, or both, of the chain-link fabric (see 5.2.1).

4. Ordering Information

4.1 Orders for metallic-coated steel tension wire should include the following information:

- 4.1.1 Quantity (expressed in number of coils),
- 4.1.2 Name of product,
- 4.1.3 Type of coating (see 5.3),
- 4.1.4 Class of coating if applicable (see 5.3.2 and 5.3.3),
- 4.1.5 Packaging requirements (see Section 14),
- 4.1.6 Certification or test report, or both, if specified (see Section 13), and
- 4.1.7 ASTM designation and year of issue.

NOTE 1—A typical ordering description is as follows: 20 coils metallic-coated steel tension wire, Type II, Class 2, in 100-lb coils, to ASTM A824 – ____.

5. Materials and Manufacture

5.1 The steel rod from which the wire is drawn shall be manufactured by the open-hearth, electric-furnace, or basic-oxygen process.

5.2 The 0.177 in. (4.50 mm) diameter wire shall be cold-drawn, metallic-coated at finished size to produce the specified mechanical properties per Specification A817, then marcellled as specified in 5.2.1.

5.2.1 Marcelling shall produce a helix or series of waves in the wire with the offset distance from the wire axis to the wave peaks or the helix not less than 0.125 in. (3.18 mm) (measured to the center of the wire). The pitch (distance between successive points on the waves or helix) shall be not more than 12 in. (305 mm). Prior to making measurements of the marcelling, curvature from coiling shall be removed by the application of a 500-lbf (2225-N) tensile load. Maintain the