



Designation: A899 – 91 (Reapproved2007)

Standard Specification for Steel Wire, Epoxy-Coated¹

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1. Scope

1.1 This specification covers steel wire in the size range of 0.120 to 0.500 in. (3.05 to 12.7 mm) with three classes of protective epoxy coating, in coils, for general use. Class A coating is intended for use for moderate corrosion protection, Class B coating for more severe protection, and Class C for severe corrosion and abrasion protection.

NOTE 1—The coating applicator is identified throughout this specification as the manufacturer.

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

2. Referenced Documents

2.1 *ASTM Standards*:²

A510 Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel

A775/A775M Specification for Epoxy-Coated Steel Reinforcing Bars

A853 Specification for Steel Wire, Carbon, for General Use

G12 Test Method for Nondestructive Measurement of Film Thickness of Pipeline Coatings on Steel

3. Ordering Information

3.1 The purchaser shall specify the following:

- 3.1.1 Wire size (the nominal diameter of the coated wire),
- 3.1.2 Quantity,
- 3.1.3 Class of coating, and
- 3.1.4 Method of packaging, such as, coils, coils on steel reels, etc.

3.2 The purchaser may specify the following if desired:

- 3.2.1 Requirements for certification (see 14.1),
- 3.2.2 Requirements for patching material (see 4.3),

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.

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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.

- 3.2.3 Specific requirements for test frequency (see 8.1), and
- 3.2.4 Requirements for outside inspection of manufacturing plant.

NOTE 2—A typical ordering description for wire is as follows: 40 000 lb of epoxy coated wire, ASTM A853, 0.148 in. diameter, Grade 1018 with a Class A epoxy coating in 1000 lb coils on steel reels to ASTM A899.

4. Materials and Manufacture

4.1 Steel wire to be coated shall meet the requirements of the purchaser or the requirements of an applicable general wire specification such as Specification A510 and Specification A853, and shall be free of surface contaminants such as oil, grease, or paint when received at the manufacturer's plant and prior to cleaning and coating.

4.2 The coating material shall meet the requirements listed in Annex A1 of Specification A775/A775M.

4.2.1 If specified in the order, a written certification shall be furnished to the purchaser that properly identifies the number of each batch of coating material used in the order, material, quantity represented, date of manufacture, name and address of manufacturer, and a statement that the supplied coating material meets the requirements of Annex A1 of Specification A775/A775M.

4.3 If specified in the order, patching material, compatible with the coating material and meeting the requirements of Annex A1 of Specification A775/A775M shall be supplied to the purchaser.

5. Surface Preparation

5.1 The surface of the steel wire to be coated shall be cleaned by abrasive blast cleaning or chemical cleaning prior to coating to ensure proper adherence of the epoxy to the steel surface.

5.2 Prior to abrasive blast cleaning, the surface of the wire to be coated may be cleaned in an aqueous solution to remove residual wire drawing lubricants.

6. Application of Coating

6.1 The coating shall be applied to the cleaned surface as soon as possible after cleaning, and before oxidation of the surface discernible to the unaided eye occurs.