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AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
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Standard Specification for Zinc-Coated Steel Strand for Messenger Support of Figure 8 Cable¹

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1. Scope

1.1 This specification covers two sizes of extra-high-strength grade of concentric-lay steel wire strand, composed of seven, zinc-coated steel wires, specifically intended for use as the supporting messenger in Figure 8-type communication and electrical cables.

1.2 The values stated in inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 ASTM Standards:

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

A 902 Terminology Relating to Metallic Coated Steel Products²

B 6 Specification for Zinc (Slab Zinc)³

3. Terminology

3.1 *Definitions*—See Terminology A 902 for definitions of general terminology relating to metallic coated steel products.

4. Description

4.1 Figure 8 cable consists of a plastic-sheathed communication or electrical cable made with an integral supporting messenger strand. The supporting messenger strand has a plastic sheath with a narrow, longitudinal web connecting to the plastic sheath of the cable. Generally the plastic sheath over the supporting strand, the connecting web, and the plastic sheath over the cable are all applied by extruding in one operation.

4.2 The galvanized steel strand used for the support messenger of Figure 8-type cable is generally coated by flooding with a sealing compound before the plastic sheath is applied (Note). It is generally preferred that this sealing compound be applied to the individual wires during the stranding operation just before the wires are laid together. This ensures that all wires are completely covered and the interstices between the

wires are sealed with a thermoplastic flooding compound to prevent intrusion of moisture under the plastic sheath. Sometimes the thermoplastic material is only applied to the outside of the finished strand.

NOTE 1—The cable manufacturer should advise the strand manufacturer of the plastic to be used for the sheath so that a sealing compound can be selected to avoid any adverse effects on the sheath.

5. Ordering Information

5.1 Orders for material under this specification shall include the following information:

5.1.1 Nominal strand diameter (Table 1),

5.1.2 Quantity of each size of strand, length in feet (metres),

5.1.3 Unit length (see 16.1),

5.1.4 Sealing compound, if required, and the method of application. Special requirements of sealing compound (Note),

5.1.5 Package size if different from standard (Section 16),

5.1.6 Special package marking (see 16.4), and

5.1.7 Inspection (Section 14).

6. Materials and Manufacture

6.1 The base metal of the wires shall be steel made by the open-hearth, basic-oxygen, or electric-furnace process and of such quality and purity that, when drawn to the size of wire specified and coated with zinc, the finished strand and the individual wires shall be of uniform quality and have the properties and characteristics as prescribed in this specification.

6.2 The slab zinc, when used for the wire coating, shall be any grade of zinc conforming to Specification B 6.

7. Stranding

7.1 Six wires shall be stranded with a uniform left-hand lay about a center wire to form the completed strand. All wires shall be stranded with uniform tension. Stranding shall be sufficiently close to ensure no appreciable reduction in diameter when stressed to 10 % of the specified strength. A left-hand lay is defined as a counter-clockwise twist away from the observer.

7.2 The strand shall have a uniform pitch of not less than 14 times nor more than 22 times the nominal strand diameter.

7.3 All wires in the strand shall lie naturally in their true positions in the completed strand and, when the strand is cut, the ends shall remain in position or be readily replaced by hand

¹ This specification is under the jurisdiction of ASTM Committee A-5 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*, Vols 01.06 and 02.03.

³ *Annual Book of ASTM Standards*, Vols 02.03 and 02.04.