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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Specification for Metallic Coated Stranded Steel Core for Aluminum Conductors, Steel Reinforced (ACSR)¹

This standard is issued under the fixed designation B 500/B 500M; 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 7-wire, 19-wire, 37-wire, and 61-wire zinc-coated (galvanized), zinc-5 % aluminum-mischmetal alloy-coated, and aluminum-coated (aluminized) stranded steel core inserted for use in aluminum conductors, steel reinforced (ACSR).

1.2 The values stated in inch-pound units are to be regarded separately as standard. The values in each system are not exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with this specification.

2. Referenced Documents

2.1 ASTM Standards:

B 232/B 232M Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Reinforced (ACSR)²

B 341/B 341M Specification for Aluminum-Coated (Aluminized) Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR/AZ)²

B 498/B 498M Specification for Zinc-Coated (Galvanized) Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR)²

B 606 Specification for High-Strength Zinc-Coated (Galvanized) Steel Core Wire for Aluminum and Aluminum-Alloy Conductors, Steel Reinforced²

B 802/B 802M Specification for Zinc-5 % Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR)²

B 803 Specification for High-Strength Zinc-5 % Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Aluminum and Aluminum-Alloy Conductors, Steel Reinforced²

E 83 Practice for Verification and Classification of Extensometers³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

¹ This specification is under the jurisdiction of ASTM Committee B-1 on Electrical Conductors and is the direct responsibility of Subcommittee B01.05 on Conductors of Ferrous Metals.

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² Annual Book of ASTM Standards, Vol 02.03.

³ Annual Book of ASTM Standards, Vol 03.01.

3.1.1 *lot*—unless otherwise specified in the contract or order, a lot shall consist of all coils or reels of strand of the same diameter and unit lengths submitted for inspection at the same time.

4. Ordering Information

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

4.1.1 Length of each construction,

4.1.2 Constructional description of stranded core (for example, 7 by 0.0943 in. or 19 by 0.0977 in.) (8.1 and 8.2),

4.1.3 Nominal unit length of stranded core and multiple lengths, if allowed (8.3 and Section 15),

4.1.4 Coating, zinc-coated (Class A, B, or C), zinc-5 % aluminum-mischmetal-coated (Class A, B, or C), or aluminum-coated (Section 5),

4.1.5 Direction of lay of outer layer (Section 7),

4.1.6 Packaging (Section 15), and

4.1.7 Place of inspection (Section 13).

5. Material

5.1 The coated steel wire used in the production of the stranded core shall, prior to stranding, meet all of the requirements of the appropriate specification that follows:

5.1.1 Specification B 341/B 341M,

5.1.2 Specification B 498/B 498M,

5.1.3 Specification B 606,

5.1.4 Specification B 802/B 802M, and

5.1.5 Specification B 803.

6. Joints

6.1 There shall be no joints of any kind made in the finished zinc-coated, zinc-5 % aluminum-mischmetal alloy-coated, or aluminum-coated steel wires.

7. Stranding

7.1 The lay length of the 6-wire layer of 7 and 19-wire stranded core shall be not less than 18 or more than 30 times the outside diameter of the 6-wire layer. (Outside diameter is three times nominal wire diameter.)

7.2 The lay length of the 12-wire layer of a 19-wire stranded core shall be not less than 16 nor more than 24 times the outside diameter of the 12-wire layer. (Outside diameter is five times nominal wire diameter.)