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Standard Specification for Cadmium or Zinc Chromate Organic Corrosion Protective Coating for Fasteners[1]

This standard is issued under the fixed designation F1135; 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 the basic performance requirements for an electrolytic or mechanical coating of cadmium or zinc followed by a chromate and baked organic coating for ferrous and nonferrous fasteners.

1.2 There are eight grades available under this standard; four for zinc and four for cadmium.

1.3 This standard is intended primarily for fasteners such as nuts, bolts, and screws that require corrosion protection.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

B117 Practice for Operating Salt Spray (Fog) Apparatus

B244 Test Method for Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments

B487 Test Method for Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of Cross Section

B499 Test Method for Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals

B633 Specification for Electrodeposited Coatings of Zinc on Iron and Steel

B695 Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel

B696 Specification for Coatings of Cadmium Mechanically Deposited

D3359 Test Methods for Measuring Adhesion by Tape Test[3]

F871M Specification for Electrodeposited Coatings on Threaded Components [Metric][3]

F1470 Practice for Fastener Sampling for Specified Mechanical Properties and Performance Inspection

F1940 Test Method for Process Control Verification to Prevent Hydrogen Embrittlement in Plated or Coated Fasteners

3. Classification

3.1 These coatings are classified into eight grades according to the requirements shown in Table 1.

4. Ordering Information

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

4.1.1 Quantity of parts.

4.1.2 Grade required (see 3.1) and color code (see 5.4).

4.1.3 Any conditions or additions agreed upon by the purchaser and the supplier.

5. Requirements

5.1 Parts supplied to this specification shall have a chromate coating plus an organic coating applied to maintain adequate salt spray protection. The coatings shall not chip, leach color, or suffer color loss.

5.2 Substrate shall be either ferrous or nonferrous metal fasteners.

5.3 The finish shall be a cured organic coating.

5.4 The appearance shall be either CLEAR (Color code A) or BLACK (Color code B). Other colors may be specified by the purchaser.

5.5 The gloss shall be described as medium.

5.6 The film properties shall have sufficient hardness through curing at time of delivery to withstand normal handling and shipping without marring.

5.7 *Coating Thickness Measurement*— The thickness shall be determined by the method described in 8.1 and meet the requirements of Table 1.

5.8 *Organic Coating Determination*— Any part with the coating applied and properly cured shall exhibit no discoloration after soaking in a 5 % trisodium phosphate solution for 5 min at room temperature, water rinsed, towel dried, and

[1] This specification is under the jurisdiction of ASTM Committee F16 on Fasteners and is the direct responsibility of Subcommittee F16.03 on Coatings on Fasteners.

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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] Withdrawn. The last approved edition of this historical standard is referenced on www.astm.org.