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Standard Specification for ~~Phosphate/Oil and Phosphate/Organic~~ Corrosion Protective Coatings for Fasteners[1]

This standard is issued under the fixed designation F1137; 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

~~1.1This specification covers the basic requirements for seven grades of corrosion protection for fasteners. Grade 0A consists of a zinc phosphate coating with no additional sealer (dry), Grade 0B consists of a zinc phosphate coating with a dry organic sealer, Grade 0C, Grade 0D, and Grade I consist of a zinc phosphate coating with supplemental protective oil type compound, and Grades II and III consist of a zinc phosphate with a supplemental zinc-rich epoxy resin coating (Grade II includes a clear organic topcoat).~~ *

1.1 This specification covers the basic requirements for four grades of corrosion protection for fasteners. Grade A consists of a zinc phosphate coating with no additional sealer (dry), Grade B consists of a zinc phosphate coating with a dry organic sealer, Grade C, and Grade D.1.2 This specification is intended primarily for fasteners such as nuts, clips, washers, and other ferrous threaded and non-threaded fasteners that require corrosion protection.

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1.3 These coatings may or may not have a decorative finish.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

B117 Practice for Operating Salt Spray (Fog) Apparatus ~~D2247Practice for Testing Water Resistance of Coatings in 100 % Relative Humidity~~

~~D3359Test Methods for Measuring Adhesion by Tape Test~~

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

3. Classification

3.1 The zinc phosphate treatment and subsequent protective coatings are classified into ~~seven~~four grades according to the requirements shown in Table 1~~. Phosphate bath concentrations, temperatures and immersion times recommended by the chemical manufacture should be followed.~~ .

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 Table 1), and

4.1.3 Any additions agreed upon between the purchaser and the supplier.

5. Requirements

5.1 *Appearance*—~~Unless otherwise agreed upon between the purchaser and the producer, the color of the protective coating shall be as-coated gray for Grades 0A, 0B, 0C, and 0D, black for Grade I, and metallic gray for Grades II and III. In addition, Grades II and III shall be free from tears, sags, and excess coating that may affect appearance or performance, or both.~~ —Unless otherwise agreed upon between the purchaser and the producer, the color of the protective coating shall be as-coated gray for Grades A, B, C, and D.

5.2 ~~*Adhesion*—The coating for Grades II and III shall show no evidence of blistering nor other appearance changes after~~

[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.

***A Summary of Changes section appears at the end of this standard.**