



Standard Specification for Decorative Electroplated Coatings of Copper Plus Nickel Plus Chromium on Plastics¹

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^{ε1} NOTE—Sections X4.2.2 and X4.3.3 were editorially updated in May 2003.

1. Scope

1.1 This specification covers the requirements for several grades and types of electrodeposited copper plus nickel plus chromium coatings on plateable plastic substrates where appearance, durability and resistance to thermal cycling are important to service performance. Five grades of coatings are provided to correlate with the service conditions under which each is expected to provide satisfactory performance.

1.2 This specification covers the requirements for coatings applied subsequent to the application of metal film by autocatalytic deposition or subsequent to the application of any strike coatings after autocatalytic deposition.

1.3 The following caveat pertains only to the test method portions of Section 6, Annex A1, and Appendix X2, Appendix X3, and Appendix X4 of this specification. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- B 368 Method for Copper-Accelerated Acetic Acid-Salt Spray (Fog) Testing (CASS Test)²
- B 487 Test Method for Measurement of Metal and Oxide Coating Thicknesses by Microscopical Examination of a Cross Section²
- B 489 Practice for Bend Test for Ductility of Electrodeposited and Autocatalytically Deposited Metal Coatings on Metals²
- B 504 Test Method for Measurement of Thickness of Metallic Coatings by the Coulometric Method²
- B 530 Test Method for Measurement of Coating Thick-

- nesses by the Magnetic Method: Electrodeposited Nickel Coatings on Magnetic and Nonmagnetic Substrates²
- B 532 Specification for Appearance of Electroplated Plastic Surfaces²
- B 533 Test Method for Peel Strength of Metal Electroplated Plastics²
- B 556 Guide for Measurement of Thin Chromium Coatings by the Spot Test²
- B 567 Test Method for Measurement of Coating Thickness by the Beta Backscatter Method²
- B 568 Test Method for Measurement of Coating Thickness by X-Ray Spectrometry²
- B 602 Test Method for Attribute Sampling of Metallic and Inorganic Coatings²
- B 659 Guide for Measuring Thickness of Metallic and Inorganic Coatings²
- B 727 Practice for Preparation of Plastics Materials for Electroplating²
- B 764 Test Method for Simultaneous Thickness and Electrochemical Potential Determination of Individual Layers in Multilayer Nickel Deposit (STEP Test)²
- D 1193 Specification for Reagent Water³
- E 50 Practices for Apparatus, Reagents, and Safety Precautions for Chemical Analysis of Metals, Ores, and Related Materials⁴

3. Terminology

3.1 Definitions:

3.1.1 *significant surfaces*—those surfaces normally visible (directly or by reflection) that are essential to the appearance or serviceability of the article when assembled in normal position or that can be the source of corrosion products that deface visible surfaces on the assembled article.

4. Classification

4.1 Five grades of coatings designated by service condition numbers and several types of coatings defined by classification numbers are covered by this specification.

¹ This specification is under the jurisdiction of ASTM Committee B08 on Metallic and Inorganic Coatings and is the direct responsibility of Subcommittee B08.08.03 on Decorative Coatings.

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² Annual Book of ASTM Standards, Vol 02.05.

³ Annual Book of ASTM Standards, Vol 11.01.

⁴ Annual Book of ASTM Standards, Vol 03.05.

