



Designation: B 700 – 97

Standard Specification for Electrodeposited Coatings of Silver for Engineering Use¹

This standard is issued under the fixed designation B 700; 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 requirements for electrodeposited coatings of silver used for engineering purposes that may be mat, bright, or semibright and are not less than 98 % silver purity.

1.2 Coatings of silver covered by this specification are usually employed for solderable surfaces, electrical contact characteristics, high electrical and thermal conductivity, thermocompression bonding, wear resistance of load-bearing surfaces, and spectral reflectivity.

1.3 In the Appendixes important characteristics of electrodeposited silver coatings are briefly described which must be considered when used in engineering applications, namely electrical conductivity (see Appendix X1), silver migration (see Appendix X2), thickness (see Appendix X3), hardness (see Appendix X4), and atmospheric tarnish (see Appendix X5).

1.4 The following hazards caveat pertains only to the test methods section of this specification: *This standard does not purport to address 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 183 Practice for Preparation of Low-Carbon Steel for Electroplating²
- B 242 Practice for Preparation of High-Carbon Steel for Electroplating²
- B 252 Guide for Preparation of Zinc Alloy Die Castings for Electroplating Conversion Coatings²
- B 253 Guide for Preparation of Aluminum Alloys for Electroplating²
- B 254 Practice for Preparation of and Electroplating on Stainless Steel²
- B 281 Practice for Preparation of Copper and Copper-Base Alloys for Electroplating and Conversion Coatings²
- B 322 Practice for Cleaning Metals Prior to Electroplating²

- B 343 Practice for Preparation of Nickel for Electroplating with Nickel²
- B 374 Terminology Relating to Electroplating²
- B 481 Practice for Preparation of Titanium and Titanium Alloys for Electroplating²
- B 482 Practice for Preparation of Tungsten and Tungsten Alloys for Electroplating²
- B 487 Test Method for Measurement of Metal and Oxide Coating Thicknesses by Microscopical Examination of a Cross Section²
- B 499 Test Method for Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals²
- B 504 Test Method for Measurement of Thickness of Metallic Coatings by the Coulometric Method²
- B 507 Practice for Design of Articles to be Electroplated on Racks²
- B 542 Terminology Relating to Electrical Contacts and Their Use³
- 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 571 Test Methods for Adhesion of Metallic Coatings²
- B 578 Test Method for Microhardness of Electroplated Coatings²
- B 579 Specification for Electrodeposited Coatings of Tin-Lead Alloy (Solder Plate)²
- B 602 Test Method for Attribute Sampling of Metallic and Inorganic Coatings²
- B 678 Test Method for Solderability of Metallic-Coated Products²
- B 697 Guide for Selection of Sampling Plans for Inspection of Electrodeposited Metallic and Inorganic Coatings²
- B 762 Method of Variables Sampling of Metallic and Inorganic Coatings²
- B 849 Specification for Pre-treatments of Iron or Steel for Reducing the Risk of Hydrogen Embrittlement²
- B 850 Specification for Post-Coating Treatments of Iron or Steel for Reducing the Risk of Hydrogen Embrittlement²
- D 3951 Practice for Commercial Packaging⁴
- E 1004 Test Method for Electromagnetic (Eddy-Current)

¹ This specification is under the jurisdiction of ASTM Committee B-8 on Metallic and Inorganic Coatings and is the direct responsibility of Subcommittee B08.08.01 on Engineering Coatings.

Current edition approved May 10, 1997. Published February 1998. Originally published as B 700 – 81. Last previous edition B 700 – 90.

² Annual Book of ASTM Standards, Vol 02.05.

³ Annual Book of ASTM Standards, Vol 03.04.

⁴ Annual Book of ASTM Standards, Vol 15.09.