



Standard Specification for Electrodeposited Coatings of Silver for Engineering Use¹

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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:²

- [B183 Practice for Preparation of Low-Carbon Steel for Electroplating](#)
- [B242 Guide for Preparation of High-Carbon Steel for Electroplating](#)
- [B252 Guide for Preparation of Zinc Alloy Die Castings for Electroplating and Conversion Coatings](#)
- [B253 Guide for Preparation of Aluminum Alloys for Electroplating](#)

¹ This specification is under the jurisdiction of ASTM Committee B08 on Metallic and Inorganic Coatings and is the direct responsibility of Subcommittee B08.04 on Precious Metal Coatings.

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² B08 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.

- [B254 Practice for Preparation of and Electroplating on Stainless Steel](#)
- [B281 Practice for Preparation of Copper and Copper-Base Alloys for Electroplating and Conversion Coatings](#)
- [B322 Guide for Cleaning Metals Prior to Electroplating](#)
- [B343 Practice for Preparation of Nickel for Electroplating with Nickel](#)
- [B374 Terminology Relating to Electroplating](#)
- [B481 Practice for Preparation of Titanium and Titanium Alloys for Electroplating](#)
- [B482 Practice for Preparation of Tungsten and Tungsten Alloys for Electroplating](#)
- [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](#)
- [B504 Test Method for Measurement of Thickness of Metallic Coatings by the Coulometric Method](#)
- [B507 Practice for Design of Articles to Be Electroplated on Racks](#)
- [B542 Terminology Relating to Electrical Contacts and Their Use](#)
- [B567 Test Method for Measurement of Coating Thickness by the Beta Backscatter Method](#)
- [B568 Test Method for Measurement of Coating Thickness by X-Ray Spectrometry](#)
- [B571 Practice for Qualitative Adhesion Testing of Metallic Coatings](#)
- [B578 Test Method for Microhardness of Electroplated Coatings](#)
- [B579 Specification for Electrodeposited Coatings of Tin-Lead Alloy \(Solder Plate\)](#)
- [B602 Test Method for Attribute Sampling of Metallic and Inorganic Coatings](#)
- [B678 Test Method for Solderability of Metallic-Coated Products](#)
- [B697 Guide for Selection of Sampling Plans for Inspection of Electrodeposited Metallic and Inorganic Coatings](#)
- [B762 Test Method of Variables Sampling of Metallic and Inorganic Coatings](#)
- [B849 Specification for Pre-Treatments of Iron or Steel for Reducing Risk of Hydrogen Embrittlement](#)