



# Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium<sup>1</sup>

This standard is issued under the fixed designation B456; 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.

*This standard has been approved for use by agencies of the U.S. Department of Defense.*

<sup>ε1</sup> NOTE—This standard was corrected editorially in 2011.

## 1. Scope

1.1 This specification covers requirements for several types and grades of electrodeposited copper plus nickel plus chromium or nickel plus chromium coatings on steel, nickel plus chromium coatings on copper and copper alloys, nickel plus chromium coatings on Type 300 and 400 series stainless steel and copper plus nickel plus chromium coatings on aluminum and its alloys and zinc alloys for applications where both appearance and protection of the basis metal against corrosion are important. Five grades of coatings are provided to correspond with the service conditions under which each is expected to provide satisfactory performance: namely, extended very severe, very severe, severe, moderate, and mild. Definitions and typical examples of these service conditions are provided in [Appendix X1](#).

1.2 This specification does not cover the requirements for the plating on plastics, see Specification [B604](#).

1.3 The following hazards caveat pertains only to the test methods portions, [Appendix X2](#), [Appendix X3](#), [Appendix X4](#), and [Appendix X5](#) of this specification: *This standard does not purport to address all of 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:<sup>2</sup>

[B183 Practice for Preparation of Low-Carbon Steel for Electroplating](#)

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee B08 on Metallic and Inorganic Coatings and is the direct responsibility of Subcommittee B08.05 on Decorative Coatings.

Current edition approved June 1, 2011. Published July 2011. Originally approved in 1967. Last previous edition approved in 2011 as B456 – 11. DOI: 10.1520/B0456-11E01.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

- [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](#)
- [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](#)
- [B320 Practice for Preparation of Iron Castings for Electroplating](#)
- [B368 Test Method for Copper-Accelerated Acetic Acid-Salt Spray \(Fog\) Testing \(CASS Test\)](#)
- [B380 Test Method for Corrosion Testing of Decorative Electrodeposited Coatings by the CorrodKote Procedure](#)
- [B487 Test Method for Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of Cross Section](#)
- [B489 Practice for Bend Test for Ductility of Electrodeposited and Autocatalytically Deposited Metal Coatings on Metals](#)
- [B490 Practice for Micrometer Bend Test for Ductility of Electrodeposits](#)
- [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](#)
- [B530 Test Method for Measurement of Coating Thicknesses by the Magnetic Method: Electrodeposited Nickel Coatings on Magnetic and Nonmagnetic Substrates](#)
- [B537 Practice for Rating of Electroplated Panels Subjected to Atmospheric Exposure](#)
- [B568 Test Method for Measurement of Coating Thickness by X-Ray Spectrometry](#)
- [B571 Practice for Qualitative Adhesion Testing of Metallic Coatings](#)