Designation: B734 – 97(Reapproved 2008)

Standard Specification for Electrodeposited Copper for Engineering Uses[1]

This standard is issued under the fixed designation B734; 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 copper used for engineering purposes. Examples include surface hardening, heat treatment stop-off, as an underplate for other engineering coatings, for electromagnetic interferences (EMI) shielding in electronic circuitry, and in certain joining operations.

1.2 This specification is not intended for electrodeposited copper when used as a decorative finish, or as an undercoat for other decorative finishes.

1.3 This specification is not intended for electrodeposited copper when used for electroforming.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

B320 Practice for Preparation of Iron Castings for Electroplating
B374 Terminology Relating to 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
B568 Test Method for Measurement of Coating Thickness by X-Ray Spectrometry
B571 Practice for Qualitative Adhesion Testing of Metallic Coatings
B588 Test Method for Measurement of Thickness of Transparent or Opaque Coatings by Double-Beam Interference Microscope Technique
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
B765 Guide for Selection of Porosity and Gross Defect Tests for Electrodeposits and Related Metallic Coatings
B832 Guide for Electroforming with Nickel and Copper
B849 Specification for Pre-Treatments of Iron or Steel for Reducing Risk of Hydrogen Embrittlement
B850 Guide for Post-Coating Treatments of Steel for Reducing the Risk of Hydrogen Embrittlement
B851 Specification for Automated Controlled Shot Peening of Metallic Articles Prior to Nickel, Autocatalytic Nickel, or Chromium Plating, or as Final Finish
D3951 Practice for Commercial Packaging
F519 Test Method for Mechanical Hydrogen Embrittlement Evaluation of Plating/Coating Processes and Service Environments

2.2 *Military Standard:*

MIL-R-81841 Rotary Flap Peening of Metal Parts[3]
MIL-S-13165 Shot Peening of Metal Parts[3]
MIL-W-81840 Rotary Flap Peening Wheels[3]

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

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 a normal position; or which can be the source of corrosion products that deface visible surfaces on the assembled article. When necessary, the significant surface shall be indicated on the drawing of the article, or by the provision of suitably marked samples.

NOTE 1—When significant surfaces are involved on which the specified

[1] This specification is under the jurisdiction of ASTM Committee B08 on Metallic and Inorganic Coatings and is the direct responsibility of Subcommittee B08.03 on Engineering Coatings.

Current edition approved Aug. 1, 2008. Published September 2008. Originally approved in 1984. Last previous edition approved in 2003 as B734 – 97 (2003). DOI: 10.1520/B0734-97R08.

[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.

[3] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094. Attn: NPODS.

thickness of coating cannot readily be controlled, such as threads, holes,