



AEROSPACE MATERIAL SPECIFICATION

AMS2412™**REV. M**Issued 1945-08
Revised 2026-01

Superseding AMS2412L

Plating, Silver,
Copper Strike, Low Bake

RATIONALE

AMS2412M results from a Five-Year Review and update of this specification with changes made to Ordering Information, Authority (see 1.4), Stress-Relief Treatment (see 3.1.1.3), Fixture/Electrical Contact Points (see 3.1.3), Post-Treatment (see 3.3.1), Thickness (see 3.4.1), Adhesion (see 3.4.3.2), Quality (see 3.5), Periodic Tests (see 4.2.2.1), Sampling and Testing (see 4.3), Periodic Tests (see 4.3.2), Adhesion Testing (see 4.3.3.2), Resampling and Retesting (see 4.6.1.1), and Notes (see 8.2.1, 8.10, and 8.11).

NOTICE

ORDERING INFORMATION: The following information shall be provided to the plating processor by the purchaser.

1. Purchase order shall specify not less than the following:

- AMS2412M
- Quantity of pieces to be plated
- Plating thickness desired (see 3.4.1)
- Minimum thickness on internal surfaces, if required (see 3.4.1.2)
- Silver flash, if required (see 3.4.1.1)
- Basis metal to be plated
- Tensile strength or hardness of the basis metal
- If pre-plate stress relief is to be performed by the plating processor and if different from 3.1.1, time and temperature are to be specified
- If steel parts were machined, ground, cold formed, or cold straightened after heat treatment (see 3.1.1)
- If steel parts have been shot peened, specify if required stress relief has been completed (see 3.1.1.3)
- Optional: fixture/electrical contact locations, when not specified (see 3.1.3)

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SAE WEB ADDRESS:

Full document details: SAE AMS2412M

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS4212M/>

Documents

Standard, visit Sharing Hub

- Special features, geometry, or processing present on parts that require special attention by the plating processor
 - Additive restrictions, if different than 3.2.1
 - Hydrogen-embrittlement relief to be performed by the plating processor (parameters or reference document), if different from 3.3.1
2. Parts manufacturing operations such as heat treating, forming, joining, and media finishing can affect the condition of the substrate for plating or, if performed after plating, could adversely affect the plated part. The sequencing of these types of operations should be specified by the cognizant engineering organization or the purchaser and is not controlled by this specification.
 3. The parts manufacturer shall ensure that surfaces of metal parts supplied to the processor are free from blemishes, pits, tool marks, and other irregularities that will affect the quality of the finished parts (see 3.5.5).

1. SCOPE

1.1 Purpose

This specification covers the requirements for silver deposited on metal parts with a copper strike between the basis metal and the silver deposit.

1.2 Application

This process has been used typically to provide a bearing surface and to prevent galling or seizing of metal surfaces of parts made of materials where a high baking temperature may be detrimental to the properties of the basis material.

1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards that may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

1.4 Authority

The cognizant engineering organization (CEO) may impose requirements or approve allowances that supersede the requirements in this AMS.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (U.S. and Canada only) or +1 724-776-4970 (outside U.S. and Canada), www.sae.org.

AMS2451	Plating, Brush, General Requirements
AMS2750	Pyrometry
AMS2759/9	Hydrogen Embrittlement Relief (Baking) of Steel Parts
ARP4992	Periodic Test for Processing Solutions

- AS2390 Chemical Process Test Specimen Material
- AS7766 Terms Used in Aerospace Metals Specifications

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

- ASTM B374 Terminology Relating to Electroplating
- ASTM B487 Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of Cross Section
- ASTM B499 Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals
- ASTM B504 Measurement of Thickness of Metallic Coatings by the Coulometric Method
- ASTM B567 Measurement of Coating Thickness by the Beta Backscatter Method
- ASTM B568 Measurement of Coating Thickness by X-Ray Spectrometry
- ASTM B571 Qualitative Adhesion Testing of Metallic Coatings
- ASTM B748 Measurement of Thickness of Metallic Coatings by Measurement of Cross Section with a Scanning Electron Microscope
- ASTM E376 Measuring Coating Thickness by Magnetic-Field or Eddy Current (Electromagnetic) Testing Methods
- ASTM F519 Mechanical Hydrogen Embrittlement Evaluation of Plating/Coating Processes and Service Environments

2.3 ASME Publications

Available from ASME, Two Park Avenue, New York, NY 10016-5990, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 646-616-3100 (outside North America), www.asme.org.

- ASME B46.1 Surface Texture (Surface Roughness, Waviness, and Lay)

2.4 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

- QQ-S-365 Silver Plating, Electrodeposited; General Requirements for

2.5 Definitions

Terms used in AMS are defined in AS7766. ASTM B374 should be utilized as a reference and referee document when areas of design definition or technical interpretation arise.