AEROSPACE MATERIAL SPECIFICATION

AMS2469™	REV. K

Issued 1962-06
Revised 2022-08

Superseding AMS2469J

Hard Anodic Coating on Aluminum and Aluminum Alloys

RATIONALE

AMS2469K results from a Five-Year Review and update of this specification: added ordering information, added electrical contact points per general agreement (3.1.2), added features not allowed to be anodized to masking (3.1.3), added allowable final rinse (3.2.1), added that cog shall specify or approve of specific sealing solutions (3.2.2), changed "cold" rinse to "not exceeding 120 °F" (3.2.1), added touch-up allowance as in similar specifications (3.2.3), added allowance for dimensional gauging of thickness (3.3.1.1), clarified coating weight requirement (3.3.2), updated abrasion resistance requirements (3.3.4), added standard wording regarding suspension of periodic testing (4.2.2.1), updated approval wording (4.4.1), updated control factors (4.4.3), updated precaution notes (8.2), and added note regarding water for make-up and replenishment.

NOTICE

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

1. Purchase order shall specify not less than the following:
   - AMS2469K
   - Anodize thickness and tolerance, other then 0.0020, ±0.0005 inch (3.3.1)
   - Basis metal alloy group to be anodized or material specification
   - Lot acceptance testing, thickness, coating weight, or both (4.2.1)
   - Optional: Sealing and the sealing solution to be used (3.2.2 and 8.2.7)
   - Optional: Fixture/electrical contact locations, when not specified (3.1.2)
   - Special features, geometry or processing present on parts that requires special attention by the processor
   - Part number and quantity of pieces to be anodized
2. Parts manufacturing operations such as heat treating, forming, joining and media finishing performed before anodizing can affect the condition of the substrate and if performed after anodizing, can adversely affect the finished part. The sequencing of these types of operations should be specified by the cognizant engineering organization or purchaser and is not controlled by this specification.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

For more information on this standard, visit
https://www.sae.org/standards/content/AMS2469K/

1. SCOPE

1.1 Purpose

This specification establishes the requirements for a hard anodic coating on aluminum and aluminum alloys.

1.2 Application

This process has been used typically to increase, by formation of a dense aluminum oxide, surface hardness and resistance to abrasion and corrosion of aluminum and aluminum alloy parts containing, in general, less than 5% copper or 8% silicon or a total of 8% of both, but usage is not limited to such applications. Alloys with higher alloy content can be coated satisfactorily with proper precautions in processing. Careful consideration should be given when using this process on highly-stressed parts because of the resultant marked lowering of fatigue life performance and on parts with sharp corners and edges where chipping may result.

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 which 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.

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 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2473 Chemical Film Treatment for Aluminum Alloys, General Purpose Coating

AMS4037 Aluminum Alloy, Sheet and Plate, 4.4Cu - 1.5Mg - 0.60Mn (2024; -T3 Flat Sheet, -T351 Plate) Solution Heat Treated

ARP4992 Periodic Test for Process Solutions

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 B117 Operating Salt Spray (Fog) Apparatus

ASTM B137 Measurement of Coating Mass Per Unit Area on Anodically Coated Aluminum

ASTM B244 Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments

ASTM B487 Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of Cross Section

ASTM D4060 Abrasion Resistance of Organic Coatings by the Taber Abraser