



400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

Submitted for recognition as an American National Standard



AMS 2468G

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Superseding AMS 2468E

Hard Anodic Coating Treatment of Aluminum Alloys

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of September 1999, and has been superseded by AMS 2469. The requirements of the latest issue of AMS 2469 shall be fulfilled whenever reference is made to the cancelled AMS 2468. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications noting that it is superseded by AMS 2469.

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1. SCOPE:

1.1 Purpose:

This specification establishes the engineering requirements for producing a hard coating on aluminum alloys and the properties of such coating.

1.2 Application:

This coating has been used typically to increase, by the formation of a dense aluminum oxide, surface hardness and resistance to abrasion and corrosion of aluminum-alloy parts containing, in general, less than 6% copper or 8% silicon or a total of 8% of both, but usage is not limited to such applications. Alloys with higher silicon content alone can be coated satisfactorily with proper precautions in processing. Careful consideration should be given to the use of this process on highly-stressed parts because of the resultant marked lowering of fatigue 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 following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 4037 Aluminum Alloy, Sheet and Plate, 4.4Cu-1.5Mg-0.60Mn, 2024-T3 Sheet, 2024-T351 Plate

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM B 137 Measurement of Weight of Coating on Anodically Coated Aluminum

ASTM B 244 Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Base Metals with Eddy-Current Instruments

ASTM B 487 Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of a Cross Section

2.3 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

FED-STD-141 Paint, Varnish, Lacquer and Related Materials; Methods for Sampling and Testing

3. TECHNICAL REQUIREMENTS:

3.1 Preparation:

3.1.1 Parts, prior to being coated, shall have clean surfaces, free from water-break.

3.1.2 When parts are to be selectively coated, electrical contact should be made on a surface not required to be coated. When parts are not to be masked, the areas in which electrical contact is permissible shall be indicated on the drawing.

3.1.3 Aluminum parts having faying surfaces which may trap electrolyte or inserts of other metals shall have those areas masked off before the parts are coated.

3.2 Procedure:

Shall consist of the formation of aluminum oxide on surfaces of parts made the anode in a suitable electrolyte. After coating, parts shall be thoroughly rinsed in cold, clean water and dried.

3.2.1 Parts shall not be sealed, unless specified by purchaser (See 8.2.8).