AEROSPACE MATERIAL SPECIFICATION

AMS2483™	REV. C

Issued 1983-10
Revised 2010-04
Reaffirmed 2021-01

Superseding AMS2483B

Blackening Solution for Aluminum Touch-Up Solution

RATIONALE

AMS2483C has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE

1.1 Purpose

This specification covers a blackening solution, applied at room temperature, to damaged or reworked surfaces of black-dyed anodized (AMS2472) aluminum to provide a uniform ebony-black surface.

1.2 Application

This solution has been used typically for touch-up of dyed anodic coatings used for decorative and optical applications, but usage is not limited to such applications.

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 724-776-4970 (outside USA), www.sae.org.

AMS2472	Anodic Treatment of Aluminum Alloys, Sulfuric Acid Process, Dyed Coating
AMS4037	Aluminum Alloy Sheet and Plate, 4.4Cu - 1.5Mg - 0.60Mn (2024; -T3 Flat Sheet, -T351 Plate), Solution Heat Treated

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/AMS2483C/

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 B 117 Operating Salt Spray (Fog) Testing Apparatus

ASTM D 2247 Testing Water Resistance of Coatings in 100% Relative Humidity

3. TECHNICAL REQUIREMENTS

3.1 Composition shall be established by the solution supplier to yield a product conforming to the requirements of 3.2.

3.2 Properties

Coated test panels shall conform to the following requirements.

3.2.1 Corrosion Resistance

Coated test panels shall withstand, without evidence of corrosion, exposure for not less than either (1) 120 hours to humidity test conducted in accordance with ASTM D 2247, except that the temperature in the humidity cabinet shall be 122 °F ± 5 (50 °C ± 3) or (2) 24 hours continuous salt spray conducted in accordance with ASTM B 117.

3.2.2 Blackening Ability

Solution shall form a coating that completely covers the existing bare aluminum surface providing a uniform, ebony-black surface that is free from smut when wiped with a clean, dry, white cloth.

3.2.3 Dimensional Change

Solution shall cause no change in dimensions of test panels, measured by micrometer.

3.3 Quality

The blackening solution, as received by purchaser, shall be uniform in quality and condition and free from foreign materials and from other contaminants detrimental to usage of the product.

3.3.1 Applied coating on polished surfaces shall have a uniform, lustrous black color. Coating on non-polished surfaces shall be black or dark gray in color and uniform on areas of equivalent surface finish. An overall reddish-brown cast on a basically black color is acceptable.

3.3.2 Coating shall not cause damage or degradation of existing anodic coatings on aluminum surfaces and shall not rub off under normal handling.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The supplier of the blackening solution shall supply all samples for supplier's tests and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the blackening solution conforms to the requirements of this specification.

4.2 Classification of Tests

All technical requirements are acceptance tests and and shall be performed on each lot and when the cognizant engineering organization requires confirmatory testing.

4.3 Sampling for Testing

4.3.1 Sufficient blackening solution shall be taken at random from each lot to perform all required tests. The number of determinations for each requirement shall be as specified in the applicable test procedure or, if not specified therein, not less than three. A lot shall be all blackening solution manufactured at one time from one batch each of raw materials.

4.3.2 Samples for determining conformance to the requirements of 3.2 shall be two panels of AMS4037 (2024T3xx) aluminum alloy, approximately 0.040 x 3 x 3 inches (1 x 76 x 76 mm), anodized and dyed black in accordance with AMS2472. An area of the anodized coating shall be removed using 240 grit abrasive paper. Clean the panels by wiping with a cloth dampened with a suitable solvent, coat the abraded area with the blackening solution at room temperature using either swab or dip method, rinse, and dry in accordance with supplier's recommendations. Blackening solution shall be applied to the panels at the lowest use dilution recommended by the supplier.

4.4 Reports

The supplier of the blackening solution shall furnish with each shipment a report stating that the blackening solution conforms to the specified requirements and that it conforms to acceptance test requirements. This report shall include the purchase order number, lot number, AMS2483C, supplier's identification, and quantity.

4.5 Resampling and Retesting

If any sample used in the above tests fails to meet the specified requirements, disposition of the blackening solution may be based on the results of testing three additional samples for each original nonconforming sample. Failure of any retest sample to meet the specified requirements shall be cause for rejection of the blackening solution represented. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY

5.1 Packaging and Identification

5.1.1 Packaging shall be accomplished to ensure that the blackening solution, during shipment and storage, will be protected against damage from exposure to weather or any other normal hazards.

5.1.2 Blackening solution shall be packaged in containers of a type and size acceptable to purchaser.

5.1.2.1 A lot of solution may be packaged in small quantities and delivered under the basic lot approval provided lot identification is maintained.

5.1.3 Product shall be assigned a unique identification number, letter, name, or combination of these, representative of the materials and processes used to make the product. This identification shall be changed if there is any change in material or manufacturing process.

5.1.4 Each container shall be legibly marked with not less than AMS2483C, purchase order number, supplier's identification, lot number, date of manufacture, quantity, and directions for use and precautions for storage.

5.1.5 Containers of blackening solution shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining to the handling, packaging, and transportation of the solution to ensure carrier acceptance and safe delivery.

6. ACKNOWLEDGMENT

The supplier shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.