



400 Commonwealth Dr., Warrendale, PA 15096

**AEROSPACE
MATERIAL
SPECIFICATION**

Submitted for recognition as an American National Standard

AMS 3128E

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Superseding AMS 3128D

ALUMINUM PIGMENT PASTE**1. SCOPE:**

1.1 **Form:** This specification covers a pigment material in the form of a paste comprising aluminum powder mixed in a suitable binder.

1.2 **Application:** Primarily for use as a pigment of aluminum paint used as exterior protective coating of metallic surfaces.

2. **APPLICABLE DOCUMENTS:** The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 **SAE Publications:** Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 **Aerospace Material Specifications:**

AMS 2350 - Standards and Test Methods

AMS 2825 - Material Safety Data Sheets

AMS 3130 - Paint Vehicle, Glyceryl Phthalate

2.2 **ASTM Publications:** Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

ASTM D480 - Sampling and Testing Aluminum Powder and Paste

2.3 **U.S. Government Publications:** Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

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2.3.1 Military Standards:

MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of

3. TECHNICAL REQUIREMENTS:3.1 Composition:

3.1.1 Nonvolatile: Shall consist of commercially pure aluminum powder in the form of fine, polished flakes and the minimum of fatty lubricant required to make a paste meeting the requirements of 3.2.1.

3.1.2 Volatile: Volatile thinner shall consist of a mixture of refined, water-white, high-flash naphtha and mineral spirits in such proportions as to produce a product meeting the requirements of 3.2.4.

3.1.3 Compounding: The component ingredients shall be intimately assembled and processed so as to produce a product which is suitable for use as aircraft paint pigment, stable, and not subject to abnormal change in a sealed container.

3.2 Properties:

3.2.1 Paste shall conform to the following requirements, determined in accordance with ASTM D480:

Nonvolatile matter at 220° - 230°F (105° - 110°C)	64.5 - 68.0%
Easily extracted fatty and oily matter (polishing lubricant) max	3.0%
Metallic impurities max	1.0%
Coarse particles retained in a No. 325 (45 μm) screen max	0.1%

3.2.2 Paste shall be suitable for making aluminum paint and shall contain no filler or adulterant, such as mica.

3.2.3 Paste shall withstand the stability test of ASTM D480 and shall not deteriorate to such an extent as to affect its suitability as a paint pigment after storage in unopened containers for one year of normal service storage conditions.

3.2.4 Paste shall show good "leafing" properties. Paint made by mixing with AMS 3130 vehicle in the proportions of 16 oz (475 mL) of paste to 1 gal (3.8 L) of vehicle shall be free flowing, suitable for either brush or spray application, and shall give a continuous coating at least equal in smoothness, luster, and general appearance to that obtained with a paint mixed in the same proportions from the standard paste mutually agreed upon by purchaser and vendor.

- 3.3 Quality: Paste, as received by purchaser, shall be uniform in quality and condition and free from foreign materials and from imperfections detrimental to its working qualities.

4. QUALITY ASSURANCE PROVISIONS:

- 4.1 Responsibility for Inspection: The vendor of the paste shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.4. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the paste conforms to the requirements of this specification.

- 4.2 Classification of Tests: Tests to determine conformance to all technical requirements of this specification are classified as acceptance tests and as preproduction tests and shall be performed prior to or on the initial shipment of paste to a purchaser, on each lot, when a change in material, processing, or both requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

- 4.2.1 For direct U.S. Military procurement, substantiating test data and, when requested, preproduction test material shall be submitted to the cognizant agency as directed by the procuring activity, the contracting officer, or the request for procurement.

- 4.3 Sampling: Shall be in accordance with the following; a lot shall be all paste produced from a single lot of powder combined with the vehicle from the same manufacturing batch and presented for vendor's inspection at one time.

- 4.3.1 Composition: One sample from each lot.

- 4.3.2 Other Technical Requirements: As agreed upon by purchaser and vendor.

4.4 Approval:

- 4.4.1 Paste shall be approved by purchaser before paste for production use is supplied, unless such approval be waived by purchaser. Results of tests on production paste shall be essentially equivalent to those on the approved sample.

- 4.4.2 Vendor shall use ingredients, manufacturing procedures, processes, and methods of inspection on production paste which are essentially the same as those used on the approved sample paste. If necessary to make any change in ingredients, in type of equipment for processing, or in manufacturing procedures, vendor shall submit for reapproval a statement of the proposed changes in material, processing, or both and, when requested, sample paste. Production paste made by the revised procedure shall not be shipped prior to receipt of reapproval.

4.5 Reports: The vendor of paste shall furnish with each shipment a report showing the results of tests on each lot to determine conformance to the composition requirements and stating that the paste conforms to the other technical requirements of this specification. This report shall include the purchase order number, lot number, AMS 3128E, and quantity from each lot.

4.5.1 A material safety data sheet conforming to AMS 2825, or equivalent, shall be supplied to each purchaser prior to, or concurrent with, the report of preproduction test results or, if preproduction testing be waived by purchaser, concurrent with the first shipment of paste for production use. Each request for modification of paste formulation shall be accompanied by a revised data sheet for the proposed formulation.

4.6 Resampling and Retesting: If any specimen used in the above tests fails to meet the specified requirements, disposition of the paste may be based on the results of testing three additional specimens for each original nonconforming specimen. Failure of any retest specimen to meet the specified requirements shall be cause for rejection of the paste represented and no additional testing shall be permitted. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY:

5.1 Identification: Each exterior container shall be permanently and legibly marked with not less than the following information:

ALUMINUM PIGMENT PASTE

AMS 3128E

TRADE NAME _____

VOLUME OF CONTENTS _____

DATE OF MANUFACTURE _____

LOT NUMBER _____

MANUFACTURER'S IDENTIFICATION _____

DIRECTIONS FOR APPLICATION _____

5.2 Packaging:

5.2.1 Paste shall be supplied in 1 qt (1 L) or 1 gal (4 L) double-friction-top metal cans, or in larger containers as ordered.

5.2.2 Paste containers shall be suitably wrapped, sealed, and boxed or otherwise packaged for protection against injury and contamination during shipment and under normal dry storage conditions.

5.2.3 Containers of paste 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 paste to ensure carrier acceptance and safe delivery. Packaging shall conform to carrier rules and regulations applicable to the mode of transportation.