Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA. 15096

AEROSPACE MATERIAL SPECIFICATION

AMS 3108C
Superseding AMS 3108B
Issued 7-1-48
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PRIMER, OCHER
Phenolic

1. SCOPE:

1.1 Type: This specification covers an ocher-pigmented primer.

1.2 Application: Primarily as a prime coating on metal surfaces before enameling, usually with AMS 3122 enamel.

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

2.1 SAE Publications: Available from Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

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

ASTM D56 - Flash Point by Tag Closed Tester
ASTM D185 - Coarse Particles in Pigments, Pastes, and Paints
ASTM D445 - Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)

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

2.3.1 Federal Specifications:

PPP-P-1892 - Paint, Varnish, Lacquer, and Related Materials, Packaging, Packing, and Marking of

3. TECHNICAL REQUIREMENTS:

3.1 Composition (by weight):

3.1.1 Primer:

	min	max
Nonvolatile	60%	--
Volatile	--	40%

3.1.2 Nonvolatile:

	min		max
Resin	48	-	50%
Pigment	50	-	52%

3.1.2.1 Resin: Shall be a thermosetting phenolic type with softening agents added. It shall be free from rosin, rosin derivatives, oils, and cellulose derivatives.

3.1.2.2 Pigment: Shall be a natural ocher.

3.1.3 Volatile: The composition of the volatile component shall be optional with the manufacturer and shall meet applicable air pollution control regulations.

3.2 Properties:

3.2.1 Product Properties:

3.2.1.1 Color: Shall be yellow-tan, characteristic of ocher.

3.2.1.2 Coarse Particles: Not more than 0.1% by weight of primer shall be retained on a No. 325 (45 μm) screen, determined in accordance with ASTM D185.

3.2.1.3 Flash Point: Shall be not lower than 60°F (16°C), determined in accordance with ASTM D56.

3.2.1.4 Viscosity: Shall be 9 - 13 poises (0.9 - 1.3 Pa·s) at 77°F (25°C), not less than 24 hr after manufacture, determined in accordance with ASTM D445.

3.2.1.5 Skinning and Livering: Shall be absent in a 1/4-filled, closed container after standing for not less than one week at room temperature.

3.2.2 Film Properties: Primer, reduced to viscosity of 20 - 23 sec in Ford No. 4 cup with alcohol-base thinner of type approved by purchaser, shall have properties as specified in 3.2.2.1 through 3.2.2.4, determined on films applied by brushing, dipping, or spraying on sandblasted, low-carbon steel panels; except for determination of leveling properties, films shall be air-dried for not less than 20 min. and baked for 1 hr ± 0.1 at 320° - 330°F (100° - 166°C).

3.2.2.1 Leveling: Primer shall be a freely working product with leveling properties acceptable to the purchaser.

3.2.2.2 Drying: Films, applied as in 3.2.2, shall dry firm and hard and shall be free from streaks, blisters, silking, and other surface irregularities.

3.2.2.3 Adhesion: Films, applied as in 3.3.2, shall withstand, without peeling, bending at 32°F (0°C) through an angle of 180 deg around a diameter equal to 20 times the nominal thickness of the panel. Cracking of the film on the bent portion of the panel will be permissible.

3.2.2.4 Phenol Resistance: Films, applied as in 3.2.2, shall show no wrinkling or removal after being partly immersed in c.p. phenol at 300°F ± 5 (149°C ± 3) for 5 min. ± 0.2. Discoloration or slight surface softening of the film will be permissible.

3.3 Quality: Primer shall be of uniform consistency and free from bubbles, grit, rough particles, floating or caked pigments, and ingredients of respiratory toxicity under normal conditions of use. Component ingredients shall be intimately mixed and processed as required to produce primer which is stable and not subject to abnormal change with age in sealed containers.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of primer shall supply all samples and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to perform such confirmatory testing as he deems necessary to ensure that the primer conforms to the requirements of this specification.

4.2 Classification of Tests:

4.2.1 Acceptance Tests: Tests to determine conformance to composition (3.1), color (3.2.1.1), flash point (3.2.1.3), viscosity (3.2.1.4), leveling (3.2.2.1), drying (3.2.2.2), and adhesion (3.2.2.3) requirements are classified as acceptance tests.

4.2.2 Qualification Tests: Tests to determine conformance to all technical requirements of this specification are classified as qualification tests.

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

4.3 Sampling:

4.3.1 Acceptance Tests: Sufficient primer shall be taken from each lot to permit making the following number of tests; a lot shall be all primer made from the same batches of ingredients in a continuous series of operations and presented for vendor's inspection at one time.

Requirement	Reference Paragraph	Number of Tests
Composition	3.1	1
Color	3.2.1.1	1
Flash Point	3.2.1.3	1
Viscosity	3.2.1.4	1
Leveling	3.2.2.1	2 (See 4.3.1.1)
Drying	3.2.2.2	2 (See 4.3.1.1)
Adhesion	3.2.2.3	2

4.3.1.1 These requirements are to be determined on the panels prepared for the adhesion test.

4.3.2 Qualification Tests: As agreed upon by purchaser and vendor.

4.4 Approval:

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

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

4.5 Reports: The vendor of primer shall furnish with each shipment three copies of a report showing the results of tests to determine conformance to the acceptance test requirements and stating that the primer conforms to the other technical requirements of this specification. This report shall include the purchase order number, material specification number and its revision letter, formula number, lot number, and quantity.