AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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New York City

AMS 3130B

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PAINT VEHICLE
Glyceryl Phthalate

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. APPLICATION: Primarily as vehicle for aluminum paint but may be used as a transparent finish coating for metal and wood where applicable.

3. COMPOSITION (by weight):

Product ------ (Non-Volatile ——→ 34-37% ——→ Glyceryl Phthalate Resin 100%
Product ------ (Volatile ——→ 63-66% ——→ Hydrocarbon Solvent 100%

4. COMPONENTS: The component ingredients shall conform to the following requirements. They shall be intimately assembled and processed in accordance with the best practice for high quality aircraft glyceryl phthalate resin vehicle to produce a product which is stable and not subject to abnormal change with age in a sealed container.

4.1 Glyceryl Phthalate Resin: Shall contain not less that 30% by weight of phthalic anhydride and shall be free from rosin or rosin derivatives.

4.2 Drier: Shall be free from lead and shall be used as required to obtain the specified drying and baking properties with a high degree of package stability.

4.3 Volatile: Shall be aromatic petroleum solvent conforming to AMS 3165.

5. TECHNICAL REQUIREMENTS:

5.1 Vehicle shall be clear, transparent and homogeneous.

5.2 Vehicle shall contain no substance of known toxicity under normal conditions of usage.

Ø 5.3 Viscosity of the package material at 77 F shall be 0.50-1.00 poise absolute.

5.4 Weight per gallon at 77 F shall be not less than 7.3 pounds.

5.5 Ash shall not exceed 0.1% by weight.

5.6 Flash Point shall be not lower than 80 F.

5.7 Acid number shall not exceed 8.0.

5.8 Skinning shall be absent in a partly filled closed container after standing 1 week at room temperature.

5.9 When applied by brushing or spraying, vehicle shall be a freely working product with acceptable leveling properties. Recoating after 7 and again after 18 hr shall produce no film irregularity.

5.10 Product shall make a satisfactory vehicle for aluminum paint, suitable for either brush or spray application when 1 gal of it is pigmented with 16 oz of aluminum paste conforming to the latest issue of AMS 3128, and, if necessary, reduced to the required consistency with aromatic petroleum solvent conforming to AMS 3165.

5.11 Aluminum pigmented vehicle shall be tested in accordance with Section 8 and shall satisfy the requirements specified therein.

6. TEST PANELS: Panels used for determination of properties specified in Sections 7 and 8 shall be bright-finish low-carbon sheet steel approximately 6 x 3 x 0.020 in., and shall have smooth edges and rounded corners. The sides to be coated shall be cleaned with fine steel wool, and the panels then washed in clean toluene or other suitable volatile solvent, and dried with clean cloths.

7. PROPERTIES OF CLEAR VEHICLE: Clear vehicle, when applied to test panels to produce dried films 0.0005-0.00075 in. thick, shall have the following properties:

7.1 Water Resistance: A coated panel, baked at 250 F ± 5 for approximately 1.5 hr, shall withstand immersion in boiling water for 10 minutes. It shall show no checking, no blistering, no appreciable whitening, and only a very slight dulling when observed 5 min. after removal, and no whitening 15 min. after removal. The film on the immersed panel 3 hr after removal shall be equal in hardness, toughness, gloss, and anchorage to the film on a similarly prepared panel which has not been immersed.

7.2 Solvent Resistance: The film on a panel, baked at 250 F ± 5 for approximately 1.5 hr and immersed in AMS 3165 solvent for 4 hr at room temperature, shall resist removal by rubbing with the fingers.

8. PROPERTIES OF PIGMENTED VEHICLE: Vehicle, when pigmented in proportion of approximately 16 oz of AMS 3128 paste per gallon of vehicle and, if necessary, reduced with AMS 3165 solvent to viscosity (approximately 1.0 poise absolute) suitable for application to test panels to produce dried films 0.0005-0.00075 in. thick, shall have the following properties:

8.1 A coated panel shall air dry to touch in not more than 3 hours. The film upon drying shall be free from streaks, blisters, silking, or other irregularities of surface.

8.2 Baking Properties:

8.2.1 The film on a coated panel, air dried approximately 15 min. and baked at 300 F ± 5 for approximately 1 hr, shall be hard, tough, smooth, lustrous, and free from all defects such as checking, wrinkling or dulling.