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AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.

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New York City

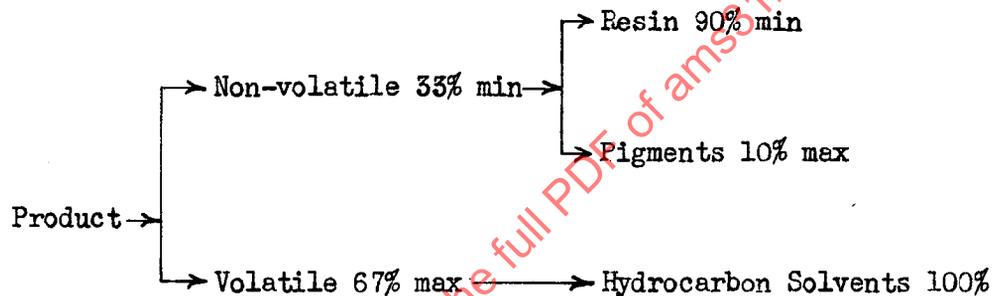
AMS

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BLACK ENAMEL GLYCERYL PHTHALATE

1. ACKNOWLEDGMENT: A vendor must mention this specification number and its last revision in all quotations and when acknowledging purchase orders.
2. TYPE AND USE: Gloss black, as an exterior protective coating for metal surfaces generally.
3. COMPOSITION (by weight):



4. COMPONENTS: (a) The resin shall be a glyceryl phthalate type, showing not less than 31% phthalic anhydride quantitative, free from rosin and rosin derivatives.

(b) The pigments shall consist of carbon black or carbon black and iron blue in proportions as required to match the standard shade. They shall be finely ground and free from floating or caking in the container.

(c) The drier shall be as required to obtain the specified air drying properties with a high degree of packaging stability.

(d) The volatile shall have the following distillation characteristics:

Initial Point	248°F min
50% Fraction	311°F min
End Point	415°F max

(e) The component ingredients shall be intimately assembled and processed as required to produce a product which is stable and not subject to abnormal change with age in a sealed container.

5. QUALITY: The finished product shall be uniform, homogeneous and free from bubbles. It shall be free from cellulose ester, and toxic ingredients. There shall be no trace of grit, rough particles or separation of pigments. Skinning shall be absent in a partly filled closed container after one week.
6. PHYSICAL PROPERTIES: Coarse particles shall not exceed 1 per cent by weight retained on a No. 325 screen. The moisture content shall not exceed 0.1 per cent. The flash point shall not be less than 80°F. The viscosity at 77°F, as determined by A.S.T.M. Test Methods D115-39T shall be not less than 150 centipoises absolute. The weight per gallon at 77°F shall be not less than 7.6 pounds.

7. WORKING PROPERTIES: When applied by brushing or spraying, the material shall be a freely working product with acceptable leveling properties.
8. TESTS: The following tests shall be made on package material using 1/32 inch thick 17ST aluminum alloy panels as rolled and degreased without etching, unless otherwise specified:

(a) Air Drying Properties:- A medium brush coat shall air dry to touch in not more than 3 hours and dry firm and hard in not more than 18 hours when applied over a standard primer. The film, upon drying, shall be free from streaks, blisters, silking or other irregularities of surface. When applied to a glass panel the color and gloss shall match a previously approved standard.

(b) Baking Properties:- Wrinkling and dulling shall be absent in a flow-out film air dried 15 minutes and baked at 300°F for 30 minutes. A flow-out film air dried 18 hours and then baked at 350-365°F for 2 hours shall be hard, tough, smooth and free from checking or other defects. The baked films shall show no appreciable discoloration.

(1) Cold Cracking:- The film on the panel above which was air dried 18 hours and baked at 350-365°F shall withstand a bend test of 180° around a 3/16 inch rod at 32°F.

(2) Anchorage:- The film on the panel subjected to the bend test in (1) shall show satisfactory anchorage to the bent portion of the sample. It shall show a fine feather edge on drawing a knife over the film.

(c) Water Resistance (Hot):- A flow-out film air dried 48 hours, shall withstand immersion in boiling water for 10 minutes. It shall show no checking, blistering, appreciable whitening and only a very slight dulling when observed 5 minutes after removal. After 3 hours air drying, the film on the immersed end shall be equal in hardness, toughness, gloss, and anchorage to the film which was not immersed.

(d) Gasoline Resistance:- A flow-out film, air dried 48 hours, shall withstand immersion in gasoline at room temperature for 4 hours. The film, after being removed from the gasoline 24 hours, shall be equal in hardness, toughness, gloss and anchorage to the film similarly prepared but not subjected to the gasoline test.

(e) Weather Resistance:- The weather resistance shall be equal to, and the discoloration shall be no greater than that of a standard control product when tested on a comparative basis. There shall be no premature checking or cracking failure.

9. IDENTIFICATION: Each can or container shall bear a label giving the manufacturer's name and batch number, this specification number and name, date of manufacture, net quantity and directions for thinning.