AERONAUTICAL
MATERIAL SPECIFICATIONS

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AMS 2515

Issued 1-15-61
Revised

Polytetrafluoroethylene Resin Coating
700 - 750 F Fusion

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

2. APPLICATION: Primarily for coating metal parts to produce a fused polytetrafluoroethylene resin surface providing dry lubrication, high heat stability, and optimum corrosion protection. Applicable primarily to parts which operate at a maximum temperature of 525 F in limited service or 475 F for extended periods. The fusing temperature will result in some softening of cold worked or heat treated aluminum alloys.

3. MATERIAL: The coating material shall be a dispersion of polytetrafluoroethylene resin solids in a water medium.

3.1 When multiple coatings are applied as in 4.3 and 4.4 to a maximum total dry film thickness of 6.0 mils, the final coating shall be free from cracks when fused at 700 - 750 F.

4. PROCEDURE:

4.1 Surface Preparation: Surfaces to be coated shall be chemically cleaned or lightly abrasive blasted, followed by degreasing or washing in mineral spirits or alcohol and air drying.

4.2 Preheating: Immediately prior to coating, metals other than aluminum, magnesium, and copper shall be preheated to 750 F ± 10 to produce a light oxide film and remove any organic contamination and air cooled.

4.3 Coating:

4.3.1 Primer: A primer resin coat of 0.2 to 0.3 mil dry film thickness shall be applied to the oxidized metal surfaces and fused in accordance with 4.4.

4.3.2 Finish: The finish resin coat shall be applied to the primed surfaces in increments not greater than 1.0 mil as required to yield a total dry film thickness not greater than 6.0 mils. Each coat shall be fused before subsequent applications. For best corrosion properties, coated surfaces shall be sanded and cleaned between coats.

4.3.3 The coating thickness shall be as specified on the drawing.

4.4 Fusing: The resin coating shall be air dried for not less than 1 hr or forced-heat dried at 180 - 200 F for 5 to 10 minutes. The dried parts shall be fused at 700 - 750 F until fusing is complete. Fusing is complete when the milk-white air-dried film changes to a clear fused film. Fusing time will vary depending on the mass of metal being coated. For maximum coating toughness, the fused coating shall be quenched in cold water after the final fusing cycle. Adequate ventilation shall be provided in furnace areas to prevent inhalation of toxic fumes.

Printed in U. S. A.