AERONAUTICAL
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 2473A

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CHEMICAL TREATMENT FOR ALUMINUM BASE ALLOYS
General Purpose Coating

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

2. APPLICATION:

2.1 To increase the corrosion resistance of aluminum or aluminum base alloys and to improve adhesion of organic protective coatings.

2.2 To improve corrosion resistance and coating adhesion properties of abraded or discontinuous anodized surfaces on aluminum or aluminum alloy parts.

3. PREPARATION: Before parts are coated, they shall have chemically clean surfaces prepared with minimum erosion, pitting, or unintended abrasion. Where alkaline cleaners are employed, very thorough water rinsing, preferably by spray, shall be employed after cleaning.

4. PROCEDURE: Consists of immersion of the parts in a solution which will form a chemical coating of oxide, phosphate, silicate, or chromate for such time and at such temperature as will produce coatings meeting the requirements of Section 5, followed by rinsing, sealing if required, and drying. If parts are not to be coated all over, the solution may be applied by brushing, swabbing, or spraying the surfaces to be coated.

4.1 Only processes which permit adequate solution control by chemical analysis shall be used.

4.1.1 It shall be the responsibility of the vendor of proprietary processing chemicals to supply the purchaser with methods of analysis and directions for maintenance of the solutions.

5. TECHNICAL REQUIREMENTS:

5.1 The coating shall have uniform appearance characteristic of the process used. Color may range from iridescent yellow to dark olive green.

5.2 For control purposes, unless otherwise agreed upon by purchaser and vendor, two samples of AMS 4037 sheet 0.050 in. thick and 3 x 10 in. (the 10 in. dimension being perpendicular to the direction of rolling), one sample anodized in accordance with AMS 2470 and the other bare, shall be treated in accordance with Section 4. The samples shall then be subjected to salt spray test in accordance with ASTM B117-49T. The panel treated only in accordance with Section 4 shall withstand 168 hr exposure to salt spray test without corroding to the extent that would cause more than 5% decrease in tensile strength and 10% decrease in elongation from the average of 3 specimens cut from a duplicate, similarly treated but unexposed panel. The panel anodized and then treated in accordance with Section 4 shall withstand 250 hr exposure without corroding to the extent specified above. In no case shall a corroded panel, treated in either way, have tensile strength lower than 62,000 psi or elongation lower than 12%. Tensile test specimens shall conform to ASTM E8-57T. The foregoing test is not required when parts are subsequently painted.

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