

AERONAUTICAL MATERIAL SPECIFICATION

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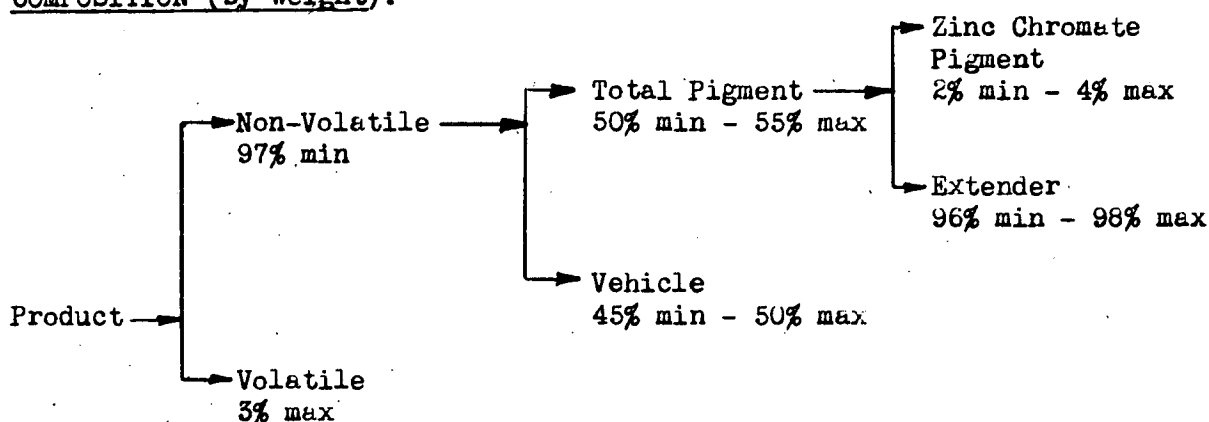
AMS 3112

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Revised

COMPOUND, ZINC CHROMATE, SEALING
(Unthinned)
Hot Oil Resisting

1. ACKNOWLEDGMENT: A vendor must mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM AND USE: A compound for sealing seams in high pressure structures (including oil tanks).
3. COMPOSITION (by weight):



4. MATERIAL: A non-hygroscopic, non-corrosive, permanently elastic, organic plastic resin containing zinc chromate and suitable extenders, and free from any ingredients which might cause shrinkage by oxidation or evaporation. The compound shall be of uniform composition and physical properties.
5. TESTS: (a) Drying Properties: A film of the compound applied to a panel, AMS 4041, shall not show appreciable hardness or embrittlement when dried for 7 days at 212°F. Loss of weight shall not exceed 3%, and the material should retain its surface tackiness.

(b) Water Solubility: A thin coating of the compound spread on the bottom of a crystallizing dish of 4 inch diameter shall not be noticeably affected by immersion in 200 ml. of distilled water for 48 hours at room temperature. The change in weight of the compound, determined by decanting, evaporating the water, and weighing the residue, shall be not more than 2.0%. There shall be no evidence of blistering, cracking, checking, embrittlement, softening, loss of adhesion or other defects.

(c) Resistance to Low and High Temperature: A 1/32 inch coating of the compound on an aluminum alloy panel, AMS 4041, shall be exposed for 5 days to a test cycle consisting of 7 hours at -70°F, and 16 hours at 212°F, and shall not then show marked hardening or embrittlement or a loss of adhesion to the metal.

(d) Pressure Viscosity: The seal formed by filling a 3/4" x 1/32" orifice 3/4" deep with an excess of compound and then removing the surplus, shall be ruptured by 50 (+1) pounds pressure in not less than 300 or more than 450 seconds when held at a temperature of 180°-181°F.

Note: This pressure viscosity figure shall be the average of 5 tests, unless the mean deviation of the readings exceed 10%, in which case 10 tests will be made.

(e) Package Stability: The material shall not lose any of its original properties when subjected to a 4 day test cycle consisting of 12 hours at 150°F, and 12 hours at 32°F. Test a 4 ounce sample of material in an 8 ounce can and make a comparison with an untreated sample from the same batch of material.

(f) Oil Resistance: A coating of compound approximately 1/16" x 1-1/2" x 1-1/2" applied on a panel of AMS 4041, shall not increase in volume more than 10% after 24 hours immersion in engine oil at 215°F, measured by displacement in water. The material shall remain smooth and firm and shall show no evidence of oil sponging, blistering, cracking, checking, embrittlement, loss of adhesion or other defects either during or after the test procedure.

6. CORROSION: Two 2.5 x 5 panels of AMS 4037 aluminum alloy coated for a length of 4 inches with a 1/32 inch film of the compound shall show no signs of corrosion after seven days immersion in a vessel containing a two-layer liquid consisting of a 3.0% aqueous sodium chloride solution and a 40% aromatic Fuel blend (60% 100 octane aromatic free gasoline, 15% xylene, 20% toluene, 5% benzene) such that 1.5 inches of the panel is exposed to each layer and the balance is exposed to the air vapor mixture. Temperature shall be maintained at 98°- 100°F.
7. CONTAINERS: This compound shall be supplied and kept in standard I.C.C. containers, in sizes as specified.
8. 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, and net quantity.
9. APPROVAL: A manufacturer shall not begin to supply a product to this specification until samples have been approved by the purchaser; and after approval, the ingredients and method of manufacture shall not be changed without permission from the purchaser. Results of tests on incoming shipments shall be as good or better than those on approved samples.
10. REPORTS: The manufacturer shall supply three copies of a notarized report of the quantitative results of tests made on the batch of material from which the order was filled. This report shall include the purchase order number, material specification number, batch number, composition, quantity, and date of shipment.
11. REJECTIONS: Material not conforming to this specification, or modifications specified on the purchase order, is subject to rejection. If samples for verification are desired by the vendor they must be claimed within three weeks. Rejected material will be held a reasonable time at vendor's risk, awaiting shipping instructions for the return of same for credit or replacement, as specified. Vendor shall pay all transportation charges.

NOTE. SIMILAR SPECIFICATION: Army Air Forces 3597, Condition A is listed for information only and shall not be construed as an acceptable alternate unless all requirements of this AMS are met.