AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 2505

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Revised

ALUMINUM PAINT FINISHING

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

2. USE: For parts which do not exceed an operating temperature of 350°F.

3. PROCESS: Consists of the application of zinc chromate primer and aluminum paint after the parts have been properly prepared.

4. PREPARATION: Unless otherwise specified, parts made from the following metals shall be prepared as herein directed before painting; parts made from other metals shall be prepared as specifically instructed:

(a) Aluminum and Aluminum Alloys.- Both wrought and cast parts shall be anodized in accordance with the latest revision of AMS 2470 immediately before the first priming coat.

(b) Magnesium Alloys.- Both wrought and cast parts shall be treated in accordance with the latest revision of AMS 2475 immediately before the first priming coat. No external machining shall be done after this treatment.

(c) Steel.- Cadmium plated parts shall be thoroughly neutralized before priming by dipping in a 3 - 5% solution of chromic acid (CrO_3), which may contain a small quantity of other inorganic acid, followed by rinsing in cold water then in hot water and rapid drying. Unplated parts shall be cleaned and then subjected to an approved phosphate treatment immediately before the first priming coat.

5. PRIMING: (a) One or more zinc chromate priming coats shall be applied to all metallic materials requiring painting.

(b) When there are intervening operations between the last prime and the finish coats, such as assembling or additional machining, the parts shall be thoroughly cleaned with suitable unused organic solvent, and then given a very light coat of zinc chromate primer immediately before the first coat of paint is applied.

(c) Each coat of primer shall be air-dried or shall be baked at a temperature within the range of 250-310°F, for approximately 1 hour, unless other temperature and time are approved by the purchaser.

6. ALUMINUM PAINT FINISHING: (a) Three coats of aluminum paint shall be applied on magnesium alloys for applications other than engines. Two, or more, coats shall be applied on all other metals and on magnesium alloys to be used on engines. Each coat of paint shall be thoroughly air-dried or baked at a temperature within the range of 250-310°F, or preliminary coats may be air-dried dust free, and final coat baked firm and hard at a temperature within the range of 250-310°F. Baking time-temperature relationship shall be similar to that established in 5(c).