AERONAUTICAL MATERIAL SPECIFICATION

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AMS 2510A

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ENGINE GRAY FINISHING

Low Baking

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

2. USE: For parts which do not exceed a temperature of 300°F.

3. PROCESS: Consists of the application of zinc chromate primer and engine gray enamel after the parts have been properly prepared in accordance with the following directions:

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

(b) Magnesium Alloys.- Both wrought and cast parts shall be treated in accordance with 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 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 prior to the priming coat.

5. PRIMING COAT: (a) A zinc chromate priming coat (AMS 3110) shall be applied to all metallic materials requiring enameling immediately after treatment as in section 4.

(b) When there are intervening operations between the first prime and the finish coats, such as assembling or additional machining, the parts must be thoroughly cleaned by spraying with clean naphtha, or other solvent of low volatility, and then given a very light second coat of zinc chromate primer immediately before the first coat of enamel is applied.

(c) Each coat of primer shall be baked at 250-300°F, unless a lower temperature is approved for specific parts.

6. ENAMEL FINISH: (a) Three coats of engine gray enamel (AMS 3125) shall be applied on magnesium alloys for applications other than engines, and two coats on all other metals. Two coats may be applied on magnesium alloys to be used on engines. Each coat of enamel shall be thoroughly baked at a temperature not exceeding 300°F, or preliminary coats may be air-dried dust free, and final coat baked firm and hard at a temperature not exceeding 300°F.

(b) This finish applies to all metallic surfaces which are exposed after the engine is assembled, unless specifically stated otherwise on the drawing. Magnesium alloy parts which are used as covers and are not in contact with oil shall receive this finish inside and outside except on contacting machined surfaces. Enameling is optional on spot faces.