

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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Revised

PHOSPHATE TREATMENT (Paint Base)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: To produce on ferrous parts a coating which will insure satisfactory paint adherence.
3. PREPARATION: Before placing the parts in the phosphate solution, they shall have chemically clean surfaces, prepared with minimum erosion, pitting, or unintended abrasion.
4. PROCEDURE:
 - 4.1 The properly cleaned parts shall be immersed in, or sprayed with, a balanced phosphate solution containing nitrate as an accelerating agent, maintained at $190\text{ F} \pm 10$, for a sufficient length of time to convert the metal surface to a uniform coating.
 - 4.2 Immediately after the above processing, the parts shall be rinsed in cold running water.
 - 4.3 Unless otherwise specified, after the cold water rinse, parts shall be dipped for 20-60 seconds in a dilute chromic acid solution at 180-200 F.
 - 4.4 Parts shall be thoroughly dried.
 - 4.5 Parts shall then be protected against contamination of the coating, and the painting should be done as soon as practicable.
5. QUALITY:
 - 5.1 The coating shall have a uniform, dull appearance ranging from light to dark gray in color with or without some silvery iridescence.
 - 5.2 Parts or test panels shall be capable of withstanding exposure to salt spray for not less than 150 hours without showing rust extending more than 1/8 in. on either side of the scratch marks when prepared and tested as follows:
Parts or, in lieu thereof, steel panels approximately 2 x 4 in., shall be processed as in section 4 and then coated with one coat of AMS 5120 black enamel, air dried 15 min and baked at 295-305F for 30 min, and allowed to stand in air for 24 hours. Film thickness of enamel shall be 0.0004-0.001 in. Parts or panels shall be scratched with a sharp instrument to a depth which will cut through the enamel film and shall then be exposed to salt spray test in accordance with ASTM B117-44T for 150 hours.
6. APPROVAL: A vendor shall not supply parts treated to this specification until the type of bath and methods of processing have been approved by the parts purchaser. After such approval, the methods of processing shall not be changed without permission of the purchaser.

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