AERONAUTICAL MATERIAL SPECIFICATIONS

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

AMS 2436

Issued 1-15-60
Revised

FLAME DEPOSITION
Aluminum Oxide

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

2. APPLICATION: Primarily for providing a hard, wear-resistant surface to metal parts, particularly under corrosive or elevated temperature oxidizing conditions. This coating is not recommended for surfaces with deep vee-shaped grooves, blind cavities, narrow holes, sharp corners with radii or chamfers less than 0.015 in., or where deformation of the basis metal is expected.

3. EQUIPMENT: A specially constructed machine in which the particles of coating material may be fed into the tube of a gun, suspended in a mixture of oxygen and acetylene, and detonated, heating the particles to plasticity and hurling them at high velocity out of the gun barrel onto the part.

4. COATING MATERIAL: Shall consist of not less than 99% aluminum oxide.

5. PROCEDURE:

5.1 Preparation: Surfaces to be coated shall be machined undersize to allow for the finish thickness of the coating. Parts required to be hardened to a specified hardness shall be fully heat treated prior to flame deposition.

5.2 Cleaning: Parts shall be thoroughly cleaned free from dirt, grit, oil, grease, and other foreign materials by vapor degreasing or by washing thoroughly in petroleum solvent.

5.3 Masking: Parts shall be suitably masked as required to protect surfaces not designated to be coated.

5.4 Surface Conditioning: Surfaces to be coated shall be grit blasted to produce a uniform matte finish sufficient to give good adhesion of the coating.

5.5 Coating: The coating material shall be deposited onto the designated surfaces to a sufficient thickness to permit finishing to dimensions specified on the part drawing. Temperature of the part being coated shall be maintained so as not to exceed 400 F, unless otherwise specified.

5.6 Surface Finishing: The coated surfaces shall be ground, and lapped if necessary, to specified dimensions and surface finish.

6. TECHNICAL REQUIREMENTS:

6.1 Porosity: Shall be less than 1% when determined by microscopic comparison with a suitable standard at approximately 500 X.

6.2 Hardness: The coating shall have a hardness of Vickers 900 - 1300, using 100 g load, or equivalent.

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