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

AMS 2420
Issued 7-1-57
Revised

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PLATING ALUMINUM FOR SOLDERABILITY
(Zincate Process)

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

2. APPLICATION: Primarily to prepare aluminum parts for soft soldering.

3. PREPARATION:

3.1 Impregnation of castings, when required or permitted, shall be done prior to plating. All excess impregnant shall be completely removed prior to curing or baking.

3.2 Unless otherwise specified, all machining shall be completed prior to cleaning and plating.

4. PROCEDURE: Consists of thorough cleaning of the aluminum surfaces, etching in alkaline solution, a zinc immersion coating, a copper or brass strike, a light copper plate and, unless otherwise specified, an electro-deposit of tin or tin-zinc alloy.

4.1 Cleaning and Etching: Prior to plating, the parts shall be cleaned to remove all grease, oil, and other surface contamination in accordance with the following procedure.

4.1.1 Vapor degrease.

4.1.2 Immerse parts in etch-type alkaline cleaner at 150 - 170 F for 20 - 120 seconds.

4.1.3 Rinse in cold running water.

4.1.4 Alloys containing more than 1% silicon should be immersed in an aqueous solution of ammonium bifluoride and sulfuric acid at room temperature for 20 - 45 seconds. The solution shall contain 6 - 7 oz per gal of ammonium bifluoride and 4 - 5 oz per gal of sulfuric acid.

4.1.5 Alloys containing more than 0.5% magnesium should be treated in an aqueous solution containing 14 - 16 oz of sulfuric acid per gal at 140 F ± 10 for 3 - 5 minutes.

4.1.6 Rinse in cold running water.

4.1.7 Immerse in nitric acid solution (50% by volume) at room temperature for 30 - 60 seconds.

4.1.8 Rinse in cold running water.

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