



**AEROSPACE  
MATERIAL  
Society of Automotive Engineers, Inc. SPECIFICATION**

400 COMMONWEALTH DRIVE, WARRENTON, PA. 15096

**AMS 2409D**

Superseding AMS 2409C

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**TIN PLATING, IMMERSION**

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**1. SCOPE:**

1.1 Purpose: This specification covers the engineering requirements for producing a thin tin coating on aluminum alloys by an immersion process.

1.2 Application: Primarily to prevent scuffing and galling of aluminum alloy parts.

**2. APPLICABLE DOCUMENTS:** None.

**3. TECHNICAL REQUIREMENTS:**

**3.1 Processing Parameters:**

3.1.1 Plating Bath: Shall consist of an aqueous solution of stannate salts.

3.1.2 Operating Parameters: Temperature of bath, pH, solution concentration, and time shall be controlled to provide a satisfactory deposit.

3.2 Preparation: Parts shall have chemically clean surfaces prior to immersion in the plating solution.  
Ø Parts need not be dry when immersed in the plating solution.

**3.3 Procedure:**

3.3.1 Immerse parts in the plating bath until reaction is essentially complete, as indicated by virtual cessation of evolution of hydrogen.

3.3.1.1 Parts shall not be allowed to dry during the entire sequence of operations until completion of the final rinse.

3.3.2 Parts shall be thoroughly rinsed and dried.

**3.4 Quality:**

3.4.1 Plated tin shall be firmly bonded to the basis metal and shall be continuous, smooth, uniform bright gray in appearance, and free from blisters visible to the unaided eye and from other harmful imperfections.

3.4.2 Plated tin shall show no evidence of flaking when scratched with a sharp needle point and examined under low magnification.

**4. QUALITY ASSURANCE PROVISIONS:**

4.1 Responsibility for Inspection: The vendor of plated parts shall supply all samples and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to perform such confirmatory testing as he deems necessary to assure that processing conforms to the requirements of this specification.