

# AERONAUTICAL MATERIAL SPECIFICATIONS

## AMS 2476

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

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Revised

### ELECTROLYTIC TREATMENT FOR MAGNESIUM BASE ALLOYS Alkaline Type - Full Coat

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** To increase corrosion resistance, to provide surfaces which will ensure maximum paint adherence, and to impart maximum abrasion resistance. This process is applicable to all cast and wrought magnesium alloys, after proper allowance has been made for dimensional change, but should not be used on parts which will be flexed in service. For maximum corrosion protection, resin sealing or painting over the coating is required.
3. **PREPARATION:** Parts to be treated shall be cleaned as necessary to leave the surfaces free from grease, oil, soap, alkali, and other contaminants.
4. **PROCESS:** The following requirements shall apply, unless otherwise agreed upon by purchaser and vendor.
  - 4.1 **Composition:** The electrolyte shall be an aqueous solution of the following composition in oz per gal, or its equivalent:

Potassium Hydroxide (KOH)	16.0 - 18.0
Aluminum Hydroxide (dried gel) (Al(OH) <sub>3</sub> )	4.0 - 5.0
Potassium Fluoride (KF)	4.0 - 5.0
Tri-sodium Phosphate (Na <sub>3</sub> PO <sub>4</sub> · 12H <sub>2</sub> O)	4.0 - 5.0
Potassium Manganate (97% K <sub>2</sub> MnO <sub>4</sub> ) <sup>2</sup>	2.0 - 3.0
  - 4.2 **Temperature:** The temperature of the bath shall be 70 - 95 F.
  - 4.3 **Racking:**
    - 4.3.1 Parts shall be suspended on both electrodes so that the surface areas of the parts on each electrode are approximately equal.
    - 4.3.2 Parts shall be firmly attached to the racks; contact areas shall be kept to minimum size and, when practicable, shall be on surfaces not required to be coated. When parts are to be coated all over, electrical contact shall be on areas indicated on the drawing.
    - 4.3.3 The parts shall, insofar as practicable, be hung so that no escaping gas can be entrapped during processing.

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