

# AEROSPACE MATERIAL SPECIFICATION

**AMS 2451/3A**

Issued	1998-07
Revised	2006-05
Reaffirmed	2011-04
Superseding AMS 2451/3	

Plating, Brush, Nickel  
Low Stress, Low-Hardness Deposit

## RATIONALE

AMS 2451/3A is a Five Year Review and update of this specification.

### 1. SCOPE

#### 1.1 Purpose

This specification covers the requirements for brush plating of low-hardness, low-stress nickel by electrodeposition.

#### 1.2 Application

This process has been used typically to improve the corrosion and oxidation resistance of steel alloys, to repair damaged, worn, or mismachined parts requiring low residual surface stress, to prepare surfaces for brazing, and to repair nickel electrodeposits on parts with service a temperature up to 700 °F (371 °C) but is not limited to such applications.

#### 1.3 Safety - Hazardous Materials

See AMS 2451.

### 2. APPLICABLE DOCUMENTS

See AMS 2451.

### 3. TECHNICAL REQUIREMENTS

See AMS 2451.

#### 3.1 Procedure

3.1.1 Nickel shall be electrodeposited from a sulfamate nickel brush plating solution in accordance with instructions from the solution manufacturer. The plating solution shall contain no addition agents, including stress-reducing agents, which might have a detrimental effect on properties of the plate or of the basis metal.

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2011 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

**TO PLACE A DOCUMENT ORDER:** Tel: 877-606-7323 (inside USA and Canada)  
Tel: +1 724-776-4970 (outside USA)  
Fax: 724-776-0790  
Email: CustomerService@sae.org  
http://www.sae.org

**SAE WEB ADDRESS:**

**SAE values your input. To provide feedback  
on this Technical Report, please visit  
<http://www.sae.org/technical/standards/AMS2451/3A>**