



AEROSPACE MATERIAL SPECIFICATION

AMS2489™

REV. A

Issued	2003-06
Revised	2015-07
Reaffirmed	2021-01

Superseding AMS2489

Blackening of Steel
Touch Up Method

RATIONALE

AMS2489A results from a Five Year Review and update of this specification.

NOTICE

ORDERING INFORMATION: The following information shall be provided to the plating processor by the purchaser.

1. Purchase order shall specify not less than the following:

- AMS2489A
- Basis metal to be plated
- Tensile strength or hardness of the basis metal
- Precoat stress relief to be performed by coating processor (time and temperature) if different from 3.1.1
- Special features, geometry or processing present on parts that requires special attention by the coating processor
- Hydrogen embrittlement relief to be performed by coating processor (parameters or reference document) if different from 3.3.1
- Quantity of pieces to be coated
- Location of coating

2. Parts manufacturing operations such as heat treating, forming, joining, and media finishing can affect the condition of the substrate and adversely affect the finished part. The sequencing of these types of operations should be specified by the cognizant engineering organization or purchaser and is not controlled by this specification.

SAE Executive Standards Committee 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 revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2021 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:

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS2489A/>

1. SCOPE

1.1 Purpose

This specification covers the requirements for an inorganic black coating applied at ambient temperature to steel to touch up black oxide coating in areas where the black oxide has been removed. This coating is intended only to visually change the surface to a black color, not to meet the requirements of any black oxide specification.

1.2 Application

Ambient blackening of steel has been used typically for the touch-up of black oxide surface finish where it has been removed and when complete reprocessing in accordance with a black oxide specification, such as AMS2485 or MIL-DTL-13924, is not practicable.

1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2484	Blackening Solution for Steel
AMS2485	Black Oxide Coating
AS2390	Chemical Process Test Specimen Material

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM F519	Mechanical Hydrogen Embrittlement Evaluation of Plating/Coating Processes and Service Environments
ASTM F2111	Measuring Intergranular Attack or End Grain Pitting on Metals Caused by Aircraft Chemical Processes

2.3 U.S. Government Publications

Copies of these documents are available online at <http://quicksearch.dla.mil>.

MIL-DTL-13924 Coating, Oxide, Black, for Ferrous Materials