



AEROSPACE MATERIAL SPECIFICATION

AMS2484™**REV. C**

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Superseding AMS2484B

Blackening Solution for Steel Touch-Up Method

RATIONALE

AMS2484C results from a Five-Year Review and update of this specification with changes to hydrogen embrittlement (3.2.1) and specimen size (4.3.1).

1. SCOPE

This specification covers the requirements for an inorganic blackening solution for steel, applied at room temperature.

1.1 Application

This blackening solution has been used typically for touch-up of black oxide surface finish in cases where the coating has been removed.

1.2 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 sole 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.

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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.

AMS2485 Coating, Black Oxide

AMS6350 Steel Sheet, Strip, and Plate, 0.95Cr - 0.20Mo (0.28 - 0.33C) (SAE 4130)

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

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall be optional with the manufacturer but shall yield a product conforming to the requirements of 3.2 when applied at room temperature.

3.2 Properties

The blackening solution shall conform to the following requirements; test shall be performed on the product as supplied and in accordance with the specified test methods. Specimens for tests, if not specified, shall be prepared in accordance with 4.3.1.

3.2.1 Hydrogen Embrittlement

The coating shall not cause hydrogen embrittlement, determined in accordance with ASTM F519, Type 1a.

3.2.2 Intergranular Attack

Coated specimens shall not exhibit intergranular attack greater than 0.0001 inch (2.5 µm), determined on a cross-section at 500X magnification.

3.2.3 Blackening Ability

Solution shall form a coating that completely covers the steel surface providing a uniform, ebony-black coating on polished surfaces and a black or dark grey coating on nonpolished surfaces.

3.2.4 Dimensional Change

Solution when applied to steel surfaces shall not cause a measurable change in dimensions when measured with a micrometer having measuring accuracy of 0.0001 inch (2.5 µm).

3.2.5 Wipe Test

When coated specimens are wiped with a clean white cloth there shall be no indication of color on the cloth.

3.2.6 Blackening Solution

Shall not cause damage or degradation of existent black oxide coatings on steel specimens (see 4.3.1.1).