



AEROSPACE MATERIAL SPECIFICATION

AMS7200™

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Interior Decorative Clear Coating for Metal Surfaces

RATIONALE

This is a new material specification that defines requirements for a clear coating to be used as an interior high gloss protective coating for metal surfaces.

1. SCOPE

1.1 Form

This specification establishes requirements for an interior decorative clear coating for wear protection of metal substrates.

1.2 Application

The coating material covered by this specification is typically applied to metal substrates in the interior passenger cabin of the aircraft for wear protection. It is also intended to enhance the gloss of the substrate and allow the substrate to keep its original color. This finish is not intended to be used for parts exposed to the passenger cabin and larger than 2 square feet (0.2 square meters). The liquid coating is suitable for spray application with conventional, high volume low pressure (HVLP), or electrostatic spray equipment.

1.3 Classification

The coating material covered by this specification shall be classified as follows:

Type 1 - Polyurethane coating with less than 720 g/l Volatile Organic Compound (VOC) content (see 3.3)

1.4 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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Documents
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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.

AMS-QQ-A-250/12 Aluminum Alloy 7075, Plate and Sheet - UNS A97075

AS9100 Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations

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 D523 Standard Test Method for Specular Gloss

ASTM D1475 Standard Test Method for Density of Liquid Coatings, Inks, and Related Products

ASTM D1974 Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

ASTM D2197 Standard Test Method for Adhesion of Organic Coatings by Scrape Adhesion

ASTM D2369 Standard Test Method for Volatile Content of Coatings

ASTM D3359 Standard Test Methods for Rating Adhesion by Tape Test

ASTM D3363 Standard Test Method for Film Hardness by Pencil Test

ASTM D3960 Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings

ASTM D4212 Standard Test Method for Viscosity by Dip-Type Viscosity Cups

ASTM D4366 Standard Test Methods for Hardness of Organic Coatings by Pendulum Damping Tests

ASTM D7091 Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals

2.3 U.S. Government Publications

Available from the Document Automation and Production Service (DAPS), Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Tel: 215-697-6257, <http://assist.daps.dla.mil/quicksearch/>.

MIL-A-8625 Anodic Coatings for Aluminum and Aluminum Alloys

2.4 U.S. EPA

Available from the U.S. EPA National Library Network, U.S. EPA, Mail Code 3404T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, Tel: 202-566-0556, <http://www2.epa.gov/libraries>.

EPA-453/R-97-004 Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations

2.5 PRI Publications

Available from Performance Review Institute, 161 Thorn Hill Road, Warrendale, PA 15086-7527, Tel: 724-772-1616, www.pri-network.org.

PD2000 Governance and Administration of an Industry Managed Product Qualification Program

PD2001 Manufacturer Request for Product Approval and Qualification Process

PRI QPL-AMS7200 Products Qualified Under AMS7200

2.6 ISO/ANSI Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ANSI Z400.1/Z129.1 Hazardous Workplace Chemicals - Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation

ISO 2431 Paint and Varnishes - Determination of Flow Time by Use of Flow Cups

ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories

ISO 11890-1 Paints and Varnishes - Determination of Volatile Organic Compound (VOC) Content

3. TECHNICAL REQUIREMENTS

3.1 Materials

Type 1 coating material shall be polyurethane. Otherwise, composition of the coating material is not specified, providing the material will meet the performance requirements set forth in this specification.

3.1.1 Toxicity

The coating material shall have no adverse effect on the health of personnel when used for its intended purpose in accordance with manufacturer's instructions and with appropriate handling procedures and precautions per the safety data sheet (see 4.8.2).

3.2 Quality

The coating material, as received by purchaser, shall be uniform in quality and condition, free from foreign materials, and free from imperfections detrimental to the usage of the compound. There shall be no separation of ingredients that cannot be readily dispersed by hand mixing.

3.3 VOC Content

The VOC content of the Type 1 admixed coating material (when prepared in accordance with manufacturer's instructions) shall be less than 720 g/l (6 lb/gal) when tested in accordance with ASTM D3960 (calculate using Paragraph 10.2 and Appendices X2 and X3) and ISO 11890-1 (calculate using Method 3). Both values shall be included in the report. See 8.3 regarding background on this maximum VOC content.

3.4 Properties

The coating material, when prepared in accordance with the manufacturer's instructions, shall conform to the requirements shown in Table 1, determined in accordance with specified test methods.