

Submitted for recognition as an American National Standard

COMPOUND, CORROSION PREVENTIVE
Soft Film, Thixotropic, Cold Application-

1. SCOPE:

1.1 Form: This specification covers a ready-mixed thixotropic compound in the form of a stable film-forming compound suitable for application by brushing or spraying.

1.2 Application: To provide long-term protection of aircraft structures.

1.3 Classification: Compound covered by this specification is classified as follows:

Class I Undyed
Class II Dyed

1.3.1 Unless a specific class is specified, either Class I or Class II may be supplied.

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 following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications and Aerospace Recommended Practices shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

SAE Technical 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."

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2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specification:

- AMS 1425 - Deicing/Anti-Icing Fluid, Aircraft, Ethylene-Glycol Base
- AMS 1526 - Cleaner for Aircraft Exterior Surfaces, Water-Miscible, Pressure Spraying Type
- AMS 2350 - Standards and Test Methods
- AMS 2473 - Chemical Treatment for Aluminum Alloys, General Purpose Coating
- AMS 2475 - Protective Treatments, Magnesium Alloys
- AMS 2820 - Aerosol Packaging
- AMS 2825 - Material Safety Data Sheets
- AMS 3808 - Tape, Adhesive, Pressure-Sensitive Masking
- AMS 4037 - Aluminum Alloy Sheet and Plate, 4.4Cu - 1.5Mg - 0.60Mn (2024; -T3 Flat Sheet, -T351 Plate), Solution Heat Treated
- AMS 4041 - Aluminum Alloy Sheet and Plate, Alclad, 4.4Cu - 1.5Mg - 0.60Mn (Alclad 2024 and 1-1/2% Alclad 2024-T3 Flat Sheet; 1-1/2% Alclad 2024-T351 Plate)
- AMS 4045 - Aluminum Alloy Sheet and Plate, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075; -T6 Sheet, T651 Plate), Solution and Precipitation Heat Treated
- AMS 4049 - Aluminum Alloy Sheet and Plate, Alclad, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (Alclad 7075; -T6 Sheet, -T651 Plate), Solution and Precipitation Heat Treated
- AMS 4165 - Aluminum Alloy Extrusions, 4.4Cu - 1.5Mg - 0.60Mn (2024-T3511), Stress-Relief Stretched and Straightened
- AMS 4376 - Magnesium Alloy Plate, 3.0Al - 1.0Zn (AZ31B-H26), Cold Rolled and Partially Annealed
- AMS 5040 - Steel Sheet and Strip, 0.15 max Carbon, Deep Forming Grade

2.1.2 Aerospace Recommended Practices:

- ARP1511 - Corrosion of Low-Embrittling Cadmium Plate by Aircraft Maintenance Chemicals

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

- ASTM B117 - Salt Spray (Fog) Testing
- ASTM D56 - Flash Point by Tag Closed Tester
- ASTM D1193 - Reagent Water
- ASTM D1568 - Sampling and Chemical Analysis of Alkylbenzene Sulfonates
- ASTM D2196 - Viscosity Measurements and Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield) Viscometer
- ASTM F483 - Total Immersion Corrosion Test for Aircraft Maintenance Chemicals
- ASTM F484 - Stress Cracking of Acrylic Plastics in Contact with Liquid or Semi-Liquid Compounds
- ASTM F502 - Effects of Cleaning and Chemical Maintenance Materials on Painted Aircraft Surfaces
- ASTM F519 - Mechanical Hydrogen Embrittlement Testing of Plating Processes and Aircraft Maintenance Chemicals
- ASTM G34 - Exfoliation Corrosion Susceptibility in 2XXX and 7XXX Series Aluminum Alloys (EXCO Test)

2.3. U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.3.1 Federal Specifications:

O-A-76 - Acetic Acid, Glacial, Technical
O-H-765 - Hydrochloric Acid, Technical
O-N-350 - Nitric Acid, Technical
O-S-598 - Sodium Hydroxide, Technical
O-T-620 - 1,1,1-Trichloroethane, Technical
P-D-680 - Dry Cleaning Solvent
TT-N-95 - Naphtha, Aliphatic
TT-T-291 - Thinner, Paint, Mineral Spirits, Regular and Odorless

2.3.2 Military Specifications:

MIL-C-16173 - Corrosion Preventive Compound, Solvent Cutback,
Cold Application
MIL-P-23377 - Primer Coating, Epoxy Polyamide, Chemical and Solvent
Resistant
MIL-P-25690 - Plastic Sheet and Parts, Modified Acrylic Base, Monolithic,
Crack Propagation Resistant

2.3.3 Military Standards:

MIL-STD-290 - Packing of Petroleum and **Related** Products

2.3.4 USAF ANA Standards:

AN 310 - Nut, Plain, Castellated, Airframe
AN 960 - Washer, Flat

2.4 National Aerospace Standards: Available from National Standards Association, Inc., 1321 Fourteenth Street, N.W., Washington, DC 20005.

NAS 1304 - Bolt, Shear, Hexagon Head
NAS 6304 - Bolt, Hex Head, Close Tolerance, A286, Short Thread, Self
Locking and Non-Locking
NAS 6404 - Bolt, Hex Head, Close Tolerance, 6Al-4V, Titanium Alloy, Short
Thread, Self Locking and Non-Locking

2.5 ANSI Publications: Available from American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

ANSI B46.1 - Surface Texture

3. TECHNICAL REQUIREMENTS:

3.1 Material: The composition of the compound shall be optional with the manufacturer but should contain film-forming compounds, corrosion inhibitors, and petroleum solvents. However, the compound shall contain not more than 1.5% aromatics and no chlorinated hydrocarbons.

3.2 Properties: The compound shall conform to the following requirements; tests shall be performed in accordance with specified test methods on the product supplied in concentrated form:

3.2.1 Flash Point: Shall be not lower than 43°C (109°F), determined in accordance with ASTM D56.

3.2.2 Sprayability: The compound shall be sprayable, tested in accordance with MIL-C-16173 except that the compound shall be held at 15°C ± 3 (59°F ± 5) and that the sprayed panel shall be dried at the same temperature.

3.2.3 Viscosity: The compound shall exhibit a non-Newtonian flow behavior and shall evince no sags, when tested in accordance with 4.5.7.

3.2.4 Storage Stability: The compound shall meet all requirements of this specification at any time within one year from date of receipt by purchaser when stored in closed containers between +40° and -20°C (+104° and -4°F).

3.2.5 Transparency: When Type I compound is applied by a wet film applicator at a thickness of 25 µm ± 5 (0.001 inch ± 0.0002) (dry) and dried for 24 hours ± 1 on a sheet of glass and the glass placed directly on this specification text, the text shall be legible.

3.2.6 Removability: The compound, applied in accordance with 4.5.1, shall be removable at room temperature by light rubbing with TT-N-95 naphtha, P-D-680 solvent, or TT-T-291 mineral spirits after the test panel has been exposed to 80°C ± 5 (176°F ± 9) for 24 hours ± 1.

3.2.7 Corrosion of Metal Surfaces:

3.2.7.1 Total Immersion Corrosion: The fluid shall neither show evidence of corrosion nor cause a weight change of any test panel greater than 0.1 mg/cm² per 24 hours, determined in accordance with ASTM F483. Discoloration is not acceptable.

Test Panels

AMS 4041 Aluminum Alloy

AMS 4049 Aluminum Alloy

AMS 4376 Magnesium Alloy, discromate treated according to AMS 2475

AMS 5040 Carbon Steel

3.2.7.2 Low-Embrittling Cadmium Plate: Test panels, coated with low-embrittling cadmium plate, shall not show a weight change greater than 0.1 mg/cm² per 24 hours, determined in accordance with ARP1511.

3.2.8 Hydrogen Embrittlement: The compound shall be non-embrittling, determined in accordance with ASTM F519, Type 1a, 1c, or 2a. The compound shall be tested as if it was a cleaner; the bars and rings shall be cadmium plated using low-embrittlement cadmium cyanide bath.

- 3.2.9 Effect on Painted Surfaces: The fluid shall neither decrease the paint film's hardness by more than one pencil hardness level nor shall it produce any streaking, discoloration, or blistering of the paint film, determined in accordance with ASTM F502.
- 3.2.10 Effect on Plastics: The compound shall not craze, stain, or discolor MIL-P-25690 stretched acrylic plastic, determined in accordance with ASTM F484.
- 3.2.11 Odor: The compound shall neither have any characteristic odor nor shall it have a detectable odor 24 hours after application on an open surface when heated to $90^{\circ} \pm 5$ ($194^{\circ}\text{F} \pm 9$).
- 3.2.12 Toxicity: When used as recommended by the manufacturer, the compound shall not be toxic to personnel.
- 3.2.13 Low-Temperature Adhesion: No flaking shall be observable at $-40^{\circ}\text{C} \pm 3$ ($-40^{\circ}\text{F} \pm 5$) when tested in accordance with MIL-C-16173 except that specimens shall be prepared according to 4.5.1.
- 3.2.14 High-Temperature Adhesion: The compound, heated in a draft-free oven to $90^{\circ}\text{C} \pm 5$ ($194^{\circ}\text{F} \pm 9$) for 4 hours ± 0.25 shall not flow on a vertical test panel prepared as in 4.5.1.
- 3.2.15 Water Displacement: No corrosion or discoloration shall be visible on panels, tested in accordance with 4.5.3.
- 3.2.16 Penetration: No panel shall show lower penetration than 30 mm when tested in accordance with 4.5.2. Average of three tests shall be 35 mm or greater.
- 3.2.17 Resistance to Fluids: Panels, prepared in accordance with 4.5.1, shall show no sign of compound removal upon visual inspection after half immersion in the following fluids for the time specified:
- | | |
|---|----------|
| - ASTM D1193, Type IV, water | 14 days |
| - AMS 1526 Cleaning Compound, at use concentration recommended by manufacturer | 4 hours |
| - AMS 1425 Deicing Fluid, diluted 1:1 by volume with ASTM D1193, Type IV, water | 24 hours |
- 3.2.17.1 All tests shall include at least three panels and shall be performed at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$).
- 3.2.17.2 After immersion, the panels shall be rinsed with water, dried vertically for 1 hour at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$), and inspected for removal of compound.
- 3.2.18 Resistance to Chemicals: Panels, prepared in accordance with 4.5.1 and tested in accordance with 4.5.4, shall show no sign of corrosion; discoloration is acceptable.

3.2.19 Corrosion Prevention:

3.2.19.1 No appreciable attack shall be visible, either on the panels or on the bolts, nuts, or washers after 400 hours for panel No. 1 and 120 hours for panel Nos. 2 and 3, determined in accordance with 4.5.5.

3.2.19.2 No appreciable attack shall be visible on AMS 4045 aluminum alloy panels, determined in accordance with ASTM G34. After cleaning and before immersion, the samples shall be sprayed with the compound in accordance with 4.5.1.2.

3.2.19.3 No appreciable attack shall be visible on AMS 4165 aluminum alloy panels, tested in accordance with ASTM G34. After cleaning and before immersion, panels should be sprayed with the compound in accordance with 4.5.1.2.

3.2.20 Properties After Drying in Closed Space: No corrosion shall be visible on the panel faces, tested in accordance with 4.5.6. Corrosion on the edges shall be ignored.

3.3 Quality: The compound, as received by purchaser, shall be uniform in quality and condition, clean, and free from foreign materials and other contaminants detrimental to usage of the compound.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the compound shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.6. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the compound conforms to the requirements of this specification.

4.2 Classification of Tests:

4.2.1 Acceptance Tests: Tests to determine conformance to requirements for sprayability (3.2.2), viscosity (3.2.3), removability (3.2.6), water displacement (3.2.15), and penetration (3.2.16) are classified as acceptance tests and shall be performed on each lot of compound.

4.2.2 Periodic Test: Tests to determine conformance to requirements for flash point (3.2.1), transparency (3.2.5), low-temperature adhesion (3.2.13), high-temperature performance (3.2.14), resistance to fluids (3.2.17), resistance to chemicals (3.2.18), corrosion prevention (3.2.19), and properties after drying in closed space (3.2.20) are classified as periodic tests and shall be performed at a frequency selected by the vendor unless frequency of testing is specified by purchaser.

4.2.3 Preproduction Tests: Tests to determine conformance to all technical requirements of this specification are classified as preproduction tests and shall be performed prior to or on the initial shipment of compound to a purchaser, when a change in ingredients and/or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

4.2.3.1 For direct U.S. Military procurement, substantiating test data and, when requested, preproduction test material shall be submitted to the cognizant agency as directed by the procuring activity, contracting officer, or request for procurement.

4.3 Sampling: Shall be in accordance with ASTM D1568; a lot shall be all compound produced in one continuous manufacturing operation from the same batches of raw materials and presented for vendor's inspection at one time.

4.4 Approval:

4.4.1 Sample compound shall be approved by purchaser before compound for production use is supplied, unless such approval be waived by purchaser. Results of tests on production compound shall be essentially equivalent to those on the approved sample.

4.4.2 Vendor shall use ingredients, manufacturing procedures, and methods of inspection on production compound which are essentially the same as these used on the approved sample compound. If necessary to make any change in ingredients or in manufacturing procedures, vendor shall submit for reapproval a statement of the proposed changes in ingredients and/or processing and, when requested, sample compound. Production compound made by the revised procedure shall not be shipped prior to receipt of reapproval.

4.5 Test Methods:

4.5.1 Preparation of Test Panels:

4.5.1.1 The test panels shall be fabricated from AMS 4037 aluminum alloy, 1 x 50 x 100 mm (0.040 x 2 x 4 inches). A 2 mm (0.080 inch) diameter hole, for hanging may be located at any feasible place. All sharp edges and corners shall be removed and the holes chamfered. The panels shall be cleaned in P-D-680 solvent, dried, cleaned in O-T-620 trichloroethane, and allowed to dry for not less than 8 hours in a dessicator.

4.5.1.2 The compound shall be sprayed on the clean panels on both faces with high-pressure airless spray equipment using a pressure of approximately 7.5 MPa (1100 psi). The temperature of the panels and compound shall be maintained at 25°C ± 5 (77°F ± 9). Check that no air bubbles are entrapped. The panels shall be dried for 24 hours ± 1 in a draft, dust, and fume-free atmosphere. During drying the panels shall hang freely. Dry thickness of the compound shall be 25 µm ± 5 (0.001 inch ± 0.0002).

4.5.2 Penetration:

- 4.5.2.1 Six AMS 4037 aluminum alloy test panels, 5 x 75 x 100 mm (0.20 x 3 x 4 inches), shall be prepared, sharp edges removed, and the panels chemically treated in accordance with AMS 2473. All panels shall be sprayed with one coat of MIL-P-23377 epoxy polyamide primer and allowed to dry for 24 hours at $50^{\circ}\text{C} \pm 5$ ($122^{\circ}\text{F} \pm 9$).
- 4.5.2.2 The test panels shall be pressed together in pairs to form test units as shown in Figure 2 with the aid of clamps and with the painted surfaces facing each other. The panels shall be separated from each other over the entire mating area, 75 x 70 mm (3 x 2.8 inches) using metallic strips along each vertical edge. The strips should be 10 mm (0.40 inch) wide and $0.02 \text{ mm} \pm 0.005$ ($0.0008 \text{ inch} \pm 0.0002$) thick. The screws shall be finger tightened; no pliers or wrench shall be used.
- 4.5.2.3 Test units and the compound shall be maintained at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$) for 3 hours ± 0.25 , after which the test units shall be placed vertically, and the compound sprayed on the faces whose bottom parts have been painted. The spraying shall be continued to obtain full coverage and until dripping starts. The spray pressure shall be approximately 7.5 MPa (1100 psi) and the temperature shall be $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$). The compound shall not be sprayed on the edges of the test units. (See Figure 2).
- 4.5.2.4 After being dried for 1.5 hours ± 0.25 at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$) in a vertical position the test units shall be separated carefully so as not to destroy the distribution of the compound on the faying surfaces. The test panels shall be dried for one additional hour and inspected for distribution of the compound. The borderline between the wetted and non-wetted surface shall form an almost straight line except near the edges. The greatest continuous distribution, measured from the lower penetration edge, is measured to the nearest one millimetre.

4.5.3 Water Displacement:

- 4.5.3.1 The test panels shall be fabricated from AMS 5040 steel, 3 x 50 x 100 mm (0.125 x 2 x 4 inches). The panels shall have all sharp edges removed and shall have all holes chamfered. The surfaces of the panels shall be ground and polished with 240 grit silicon carbide or aluminum oxide abrasive paper to a surface finish of 0.25 - 0.50 μm (10 - 20 microinch) AA, determined in accordance with ANSI B46.1. Iron oxide or wet or dry abrasive papers or cloths shall not be used.
- 4.5.3.2 The surfaces of the polished test panels shall be cleaned to remove all contamination. Panels shall not be permitted to touch contaminated surfaces after cleaning, but shall be protected by clean tissue and shall be handled with tongs or hooks. After polishing, the panels shall be cleaned by swabbing with a clean cloth or paper wipe, using fresh mineral spirits, similar to TT-T-291, Grade 1. Panels shall be stored in a dessicator before use. If stored longer than 24 hours, the polishing and cleaning process shall be repeated.

- 4.5.3.3 The compound shall be sprayed into a vessel with high-pressure spray equipment into a vessel with a pressure of approximately 7.5 MPa (1088 psi) and then sucked up into a pipette, care being taken that no air bubbles are entrained.
- 4.5.3.4 Three test panels prepared in accordance with 4.5.3.1 and 4.5.3.2 shall be dipped for 30 seconds in a synthetic sea water solution (See 4.5.3.4.1). After dripping for 10 seconds, the panels shall be positioned horizontally and checked to make sure that the entire top surface is wet; 0.1 mL $\pm$ 0.02 of compound shall be applied with a pipette with the pipette held 5 mm (0.2 inch) above the surface. This shall be done immediately after preparation of compound as in 4.5.3.3. At least 5 drops, each 0.1 mL, shall be applied without any mutual interference. The panels shall be stored horizontally in a draft-free room in a vertical position for 48 hours $\pm$ 1 at 25°C $\pm$ 5 (77°F $\pm$ 9) and relative humidity of 50% $\pm$ 5. The panels shall be cleaned and inspected visually for corrosion on the spots which have been covered with compound.
- 4.5.3.4.1 Synthetic sea water shall be prepared by adding 50 g of sodium chloride (NaCl), 22 g of magnesium chloride ($\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$), 32 g of calcium chloride ($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$) and 8.0 g of sodium sulfate (Na_2SO_4) to 1000 mL of ASTM D1193, Type IV, water.
- 4.5.4 Resistance to Chemicals: Three panels, prepared as in 4.5.1, shall be placed horizontally in a draft-free atmosphere. Four drops, (0.1 mL, of each of the following chemicals shall be placed on each panel.
- 20% O-S-598 sodium hydroxide
 - 10% O-A-76 acetic acid
 - 5% O-N-350 nitric acid
 - 20% O-H-765 hydrochloric acid
- 4.5.4.1 The water used for making these solutions shall conform to ASTM D1193 Type IV. After 24 hours $\pm$ 1, the solutions and compound shall be removed and the panels inspected visually for corrosion.
- 4.5.5 Corrosion Prevention:
- 4.5.5.1 Test panels, 6.5 x 50 x 100 mm (0.25 x 2 x 4 inches) shall be fabricated from AMS 4165 aluminum alloy. The extrusion direction shall be parallel to the 100 mm (4 inch) direction. Three holes, each 6.5 mm (0.25 inch) shall be drilled in the center line, 25 mm (1 inch) from each other and 25 mm (1 inch) from the edges. All edges and corners shall be rounded and the holes chamfered.

4.5.5.2 In the three holes, bolts shall be installed as follows; a washer shall be installed under the nuts only, nuts shall be on the same side of the panels and shall be tightened finger-tight.

Panel No. 1: Bolt NAS 1304-3
Washer AN 960-416
Nut AN 310-4

Panel No. 2: Bolt NAS 6404-U3
Washer AN 960-C416L
Nut AN 310-C4

Panel No. 3: Bolt NAS 6304-U3
Washer AN 960-C416L
Nut AN 310-C4

4.5.5.3 The panels, bolts, washers, and nuts shall be cleaned in P-D-680 solvent, dried, cleaned in O-T-620 trichloroethane, and allowed to dry for not less than 8 hours in a dessicator. The cleaning shall be performed both before and after the bolts are installed.

4.5.5.4 After the last cleaning as in 4.5.5.3, the panels shall be sprayed, airless, with the compound at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$) followed by 10 - 30 minutes dripping off. The spray pressure shall be approximately 7.5 MPa (1088 psi). The panels shall be held in a vertical position for 168 hours ± 5 at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$). Film thickness of the dried compound shall be $25 \mu\text{m} \pm 5$ (0.001 inch $\pm$ 0.0002).

4.5.5.5 The three panels, prepared in accordance with 4.5.5.1 through 4.5.5.4, shall be salt spray tested in accordance with ASTM B117. The panels center line shall be horizontal and the 50 mm (2 inch) edge shall be approximately vertical. The bolt head side of the panels shall be directed against the dominant salt fog flow.

4.5.5.6 After removal from the salt-spray cabinet, the bolts shall be removed from the panels and the panels, bolts, nuts, and washers cleaned in P-D-680 solvent. When all compound is removed, all parts and panels shall be inspected visually under 5 - 8X magnification for corrosion.

4.5.6 Properties After Driving in Closed Space:

4.5.6.1 A press-lid cylindrical metal can, approximately 155 mm (6 inches) deep by 155 mm (6 inches) in diameter shall be provided with two holes 10 mm (0.4 inch) in diameter in the cylinder-surface, one 5 mm (0.2 inch) from the bottom and the other on the opposite side 5 mm (0.2 inch) below the lid. Two strips of plastic or glass, each 100 x 7 x 7 mm (4 x 0.3 x 0.3 inches) shall be positioned parallel to each other on the bottom of the can and about 50 mm (2 inches) apart. See Figure 1. The compound shall be poured into the can to approximately 5 mm (0.2 inch) above the bottom.

- 4.5.6.2 Two test panels, prepared in accordance with 4.5.3.1 and 4.5.3.2 except that panel size shall be 1 x 100 x 150 mm (0.040 x 4 x 6 inches), shall be sprayed with the compound on each face until dripping, using a high-pressure airless spray-equipment with a pressure of approximately 7.5 MPa (1088 psi).
- 4.5.6.3 The test panels, immediately after spraying, shall be placed in a V configuration in the can with one short side resting on the strips and the other leaning against the side of the can. The lid shall be put on the can immediately. The can with the test panels shall be stored in an upright position in a draft-free room at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$) for seven days (See Figure 1). The panels shall be removed and dried for 24 hours ± 1 in a draft-free atmosphere at $25^{\circ}\text{C} \pm 5$ ($77^{\circ} \pm 9$).
- 4.5.6.4 Panels, prepared in accordance with 4.5.6.1, 4.5.6.2, and 4.5.6.3, shall be salt spray tested in accordance with ASTM B117 for 240 hours ± 5 . The 150 mm (3 inch) edges shall be located horizontally and the 100 mm (4 inch) edges shall make an angle to the vertical of 30 degrees.
- 4.5.6.5 After removal from the salt-spray cabinet, the panels shall be cleaned in P-D-680 solvent and visually inspected under 5 - 8X magnification.
- 4.5.7 Viscosity:
- 4.5.7.1 Test panels, 1 x 150 x 200 mm (0.040 x 6 x 8 inches), shall be fabricated from AMS 4037 aluminum alloy, with all sharp edges and corners removed. The panels shall be cleaned in P-D-680 solvent, dried, cleaned in O-T620 trichloroethane, and allowed to dry for not less than 8 hours in a dessicator.
- 4.5.7.2 The test panels shall be placed in a vertical position with the long edges horizontally. The lower half of one side of the panels shall be covered with AMS 3808, Type II, masking tape. The compound shall be sprayed on the panels on the taped side with a high-pressure airless spray equipment using a pressure of approximately 7.5 MPa (1100 psi). The temperature of the panels and compound shall be maintained at $25^{\circ}\text{C} \pm 5$ ($77^{\circ}\text{F} \pm 9$). Thickness of the compound when dry, shall be $25 \mu\text{m} \pm 5$ (0.001 inch $\pm$ 0.0002).
- 4.5.7.3 1 minute $\pm$ 5 seconds after application, the tape shall be removed and the panels inspected for sags and drops flowing from the sprayed surface to the earlier masked surface.
- 4.6 Reports: The vendor of the compound shall furnish with each shipment a report showing the results of tests to determine conformance to the acceptance test requirements and, when performed, to the periodic test requirements and stating that the compound conforms to the other technical requirements of this specification. This report shall include the purchase order number, lot number, AMS 3077, manufacturer's identification, and quantity.