AEROSPACE MATERIAL SPECIFICATION

AMS3379™

Issued 2013-04
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Sealing Compound, Polysulfide Rubber Preformed Strips for Sealing Removable Doors, Skins, and Panels

RATIONALE

Development of new specification for form-in-place gasket sealing compound.

1. SCOPE

1.1 Form

This specification establishes the requirements for a polysulfide sealing compound in putty consistency to be used for form-in-place sealing of removable doors, skins, and panels.

1.2 Application

This sealing compound is for use in preparation of form-in-place gaskets for removable doors, skins, and panels, but usage is not limited to such applications. It can also be used for sealing of gaps, joints or other areas where conventional wet sealing compounds may be used. This room temperature curing sealing compound strip is applicable for fuel-wetted and non-fuel-wetted form-in-place gaskets. This material is usable from -65 to 250 °F (-54 to 121 °C) with short term exposure (approximately six hours) to 360 °F (182 °C).

This sealing compound is delivered frozen in preformed strips for use. It provides a one-hour work life when thawed, exhibiting the consistency of a workable putty, and cures to a resilient seal at room temperature that is resistant to common aircraft fuels and fluids.

1.3 Safety - Hazardous Materials

Shall be in accordance with AS5502 (1.1).

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 724-776-4970 (outside USA), www.sae.org.

AMS2471 Anodic Treatment of Aluminum Alloys Sulfuric Acid Process, Undyed Coating

AMS2629 Fluid, Jet Reference

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
SAE WEB ADDRESS: **http://www.sae.org**

SAE values your input. To provide feedback on this Technical Report, please visit
http://standards.sae.org/AMS3379

AMS3100 Adhesion Promoter, for Polysulfide Sealing Compounds

AMS3276 Sealing Compound, Integral Fuel Tanks and General Purpose, Intermittent Use to 360 °F (182 °C)

AMS3277 Sealing Compound, Polythioether Rubber Fast Curing for Integral Fuel Tanks and General Purpose, Intermittent Use to 360 °F (182 °C)

AMS4045 Aluminum Alloy Sheet and Plate, 5.6Zn - 2.5Mg - 1.6 Cu - 0.23 Cr, 7075: (-T6 Sheet, -T651 Plate), Solution and Precipitation Heat Treated

AMS4911 Titanium Alloy, Sheet, Strip, and Plate, 6Al - 4V, Annealed

AMS-C-27725 Coating, Corrosion Preventative, for Aircraft Integral Fuel Tanks for Use to 250 °F (121 °C)

ARP1917A Clarification of Terms Used in Aerospace Metals Specifications

AS5127 Methods for Testing Aerospace Sealants

AS5127/1 Aerospace Standard Test Methods for Aerospace Sealants, Two-Component Synthetic Rubber Compounds

AS5502 Standard Requirements for Aerospace Sealants

2.2 U.S. Government Publications

Available from DLA Document Services, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Tel: 215-697-6396, http://quicksearch.dla.mil/.

MIL-PRF-23377 Primer Coatings: Epoxy, High-Solids

MIL-PRF-23699 Lubricating Oil, Aircraft Turbine Engine, Synthetic Base, NATO Code Number O-156

MIL-PRF-83282 Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537

MIL-PRF-85285 Coating: Polyurethane, Aircraft and Support Equipment

MIL-PRF-85582 Primer Coatings: Epoxy, Waterborne

2.3 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 B117 Standard Practice for Operating Salt Spray (Fog) Apparatus

ASTM G85 Standard Practice for Modified Salt Spray (Fog) Testing

2.4 PRI Publications

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

PD 2000 Procedures for an Industry Qualified Product Management Process

PRI-QPL-AMS3379 Products Qualified Under AMS3379

3. TECHNICAL REQUIREMENTS

3.1 Materials

The basic ingredient used in the manufacture of the sealing compound shall be synthetic rubber of the polysulfide type. The material shall be supplied preformed and frozen. When thawed, it shall be an easily workable putty for direct application. The compound shall contain no lead compounds and shall be chrome-free. The compound shall not be red or pink in color.

3.2 Date of Packaging

Shall be in accordance with AS5502 (3.1).

3.3 Toxicological Formulations

Shall be in accordance with AS5502 (3.2).

3.4 Quality

Shall be in accordance with AS5502 (3.3).

3.5 Shelf Life

The shelf life of this material shall be at least 60 days from date of packaging when stored at temperatures at or below -80 °F (-62 °C).

3.6 Properties

The sealing compound, when applied in accordance with manufacturer's instructions and cured as in 4.5.8, shall conform to the requirements shown in Table 1, determined in accordance with specified test methods:

TABLE 1 – PROPERTIES

Paragraph	Test Property	Requirement	Test Method
3.6.1	Specific Gravity, max.	1.65	AS5127/1 (6.1)
3.6.2	Nonvolatile Content, %, min.	97	AS5127/1 (5.1)
3.6.3	Application Time hour, min.	1	4.6.1
3.6.4	Tack Free Time, hours, max.	5	AS5127/1 (5.8)
3.6.5	Standard Cure Time (time to reach 30 Shore A) hours, max.	5	AS5127/1 (5.9)
3.6.6	Low Temperature Flexibility @ -65 °F ± 2 (-54 °C ± 1)[1]	No cracking, checking or loss of adhesion	4.6.2
3.6.7	Shear Strength, psi (kPa) min./% cohesive failure min		AS5127/1 (7.8)
3.6.7.1	Standard Cure[1]	100 (689)/95%	Substrates per Table 2
3.6.7.2	Standard cure plus AMS2629 (JRF) immersion, 7 days @ 140 °F (60 °C)[1]	60 (414)/95%	Substrates per Table 2
3.6.7.3	Standard cure plus MIL-PRF-83282 immersion, 48 hrs @ 140 °F (60 °C)[1]	60 (414)/95%	Substrates per Table 2