



AEROSPACE MATERIAL SPECIFICATION

AMS3381™**REV. D**Issued 2014-05
Revised 2026-07

Superseding AMS3381C

Sealing Compound, Flame Resistant, Non-Silicone

RATIONALE

The supplier indicates they are unable to certify PMF products to the specification due to form not mentioning that PMF materials are covered by this specification. This is a limited scope revision that applies only to form (see 1.1).

1. SCOPE

1.1 Form

This specification covers non-silicone synthetic rubber sealing compounds supplied as a two-component or pre-mixed and frozen (PMF) system that cures at room temperature.

1.2 Application

These products are used primarily for sealing aircraft structures against passage of air, vapors, and flames, but usage is not limited to such applications. The sealing compounds are effective at all temperatures from -65 to 400 °F (-54 to 204 °C) and can withstand flash temperatures of up to 2000 °F (1093 °C). Sealants qualified to this specification are defined as flame resistant and can prevent flame penetration from incidental exposure to smaller fires. Users should evaluate their specific flame-resistant requirements prior to specifying any sealing compound. The ultimate determination of acceptability should be based on the ability of the sealant to withstand exposure to the flame without resulting in a condition that will further increase hazard to the aircraft. If it is intended to use these products for aircraft firewall structures, users are advised to evaluate their design to the applicable FAR requirements of FAA AC 20-135.

1.3 Classification

None.

1.4 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.

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For more information on this standard, visit
<https://www.sae.org/standards/content/AMS3381D/>

Documents

Standard, visit Sharing Hub

2.1 SAE Publications

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

AMS2629	Fluid, Jet Reference
AMS3021	Fluid, Reference for Testing Di-Ester (Polyol) Resistant Material
AMS4462	Aluminum Alloy, Sheet and Plate, Alclad, 4.4Cu - 1.5Mg - 0.60Mn (Alclad 2024, -T3 Sheet, -T351 Plate), Solution Heat Treated, Cold Worked and Naturally Aged
AMS4911	Titanium Alloy, Sheet, Strip, and Plate, 6Al - 4V, Annealed
AMS5517	Steel, Corrosion-Resistant, Sheet and Strip, 18Cr - 8Ni (301), Cold Rolled, 125 ksi (862 MPa) Tensile Strength
AS5127	Aerospace Standard Test Methods for Aerospace Sealants, Methods for Preparing Aerospace Sealant Test Specimens
AS5127/1	Aerospace Standard Test Methods for Aerospace Sealants, Two-Component Synthetic Rubber Compounds
AS5502	Standard Requirements for Aerospace Sealants and Adhesion Promoters

2.2 PRI Publications

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

PRI-QPL-AMS3381 Products Qualified under AMS3381

2.3 FAA Publications

Available from Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591, Tel: 866-835-5322, www.faa.gov.

FAA AC 20-135	Powerplant Installation and Propulsion System Component Fire Protection Test Methods, Standards and Criteria
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3. TECHNICAL REQUIREMENTS

3.1 Materials

The basic ingredients shall not contain silicone compounds. The base compound and curing agent shall possess enough color contrast to permit easy identification of an unmixed or incompletely mixed sealing compound. Neither the base compound nor the cured sealant shall 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

Shelf life of sealing compounds shall be a minimum of 12 months from date of packaging when stored below 80 °F (27 °C).

3.5.1 Premixed and Frozen Materials

Premixed and frozen material shall have a minimum storage life of 30 days at -40 °F (-40 °C) or lower or 10 days at -10 to -40 °F (-23 to -40 °C) from the date of mix/freeze. Recommendations for longer storage lives at lower temperatures may be provided by the manufacturer. The date of mix/freeze shall be within the shelf life of unmixed material.

3.6 Properties

Shall conform to the following requirements and test methods shown in Table 1.