



AEROSPACE MATERIAL SPECIFICATION

AMS3374™**REV. G**

Issued 1987-01
Reaffirmed 1994-01
Revised 2023-05

Superseding AMS3374F

Sealing Compound
Aircraft Firewall, Silicone

RATIONALE

Provide clarification for updating sealant compound shelf-life extension requirements and general standard specification editorial updating.

1. SCOPE

1.1 Form

This specification covers six types of silicone sealing compounds as either one-part or two-part systems that cure at room temperature.

1.2 Application

These products are intended for use for sealing aircraft firewall 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 are able to withstand flash temperatures of up to 2000 °F (1093 °C).

1.3 Safety - Hazardous Materials

Shall be in accordance with AS5502 (1.1).

1.4 Classification

Compounds covered by this specification are classified as follows:

Type 1 - One-part (or two-part, pre-mixed, room temperature stable) high temperature silicone, condensation cured.

Type 2 - Two-part high temperature silicone, addition cured.

Type 3 - Two-part high temperature silicone, condensation cured.

Type 4 - Two-part high temperature silicone, rapid curing, condensation cured.

Type 5 - One-part high temperature silicone, condensation cured, extended life.

Type 6 - Two-part high temperature silicone, lightweight, rapid curing, addition cured.

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Documents

Document Sharing Hub

2. APPLICABLE DOCUMENTS

Shall be in accordance with AS5502 (Section 2).

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.

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
AMS5516	Steel, Corrosion-Resistant, Sheet, Strip, and Plate, 18Cr - 9.0Ni (302), Solution Heat Treated
AS1241	Fire Resistant Phosphate Ester Hydraulic Fluid for Aircraft
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
AS5127/2	Test Method for Aerospace Firewall Sealant Flame Penetration
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.pri-network.org.

PRI-QPL-AMS3374 Products Qualified Under AMS3374

3. TECHNICAL REQUIREMENTS

3.1 Date of Packaging

Shall be in accordance with AS5502 (3.1).

3.2 Toxicological Formulations

Shall be in accordance with AS5502 (3.2).

3.3 Quality

Shall be in accordance with AS5502 (3.3).

3.4 Shelf Life

Shelf life of sealing compounds conforming to Types 1 through 4 and Type 6 shall be a minimum of 6 months from the date of packaging when stored at the manufacturer's recommended conditions. Shelf life of sealing compound conforming to Type 5 shall be a minimum of 2 years from the date of packaging when stored at the manufacturer's recommended conditions.

3.5 Properties

The sealing compound, when mixed in accordance with the manufacturer's instructions and cured as in 4.4.6, shall conform to the requirements shown in Table 1, determined in accordance with specified test methods:

Table 1 - Properties

Paragraph	Property	Requirement	Test Procedures (Paragraph)
3.4.1	Nonvolatile Content, (% by Weight), Minimum		AS5127/1 (5.1)
	Type 1	90%	
	Types 2, 6	97%	
	Type 3	96%	
	Type 4	96%	
	Type 5	80%	
3.4.2	Flow, Inches (mm), Maximum	0.5 (13)	AS5127/1 (5.5.1)
3.4.3	Application Time, Hours, Minimum (From the Beginning of Mixing, Not Less Than 25 g/min Shall be Extruded)		AS5127/1 (5.6.2)
	Types 1, 5	Not applicable	
	Types 2, 3	4	
	Type 4	0.5	
	Type 6 (Not Less Than 5 g/min)	0.5	
3.4.4	Tack-Free Time (Measured from the Beginning of Mixing), Hours, Maximum		AS5127/1 (5.8)
	Types 1, 3, 5	6	
	Types 2, 6	24	
	Type 4	2	
3.4.5	Specific Gravity, Maximum		AS5127/1 (6.1)
	Types 1, 3, 4, 5	1.5	
	Type 2	1.6	
	Type 6	0.85	
3.4.6	Cure Time to Hardness, Maximum (Time to Reach 30 Durometer Type A)		AS5127/1 (5.9)
	Types 1, 2, 3, 5, 6	48 hours	
	Type 4	4 hours	
3.4.7	Resistance to Thermal Rupture, Maximum Deformation	No blistering or sponging, 0.125-inch (3.2-mm) deformation, maximum	AS5127/1 (7.2) ¹ 300 °F (149 °C), 10 psi (69 kPa), 30 minutes
3.4.8	Low Temperature Flexibility	No cracking or loss of adhesion	AS5127/1 (7.6.2)
3.4.9	Oil Resistance	No loss of adhesion, softening, blistering, or reversion	AMS3374 (4.5.1)
3.4.10	Shear Strength, psi (kPa) Minimum 85% Cohesion Minimum		AMS3374 (4.5.2)
	Types 1, 2, 3, 4, 5	150 (1034)	
	Type 6	100 (690)	