AEROSPACE MATERIAL SPECIFICATION

AMS3276™	REV. H
Issued 1993-10 Revised 2024-04 Superseding AMS3276G	

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

RATIONALE

Five-Year Review. Changed term “Standard Cure Time” to “Cure Time to Hardness.” Changed the upper limit of Class B viscosity to 20000 poise, for tensile/elongation requirements, changed reference fluids AMS3020 to AMS3400 and AMS3021 to AMS3023 per discussion at G-9 meeting (October 2023), and referenced those requirements back to AS5127. Changed so that the composite peel substrates have minimum thickness requirements instead of exact thickness requirements. Added additional informational clarifications.

1. SCOPE

1.1 Form

This specification covers fuel-resistant polysulfide (T) sealing compounds supplied as a two-component system.

1.2 Application

This sealing compound has been used typically for fuel tank sealing, cabin pressure sealing, and aerodynamic smoothing, but usage is not limited to such applications. It can be used for faying surface sealing, wet-installation of fasteners, overcoating fasteners, sealing joints and seams, and nonstructural adhesive bonding. This room-temperature curing sealing compound can be used in fuel areas as well as nonfuel areas. Curing of this material can be accelerated at higher temperatures. This material is usable from -65 to +250 °F (-54 to +121 °C), with short-term exposure (approximately 6 cumulative hours) up to 360 °F (182 °C). AMS3100 adhesion promoter may be applied prior to application of the sealant in accordance with recommendations from the sealant manufacturer for specific substrates.

1.3 Classification

Sealing compounds covered by this specification are classified as follows:

1.3.1 Classes

Class A - Suitable for application by brush. Available with the following application times, in hours:

A-1/2

A-2

A-4

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For more information on this standard, visit
https://www.sae.org/standards/content/AMS3276H/

Class B - Suitable for application by extrusion gun or spatula. Used primarily for fillet sealing, injection sealing, prepack sealing, and rework of damaged fillet seals. Available with the following application times, in hours:

B-1/4

B-1/2

B-1

B-2

B-4

B-6

B-12

Class C - Suitable for application by brush, extrusion gun, roller, or spatula. Used mostly for fay surface sealing and wet installation of fasteners. Available with the following application times, in hours:

Notation: ( ) Assembly time, in hours

C-1/2(1/2)

C-2(2)

C-8(20)

Class D - Suitable for application by extrusion gun or spatula. Used for hole and void filling or for other applications where a very thick sealant is required. Available with the following application times, in hours:

D-1/4

D-1/2

Class E - Suitable for application by automatic riveting equipment. Available with the following application time, in hours:

E-6

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.

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.

AMS2629	Fluid, Jet Reference
AMS3023	Fluid, Reference for Testing Polyol Ester (and Diester) Resistant Material
AMS3100	Adhesion Promoter for Polysulfide Sealing Compounds
AMS3400	Fluid, Reference for Testing Polyalphaolefin (PAO) Resistant Material
AMS4045	Aluminum Alloy Sheet and Plate, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr 7075: (-T6 Sheet, -T651 Plate), Solution and Precipitation Heat Treated
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
AMS-C-27725	Coating, Corrosion Preventative, for Aircraft Integral Fuel Tanks for Use to 250 °F (121 °C)
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 U.S. Government Publications

Copies of these documents are available online at https://quicksearch.dla.mil.

MIL-PRF-23377	Primer Coatings: Epoxy, High Solids
MIL-PRF-85285	Coating, Polyurethane, Aircraft and Support Equipment
MIL-PRF-85582	Primer Coatings: Epoxy, Waterborne

2.3 PRI Publications

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

OP 2007 Appendix G9	Additional Requirements for the Aerospace Sealants and Associated Materials (G9) QPG
PRI-QPL-AMS-3276	Products Qualified Under AMS3276

3. TECHNICAL REQUIREMENTS

3.1 Materials

The basic ingredient shall be synthetic rubber, made from a polysulfide compound. The sealing compound shall cure by addition of a separate curing agent to the base compound and shall not depend on solvent evaporation for curing. The material shall contain no lead compounds. The curing agent shall possess sufficient color contrast to base compounds 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 shall be a minimum of 9 months from the date of packaging when stored below 80 °F. Material may be retested for shelf-life extension per 4.3.3.

3.5.1 Premixed and Frozen Material

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 °F (-23 °C) or lower from 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 the unmixed material.

3.6 Properties

The base compound by itself shall conform to the Viscosity requirements in Table 1. The base compound and the curing agent, when mixed in accordance with manufacturer's instructions and cured in accordance with 4.5.4.5, shall conform to all requirements shown in Table 1 when determined in accordance with the specified test methods.

Table 1 - Properties

Paragraph	Property	Requirement	Test Procedures (Paragraph)
3.6.1	Nonvolatile Content, by weight, min		AS5127/1 (5.1)
	Class A	85%	
	Class B	96%	
	Class C	92%	
	Class D	97%	
	Class E	85%	
3.6.2	Viscosity of Base Compound		AS5127/1 (5.3)
	Class A (Use No. 6 spindle @ 10 rpm)	100 to 600 poise (10 to 60 Pa•s)	
	Class B (Use No. 7 spindle @ 2 rpm)	9000 to 20000 poise (900 to 2000 Pa•s)	
	Class C (Use No. 6 spindle @ 2 rpm)	1000 to 4000 poise (100 to 400 Pa•s)	
	Class D (Use No. 7 spindle @ 2 rpm)	20000 to 30000 poise (2000 to 3000 Pa•s)	
	Class E (Use No. 7 spindle @ 10 rpm)	300 to 800 poise (30 to 80 Pa•s)	
3.6.3	Flow Class B	0.75 inch (19.0 mm), max	AS5127/1 (5.5) AS5127/1 (5.5.1)
	Class C	0.010 inch (0.25 mm), min	AS5127/1 (5.5.2)
	Class D	0.20 inch (5.1 mm), max	AS5127/1 (5.5.1)
3.6.4	Application Time, min Class A - From the beginning of mixing to the end of the application time, the viscosity shall not exceed 2500 poise (250 Pa•s). (Use No. 7 spindle @ 10 rpm) Class A-1/2 Class A-2 Class A-4	 1/2 hour 2 hours 4 hours	AS5127/1 (5.6) AS5127/1 (5.6.1)
	Class B - From the beginning of mixing to the end of the application time, not less than 15 grams per minute shall be extruded. Class B-1/4 Class B-1/2 Class B-1 Class B-2 Class B-4 Class B-6 Class B-12	 1/4 hour 1/2 hour 1 hour 2 hours 4 hours 6 hours 12 hours	AS5127/1 (5.6.2)

Table 1 - Properties (continued)

Paragraph	Property	Requirement	Test Procedures (Paragraph)
3.6.4 (continued)	Class C - From the beginning of mixing to the end of the application time, not less than 30 grams per minute shall be extruded. Class C-1/2(1/2) Class C-2(2) Class C-8(20)	 1/2 hour 2 hours 8 hours	AS5127/1 (5.6.2)
	Class D - From the beginning of mixing to the end of the application time, not less than 15 grams per minute shall be extruded. Class D-1/4 Class D-1/2	 1/4 hour 1/2 hour	AS5127/1 (5.6.2)
	Class E - From the beginning of mixing to the end of the application time, the viscosity shall be between 800 to 1100 poise (80 to 110 Pa•s). (Use No. 7 spindle @ 10 rpm) Class E-6	 6 hours	AS5127/1 (5.6.2)
3.6.5	Assembly Time (Class C only) Class C-1/2(1/2) Class C-2(2) Class C-8(20)	 1/2 hour 2 hours 20 hours	AS5127/1 (5.7)
3.6.6	Tack-Free Time (Measured from beginning of mixing), max		AS5127/1 (5.8)
	Class A-1/2	10 hours	
	Class A-2	24 hours	
	Class A-4	36 hours	
	Class B-1/4	6 hours	
	Class B-1/2	10 hours	
	Class B-1	12 hours	
	Class B-2	24 hours	
	Class B-4	36 hours	
	Class B-6	48 hours	
	Class B-12	120 hours	
	Class C-1/2(1/2)	10 hours	
	Class C-2(2)	24 hours	
	Class C-8(20)	96 hours	
	Class D-1/4	6 hours	
	Class D-1/2	10 hours	
	Class E-6	120 hours	

Table 1 - Properties (continued)

Paragraph	Property	Requirement	Test Procedures (Paragraph)
3.6.7	Cure Time to Hardness, max (time to reach 30 Type A Durometer)		AS5127/1 (5.9)
	Class A-1/2	30 hours	
	Class A-2	72 hours	
	Class A-4	90 hours	
	Class B-1/4	16 hours	
	Class B-1/2	30 hours	
	Class B-1	36 hours	
	Class B-2	72 hours	
	Class B-4	90 hours	
	Class B-6	120 hours	
	Class B-12	240 hours	
	Class C-1/2(1/2)	30 hours	
	Class C-2(2)	72 hours	
	Class C-8(20)	336 hours	
	Class D-1/4	16 hours	
	Class D-1/2	30 hours	
	Class E-6	240 hours	
3.6.8	Fluid Immersion Cure Time to Hardness, min (Classes A-1/2, B-1/4, B-1/2 only) After 48 hours After 120 hours	 25 Type A Durometer 35 Type A Durometer	AS5127/1 (5.11)
3.6.9	Specific Gravity, max average	1.65	AS5127/1 (6.1)
3.6.10	14-Day Hardness, min (Classes B-12, C-8(20), and E-6 are excluded)	40 Type A Durometer	AS5127/1 (6.2)
3.6.11	Resistance to Thermal Expansion	Sealant flush with groove within +0.010 inch and -0.050 inch (+0.25 mm and -1.3 mm) at the wide end of the test block and within +0.005 inch and -0.050 inch (+0.13 mm and -1.3 mm) at the narrow end	AS5127/1 (6.4)
3.6.12	Heat Reversion Resistance (Classes B, C, and E only)	The sealant shall not revert to a liquid or paste-like consistency, nor shall it become brittle or lose adhesion.	AS5127/1 (6.5)
3.6.13	Hydrolytic Stability, min	30 Type A Durometer	AS5127/1 (6.6)
3.6.14	Shaving and Sanding (Class B only)	No rolling or tearing of the sealant, smooth finish	AS5127/1 (6.7)

Table 1 - Properties (continued)

Paragraph	Property	Requirement	Test Procedures (Paragraph)
3.6.15	Paintability	No separation from sealant	AS5127/1 (6.8)
3.6.16	Weathering	No cracking, chalking, peeling or loss of adhesion	AS5127/1 (6.9)
3.6.17	Chalking, max	Slight	AS5127/1 (7.1)
3.6.18	Resistance to Thermal Rupture, max (Class A and B only), Oven air aging at 300 °F (149 °C), 10 psi (69 kPa), 30 minutes	0.156 inch (3.96 mm) No blistering or sponging	AMS3276 (4.6.1) and AS5127/1 (7.2)
3.6.19	Weight Loss and Flexibility		AS5127/1 (7.4)
	Weight Loss, max	8%	
	Flexibility	No cracking or checking	
3.6.20	Volume Swell, max	15%	AS5127/1 (7.5)
3.6.21	Low-Temperature Flexibility	No visual evidence of cracking or checking, no loss of adhesion	AMS3276 (4.6.2) and AS5127/1 (7.6)
3.6.22	Tensile Strength and Elongation, min (Classes B, C, and D only)		AS5127/1 (7.7)
3.6.22.1	Cure per 4.5.4.5	250 psi (1724 kPa), 250% elongation	
3.6.22.2	Cure per 4.5.4.5 + 12 days at 140 °F (60 °C), + 60 hours at 160 °F (71 °C), + 6 hours at 180 °F (82 °C), all in AMS2629 Type 1	125 psi (862 kPa), 100% elongation	
3.6.22.3	Cure per 4.5.4.5 + 12 days at 140 °F (60 °C), + 60 hours at 160 °F (71 °C), + 6 hours at 180 °F (82 °C), all in AMS2629 Type 1, + 24 hours at 120 °F (49 °C), followed by Standard Heat Cycle in Air per 4.5.3	125 psi (862 kPa), 25% elongation	
3.6.22.4	Cure per 4.5.4.5 + Standard Heat Cycle per 4.5.3	100 psi (689 kPa), 25% elongation	
3.6.22.5	Cure per 4.5.4.5 + 72 hours at Standard Conditions in AMS3023 (refer to AS5127, Paragraph 7.4)	125 psi (862 kPa), 100% elongation	

Table 1 - Properties (continued)

Paragraph	Property	Requirement	Test Procedures (Paragraph)
3.6.22.6	Cure per 4.5.4.5 + 72 hours at Standard Conditions in AMS3400 (Refer to AS5127, Paragraph 7.5)	125 psi (862 kPa), 100% elongation	
3.6.23	Shear Strength, min (Classes C and E only)	200 psi (1379 kPa), 100% cohesive failure	AS5127/1 (7.8)
3.6.24	Corrosion Resistance	No corrosion under sealant or signs of deterioration	AS5127/1 (7.9)
3.6.25	Peel Strength, min (All Classes except C-8[20])	20 lbf/in (3503 N/m), 100% cohesive failure	AMS3276 (4.6.3)
3.6.26	Peel Strength for Repair Material, min (Classes A-1/2, B-1/4, B-1/2 only)	10 lbf/in (1751 N/m), 100% cohesive failure	AMS3276 (4.6.3.3)
3.6.27	Repairability, min	5 lbf/in (876 N/m), 100% cohesive failure	AMS3276 (4.6.4)
3.6.28	Storage Stability		
3.6.28.1	Accelerated Storage		AS5127/1 (9.1)
	Viscosity of Base Compound	Same as 3.6.2	
	Flow	Same as 3.6.3	
	Application Time	Same as 3.6.4	
	Tack Free Time	Same as 3.6.6	
	Cure Time to Hardness	Same as 3.6.7	
	Peel Strength, min: Four aluminum panels, sulfuric acid anodized in accordance with AS5127 (6.3) and coated with AMS-C-27725 Type 2; two panels in AMS2629 Type 1; two panels in AMS2629 Type 1/3% saltwater; all at 140 °F (60 °C) for 7 days	20 lbf/in (3503 N/m), 100% cohesive failure	

Table 1 - Properties (continued)

Paragraph	Property	Requirement	Test Procedures (Paragraph)
3.6.28.2	Long-Term Storage		AMS3276 (4.6.5)
	Application Time	Same as 3.6.4	
	Tack-Free Time (measured from beginning of mixing), max		
	Class A-1/2	20 hours	
	Class A-2	48 hours	
	Class A-4	72 hours	
	Class B-1/4	16 hours	
	Class B-1/2	20 hours	
	Class B-1	24 hours	
	Class B-2	48 hours	
	Class B-4	72 hours	
	Class B-6	96 hours	
	Class B-12	180 hours	
	Class C-1/2(1/2)	20 hours	
	Class C-2(2)	48 hours	
	Class C-8(20)	144 hours	
	Class D-1/4	16 hours	
	Class D-1/2	20 hours	
	Class E-6	180 hours	
	Cure Time to Hardness (time to reach 30 Type A Durometer), max		
	Class A-1/2	40 hours	
	Class A-2	72 hours	
	Class A-4	114 hours	
	Class B-1/4	24 hours	
	Class B-1/2	40 hours	
	Class B-1	54 hours	
	Class B-2	72 hours	
	Class B-4	114 hours	
	Class B-6	144 hours	
	Class B-12	264 hours	
	Class C-1/2(1/2)	40 hours	
	Class C-2(2)	72 hours	
	Class C-8(20)	360 hours	
	Class D-1/4	24 hours	
	Class D-1/2	40 hours	
	Class E-6	144 hours	

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

Shall be in accordance with AS5502 (4.1).

4.1.1 Source Inspection

Shall be in accordance with AS5502 (4.1.1).

4.1.2 Sampling and Testing

Shall be in accordance with AS5502 (4.3).

4.2 Classification of Tests

Shall be in accordance with AS5502 (4.2).

4.2.1 Qualification Tests

Shall be in accordance with AS5502 (4.2.1).

4.2.1.1 Qualification Requirements for Class B-2

Class B-2 shall be the first material that is qualified for each supplier of sealing compound. Class B-2 sealing compound shall be tested for and shall meet all technical requirements of this specification with the exception of requirements unique to other classes or application times of the sealing compound.

4.2.1.2 Qualification Requirements for Other Classes and Application Times

Once qualification for Class B-2 has been obtained, other classes of the sealing compound and additional application times of qualified classes may be qualified. The formulation for other classes, and for other application times of qualified classes, shall be the same as Class B-2, except for minor variations necessary for conformance to viscosity and application time requirements. All compounds shall meet all technical requirements of this specification. Other classes of the sealing compound need only to be tested to the initial acceptance tests listed in Table 2, plus all peel strength tests listed in Table 5, or as defined by the QPL agency. Application times of qualified classes need only to be tested to the initial acceptance tests listed in Table 2 or as defined by the QPL agency. Any unique qualification tests for the sealant's class and application time shall also be tested per OP 2007 Appendix G9.

4.2.2 Initial Acceptance Tests

Requirements shown in Table 2 are initial acceptance tests and shall be performed on each batch per AS5502 (4.2.2.1).

Table 2 - Initial acceptance tests

Test	Requirement Paragraph
Nonvolatile Content	3.6.1
Viscosity of the Base Compound (Note 1)	3.6.2
Flow (Class B only)	3.6.3
Application Time	3.6.4
Assembly Time (Class C only)	3.6.5
Tack-Free Time	3.6.6
Cure Time to Hardness	3.6.7
14-Day Hardness	3.6.10
Shear Strength (Class C and E only)	3.6.23
Peel Strength (Note 2)	3.6.25 and 4.6.3.4

Note 1: For initial acceptance testing, testing is not required if material is provided in sectional-type containers or small size containers less than eight 8 ounces (235 mL).

Note 2: Sealant may be subjected to an accelerated cure per 4.5.4.5.

4.2.3 Final Acceptance Tests

Requirements shown in Table 3 are final acceptance tests and shall be performed on each lot per AS5502 (4.2.2.2).

Table 3 - Final acceptance tests

Test	Requirement Paragraph
Flow (Class B only)	3.6.3
Application Time	3.6.4
Tack-Free Time	3.6.6
Cure Time to Hardness	3.6.7

4.3 Sampling and Testing

Shall be in accordance with AS5502 (4.3).

4.3.1 Qualification Test Samples

Sample batches shall be produced using production scaled equipment. Enough material shall be supplied to perform all required tests. Samples shall be identified as specified herein and below:

SEALING COMPOUND, INTEGRAL FUEL TANKS, AND GENERAL PURPOSE
INTERMITTENT USE TO 360 °F (182 °C)
AMS3276H Type and Class
MANUFACTURER'S IDENTIFICATION
BATCH/LOT NUMBER
DATE OF PACKAGING
SHELF-LIFE EXPIRATION DATE
STORE BELOW 80 °F (27 °C)

4.3.2 Acceptance Tests

Shall be in accordance with AS5502 (4.3.1).

4.3.2.1 Batch and Lot

A batch shall be defined as the quantity of material run through a mill or mixer at one time. A lot shall be defined as material from one batch of each component assembled (packaged) as finished product in one size and/or type of container at the same time. The lot, when used, shall be traceable to the batches of base compound and curing agent.

4.3.2.2 Initial and Final Acceptance Tests

Each batch shall be subjected to both initial and final acceptance testing. Sufficient material for initial acceptance testing shall be packaged in the same type containers that are being procured. Initial acceptance tests are those listed in 4.2.2. After successful completion of the initial acceptance tests, the batch shall be released for final packaging. Final acceptance testing is to be conducted on the final packaged product and consist of those tests outlined in 4.2.3.

4.3.2.3 Final Acceptance Tests for Different Types and/or Size Containers

If the batch is being packaged in different types and/or size containers, the final acceptance tests shall be conducted on each type and/or each size containers. If the sealing compound is being procured under different purchase orders, but the purchase orders call for the same type and size containers, it is only necessary to conduct the final acceptance tests one time.

4.3.3 Shelf-Life Extensions

4.3.3.1 Shelf-Life Testing

The tests to be conducted for shelf-life extensions are listed in Table 4.

Table 4 - Shelf-life testing

Test	Requirement Paragraph
Appearance	3.4
Viscosity of Base Compound (Note 1)	3.6.2
Flow Application Time	3.6.3 3.6.4
Assembly Time (Class C Only)	3.6.5
Tack-Free Time	3.6.6
Cure Time to Hardness	3.6.7
Peel Strength: two aluminum panels, sulfuric acid anodized per AS5127 (6.3), coated with AMS-C-27725 Type 2 corrosion preventative coating, application of adhesion promoter/sealant, and aged in AMS2629 Type 1 for 7 days at 140 °F (60 °C)	3.6.25

Note 1: Not required for sectional-type containers or small size containers less than eight 8 ounces (235 mL).

4.3.3.2 Time and Limits of Shelf-Life Extensions

If the tests are being performed at the end of the stated shelf life to extend the shelf life of the sealing compound and all the tests passed, then the shelf life will be extended an additional 3 months. A maximum of three extensions are allowed.

4.4 Approval

Shall be in accordance with AS5502 (4.4).

4.5 Test Methods

4.5.1 Standard Tolerances

Unless otherwise specified herein, standard tolerances of AS5127 (Section 3) shall apply.

4.5.2 Standard Conditions

Standard laboratory conditions shall be as specified in AS5127 (Section 4).

4.5.3 Standard Heat Cycle

When directed herein, the standard heat cycle to which sealants shall be exposed shall be performed six times:

Standard heat cycle:

4 hours at 260 °F (127 °C), plus
40 minutes at 320 °F (160 °C), plus
1 hour at 360 °F (182 °C)

Temperature shall be reduced to below 100 °F (38 °C) between cycles.

4.5.4 Preparation of Test Specimens

4.5.4.1 Cleaning and Surface Preparation of Test Panels

Panels shall be prepared, cleaned, surface treated, and coated in accordance with AS5127 (Section 6) prior to application of sealant for testing.

4.5.4.2 Preparation of Sealing Compound

Sealing compound shall be prepared in accordance with AS5127/1 (Section 4) and AS5127/1 subparagraphs 4.1, 4.2, and 4.3, as applicable.

4.5.4.3 Application of Adhesion Promoter

If adhesion promoter is used, it shall be an adhesion promoter qualified to AMS3100. It shall be applied in accordance with AS5127 (6.9). If adhesion promoter is used for qualification or initial acceptance testing, the adhesion promoter product shall be reported.

4.5.4.4 Application of Sealing Compound

Unless otherwise specified herein, freshly mixed sealing compound shall be applied to test panels in accordance with AS5127 (6.10). For Class A materials, the sealant may be applied in layers with a time less than or equal to the application time used between the applications to permit release of solvents.

4.5.4.5 Curing of Sealing Compounds

Shall be in accordance with AS5127 (6.11). For qualification testing, all classes of sealing compounds shall be cured for 14 days at standard conditions. For acceptance testing, Classes A, B, and D sealing compounds may be given an accelerated cure for 48 hours at standard conditions followed by 24 hours at 140 °F (60 °C). For acceptance testing of Classes C and E sealing compounds, an accelerated cure of 48 hours at standard conditions followed by 24 hours at 140 °F (60 °C) shall be used.

4.6 Test Procedures

Standard test methods are in accordance with AS5127 and AS5127/1. In the event of a conflict between the text of this document and AS5127 and/or AS5127/1, the text of this document takes precedence.

4.6.1 Resistance to Thermal Rupture

Resistance to thermal rupture shall be conducted in accordance with AS5127/1 (7.2). The air circulating oven shall be preset at 300 °F (149 °C) and the clamp fixture shall be placed in the oven at 10 psi + 1/-0 psi (69 kPa + 6.9/-0 kPa) for 30 minutes.

4.6.2 Low-Temperature Flexibility

Low-temperature flexibility shall be conducted in accordance with AS5127/1 (7.6). At the end of the standard cure in accordance with 4.5.4.5, two of the four panels shall be immersed in AMS2629 Type 1 for 120 hours at 140 °F (60 °C), followed by 60 hours at 160 °F (71 °C) and 6 hours at 180 °F (82 °C). At the completion of the fluid exposure, the specimens shall be removed from the fluid. All four specimens shall be exposed to the standard heat cycle as in 4.5.3, after which all four panels shall be immediately placed in a low-temperature flexibility fixture and tested in accordance with AS5127/1 (7.6).

4.6.3 Peel Strength

4.6.3.1 Panel Preparation

The type and quantity of panels listed in Table 5 shall be used for the evaluation of peel strength. Test panel configuration shall be in accordance with 4.5.4, AS5127/1 (8.1), and AS5127/1 (Figure 22). When 70-day exposures are specified, the fluid shall be changed every 14 days.

4.6.3.2 Fuel/Saltwater Heat Cycle

A total of six fuel/saltwater heat cycles shall be performed. One cycle shall consist of 100 hours at 140 °F (60 °C) in AMS2629 Type 1/3% saltwater, followed by 10 hours at 160 °F (71 °C) in AMS2629 Type 1/3% saltwater, plus 1 hour at 180 °F (82 °C) in AMS2629 Type 1/3% saltwater. After each cycle, the panels shall be cooled to room temperature and shall be directly transferred to fresh test fluid for each succeeding cycle.