



AEROSPACE MATERIAL SPECIFICATION

AMS-S-83318™

REV. D

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Superseding AMS-S-83318C

Sealing Compound, Polysulfide Type, Low Temperature Curing,
Quick Repair, Integral Fuel Tanks and Fuel Cell Cavities

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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FOREWORD

This document supersedes AMS-S-83318B, which superseded MIL-S-83318A (USAF).

1. SCOPE

1.1 Form

This specification covers two-component polysulfide sealing compounds for quick repair of integral fuel tanks and fuel cell cavities. The sealing compound shall be capable of being cured as low as 20 °F (-7 °C), and be resistant to long term exposures from -65 to 250 °F (-54 to 121 °C).

1.2 Application

This intended use of this sealing compound is for quick repair of fuel tank sealing and cabin pressure sealing, but usage is not limited to such applications. It cures at room temperature and as low as 20 °F (-7 °C). Lower temperature cures require extended periods of time. 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:

Class A - Suitable for application by brush. Available in the following application times in hours: [1/6 hour = 10 minutes].

A-1/6

Class B - Suitable for application by extrusion gun and spatula. Available in the following application times in hours: [1/6 hour = 10 minutes]

B-1/6

1.4 Safety - Hazardous Materials

Shall be in accordance with AS5502 (1.1).

2. APPLICABLE DOCUMENTS

Shall be in accordance with AS5502 (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
AMS3100	Adhesion Promoter for Polysulfide Sealing Compounds
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
AMS-C-27725	Coating, Corrosion Preventative, for Aircraft Integral Fuel Tanks for Use to 250 °F (121 °C)
AMS-S-8802	Sealing Compound, Fuel Resistant, Integral Fuel Tanks and Fuel Cell Cavities
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.pri-network.org.

PD2103	Aerospace Quality Assurance, Product, Standards, Qualification Procedure, Sealants
PRI-QPL-AMS-S-83318	Products Qualified Under AMS-S-83318

3. TECHNICAL REQUIREMENTS

3.1 Materials

The basic ingredient used in the manufacture of these products shall be synthetic rubber, made from liquid polysulfide and derivations thereof. The sealing compound shall cure by the addition of a curing agent to the base compound, and shall not depend on solvent evaporation for curing. The curing agent shall possess sufficient color contrast to the base compound 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. The material shall contain no lead compounds or hexavalent chromium compounds.

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 6 months from the date of packaging when stored below 80 °F (27 °C). Material may be retested for shelf life extension per 4.3.3.2.

3.6 Properties

The base compound and the curing agent shall conform to the requirements shown in Table 1, when determined in accordance with the specified test methods.