



# AEROSPACE MATERIAL SPECIFICATION

AMS3100™

REV. E

Issued	1986-07
Reaffirmed	2000-08
Revised	2021-10

Superseding AMS3100D

(R) Adhesion Promoter  
for Polysulfide Sealing Compounds

## RATIONALE

This revision represents the Five-Year update of the standard.

### 1. SCOPE

#### 1.1 Form

This specification covers adhesion promoters in liquid form for use with aerospace sealing compounds.

#### 1.2 Application

This product has typically been used to enhance the adhesion of polysulfide sealing compounds or adhesives to AMS-C-27725 integral fuel tank coating, MIL-PRF-23377 epoxy primer, MIL-PRF-85582 waterborne primer, and bare titanium alloy substrates, but usage is not limited to such applications. Care should be exercised around plastic substrates (e.g., polycarbonates, acrylics) as the formulary solvents may tend to craze these surfaces.

#### 1.3 Classification

Adhesion promoters shall be classified by formulary ingredient(s) and volatile organic compound (VOC) content as follows:

Class 1 - Nonhalogenated organic solvent(s)

Class 2 - Nonrestricted organic solvent(s)

Class 3 - Water-based composition

Type 1 - Standard VOC content (greater than 250 g/L)

Type 2 - Low VOC content (250 g/L or less)

NOTE: Class 2 adhesion promoters may contain halogenated solvents that could cause stress-corrosion cracking when used on titanium alloys subjected to temperatures above 450 °F (232 °C) or on high strength steels.

#### 1.4 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this standard may involve the use of hazardous materials, this standard does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved. Refer to the safety data sheet (see 4.6.1) for health and safety information.

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<https://www.sae.org/standards/content/AMS3100E>

## 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 canceled and no superseding document has been specified, the last published issue of that document shall apply. In the event of conflict between this specification and the documents listed herein, this specification shall take precedence.

### 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](http://www.sae.org).

AMS2473	Chemical Treatment for Aluminum Alloys General Purpose Coating
AMS2629	Fluid, Jet Reference
AMS3276	Sealing Compound, Integral Fuel Tanks and General Purpose, Intermittent Use to 360 °F (182 °C)
AMS3281	Sealing Compound, Polysulfide (T) Synthetic Rubber for Integral Fuel Tank and Fuel Cell Cavities Low Density for Intermittent Use to 360 °F (182 °C)
AMS4037	Aluminum Alloy, Sheet and Plate 4.4Cu - 1.5Mg - 0.60Mn (2024; -T3 Flat Sheet, -T351 Plate) Solution Heat Treated
AMS4045	Aluminum Alloy Sheet and Plate 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr 7075: (-T6 Sheet, -T651 Plate) Solution and Precipitation Heat Treated
AMS4268	Aluminum Alloy, Sheet and Plate 4.4Cu - 1.5Mg - 0.60Mn (2024-T81 Sheet, -T851 Plate) Solution Heat Treated, Cold Worked and Artificially Aged
AMS4911	Titanium Alloy, Sheet, Strip, and Plate 6A1 - 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 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](http://www.astm.org).

ASTM D1193	Standard Specification for Reagent Water
ASTM D3960	Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings

### 2.3 U.S. Government Publications

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

MIL-PRF-5425	Plastic Sheet, Acrylic, Heat Resistant
MIL-PRF-23377	Primer Coatings: Epoxy, High-Solids
MIL-PRF-85582	Primer Coatings: Epoxy, Waterborne

### 2.4 PRI Publications

Available from Performance Review Institute, 161 Thornhill Road, Warrendale, PA 15086-7527, Tel: 724-772-1616, [www.pri-network.org](http://www.pri-network.org).

PD2000	PRI-QPL Program Requirements
PRI-QPL-AMS3100	Products Qualified Under AMS3100

### 2.5 ANSI Accredited Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ANSI Z400.1/Z129.1	Hazardous Workplace Chemicals – Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation
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## 3. TECHNICAL REQUIREMENTS

### 3.1 Material

Class 1 - The adhesion promoter composition shall contain no halogenated compounds. It shall be tinted, imparting a stain on the substrate (see 4.5.4).

Class 2 - The adhesion promoter composition has no restrictions in regards to halogenated compounds. The manufacturer shall identify any halogenated compounds contained in Class 2 promoters. It shall be tinted, imparting a stain on the substrate (see 4.5.4).

Class 3 - The adhesion promoter composition shall be primarily purified water (distilled or equivalent), with minor nonhalogenated solvent additions allowed (less than 5% by volume). It shall be tinted, imparting a stain on the substrate (see 4.5.4).

### 3.2 VOC Content

The adhesion promoter VOC content shall meet the limits specified by Type classification per 1.3 (see 4.5.10).

### 3.3 Composition Control

A Fourier transform infrared spectroscopy (FT-IR) analysis shall be conducted on the adhesion promoter at the time of qualification testing (see 4.5.11). This spectrum shall be retained by the supplier for the purpose of qualitative comparison should the composition of subsequent batches be called into question.

### 3.4 Quality and Appearance

The adhesion promoter, when visually examined, shall be uniform in quality and condition, free of sedimentation and turbidity, and free from foreign materials, particulate matter, and other contaminants detrimental to use of the adhesion promoter.