

PR-2001 Class B rapid curing fuel tank sealant

Description

PR-2001 Class B is a rapid cure, low odor, aircraft integral fuel tank sealant. It has a service temperature range from -80°F (-62°C) to 300°F (160°C), with intermittent excursions up to 420°F (216°C). This material is designed for fillet sealing of fuel tanks and other aircraft fuselage sealing applications. The cured sealant maintains excellent elastomeric properties after prolonged exposure to both jet fuel and aviation gas.

PR-2001 Class B is a two-part, epoxy cured Permapol® P-3.1 polythioether compound. The uncured material is a low sag, thixotropic paste, suitable for application by extrusion gun or spatula. Unlike standard polysulfide fuel tank sealants, it can cure at low temperatures and is unaffected by changes in relative humidity. This sealant has excellent adhesion to properly prepared common aircraft substrates when correctly primed with PR-187 adhesion promoter.

The following tests are in accordance with AMS 3277 Type II, Class B specification test methods.

Application properties (typical)

Color			
Part A	Black		
Part B	White		
Mixed	Black		
Mixing ratio			
By weight	Part A:Part B 18.5:100		
Base viscosity			
(Brookfield #7 @ 2 rpm), Poise (Pa-s)	13,700 (1370)		
Accelerator viscosity			
(Brookfield #7 @ 10 rpm), Poise (Pa-s)	590 (59)		
Slump, inches (mm)			
	Initial	50 Minutes	90 Minutes
B-1/2	0.10 (2.54)	—	—
B-2	0.10 (2.54)	0.10 (2.54)	0.10 (2.54)
Application life and cure time @ 77°F (25°C), 50% RH			
	Application life (hours)	Tack free time (hours)	Cure time to 30 A Durometer (hours)
B-1/2	1/2	<2	4
B-2	2	<8	9

Performance properties (typical)

Cured 7 days @ 77°F (25°C), 50% RH	
Cured specific gravity	1.45
Nonvolatile content, %	98
Ultimate cure hardness,	
Durometer A	48
Peel strength, pli (N/25 mm), 100% cohesion	
AMS 2629 Type I Fuel immersion, 7 days @ 140°F (60°C)	
AMS 2471 (Anodized aluminum)	39 (173)
AMS 4901 (Titanium*)	40 (177)
AMS 5516 (Stainless steel*)	41 (182)
MIL-C-5541 (Alodine aluminum)	40 (177)
MIL-C-27725 (IFT coating)	41 (182)
AMS 2629 Type I Fuel immersion with 3%NaCl-H ₂ O, 7 days @ 140°F (60°C)	
AMS 2471 (Anodized aluminum)	44 (196)
AMS 4901 (Titanium*)	45 (200)
AMS 5516 (Stainless steel*)	45 (200)
MIL-C-5541 (Alodine aluminum)	40 (177)
MIL-C-27725 (IFT coating)	42 (187)
3% NaCl-H ₂ O immersion, 7 days @ 140°F (60°C)	
MIL-PRF-85582 (Epoxy coating)	45 (200)
MIL-PRF-85285 (Urethane coating*)	44 (196)
MIL-PRF-23377	44 (196)
*Primed with AMS 3100 Adhesion Promoter	
Tensile strength, psi (KPa)	
Standard cure, 7 days @ 77°F (25°C), 50% RH	407 (2804)
Standard heat cycle	434 (2990)
Elongation, %	
Standard cure, 7 days @ 77°F (25°C), 50% RH	268
Standard heat cycle	262
Thermal rupture resistance - Retains pressure of 10 psi with only negligible deformation, both before and after immersion in AMS 2629 Type I Fuel.	
Low temperature flexibility @ -65°F (-54°C) - No cracking, checking or loss of adhesion.	
Corrosion resistance - No corrosion, adhesion loss, softening, or blistering after immersion in 2-layer 3% NaCl-H ₂ O/AMS 2629 Type I Fuel/vapor after 12 days @ 140°F (60°C) + 60 hours @ 160°F (71°C) + 6 hours @ 180°F (82°C).	

PR-2001 Class B rapid curing fuel tank sealant

Resistance to hydrocarbons - 7 days @ 140°F (60°C)
immersed in AMS 2629 Type I Fuel+ 24 hrs @ 120°F (49°C) in air.
Weight loss, % 3.4

Flexibility - 7 days @ 140°F (60°C) immersed in AMS 2629 Type I
Fuel+ 24 hrs @ 120°F (49°C) in air. No cracks after bending 180
degrees over 0.125 (3.18 mm) mandrel.

Repairability to itself - Excellent to both freshly cured as well as fuel
aged and abraded fillets.

Repairability to polysulfide (AMS-S-8802) - Excellent to both freshly
cured as well as fuel aged and abraded fillets when primed with
PR-187 adhesion promoter.

Resistance to other fluids - Excellent resistance to water, alcohols,
petroleum-base and synthetic lubricating oils, and petroleum-base
hydraulic fluids.

Shaving and sanding - No rolling or tearing

Note: The application and performance property values above
are typical for the material, but not intended for use in
specifications or for acceptance inspection criteria because of
variations in testing methods, conditions and configurations.

Surface preparation

Immediately before applying sealant to primed substrates, the
surfaces should be cleaned with solvents. Contaminants such as dirt,
grease, and/or processing lubricants must be removed prior to
sealant application.

A progressive cleaning procedure should be employed using
appropriate solvents, and a new lint free cloth conforming to AMS
3819. (reclaimed solvents or tissue paper should not be used).
Always pour solvent on the cloth to avoid contaminating the solvent
supply. Wash one small area at a time.

It is important that the surface is dried with a second clean cloth prior
to the solvent evaporating to prevent the redeposition of
contaminants on the substrate.

For repair applications over polysulfide sealants the use of PR-187
adhesion promoter is highly recommended.

Substrate composition can vary greatly. This can affect sealant
adhesion. It is recommended that adhesion characteristics to a
specific substrate be determined prior to application on production
parts or assemblies.

Permapol and Semkit are trademarks of PRC-DeSoto International, Inc., registered with the U.S. Patent Office.

All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. User shall rely on his own information and tests to determine suitability of the product for the intended use and assumes all risks and liability resulting from his use of the product. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss, or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer or seller.

Printed in U.S.A.

For a more thorough discussion of proper surface preparation,
please consult the SAE Aerospace Information Report AIR 4069.
This document is available through SAE, 400 Commonwealth
Avenue, Warrendale, PA 15096-0001.

Packing Options

PR-2001 Class B is supplied in a two-part Semkit® package or
Pre-mixed and frozen cartridge. See container for mixing instructions.

Storage life

The storage life of PR-2001 Class B in a Semkit® package is at
least 9 months when stored at temperatures between 60°F (15°C)
and 80°F (27°C) in original unopened containers.

The storage life of PR-2001 Class B Pre-mixed and frozen is a
maximum of 30 days when stored at temperatures of
-80°F (-62°C) or below.

Health precautions

This product is safe to use and apply when recommended
precautions are followed. Before using this product, read and
understand the Material Safety Data Sheet (MSDS), which
provides information on health, physical and environmental hazards,
handling precautions and first aid recommendations. An MSDS is
available on request. Avoid overexposure. Obtain medical care in
case of extreme overexposure.

For industrial use only. Keep away from children.

**For emergency medical information call
1-800-228-5635.**

**Additional information can be found at:
www.bergdahl.com**

**For sales and ordering information call
775-323-7542**