

Technical Data Sheet

Aerospace Sealants



PR 1440 M Class B, fuel tank sealant

Description

PR 1440 M Class B is an aircraft integral fuel tank sealant. It has a service temperature range from -55°C (-67°F) to 135°C (275°F), with intermittent excursions up to 180°C (356°F). 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 jet fuel, aviation gas and phosphoric ester hydraulic fluids.

PR 1440 M Class B is a two-part, manganese dioxide cured polysulfide compound. Once mixed, the uncured material is a low sag, thixotropic paste suitable for application by extrusion gun or spatula. It cures at room temperature to form a resilient sealant having excellent adhesion to common aircraft substrates without shrinkage.

Application properties (typical)

Colour	
Part A	Black
Part B	Off White
Mixed	Grey
Mix Ratio	Part A: Part B
by weight	13:100

Base viscosity	
(Brookfield #7@2rpm)	
Pa.s, (poise)	700-1300, (7000-13000)

Slump/vertical flow,	
mm	
	Initial (5 mins)
PR 1440 MB-1/2	<10
PR 1440 MB-2	<10

Application life and cure time at 25°C (77°F), 50% RH

	Application life	Tack free time	Time to 30 shore A*
	(hours)	(hours)	(hours)
B-1/2	1/2	5	12
B-2	2	7	16

*Instantaneous hardness measurement

Performance properties (typical)

Standard cure 14 days @ 25°C (77°F), 50% RH

Cured specific gravity	<1.55
Non-volatile content, %	>97
Ultimate cure hardness, Shore A	>52
Peel Strength, N/mm, 100% cohesive failure	
No exposure	
Aluminium (alclad 2024)	≥8
P60	≥8
F70	≥8
PAC 33	≥8
PU 66	≥8
7 days in JP1 @ 60°C	
Aluminium (alclad 2024)	≥7
P60	≥7
Tensile Strength, MPa	
Initial 14 days/23°C	>1.5
Elongation, %	
Initial 14 days/23°C	>80

Resistance to fluids: excellent resistance to water, alcohols, synthetic and petroleum-based lubricating oils, and petroleum-based hydraulic fluids.

Low-temperature flexibility @ -54°C (-65°F) – no cracking, checking or loss of adhesion.

Reparability: excellent to both freshly cured sealant as well as fuel aged abraded fillets.

Fungal resistance	Non-nutrient
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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. (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.

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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.

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.

Mixing instructions

PR 1440 M Class B is supplied in a two-part kit. Mix according to ratios indicated in the application properties section. Mix part A and part B separately to uniformity, then thoroughly mix entire contents of both parts of the kit together taking care to avoid leaving unmixed areas around the sides or bottom of the mixing container.

CAUTION: Do not mix accelerator with the base until ready to use.

SEMKIT[®] two-part sealant cartridges – manual mixing:

1. Hold cartridge and pull back dasher rod
2. Inject 1/3 of the accelerator into the base
3. Push dasher rod half way into the cartridge and inject a second 1/3 of accelerator into base
4. Push dasher rod all the way into the cartridge and inject final 1/3 of accelerator into base
5. Mix material, rotate dasher rod 90° in a spiral clockwise motion; with each stroke turn the dasher rod by 90°
6. When two-parts are mixed thoroughly, pull dasher rod back to the neck of the cartridge, grasp cartridge firmly at neck, unscrew dasher rod counterclockwise and remove.
7. Screw nozzle into cartridge, material is ready for extrusion.

CAUTION: Do not mix accelerator with the base until ready to use.

Storage life

The storage life of PR 1440 M Class B is 9 months when stored in original, unopened containers at temperatures between 4-27°C (39-81°F). During storage, slight variations in the application characteristics may occur. This does not affect either the overall application properties or the final performance properties of the product.

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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.

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Health precautions

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Safety Data Sheet (SDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An SDS 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.ppgaerospace.com**

**For sales and ordering information
call 1-800-AEROMIX (237-6649).**

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