

TECHNICAL DATA

PR-1783 Fuel Tank Sealant

Description

PR1783 is a fast curing sealant suitable for brushing, fillet and interlay sealing applications for use over a temperature range of -55°C to +135°C. PR1783 has outstanding resistance to aircraft fuels, lubricating oils and resistance to degradation by phosphate ester type hydraulic oils.

PR1783 is a two part manganese cured polysulphide compound. The uncured material is a thick liquid with excellent slump characteristics suitable for application by brush, roller or extrusion gun. The cured material maintains excellent elastomeric properties after prolonged exposure to aircraft fuels.

The following tests were run in accordance with AIMS 04-05-012.

Application Properties (Typical)

Color	
Part A	Black
Part B	Brown
Mixed	Dark Brown
Mixing ratio, By weight	Part A:Part B 1:8

Base viscosity (Brookfield #6 @ 2 rpm),
Poise (Pa-s) 7500 (750)

Slump (mm)

Initial	50 minutes	90 minutes
3	4	4

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

	Application life (hours)	Tack free time (hours)	Cure time to 35 Shore A* Durometer (hours)
35A	2	8	24

Performance Properties (Typical)

Cured specific gravity	1.44
Nonvolatile content	96%
Ultimate cure hardness, Durometer A*	50

Peel Strength, N/25mm, 100% cohesion

Dry	
Clad Aluminium 2024-T3	172
Titanium (AMS 4911)	179
Stainless Steel (AMS 5513)	192
Epoxy Primer	203
Epoxy Topcoat	175
CFC (TNA.007.10139)	172

Fuel immersion (ISO 1817) 168 hours at 60°C (140°F)

Epoxy Primer	160
Epoxy Topcoat	165

De-icing Fluid Immersion (ISO 11075 Type I) 168 hours @ 23°C (73°F)

Epoxy Primer	170
Epoxy Topcoat	175

Fuel immersion (DERD 2494) at 100°C (212°F)

Epoxy Primer	200
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3% NaCl Immersion 168 hours @ 60°C (140°F)

Epoxy Primer	180
Epoxy Topcoat	180

Tensile Strength, MPa

Dry	3.59
Fuel Immersion (ISO 1871)	
168 hours @60°C (140°F)	2.5

Elongation, %

Dry	533
Fuel Immersion (ISO 1817)	
168 hours @60°C (140°F)	355

Lap Shear Strength, MPa (psi) 100% Cohesion

Dry	Clad
Aluminium 2024-T3	2.72 (394)
Titanium (AMS 4911)	2.79 (405)
Stainless Steel (AMS 5513)	2.80 (406)
Epoxy Primer	2.70 (392)
Epoxy Topcoat	2.68 (389)
CFC (TNA.007.10139)	2.55(370)

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

Flexibility

No cracks after bending 180 degrees over 3.18mm

PR-1783 Fuel Tank Sealant

(0.125 inch) mandrel.

Repairability

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

Resistance to other Fluids

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

Fungal resistance; Non-nutrient.

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 substrate, the surface 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 the appropriate solvents and new lint free cloth (reclaimed solvents or tissue paper should not be used).

Always pour solvent on the cloth to avoid contamination of 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 re-deposition of contaminants on the substrate.

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-1783 is supplied in a two-part kit. Mix according to the 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 kit together taking care to avoid leaving unmixed areas around the sides or bottom of the mixing container.

Storage Life

The storage life of PR-1783 is at least 6 months when stored at temperatures below 27°C (80°F) in original, unopened containers.

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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