Technical Data

PR1783

PR-1783 fuel tank sealant

Description

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

PR 1783 is a Manganese cured polysulphide. 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)

Colour	
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 Rex Durometer (hours)
2	8	24

Performance properties (typical)

Specific gravity, cured compound	1.44
Nonvolatile content	
Ultimate cure hardness, Durometer A	50

Peel strength, N/25 mm, 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 at 23°C (73.4°F)

Epoxy primer	170
Epoxy topcoat	175

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

Epoxy primer	200

3% NaCl immersion 168 hours at 60°C (140°F)

Epoxy primer	180
Epoxy topcoat	180

Tensile strength, MPa

Dry	3.59
Fuel immersion (ISO 1817) 168 hours at 60°C (140°F)	2.5

Elongation, %

Dry	533
Fuel immersion (ISO 1817) 168 hours at 60°C (140°F)	335

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)

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Low temperature flexibility @ -54°C (-65°F) – No cracking, checking or loss of adhesion.
Flexibility - No cracks after bending 180 degrees over 3.18 mm (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.
Does not support fungal growth

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.

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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 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 contaminating 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.

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 the 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 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.

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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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