

TECHNICAL DATA

PR-1782 Class B Low Density Sealant

Description

PR-1782 Class B is a low density, aircraft fuel tank and general purpose sealant. It has a service temperature range from -54°C to 121°C (-65°F to 250°F). This material is designed for fillet sealing and other aircraft fuselage sealing applications. It offers as much as a thirty percent weight savings, per unit volume, over traditional sealants used for these purposes. The cured sealant maintains excellent elastomeric properties after prolonged exposure to aircraft fuels both jet fuel and aviation gas, and will resist limited contact to diphosphate ester based hydraulic fluids.

PR-1782 Class B is a two-part, manganese dioxide cured polysulfide sealant. 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.

The following tests are in accordance with AIMS -04-05-012 and AIMS -04-05-001.

Application Properties (Typical)

| | | | |
|---|--------------------------------|------------------------------|---|
| Color | | | |
| Part A | Black | | |
| Part B | Blue | | |
| Mixed | Mid Grey | | |
| Mixing ratio, By weight | | | |
| | Part A:Part B 12:100 | | |
| Base viscosity (Brookfield #7 @ 2 rpm), Poise (Pa-s) | | | |
| | 11,500(1500) | | |
| Slump, inches (mm) | | | |
| | Initial | 50 Minutes | 90 Minutes |
| B-2 | 0.12 (3.0) | 0.12 (3.0) | 0.12 (3.0) |
| 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) |
| B-1/2 | 1/2 | <5 | 7 |
| B-1 | 1 | <6 | 8 |
| B-2 | 2 | <7 | 10 |
| B-4 | 4 | <12 | 24 |

Performance Properties (Typical)

| | | |
|---|---------------------------------|--------------------------------|
| Cured specific gravity | 1.11 | |
| Nonvolatile content | 93% | |
| Ultimate cure hardness, Durometer A* | 52 | |
| Tenile Strength, 14 days @ 23°C(77°F), MPa | 1.8 | |
| Ultimate Elongation, 14 days @ 23°C(77°F) | 400% | |
| Peel strength, (N/25 mm (pli), % cohesion Dry | | |
| | Without Adhesion Promoter | PR-184 Adhesion Promoter |
| Aluminum (Clad 2024) | 175 (39), 100 | 175 (39), 100 |
| Titanium (AMS 4911) | 169 (38), 100 | 182 (41), 100 |
| Stainless steel (AMS 5513) | 182 (41), 100 | 182 (41), 100 |
| Water Based Primer (P60) | 191 (43), 100 | 187 (42), 100 |
| P/U Primer (PAC 33NV) | 182 (41), 100 | 182 (41), 100 |
| HS P/U primer (PR205) | 169 (38), 100 | 182 (41), 100 |
| Water Based Topcoat (F 70) | 191 (43), 100 | 142 (32), 100 |
| HS Epoxy Topcoat (EC 99) | 160 (36), 100 | 196 (44), 100 |
| Fuel immersion (ISO 1817) 168 hours at 60°C (140°F) | | |
| | Without Adhesion Promoter | PR-184 Adhesion Promoter |
| Water Based Primer (P60) | 147 (33), 100 | 133 (30), 100 |
| P/U Primer (PAC 33NV) | 133 (30), 100 | 133 (30), 100 |
| HS P/U primer (PR205) | 138 (31), 100 | 133 (30), 100 |
| Water Based Topcoat (F 70) | 138 (31), 100 | 124 (28), 100 |
| HS Epoxy Topcoat (EC 99) | 133 (30), 100 | 129 (29), 100 |
| De-icing fluid immersion (ISO 11075 Type I) 168 hours at 23°C (73.4°F) | | |
| | Without Adhesion Promoter | PR-184 Adhesion Promoter |
| Water Based Primer (P60) | 120 (27), 100 | 138 (31), 100 |
| HS P/U primer (PR205) | 116 (26), 100 | 138 (31), 100 |
| Water Based Topcoat (F 70) | 125 (28), 100 | 133 (30), 100 |
| HS Epoxy Topcoat (EC 99) | 133 (30), 100 | 142 (32), 100 |
| Fuel immersion (DERD 2494) at 100°C (212°F) | | |
| | Without Adhesion Promoter | PR-184 Adhesion Promoter |
| Water Based Primer (P60) | 120 (27), 100 | 124 (28), 100 |
| P/U Primer (PAC 33NV) | 22 (98), 100 | 98 (22), 100 |
| HS P/U primer (PR205) | 33 (147), 100 | 147 (33), 100 |

* Per AS5127/1B Test Method

PR-1782 Class B Low Density Sealant

Shear strength, MPa (psi), 100% cohesive

| | |
|----------------------------|-----------|
| Aluminum (Clad 2024) | 1.8 (280) |
| Stainless steel (AMS 5513) | 1.8 (290) |
| Titanium (AMS 4911) | 1.8 (280) |
| HS P/U primer (PR205) | 1.8 (280) |
| HS Epoxy Topcoat (EC 99) | 1.8 (280) |

Resistance to other Fluids

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

Reparability

Excellent to both fresh sealant and heat/fuel aged fillets (PR 1776, PR 1771, PR 1422).

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 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.

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-1782 Class B is supplied in a two-part Semkit® package or a Pre-mixed and frozen cartridge.

Storage Life

The storage life of PRC Standard PR-1782 Class B in a Semkit® package is at least 9 months when stored at temperatures below 27°C (80°F) in original unopened packaging.

The storage life of PRC Standard PR-1782 Class B Pre-mixed and frozen is a maximum of 30 days when stored at temperatures of -40°C (-40°F) 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.

Additional information can be found at:

www.bergdahl.com

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

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