

TECHNICAL DATA

PR-1782 Class C Low Density Sealant

Description

PR-1782 Class C 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 fay surface sealing applications. It offers as much as a twenty percent weight saving, 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 C is a two-part, manganese dioxide cured polysulfide sealant. The uncured material is a thick liquid suitable for application by roller 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	Light Brown
Mixed	Dark Brown
Mixing ratio, By weight	Part A:Part B 10:100

Base viscosity (Brookfield #7 @ 2 rpm),
Poise (Pa-s) 2,500 (250)

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

	Application life (hours)	Assembly time (hours)	Cure time to 35 Shore A* Durometer (hours)
C $\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	6
C-2	2	4	24
C4	4	6	50
C-12	12	20	7 days
C-24	24	80	21 days
C-36	36	120	28 days
C-48	48	168	56 days
C-70	70	250	70 days
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Performance Properties (Typical)

Cured specific gravity	1.35
Non volatile content	89%
Ultimate cure hardness, Durometer A*	52
Tensile Strength, 14 days @ 23°C(77°F), (Mpa)	1.5
Ultimate Elongation, 14 days @ 23°C(77°F)	250%

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 Epoxy primer (PR205)	169 (38), 100	182 (41), 100
Water Based Top Coat (F 70)	191 (43), 100	142 (32), 100
HS Epoxy Topcoat (EC 96)	160 (36), 100	196 (44), 100

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

	Without Adhesion Promoter	PR-184 Adhesion Promoter
P/U Primer (PAC 33NV)	147 (33), 100	133 (30), 100
P/U Primer (PAC 33NV)	133 (30), 100	133 (30), 100
HS Epoxy primer (PR205)	138 (31), 100	133 (30), 100
Water Based Top Coat (F 70)	138 (31), 100	124 (28), 100
HS Epoxy Topcoat (EC 96)	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 Epoxy primer (PR205)	116 (26), 100	138 (31), 100
Water Based Top Coat (F 70)	125 (28), 100	133 (30), 100
HS Epoxy Topcoat (EC 96)	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)	98 (22), 100	98 (22), 100
HS Epoxy primer (PR205)	147 (33), 100	147 (33), 100

Shear strength, MPa (psi), 100% cohesive

Aluminum (Clad 2024)	1.8 (261)
Stainless Steel (AMS5513)	1.7 (247)
Titanium (AMS 4911)	1.7 (247)
HS Epoxy Primer (PR205)	1.6 (232)
HS Epoxy Topcoat (EC96)	1.6 (232)

* Per AS5127/1B Test Method

PR-1782 Class C Low Density Sealant

Resistance to other Fluids

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

Repairability

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

Storage Life

The storage life of PRC Standard PR-1782 Class C in a Semkit® package is at least 6 months when stored at temperatures below 25°C (77°F) in original unopened packaging.

The storage life of PRC Standard PR-1782 Class C 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.

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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