PR-1827 R 1/3 LO, rapid curing fuel tank sealant – low odour

Description

PR-1827 R 1/3 LO is a flowable, rapid curing compound designed for sealing the faying surface of integral fuel tanks and pressurised cabins. It has a service temperature range of -55°C (-67°F) to 150°C (302°F). The cured product maintains excellent elastomeric properties after prolonged exposure to jet fuel, aviation gas and petroleum based lubricating oils.

PR-1827 R 1/3 LO is a two-part, chemically cured PERMAPOL® P-3 polythioether compound. The mixed uncured material is suitable for application via brush or roller and cures rapidly at room temperature to form a fuel resistant elastomer. When used with primer PR-148 AF adhesion promoter, the sealant has excellent adhesion to alclad, titanium, stainless steel, coated surfaces and sealant.

Application properties (typical)

Colour	
Part A	Black
Part B	Beige
Mixed	Black
Mix Ratio by weight	Part A: Part B 9:100
Base viscosity, (Brookfield #6@2rpm) Pa.s, (poise)	100, (1000)
Accelerator viscosity, (Brookfield #7@10rpm) Pa.s, (poise)	150, (1500)

Application life and cure time at 23°C (73°F), 50% RH

	Application life (hours)	Tack free time (hours)	Time to 35 shore A* (hours)
R-1/3	1/3	1.25	2

*Instantaneous hardness measurement

Performance properties (typical)

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

Cured specific gravity	1.45
Non-volatile content, %	90
Ultimate cure hardness, Shore A	60
Peel Strength, N/mm, 100% cohesive failure with primer PR 148 AF at 23°C/ 50% RH, 7 days	
No exposure	
Aluminium (alclad 2024)	6.4
37035A	5.3
C21/100 abraded	5.3
Tensile Strength, MPa	
Initial 14 days/23°C	2.4
Elongation, %	
Initial 14 days/23°C	160

Resistance to fluids: excellent resistance to jet fuel and petroleum-based lubricating oils.

Low-temperature flexibility @ -55°C (-67°F) – no cracking, checking or loss of adhesion.

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

Corrosion resistance

According to AITM5-002, no corrosion, adhesion loss, softening or blistering.

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 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

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.

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To obtain maximum adhesion, after the surface has been cleaned, adhesion promoter PR-148 AF may be applied with a clean brush or gauze pad.

Care must be taken to obtain a thin uniform coat. At standard temperature allow the adhesion promoter to dry for 30 minutes. It is not recommended to apply adhesion promoter below 7°C (45°F). The sealant must be applied within 4 hours of the application of the adhesion promoter. If this time is exceeded, the surface should be re-cleaned and the adhesion promoter re-applied. Do not use the adhesion promoter if it contains particles or precipitate.

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-1827 R 1/3 LO 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.

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 counter-clockwise 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-1827 R 1/3 LO is 5 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.

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 (2376649).

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