PR-1720 SM, high temperature fuel tank sealant

Description

PR-1720 SM is a faying surface sealant especially developed for continuous use over a temperature range of -55°C (67°F) to 230°C (446°F) with intermittent excursions up to 315°C (599°F). This material is designed for brush sealing of fasteners in fuel tanks and pressurised cabins. The cured sealant maintains excellent elastomeric properties after prolonged exposure to aircraft fuels (jet fuel or aviation gas) and lubricating oils, as well as having outstanding resistance to degradation by phosphoric ester type hydraulic fluids.

PR-1720 SM is an amine cured sealant based on VITON®. Once mixed, the uncured material has a fluid consistency suitable for application by brush or roller. Once applied around fasteners, the sealant will not drip or flow from vertical or overhead surfaces. It cures at room temperature to form a resilient sealant having excellent adhesion to aluminium, titanium, stainless steel and other common aircraft substrates.

Application properties (typical)

Colour	
Part A	Clear
Part B	Black
Mixed	Black
Mix Ratio	Part A: Part B
by weight	1:55
Base viscosity	
(Brookfield #7@2 rpm)	
Pa.s, (poise)	500, (5000)

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

Application life (hours)	Assembly time (hours)	Time to 30 shore A* (days)
12	1/3 - 1	5 + 3 @ 60°C

*Instantaneous hardness measurement

Performance properties (typical)

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

Cured specific gravity	1.80
Non-volatile content, %	45
Ultimate cure hardness, Shore A	60

Peel Strength, N/mm, 100% cohesive failure	
With adhesion promoter PR-1732 - PR-1733	
7 days at 150°C	
Aluminium (alclad 2024)	6
Stainless Steel	6
7 days at 200°C	
Titanium	7
Jet reference fluid, 7 days at 200°C	
Titanium	7
Shear strength, MPa	
With adhesion promoter PR-1732 - PR-1733	
7 days at 150°C	
Aluminium (alclad 2024)	6
7 days at 200°C	
Titanium	4
Jet reference fluid, 7 days at 200°C	
Titanium	4
Tensile Strength, MPa	
Initial 14 days at 23°C	6
Elongation, %	
Initial 14 days at 23°C	300

Resistance to fluids: excellent resistance to water, alcohols, synthetic and petroleum-based lubricating oils, and petroleum-based hydraulic fluids.

Low-temperature flexibility at -54°C (-65°F) – no cracking, checking or loss of adhesion.

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.

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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.

To obtain maximum adhesion, after the surface has been cleaned, apply PR-1732 – PR-1733 Adhesion Promoter with a clean brush or a gauze pad. Care must be taken to obtain a uniform thin 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 8 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-1720 SM 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.

CAUTION: Do not mix accelerator with the base until ready to use.

Storage life

The storage life of PR-1720 SM is 6 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 (237-6649).

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