PPG Aerospace
PRC-DeSoto

TECHNICAL DATA

PR-1440 Class A Fuel Tank Sealant

Description

PR-1440 Class A is an aircraft integral fuel tank sealant. It has a service temperature range from -65°F (-54°C) to 250°F (121°C), with intermittent excursions up to 275°F (135°C). This material is designed for brush sealing of fasteners in fuel tanks and other aircraft fuselage sealing applications. The cured sealant maintains excellent elastomeric properties after prolonged exposure to both jet fuel and aviation gas.

PR-1440 Class A is a two-part, manganese dioxide cured polysulfide compound. The uncured material is suitable for application by brush in thickness up to 25 mils. It cures at room temperature to form a resilient sealant having excellent adhesion to common aircraft substrates.

The following tests are in accordance with AMS-S-8802 Class A specification test methods.

Application Properties (Typical)

Color	
Part A	Black
Part B	Off white
Mixed	Dark gray
Mixing ratio	Part A:Part B
By weight	10:100
Base viscosity (Brookfield #6 @ 10 rpm), Poise (Pa-s)	300 (30)

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

	Application life (hours)	Tack free time (hours)	Cure time to 35 A Durometer (hours)
A-1/2	1/2	<10	30
A-2	2	<36	72

Performance Properties (Typical)

Cured 14 days @ 77°F (25°C), 50% RH

Cured specific gravity	1.57
Nonvolatile content, %	86
Ultimate cure hardness, Durometer A	48

Peel strength, pli (N/25 mm), 100% cohesion

JRF immersion, 7 days @ 140°F (60°C)	
AMS 2471 (Anodized aluminum)	36 (160)
MIL-C-5541 (Alodine aluminum)	36 (160)
MIL-PRF-27725 (IFT coating)	35 (156)
AMS 5516 (Stainless steel)*	35 (156)
AMS 4901 (Titanium comp. C)*	37 (165)
QQ-A-250/13 (Alclad)	36 (160)
JRF/NaCl-H_2O immersion, 7 days @ 140°F (60°C)	
AMS 2471 (Anodized aluminum)	35 (156)
MIL-C-5541 (Alodine aluminum)	34 (151)
MIL-PRF-27725 (IFT coating)	35 (156)
AMS 5516 (Stainless steel)*	34 (151)
AMS 4901 (Titanium comp. C)*	32 (142)
QQ-A-250/13 (Alclad)	35 (156)

*Primed with PR-148 Adhesion Promoter

Tensile strength, psi (KPa) Standard cure, 14 days @ 77°F (25°C), 50% RH	325 (2241)
Elongation %, Standard cure, 14 days @ 77°F (25°C), 50% RH	225

Thermal rupture resistance - Retains pressure of 10 psi with only negligible deformation, both before and after immersion in JRF.

Low temperature flexibility @ -65°F (-54°C) - No cracking, checking or loss of adhesion.

Corrosion resistance - No corrosion, adhesion loss, softening, or blistering after 20-day immersion in JRF/NaCl-H_2O immersion at 140°F (60°C).

Resistance to hydrocarbons - 7 days @ 140°F (60°C) immersed in JRF.

Weight loss, %	4.9

Flexibility - No cracks after bending 180 degrees over 0.125 inch (3.18 mm) 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 syntheticlubricating oils, and petroleum-base hydraulic fluids.

Fungus 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.

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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 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.

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-1440 Class A is supplied in two-part can kits, Semco® cartridges, and pre-mixed and frozen Semco® cartridges.

Mixing Instructions

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-1440 Class A stored in two-part can kits and Semo® cartridges is at least 9 months when stored at temperatures below 80°F (27°C) in original, unopened containers.

The storage life of PR-1440 Class A in pre-mixed and frozen Semco® cartridges is at least 30 days when stored at temperatures below -40°F(-40°C).

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.ppgaerospace.com

For sales and ordering information call
1-800-AEROMIX (237-6649).

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