PPG Aerospace
PRC-DeSoto

TECHNICAL DATA

PR-1422 Class A Fuel Tank Sealant

Description

PR-1422 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-1422 Class A is a two-part, dichromate 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	Light brown
Mixed	Brown
Mixing ratio	Part A:Part B
By weight	10:100
Base viscosity (Brookfield #6 @ 10 rpm), Poise (Pa-s)	250 (25)

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	<8	30
A-2	2	<20	48

Performance Properties (Typical)

Cured 14 days @ 77°F (25°C), 50% RH	
Cured specific gravity	1.45
Nonvolatile content, %	85
Ultimate cure hardness, Durometer A	53
Peel strength, pli (N/25 mm),100% cohesion	
JRF immersion, 7 days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	29 (129)
MIL-C-5541 (Alodine aluminum)	31 (138)
MIL-C-27725 (IFT coating)	30 (133)
MIL-S-5059 (Stainless steel)*	30 (133)
MIL-T-9046 (Titanium comp. C)*	31 (138)
QQ-A-250/13 (Alclad) 30 (133)	
JRF/NaCl-H_2O immersion, 7 days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	35 (156)
MIL-C-5541 (Alodine aluminum)	33 (147)
MIL-C-27725 (IFT coating)	35 (156)
MIL-S-5059 (Stainless steel)*	38 (169)
MIL-T-9046 (Titanium comp. C)*	35 (156)
QQ-A-250/13 (Alclad)	36 (160)

*Primed with PR-148 Adhesion Promoter

Tensile strength, psi (KPa) Standard cure, 14 days @ 77°F (25°C), 50% RH	350 (2413)
Elongation, % Standard cure, 14 days @ 77°F (25°C), 50% RH	250

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 2-layer salt water/JRF @ 140°F (60°C).

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

Weight loss, %	4.0

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.

PR-1422 Class A Fuel Tank Sealant

Resistance to other fluids - Excellent resistance to water, alcohols, petroleum-base and synthetic lubricating 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.

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.

Mixing Instructions

PR-1422 Class A is supplied in a two-part kit. 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-1422 Class A is at least 9 months when stored at temperatures between 40°F (5°C) and 80°F (27°C) in original, unopened containers.

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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PRC-DeSoto

TECHNICAL DATA

PR-1422 Class B Fuel Tank Sealant

Description

PR-1422 Class B 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 fillet sealing of 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-1422 Class B is a two-part, dichromate cured polysulfide compound. 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 AMS-S-8802 Class B specification test methods.

Application Properties (Typical)

Color	
Part A	Black
Part B	Light brown
Mixed	Brown
Mixing ratio By weight	Part A:Part 13.3:100
Base viscosity (Brookfield #7 @ 2 rpm), Poise (Pa-s)	13,000 (1300)

Slump, inches (mm)

	Initial	50 Minutes	90 Minutes
B-1/2	0.15 (3.81)	——	——
B-2	0.10 (2.54)	0.15 (3.81)	0.20 (5.08)

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)
B-1/2	1/2	<8	24
B-2	2	<20	36

Performance Properties (Typical)

Cured 14 days @ 77°F (25°C), 50% RH	
Cured specific gravity	1.45
Nonvolatile content, %	92
Ultimate cure hardness, Durometer A	55
Peel strength, pli (N/25 mm), 100% cohesion	
JRF immersion, 7 days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	38 (169)
MIL-C-5541 (Alodine aluminum)	39 (173)
MIL-C-27725 (IFT coating)	39 (173)
MIL-S-5059 (Stainless steel)*	36 (156)
MIL-T-9046 (Titanium comp. C)*	32 (142)
QQ-A-250/13 (Alclad)	35 (156)
JRF/NaCl-H_2O immersion, 7days @ 140°F (60°C)	
MIL-A-8625 (Anodized aluminum)	38 (169)
MIL-C-5541 (Alodine aluminum)	39 (173)
MIL-C-27725 (IFT coating)	39 (173)
MIL-S-5059 (Stainless steel)*	35 (156)
MIL-T-9046 (Titanium comp. C)*	30 (133)
QQ-A-250/13 (Alclad)	32 (142)

*Primed with PR-148 Adhesion Promoter

Tensile strength, psi (KPa) Standard cure, 14 days @ 77°F (25°C), 50% RH	370 (2551)
14 days immersion in JRF @ 140°F (60°C)	200 (1379)
7 days @ 250°F (121°C)	500 (3448)
72 hours immersion in JRF @ 140°F (60°C), + 72 hours @ 120°F (49°C), + 7 days @ 250°F (121°C)	500 (3448)
24 hours @ 250°F (121°C), + 7 days immersion in JRF @ 140°F (60°C)	200 (1379)
Elongation, % Standard cure, 14 days @ 77°F (25°C), 50% RH	310
14 days immersion in JRF @ 140°F (60°C)	320
7 days @ 250°F (121°C)	210
72 hours immersion in JRF @ 140°F (60°C), + 72 hours @ 120°F (49°C), + 7 days @ 250°F (121°C)	170

PR-1422 Class B Fuel Tank Sealant

Elongation, %
24 hours @ 250°F (121°C), + 7 days immersion in JRF @ 140°F (60°C) 230

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 2-layer salt water/Jet reference test fluid at 140°F.

Resistance to hydrocarbons - 7 days @140°F (60°C) immersed in JRF.
Weight loss, % 5.0

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 synthetic lubricating 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.

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.

Mixing Instructions

PR-1422 Class B is supplied in a two-part kit. 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-1422 Class B is at least 9 months when stored at temperatures between 40°F (5°C) and 80°F (27°C) in original, unopened containers.

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.

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