

PR-1829 Class B rapid curing windshield and canopy sealant

Description

PR-1829 Class B is a rapid curing aircraft windshield and canopy sealant. It has a service temperature range from -80°F (-62°C) to 320°F (160°C), with intermittent excursions up to 420°F (216°C). This material is designed for fillet sealing of glass, polycarbonate, acrylic and other aircraft sealing applications. The product contains no organic solvents and does not craze substrates. The cured sealant exhibits excellent resistance to UV and weather exposure.

PR-1829 Class B is a two-part, epoxy cured Permapol® P-3 polythioether compound. The uncured material is a low sag, thixotropic paste, suitable for application by extrusion gun or spatula. Unlike standard polysulfide windshield sealants, it can cure at low temperatures and is unaffected by changes in relative humidity. This sealant has excellent adhesion to common aircraft substrates.

The following tests are in accordance with PRC-DeSoto International and other OEM specification test methods.

Application properties (typical)

Color			
part A			black
part B			white
mixed			gray
Mixing ratio		part A: part B	
by weight		12.5:100	
Base viscosity			
(Brookfield #7 @ 2 rpm),			
poise (Pa-s)		16,000 (1600)	
Slump, inches (mm)			
	Initial	50 minutes	90 minutes
B-1/4	0.30 (7.62)	-----	-----
B-1/2	0.25 (6.35)	-----	-----
B-2	0.20 (5.08)	0.30 (7.62)	0.30 (7.62)
Application life and cure time @ 77°F (25°C), 50% RH			
	Application	Tack free	Cure time
	life	time	to 30 A
	(hours)	(hours)	Durometer
B-1/4	1/4	<2	3
B-1/2	1/2	<3	4
B-2	2	<16	24

Performance properties (typical)

Cured 7 days @ 77°F (25°C), 50% RH	
Cured specific gravity	1.47
Nonvolatile content, %	99
Ultimate cure hardness,	
durometer A	45
Peel strength, pli (N/25 mm), 100% cohesion	
dry, 14 days at 77°F (25°C) + 7 days @ 140°F (60°C)	
AMS-G-25667 (glass)	50 (222)
MIL-PRF-8184 (acrylic)*	50 (222)
AMS-P-83310 (polycarbonate)*	55 (245)
AMS 2629 JRF immersion, 7 days @ 140°F (60°C)	
AMS 2471 (anodized aluminum)	38 (169)
AMS 4901 (titanium)*	40 (178)
AMS 5516 (stainless steel)*	40 (178)
MIL-DTL-5541 (alodine aluminum)	35 (156)
AMS-C-27725 (IFT coating)	42 (187)
AMS 2629 JRF/NaCl-H ₂ O immersion, 7 days @ 140°F (60°C)	
AMS 2471 (anodized aluminum)	50 (222)
AMS 4901 (titanium)*	54 (240)
AMS 5516 (stainless steel)*	53 (236)
MIL-DTL-5541 (alodine aluminum)	55 (245)
AMS-C-27725 (IFT coating)	52 (231)
*Abraded with 220 grit sandpaper and primed with PR-1861 Adhesion Promoter	
Tensile strength, psi (KPa),	
standard cure, 7 days	
@ 77°F (25°C), 50%RH	411 (2834)
14 days immersion in JRF	
@ 140°F (60°C)	230 (1586)
8 hours @ 360°F (182°C)	255 (1785)
Elongation, %	
standard cure, 7 days	
@77°F (25°C), 50% RH	283
14 days immersion in JRF	
@ 140°F (60°C)	262
8 hours @ 360°F (182°C)	150

Thermal rupture resistance - retains pressure of 10 psi with only negligible deformation, both before and after immersion in AMS 2629 JRF.

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

Resistance to hydrocarbons - 7 days @ 140°F (60°C) immersed in AMS 2629 JRF.

Weight loss, % 3.2

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.

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

It is recommended that plastic surfaces be abraded with 220 grit or finer sandpaper; glass surfaces should be cleaned with Cerium Oxide polish.

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-1829 Class B is supplied in two-part Semco® cartridges.

Mixing instructions

See the container for specific mixing instructions. The mix ratio is very critical.

Storage life

The storage life of PR-1829 Class B is at least 9 months when stored at temperatures below 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 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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