Technical Data Sheet
Aerospace Sealants

P/S 890 Class B fuel tank sealant

Description

P/S 890 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.

P/S 890 Class B is a two-part, manganese dioxide 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		white
mixed		gray
Mixing ratio		part A: part B
by weight		10:100
Base viscosity (Brookfield #7 @ 2 rpm), poise (Pa-s)		11,000 (1100)

Slump, inches (mm)

	Initial	50 minutes	90 minutes
B-1/2	0.15 (3.81)	------	------
B-2	0.30 (3.81)	0.20 (5.08)	0.20 (5.08)
B-4	0.15 (3.81)	0.20 (5.08)	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	<4	30
B-2	2	<6	48
B-4	4	<36	90

Performance properties (typical)

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

Cured specific gravity	1.55
Nonvolatile content, %	95
Ultimate cure hardness, durometer A	49

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

JRF (AMS 2629) immersion, 7 days @ 140°F (60°C)	
AMS 2471 (anodized aluminum)	41 (182)
MIL-DTL-5541 (alodine aluminum)	42 (187)
AMS-C-27725 (IFT coating)	44 (196)
AMS5516 (stainless steel)*	44 (196)
AMS4911 (titanium comp. C)*	43 (191)
AMS4049 (alclad)	39 (173)

JRF (AMS 2629)/NaCl-H_2O immersion, 7 days @ 140°F (60°C)

AMS 2471 (anodized aluminum)	39 (173)
MIL-DTL-5541 (alodine aluminum)	40 (178)
AMS-C-27725 (IFT coating)	43 (191)
AMS5516 (stainless steel)*	42 (187)
AMS4911 (titanium comp. C)*	45 (200)
AMS4049 (alclad)	42 (187)

*Primed with PR-148 Adhesion Promoter

Tensile strength, psi (KPa)

standard cure, 14 days @ 77°F (25°C), 50% RH	300 (2069)
14 days immersion in JRF (AMS 2629) @ 140°F (60°C)	270 (1862)
7 days @ 250°F (121°C)	420 (2869)
72 hours immersion in JRF (AMS 2629) @ 140°F (60°C), + 72 hours immersion @ 120°F (49°C), +7 days @ 250°F (121°C)	350 (2413)
24 hours @ 250°F (121°C), + 7 days immersion in JRF (AMS 2629) @ 140°F (60°C)	325 (2241)

Elongation, %

standard cure, 14 days @ 77°F (25°C), 50% RH	300
14 days immersion in JRF (AMS 2629) @ 140°F (60°C)	350
7 days @ 250°F (121°C)	150
72 hours immersion in JRF (AMS 2629) @ 140°F (60°C), + 72 hours @ 120°F (49°C), +7 days @ 250°F (121°C)	125

Elongation, %

24 hours @ 250°F (121°C), + 7 days immersion in JRF (AMS 2629) @ 140°F (60°C)	200

P/S 890 Class B fuel tank sealant

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

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 (AMS 2629) @ 140°F (60°C).

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

weight loss, %	5.0

Flexibility - no cracks after bending 180 degrees over a 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 resistant	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.

Packing options

P/S 890 Class B is supplied in two-part kits and Semco® cartridges.

Mixing instructions

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.

Storage life

The storage life of P/S 890 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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