PR-1764 Class B electrically conductive sealant

Description

PR-1764 Class B is an electrically conductive, corrosion inhibitive sealant. It has a service temperature range from -67°F (-55°C) to 250°F (121°C), with intermittent excursions up to 360°F (182°C). The cured sealant maintains electrical continuity in aircraft applications. This material provides excellent long-term EMI/RFI shielding against the common causes of corrosion on aluminum alloys or between dissimilar metals. The cured sealant is resistant to prolonged exposure to both jet fuel and aviation gas.

PR-1764 Class B is a two-part, nickel filled, manganese dioxide cured, Permapol® P-3 polythioether compound. The uncured material is a low sag, thixotropic paste suitable for application by extrusion gun or spatula. This sealant has excellent adhesion to common aircraft substrates when correctly primed with PR-148 Adhesion Promoter.

The following tests are in accordance with AMS 3266 Class B and other OEM specification test methods.

Application properties (typical)

Color	
Part A	Black
Part B	Gray
Mixed	Black
Mixing ratio	Part A:Part B
By weight	15:100
Base viscosity, penetration (ASTM D217 cone), mm	>100

Slump, inches (mm)

	Initial	50 Minutes	90 Minutes
B-1/2	0.55 (13.97)	——	——
B-2	0.45 (11.43)	0.40 (10.16)	0.40 (10.16)

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	<5	30
B-2	2	<10	48

Performance properties (typical)

Cured 3 days @ 77°F (25°C), 50% RH	
Cured specific gravity	2.15
Nonvolatile content, %	94
Ultimate cure hardness, Durometer A	55
Tensile shear, psi (KPa)	
Standard cure, 14 days @ 77°F (25°C), 50% RH	180 (1241)
Tensile strength, psi (KPa)	
Standard cure, 14 days @ 77°F (25°C), 50% RH	220 (1517)
Elongation, %	
Standard cure, 14 days @ 77°F (25°C), 50% RH	70
Electrical contact resistance, ohms	
Standard cure, 14 days @ 77°F (25°C), 50% RH	0.04
Volume/Bulk resistivity (Alessi four point probe), ohm-cm	
Standard cure, 14 days @ 77°F (25°C), 50% RH	0.10
7 days @ 250°F (121°C)	0.10
7 days immersion in JRF @ 77°F (25°C)	0.15
EMI/RFI Shielding effectiveness, dB	
Far field @ 1000 mHz, (ASTM ES 7-83)	
Standard cure, 3 days @ 77°F (25°C), 50% RH	70

Corrosion resistance - No corrosion or significant change of conductivity after 2000 hours salt spray.

Thermal stability - No blistering or cracking after 48 hours @ 250°F (121°C). Hardness retained within 15 Durometer A points.

PRC-DeSoto International

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Low temperature brittleness @ -65°F (-54°C) - No cracking or fractures

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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 the appropriate solvents and 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.

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.

After the surface has been cleaned, apply PR-148 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 30 minutes. It is not recommended to apply adhesion promoter below 45°F (7°C). The sealant must be applied within 8 hours of the application of the adhesion promoter. If this time is exceeded, the surface should be recleaned and the adhesion promoter reapplied. Do not use 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-1764 Class B is supplied in a Semkit® package. See the container for specific mixing instructions. The mix ratio is very critical.

Storage life

The storage life of PR-1764 Class B is at least 6 months when stored at temperatures below 80°F (27°C) in original unopened containers. Low temperature storage will optimize application properties.

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.

For emergency medical information call 1-800-228-5635.

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

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