PR-1770 Class A

PR-1770A fuel tank sealant

Description

PR-1770A is a two-part, high temperature resistant, brushing sealant for use over a temperature range of -55°C to +180°C, with outstanding resistance to aircraft fuels and lubricating oils and resistance to degradation by phosphate ester type hydraulic oils.

PR-1770A is a manganese dioxide cured sealant based on Permapol® P-5 liquid polymers, a chemically modified, improved class of polysulphide polymers covered by US Patent 4,623,711. The uncured material is a thick liquid suitable for application by brush or roller. The cured sealant maintains excellent elastomeric properties after prolonged exposure to aircraft fuels.

Application properties (typical)

Colour			
Part A			Black
Part B			White
Mixed			Dark grey
Mixing ratio			
Part B:Part A, by weight			10:1
Viscosity of base compound			
Pa-s (poise),			
(Brookfield # 6 @ 10 rpm)			22 (220)
Application life and cure time @ 25°C, 50% RH			
	Application life (hours)	Tack free time (hours)	Cure time to 35 Durometer A (hours)
A-1/2	1/2	<10	24
A-2	2	<24	36
Non-volatile content,% by weight			95

Performance properties (typical)

Cured 14 days @ 25°C, 50% RH	
Hardness, Durometer A	
A-1/2	55
A-2	55
Mixed S.G.	1.6
Peel strength, N/25mm (pli),100% cohesion	
Dry	
Stainless steel	204 (46)
Titanium	177 (40)
Epoxy primer	186 (42)
Type III fuel (168 hours @ 60°C)	
Stainless steel	204 (46)
Titanium	195 (44)
Epoxy primer	195 (44)
3% NaCl solution (168 hours @ 60°C)	
Stainless steel	204 (46)
Titanium	177 (40)
Epoxy primer	195 (44)
Tensile strength, MPa (psi)	
Standard cure	3.38 (522)
JRF @ 60°C	2.29 (334)
Elongation, % at break	
Standard cure	413
JRF @ 60°C	550
Resistance to hydrocarbons	
JRF immersion	
Weight loss, %	5.0
Flexibility - no cracks over mandrel	
Low temperature flexibility - no cracking, checking or loss of adhesion	

Note: The application and performance property values are typical for the material but are 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 metallic, chemically treated, or painted substrates, the surfaces should be cleaned with solvents to remove contamination such as dirt, grease, and/or processing lubricants.

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 to 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 to 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 information on specific substrate treatment please refer to the Surface Treatment leaflet which is available on request.

Storage life

The storage life of PR-1770A is three months in accordance with SP-J-513-M0020 when stored at temperatures between 5°C and 25°C in the original unopened containers.

Health precautions

This product is safe to use and apply when recommended precautions are observed. Before using this product read and understand the Material Safety Data Sheet 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 exposure.