PPG Aerospace
Industrial Sealants & Adhesives

TECHNICAL DATA

PRC Rapid Seal® 682

Description

PRC Rapid Seal® 682 is a flexible high-performance sealant intended for use in chemical storage tanks where there will be exposure to a variety of chemicals such as gasoline, crude oil or ethanol.

This material is designed to be used in and around chemical storage tanks for sealing around rivet heads in steel tanks for gasoline, crude oil, ethanol or other chemical liquids. Other uses are in the chine areas of the tanks to prevent water migration between the steel and concrete base. The cured sealant maintains excellent elastomeric properties after prolonged exposure to gasoline, crude oil or ethanol and water contact. It has a service temperature range from -65°F (-54°C) to 250°F (121°C).

PRC Rapid Seal® 682 is a two-part manganese dioxide-cured polysulfide compound. The uncured material is low viscosity and suitable for application by brush. It cures at room temperature to form a resilient sealant having excellent adhesion to steel and concrete.

Application Properties (Typical)

Color	
Part A	Black
Part B	Off-white
Mixed	Dark gray
Mixing Ratio By Weight	Part A: Part B 10: 100
Base Viscosity Brookfield #6 @ 10 rpm	
Poises (Pa-s)	300 (30)

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)
2	<36	72

Performance Properties (Typical) @ 77°F , 50% RH

Cure hardness (24 hrs.)	38 Shore A
Cure hardness @ 2 months	50 Shore A
Tensile Strength (7 days)	325 psi (2,242 Kpa)
Elongation % (7 days)	225%
Tensile strength (7 days),100% CF (Cement/Steel tensile block)	160 psi (1,104 Kpa)
Peel strength (7 days), 100% CF Cement/Aluminum	48 pli (214 N/25mm)
Steel/Aluminum	52 pli (231 N/25mm)

Peel Strength after exposure to different environments @ ambient conditions. As the substrates vary, so may the strength values. Some substrates may require the use of an adhesion promoter.

Cement/Aluminum peel samples, 100% CF

Water	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)
Gasoline	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)
Ethanol	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)
Methanol	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)

Steel/Aluminum peel samples, 100% CF

Water	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)
Gasoline	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)
Ethanol	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)
Methanol	(7 days)	35 pli (156 N/25mm)
	(3 months)	25 pli (111 N/25mm)

Cycle test @ 30% (+/- 15%) movement*

Cement/Steel tensile blocks	
Ambient (7 days)	>1000 cycles
Ambient (3 months)	>1000 cycles

Cycle testing @ 30% movement after exposure to different environments @ ambient conditions

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Cement/Steel tensile blocks

Water	(7 days)	>1000 cycles
	(3 months)	>1000 cycles
Gasoline	(7 days)	>1000 cycles
	(3 months)	>1000 cycles
Ethanol	(7 days)	>1000 cycles
	(3 months)	>1000 cycles
Methanol	(7 days)	>1000 cycles
	(3 months)	>1000 cycles

* Cycle movement adhesion testing was conducted using the Applied Test Systems (ATS) Series 500 Horizontal Sealant Tester, @ JIS setting and speed setting 20 for 1000 cycles. The samples were removed from the exposure environments and air-dried at ambient temperature for 1-2 hours before testing.

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 the sealant or to prime the substrate, the surface should be cleaned well to remove dirt. Contaminants such as dirt, grease, and/or processing lubricants must be removed prior to treatment and sealant application.

A progressive cleaning procedure should be employed using appropriate solvents, and a lint-free cloth, (Reclaimed solvents or paper products 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 solvent evaporating to prevent redoposition of contaminants.

Concrete surfaces need to be sanded or mechanically abraded to obtain a rough surface profile approximately equal to #60 grit sandpaper. All dust and dirt should be removed by vacuum and/or brushing the surface before sealant application.

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.

Joints to be sealed with PRC Rapid Seal® 682 should have a backer rod installed to control sealant depth to match typical joint design guidelines.

PRC-DeSoto International, Inc.
12780 San Fernando Road
Sylmar, CA 91342
Telephone (818) 362-6711
Toll Free (800) AEROMIX
www.ppgaerospace.com

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