AEROSPACE/ELECTRONIC PRODUCTS

PR-1725

AIRCRAFT WINDSHIELDS/WINDOWS SEALANT

Use

PR-1725 is as a fillet-grade, weather-resistant sealant compatible with aircraft windshields and windows.

Description

PR-1725 is a two-part polysulfide liquid polymer compound that utilizes an advanced chemical curing system. It has been especially formulated for high speed aircraft window and windshield applications. It exhibits outstanding weather resistance.

Application Properties (Typical)

Color Base Compound	White
Accelerator	Black
Mixing Ratio	10:1 by weight (Base compound: accelerator)
Nonvolatile Content (Mixed Compound	97%
Viscosity Brookfield Spindle #7 @ 2 rpm)	14,000 poises
Vertical Flow	0.2 inch
Application Life, Minimum (At 75°F, 50% RH) B-2	2 hours
Tack Free Time B-2	24 hours
Cure Time To 30 Rex B-2	48 hours

Performance Properties (Typical)

Color	Gray
Specific Gravity	1.60
Hardness, Shore A	50
Thermal Rupture Resistance	Retains pressure of 10 ps at 300°F with only negligible deformation
Low Temperature Flexibility (−65°F)	Excellent, whether preconditioned at 75°F or at 275°F.

Adhesion, Peel Strength (Cohesive)

Metal	Cured 7 days @ 75°F
Aluminum	30 lbs./in. of width
Stainless steel	30 lbs./in. of width
Titanium	30 lbs./in. of width

Plastic	Cured 7 days @ 75°F	Exposed 500 hrs in Weatherometer
*Acrylic	30 lbs./in. of width	30 lbs./in. of width
Polycarbonate	30 lbs./in. of width	30 lbs./in. of width

*Requires use of PR-142 Surface Conditioner for adhesion to acrylics.

Corrosion Resistance	No corrosion, adhesion loss, softening or blistering after 20-day immersion in salt water
Fuel Resistance	After 7-day immersion in TT-S-735, Type III fluid or Grade JP-4 fuel at 140°F Excellent flexibility, no visible deterioration, and negligible weight loss.

SUPERSEDED BY: No new TDS

DATE 2-99

(Continued on page 2)

PRODUCTS RESEARCH & CHEMICAL CORPORATION
5454 SAN FERNANDO ROAD
POST OFFICE BOX 1800
GLENDALE CALIFORNIA 91209
AREA CODE (818) 240-2060

410-416 JERSEY AVENUE
GLOUCESTER, NEW JERSEY 08030
AREA CODE (609) 456-5700

Performance Properties

(Continued from page 1)

Resistance to Other Fluids	Excellent resistance to water, alcohols, petroleum-base and synthetic lubricating oils, and petroleum-base hydraulic fluids.
Stress-Crazing	
Polycarbonate	**Non-crazing
Acrylic	Non-crazing
Fungus Resistance	Non-nutrient

**Due to different stress levels and variations in polycarbonate materials, sealants should be checked for compatibility at expected stress prior to usage.

NOTE: The above 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, or configurations.

Purchasing Data

PRODUCT DESIGNATION

When ordering this product, designate PR number, class letter, and dash number as follows:

PR-1725 B-2 Minimum Application Life 2 hour

STANDARD PACKAGING

Designation	Base Compound Container	No. per Case
Pint Kit — 12 fl. oz.	1 pint can	16
Quart Kit — 24 fl. oz.	1 quart can	9
Gallons Kit — 96 fl. oz.	1 gallon can	4

NOTE: The unit designates the total fluid ounce content of Part A and Part B (128 fluid ounces per gallon). Standard units are furnished with a premeasured quantity of Part A and Part B, individually packaged.

Semkit® Two-Part Sealant Cartridges

Designation	Approximate Total Contents	Container	No. per Case
Model 654-C	5 fl. oz.	6 oz. Cart.	24

NOTE: Semkit® Two-Part Sealant Cartridge furnished with a premeasured quantity of base compound and accelerator packaged in a plastic cartridge equipped for mixing the compound in the cartridge.

Surface Preparation

To obtain good adhesion, the surface should be cleaned with an oil-free solvent which will dissolve oil and wax (reclaimed solvents should not be used). A progressive cleaning procedure should be used. Wash one small area at a time, then dry with a clean cloth before the solvent evaporates to prevent redepositing the oil or wax on the surface. Always pour the solvent on the washing cloth to maintain a clean solvent supply.

CAUTION: The use of wrong cleaning solvents can cause crazing. Stoddard solvent conforming to Specification P-D-680, Type I, can be used safely on acrylic plastics.

Mixing Instructions

NOTE: Proper mixing and correct proportions are extremely important if optimum results are to be obtained. Mixing my experienced personnel at a central location is recommended.

STANDARD CONTAINERS

When procured in small kits or bulk, PR-1725 should be mixed as follows:

1. Kits consist of the proper proportions of base compound and accelerator, and the entire contents are to be mixed. When sealant is supplied in bulk, mix 1 part (by weight) of accelerator with 10 parts (by weight) of base compound.
2. Thoroughly stir accelerator in its conatiner until an even consistency is obtained.
3. Slowly stir the accelerator into the base compound and thoroughly mix approximately 7 to 10 minutes. Be sure to scrape the sides and bottom of the container in order to include all the compound in the mixture and to assure uniform blending. Scrape mixing paddle periodically to remove unmixed compound. Slow mixing by hand is recommended. The B-2 compound may be mixed by a slow speed mechanical mixer. A high speed mechanical mixer will generate internal heat and reduce application life.

SEMKIT TWO-PART SEALANT CARTRIDGES

1. Wear safety glasses.
2. Hold cartridge, grasp dasher rod and pull back approximately one inch.
3. Insert ramrod into hollow of dasher rod, break piston loose and inject about ⅓ of the contents into the cartridge.

   NOTE: Use evenpressure, do not use force, tap pound or jolt ramrod if piston does not break loose readily.
4. Repeat Step 2 and 3 until all of the contents of the rod are emptied into the cartridge. Then remove ramrod.
5. Mix material for the required number of strokes for hand mixing, or for the required time for machine mixing, as indicated on the instructions provided with each kit.
6. After mixing, remove bottom cap.
7. Pull dasher rod back to neck of cartridge, grasp cartridge firmly at neck, unscrew dasher rod and remove.
8. Screw nozzle into cartridge, insert into Semco Extrusion Gun and use as required. For hand extrusion, press used dasher rod against plunger to force material from cartridge.

Application Instruction

Application life is the period of time that the mixed compound remains at a consistency suitable for application with spatula or extrusion gun. Application life is reported at standard conditions of 75°F and 50% relative humidity. For every 10°F to 15°F rise in temperature, the application life is reduced by half and for every 10°F to 15°F, drop, it is doubled. High humidity at the time of mixing also shortens the application life.

When PR-1725 is to be used as a nonstructural adhesive for bonding metal to metal or glass to metal, butter a film of thoroughly mixed material, 0.010" to 0.015" thick, on one of the surfaces to be bonded. Join surface with sufficient pressure to insure complete contact and allow to cure. Unnecessary handling should be avoided until cure is complete.

If PR-1725 is to be injected between the surfaces to be bonded, apply with an injection or extrusion gun equipped with ⅛" to ¼" tip. Special tips of other diameters are available for special applications.

Cure

The length of the cure depends on the ambient temperature and relative humidity relative humidity. The temperature/time relationship is approximately the same for curing as it is for application life. Low humidities will extend the cure time. Cure may be hastened by applying heat up to 130°F.

Cleaning of Equipment

Wash equipment with a chlorinated solvent immediately after use or before sealant cures. Use commercial stripping compounds to remove cured sealant. Suitable compounds are available from the following companies:

B & B Chemical Co., Inc.	Miami, Florida
Eldorado Chemical Co.	San Antonio, Texas
Pennwalt Corporation	Los Angeles, California
Turco Products, Inc.	Los Angeles, California
Wyandotte Chemical Corp.	Wyandotte, Michigan

Storage Life

The storage life of PR-1725 is at least 9 months when stored at temperatures below 80°F in the original unopened containers. Slight changes in the application properties may occur during storage, but these changes should not affect the performance properties of the cured material.

Health Precautions

PR-1725 is a safe material to handle when reasonable care is observed. Ordinary hygienic principles, such as washing the compound from the hands before eating or smoking, should be observed. Avoid prolonged contact with the skin, contact with open breaks in the skin, and ingestion. In case of contact with skin, wipe off excess then wash with soap and water. Obtain medical attention in cases of extreme exposure or ingestion. For additional health and safety information, consult a Material Safety Data Sheet.

Printed in U.S.A.