



PSI-275 Multi-Component, Gun Grade, Polysulfide Sealant

Product description

PSI-275 Multi-Component Polysulfide Sealant is a three-part, chemically curing sealant that cures at ambient temperature to a medium-modulus, flexible, water-resistant rubber. PSI-275 provides a durable, flexible seal in joints in masonry, metal, concrete, plastics, glass, ceramics and wood. It is ideally suited for sealing vertical, horizontal, and sloping joints exposed to many chemicals and/or continuous water immersion.

Basic uses

The principal application for PSI-275 is sealing and caulking concrete joints subject to structural movement. Polysulfide sealants have a long history of successful use in continuous, total-immersion applications in swimming pools, reservoirs, and sewage treatment plants. PSI-275 has excellent chemical resistance and can also be used in many secondary containment applications.

PSI-275 can be used as a universal joint sealant for a wide variety of building materials on both horizontal and vertical planes. It is ideal for sealing expansion and control joints in precast concrete panels and metal curtain walls. It can also be used for sealing interior and exterior control, expansion, and perimeter joints.

Benefits

- Durable, flexible seal provides excellent weatherability.
- Improved product from the industry leader for over 30 years in sealants for underwater joints.
- Contains no phthalate plasticizers.

Application limitations

- Not recommended for structural or butt glazing, nor in joints less than 1/4" (6 mm) in width or depth.
- Not recommended for joints wider than 1-1/2" (38 cm).
- Not recommended for application to certain architectural paints or finishes without prior testing.
- Not recommended for areas subject to harsh chemicals without prior testing.

- Not recommended for total immersion applications without specified primer.
- For chlorinated water applications where the chlorine content exceeds 5 ppm, contact PSI Customer Service for specific use limitations.
- Temperatures below 50°F (10°C) retard cure.

Color

Limestone, Gray, and Black.

Packaging

Available in 1-1/2-US-gallon (5.68-liter) pails.

Applicable standards

PSI-275 meets or exceeds the requirements of Federal Specification TT-S-00227E Type II, Class A in all respects except Section 3.5.7 Stain and Color Change; ASTM C920 Type M, Grade NS, Class 25, Use NT, G, M, and A with the exception of ASTM C510, Stain and Color Change; SWI 2B; and CAN/CGSB 19.24-M90.

PSI-275 meets the test requirements of ASTM C1247 for sealants exposed to continuous immersion in liquids.

PSI-275 complies with Southern Coast Air Quality Management District (SCAQMD) Rule 1168 for adhesives and sealants.

Installation

Joint design: It is recommended that dimensions be established for each joint in accordance with service conditions. Generally, the width of the joint is determined by calculating the joint width change associated with thermally induced expansion and contraction of the structure expected from temperature extremes which it will encounter, and multiplying this figure by a factor of 4. For example, if the calculated total movement of the joint under temperature extremes is 1/4" (6 mm), the joint should be designed no less than 1/4" (6 mm) x 4, or 1" (25 mm) wide.

Surface preparation: All surfaces must be dry, clean, and free of loose aggregate, laitance, corrosion, oil, tar, grease, asphalt, paint, mastic compounds, waterproofing agents, release agents and wax. Joints must be protected from contamination by bituminous or resinous materials that are sometimes sprayed on new concrete to aid

in curing.

After joints have been cleaned, care should be taken to avoid contamination during the priming and sealing operation.

Priming: PSI-275 adheres to most common substrates such as glass, ceramic, aluminum, steel, PVC, concrete and wood; however, priming is recommended for optimum adhesion. PSI-75 Primer is recommended for non-porous surfaces such as plastics and rubber; porous surfaces such as masonry; and areas that will be frequently wet, damp, or underwater.

Primer should be applied only to a clean, dry surface prior to installation of backer rod, bond breaker tape and sealant. Primer must be kept within the confines of the joint to preclude possible staining. Primer must dry the recommended time before sealant is applied.

The primer contains flammable solvents. Avoid ignition sources when applying. Be sure to thoroughly read both the primer data sheet and SDS before using the primer.

Backup material: Backer rod controls the sealant depth and allows PSI-275 to flow evenly and uniformly over the entire length of the joint.

Health precautions

PSI-275 is a multi-component product consisting of the Tint Base and a container of Activator in the pail, a required Color Pack (sold separately) and an optional Accelerator. The pail is labeled for the Tint Base only. Each of the other components are labeled separately for their individual hazards.

Tint Base - Dark and Tint Base - Light:

PSI-275 Tint Bases each contain crystalline silica in a polymer matrix; physical and health hazard information on the product is readily available on the Safety Data Sheet (SDS). Sanding the cured product may release crystalline silica into the air. While these materials are not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), please refer to the SDS for valuable information critical to the safe handling and proper use of this product.

Activator, Color Packs and optional Accelerator:

Please refer to the SDS and component label for the Activator, the various Color Packs, and the optional Accelerator for valuable information critical to the safe handling and proper use of those product components.

Refer to the Safety Data Sheet for complete health and safety information.

Joint backing must be polyethylene or other closed-cell material. Care should be taken to not

Performance Data*

Properties	Results	Test Methods
Uncured Properties		
Worklife	2 to 5 hours	
Cure time @ 75°F (24°C)	7 days	
Sag/slump	0.05 in (1 mm)	ASTM C639
VOC content	0.09 lb/gl (11 g/L)	
Specific gravity	1.7	
Density	14.2 lb/gl (1.7 g/cm ³)	
Volume solids	100%	
Cured Physical Properties		
Adhesion-in-peel, concrete, aluminum and steel	12 pli (21 N/cm)	ASTM C794
Hardness, Shore A	30	ASTM C661
Tensile strength	150 psi (1.0 MPa)	ASTM D412
Ultimate elongation	500%	ASTM D412
Modulus at 100%	75 psi (0.5 MPa)	ASTM D412
Modulus at 200%	81 psi (0.6 MPa)	ASTM D412
Service temperature, cured bead	-40 to +160°F (-40 to +71°C)	
Cured Construction Properties		
Weight loss	<5% maximum	ASTM C792
Cracking and chalking after heat aging	None	
Durability (bond and cohesion)		
movement on glass, aluminum and concrete	±25%	ASTM C719
Water immersion	Pass	ASTM C1247
* Typical properties are for information only, not for purposes of specification. The data above represents product performance in ideal laboratory conditions. Individual users' experience may vary depending on application conditions.		

puncture the backer rod. Rod stock diameter should be at least one grade larger than the joint width at the time of installation to ensure compression when inserted. Where room does not exist for the rod, bond-breaker tape should be inserted to prevent three-sided bonding. All non-extruding and resilient-type preformed expansion joint fillers shall conform to the requirements and tests set forth in ASTM D1752 for Type I materials, except as otherwise specified herein.

Mixing: Add Activator and Color Pack to Base in the Base pail and mix with a slow speed 1/2" (12 mm) drill and a flat mixing paddle at 80 to 150 rpm until the mixture is completely blended. Use a spatula to ensure that all material is removed from containers. THE ENTIRE CONTENTS OF THE COLOR PACK MUST BE ADDED AS IT CONTAINS CHEMICALS ESSENTIAL TO CURE. Do not use partial units.

Minimum mixing time is 6 minutes. Avoid entrapping air bubbles during mixing by keeping the paddle below the surface level. Sufficient room is provided in the 2-gallon container for mixing 1-1/2 gallons of product. Scrape down the sides of the containers and mixing blade periodically during the mixing operation.

Application: PSI-275 guns easily with conventional caulking equipment. Fill the joint completely and tool immediately to ensure firm, full contact with the interfaces of the joint.

Proper width-to-depth ratios must be maintained. Dry tooling is preferred. Care must be exercised to avoid contamination of open joints. Following application of the sealant, the installation should be allowed to stand for a minimum of 7 days to allow cure and adhesion to develop.

Cleaning: Immediately remove all excess sealant and smears adjacent to joints with mineral spirits as work progresses. Mineral spirits can also be used for equipment cleanup. Consult manufacturer's SDS for safety precautions when handling flammable solvents.

Shelf life: Nine months from date of shipment when stored at temperatures below 80°F (27°C) in original, unopened containers.

Maintenance

If the sealant is damaged and the bond is intact, cut out the damaged area and recaulk. No primer is required. If the bond has been affected, remove the old sealant, clean and pre-

pare the joint in accordance with the instructions under "Surface Preparation", and recaulk.

Technical services

PSI provides performance data, specification assistance and use evaluations.

Adhesion testing by PSI: This program is intended to eliminate potential field-application problems by pre-testing the adhesion of PSI's construction sealants on samples of building materials submitted by the customer. The tests will aid in determining proper surface preparation method, effective solvents for cleaning, and whether priming is necessary to achieve optimum adhesion. Following this procedure will remove many of the variables that affect field success.

Test samples should be identified as to manufacturer, origin, designed use, building project, person and firm originating the request. Appropriate sketches or drawings showing the intended use can be helpful. Contact your PSI sales representative for more information.

Jobsite testing of substrates: A field test can be performed by applying several feet of the sealant to a representative joint and letting it reach full cure. Make a cut in the cured sealant across the joint the entire depth of the sealant. Make two vertical cuts several inches long, paralleling the sides of the joint as closely as possible and extending down from the cross cut. Grasp the free length of sealant and pull at a 90° angle to determine if a good bond has developed. With good adhesion, the sealant will usually tear cohesively or be difficult to remove from the surface.

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