



# PSI-270/RC 270 Multi-Component, Gun Grade, Hybrid Polyurethane Reservoir Sealant

## Product description

PSI-270/RC 270 Multi-Component Hybrid Polyurethane Reservoir Sealant is a three-part, chemically curing sealant that cures at ambient temperature to a low-modulus, flexible, water-resistant rubber. PSI-270 provides a durable, flexible seal in joints in masonry, concrete, metal, plastics, glass, ceramics and wood. It is ideally suited for sealing vertical, horizontal, and sloping joints exposed to continuous water immersion.

## Basic uses

The principal application for PSI-270/RC 270 is sealing and caulking concrete joints subject to structural movement. PSI-270/RC 270 has a long history of successful use in continuous, total-immersion applications in swimming pools, reservoirs, and sewage treatment plants.

PSI-270/RC 270 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 often unpredictable precast concrete panels and metal curtain walls. It can also be used for sealing both interior and exterior control, expansion, and perimeter joints in horizontal surfaces.

## Benefits

- Durable, flexible seal provides excellent weatherability.
- Industry leader for over 30 years for sealing underwater joints.

## Application limitations

- Not recommended for structural or butt glazing, nor in joints less than 1/4" in width or depth.
- Not recommended for joints wider than 1-1/2".
- 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.
- Cure is retarded at temperatures below 60°F (16°C); a kicker is highly recommended.

## Color

White, Off-White, Limestone, Gray, Bronze, Tan and Black. Custom colors available by special order.

## Packaging

Available in 1-1/2-gallon (5.7-liter) pails.

## Applicable standards

PSI-270/RC 270 meets or exceeds the requirements of Federal Specification TT-S-00227E Type II, Class A; ASTM C 920-95 Type M, Grade NS, Class 25, Use T, G, M, A, and O; CAN/CGSB 19.24-M90; and SWI 2B.

## 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", the joint should be designed no less than 1/4" x 4, or 1" wide.

Joint-filler material should be the pre-formed, non-extruding type made from cellular neoprene

sponge rubber or polyurethane of firm texture. Bituminous fiber-type joint filler must not be used. 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, except as otherwise specified herein.

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

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

**Priming:** PSI-270/RC 270 has excellent adhesion to most common substrates such as glass, ceramic, aluminum, steel, PVC, concrete and wood. However, some materials may require priming to gain optimum adhesion. PSI-590 Primer is recommended for non-porous surfaces such as plastics and rubber. For porous surfaces, PSI-591 Primer is recommended as a one-part primer. For areas that will be frequently wet, underwater, or damp, PSI Primer #67, a two-part primer, is recommended as the primer of choice.

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. 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. The primer contains flammable solvents. Avoid ignition sources

when applying. Be sure to thoroughly read both the primer data sheet and MSDS before using the primer.

**Backup material:** Backer rod controls the sealant depth and allows PSI-270/RC 270 to flow evenly and uniformly over the entire length of the joint. Joint backing must be polyethylene or other closed-cell material. Care should be taken not to 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.

**Mixing:** Add Part A (Activator) to Part B (Base) in the Part B pail and mix with a slow speed 1/2" drill and a flat mixing paddle at 80 to 150 rpm until the mixture is completely blended. Then add Part C (Color Pack) and mix until uniform. 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 THE CURE. Do not attempt to use partial units.

Minimum mixing time is 6 minutes. Avoid

Performance Data*		
Properties	Results	Test Method
<b>Uncured Properties</b>		
Worklife	4 to 6 hours	PSI S203
Cure time @ 75°F (24°C)	7 days	PSI S204
Sag/slump	0.0 inches	ASTM C639
VOC content	0.8 lb/gal	
Specific gravity	1.40	
Density	11.7 lb/gal	
<b>Cured Physical Properties</b>		
Adhesion-in-peel, concrete, aluminum & steel	20 lb/in.	ASTM C794
Hardness, Shore A	40	ASTM C661
Tensile strength	170 psi	ASTM D412
Ultimate elongation	500%	ASTM D412
Service temperature, cured bead	-40 to 160°F (-40 to 71°C)	PSI S406
<b>Cured Construction Properties</b>		
Weight loss	<5% maximum	ASTM C792
Cracking & chalking after heat aging	None	
Durability (bond & cohesion) movement on glass, aluminum & concrete	±25%	ASTM C719
Staining	None	ASTM C510
* Typical properties are for information only, not for purposes of specification.		

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. Kicker (accelerator) is available to accelerate the cure for many reasons, including cold temperatures. See "Cold Weather Caulking" data sheet for further information.

**Application:** PSI-270/RC 270 guns easily with conventional caulking equipment. Fill the joint completely and tool immediately to insure 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 below.

**Cleaning:** Immediately remove all excess sealant and smears adjacent to joints with xylene or toluol as work progresses. For equipment cleanup, use solvent equivalent to xylene or toluol. Consult manufacturer's MSDS for safety precautions when handling flammable solvents.

**Shelf life:** Six 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 prepare the joint in accordance with the instructions under "Surface Preparation", and recaulk.

### Technical services

PSI provides field service, 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

### Health precautions

- Product has a very pungent odor and should be used only in areas with adequate ventilation. Odor slowly fades after cure.
- Avoid ingestion.
- Avoid contact with skin, especially open breaks in the skin. In case of skin contact, immediately wipe away all excess material and scrub skin with soap and water.
- Keep out of reach of children.

For additional health and safety information, consult a Material Safety Data Sheet.

project, person and firm originating the request. Appropriate sketches or drawings showing the intended use can be helpful. They should be sent to the attention of PSI's Technical Director.

**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.

### Availability and cost

Polymeric Systems, Inc., is a part of Whitford Worldwide. For more information, please contact Polymeric Systems or Whitford Ltd. at:

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