



PSI-601 and PSI-601 FG Food Grade Acetoxy Silicone Sealant

Product description

PSI-601 is a one-part, RTV silicone sealant that cures by atmospheric moisture to a durable, flexible rubber with excellent adhesion to most non-porous surfaces, including glass, metal, ceramic, porcelain, rubber and some plastics. PSI-601 may be factory or field applied to form a long-lasting seal resistant to the effects of rain, snow, ultraviolet radiation, ozone, sunlight and temperature extremes.

Basic uses

PSI-601's excellent adhesion to non-porous substrates makes it extremely useful for butt and lap shear joints; curtain wall joints; glass block and glass partitions; non-structural glazing; cap, head and toe bead in conventional glazing; skylights and mullions; perimeter caulking of metal and most plastic frames; solar panels, duct work, vents and air conditioning units.

Benefits

- Highly flexible over a wide temperature range.
- UV and ozone-resistant.
- Excellent adhesion and superior durability on most non-porous surfaces.
- Capable of compensating for joint movement of $\pm 25\%$ of the original joint geometry.
- Contains no solvents; low VOCs (37 gms/L)

Application limitations

- Not for use in structural or butt glazing, nor in expansion joints less than 1/4" in width or depth.
- Should not be applied to areas totally confined during cure as atmospheric moisture triggers the sealant's reactive curing mechanism.
- Must be fully cured before exposure to temperatures above 217°F (103°C).
- Not recommended for application to materials that might bleed oils or solvents.
- Evolves acetic acid during cure; should not be applied to concrete, marble, limestone, lead

or lead-coated surfaces, zinc coated metal (galvanized) or copper.

- Not recommended for applications that will be painted or surfaces with reflective or protective coatings without prior testing.
- Not recommended for submerged joints on porous surfaces or for fuel immersion.

Color

Clear, White, Black, Aluminum and Yellow. Custom colors available; minimum order 100 gallons.

Packaging

Available in 10.3 fl. oz. (305 ml) polyethylene cartridges, 12 cartridges per carton. Also available in 2-gallon pails, 5-gallon pails and 55-gallon drums on special order.

Applicable standards

Both PSI-601 and PSI-601 FG comply with MIL-A-46106.

PSI-601 FG (colors Aluminum, Black, White and Clear) complies with FDA 177.2600. PSI-601 FG is also certified by National Sanitation Foundation International (NSF) to Standard 51.

Installation

Joint design: The width of the bead should be a minimum of 4 times the calculated movement. A thin bead of sealant will accommodate more movement than a thick bead. PSI-601 should be installed no thicker than 1/2" and no thinner than 1/4". Ideally, the ratio of the joint width to depth should be 2:1 with the depth never exceeding 1/2".

Closed cell polyethylene or polyurethane foam backer rod is recommended to control the depth in deep joint installations. Bond breaker tape is recommended for joints too shallow for backer rod insertion. These materials permit the application of a thin bead while providing a non-stick surface, precluding a three-sided joint. Glazing rabbets and joints should be designed to allow insertion

and retention of these bond-breaking materials during application and curing of the sealant.

Surface preparation: Clean all joints and glazing areas of foreign matter and contaminants such as moisture, frost, dirt, dust, oil, grease, protective coatings, previously applied sealants or glazing compounds.

Priming: PSI-601 adheres strongly to glass and ceramic surfaces and many common metals. For stronger, more uniform bonds, primers are recommended.

To determine if a primer is required, apply a thin bead of sealant to the substrate, let fully cure and then pull up one end of the bead. For non-porous substrates PSI-690 Primer is recommended. Primers contain flammable solvents. Keep away from heat, sparks and flame. Consult primer MSDS for handling and safety precautions.

Acetic acid released from PSI-601 during cure may attack the coating on reflective glass. Consult the glass manufacturer for sealant recommendation.

Method of application: Apply using conventional or air-operated guns after the joint has been properly prepared and immediately tool sealant to insure intimate contact with and wetting out of the substrate in the entire rabbet area. Sill-area sealant should be struck off at an angle so that water will not pool. Wipe excess sealant from surrounding area while still uncured, then wipe area with a commercial solvent such as isopropyl alcohol, mineral spirits or xylene. Consult manufacturer's MSDS for safety precautions prior to using solvents.

Curing characteristics: PSI-601 has a work life (tooling time) of 5 to

10 minutes. Ambient air temperature and moisture content at application and during cure has a direct influence on the work life and cure speed. PSI-601 can be applied at outdoor temperatures of -35°F (-37°C) provided that surfaces are clean and frost free. After cure it remains rubbery down to -80°F (-62°C) and will retain its properties after extended exposure up to 400°F (204°C).

Shelf life: One year from date of shipment when stored in original, unopened container in a dry area at temperatures below 80° F (27°C).

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 instructions under "Surface Preparation" and recaulk.

Performance Data*		
Properties	Results	Test Method
Uncured Properties - 70°F (21°C), 50% RH		
Skin-over time	15 minutes	ASTM C679
Cure time, 1/8" bead	<24 hours	PSI S202
Sag/slump	Nil	ASTM C639
VOC content	37 g/L	
Specific gravity	1.04	
Density	8.58 lb/gal.	
Cured Physical Properties - 7 day cure at 70°F (21°C), 50% RH		
Hardness, Shore A	25	ASTM C661
Tensile strength	250 psi	ASTM D412
Elongation	400%	ASTM D412
Service temperature, cured bead	-80 to 400° F (-62°C to 204°C)	PSI S406
Cured Electrical Properties - 7 day cure at 70°F (21°C), 50% RH		
Dielectric constant, 60Hz	2.8	ASTM D150
Dielectric strength	550 volts/mil	ASTM D149
Cured Thermal Properties - 7 day cure at 70°F(21°C), 50% RH		
Volume coefficient of thermal expansion	9.3 x 10 ⁴ /°F	
Thermal conductivity	0.11 BTU/ft. -°F - hr.	
Cured Construction Properties - 7 day cure at 70°F (21°C), 50% RH		
Weight loss after heat aging	< 5%	ASTM C792
Cracking & chalking after heat aging	None	
Durability (bond & cohesion)		
% movement on glass, aluminum	±25%	ASTM C792
Weathering and UV resistance	Excellent	ASTM C793
		ASTM C794
Staining	None	ASTM C510

* Typical properties are for information only, not for purposes of specification.

Health precautions

- During application and cure, product forms and releases acetic acid, a skin, eye and respiratory-tract irritant. Avoid inhalation of vapors. Use only in well-ventilated areas. For exposure limits, see MSDS. If affected, remove to fresh air.
- Avoid skin and eye contact. Wear protective gloves and eye protection.
- Remove contact lenses before using product. After use, do not handle contact lenses until all product is cleaned from fingertips, nails, and cuticles. Residual product can remain on fingers for several days, transfer to contact lenses, and cause eye irritation. For eye contact, immediately flush eyes with water for 15 minutes and get medical attention.
- In case of skin contact, remove product from skin with dry cloth and wash with soap and water.
- If ingested, get medical attention.
- KEEP OUT OF REACH OF CHILDREN.

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

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 the 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 of 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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