



Flexiprene® 1000

One-part Urethane Sealant

Product description

Flexiprene 1000 is a one-part, moisture-cure, environmentally friendly, polyurethane sealant that cures rapidly to a durable, medium-modulus, flexible, weatherproof sealant. The cured sealant adheres well to most common substrates such as masonry, concrete, glass and aluminum without priming and shows excellent adhesion to most types of plastic.

Basic uses

Flexiprene 1000 can be used for exterior and interior caulking the perimeters of frame openings; expansion, control and isolation joints; coping and coping-to-facade joints; cornice and wash joints; panels; poured-in-place; tilt-up; underside of precast planks; steps and risers; top of non-loadbearing walls; glazing, etc. It is also suitable for various manufacturing uses, such as production of travel trailers and mobile homes, extruded PVC windows and doors, and many other OEM applications.

Benefits

- Contains no TDI (toluene diisocyanate) or VOC (volatile organic solvents).
- Excellent adhesion to wide range of substrates.
- Excellent weatherability and durability.
- Low odor.

Application limitations

- Do not apply over damp or contaminated surfaces or in hot, humid weather conditions as the sealant will bubble or foam if applied during these conditions.
- Do not apply to absorptive surfaces such as marble, limestone, or granite without prior testing for discoloration or staining.
- Use only at temperatures of 40°F (4°C) and rising.
- Maximum joint width is 1-1/2" (38 mm).

Colors

Limestone. 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-US-gallon (7.6-liter) pails, 5-US-gallon (18.9-liter) pails and 55-US-gallon (208-liter) drums on special order.

Applicable standards

Flexiprene 1000 meets or exceeds the requirements of Federal Specification TT-S-00230C, Type II, Class A; ASTM C920-87 Type S, Grade NS, Class 25, use NT, G, M, A, and O; AAMA 802.3 and 805.2; CAN/CGSB 19.13-M87.

Installation

Joint design: The width of the joint should be a minimum of 4 times the anticipated movement. In joints up to 1/2" (12 mm) wide, the depth of the sealant should be equal to the width, but not less than 1/4" (6 mm). In joints wider than 1/2" (12 mm), the depth should be maintained at 1/2" (12 mm). Maximum joint width is 1-1/2" (38 mm).

For butt joints, see PSI's Joint Design Chart for recommended joint designs for specific building materials. Lap shear joints should have a width of at least twice the anticipated movement.

Surface preparation: Joints to receive sealant must be sound, smooth, uniform in dimensions and free from defects and foreign materials. They must also be clean, dry, free of frost and all contaminants, such as waterproofing sealers, curing compounds, coatings, etc. To test adhesion, apply a sealant bead and allow to cure thoroughly. Then pull one end of the bead to test adhesive strength.

Priming: Flexiprene 1000 has excellent adhesion to most common firm and uncontaminated materials. In some applications it may be prudent to use a primer on substrates such as concrete which are frequently wet, friable or sandy, and some plastics. For porous surfaces, PSI-591 Primer is recommended. The primer should be allowed to dry for about 2 hours before applying sealant. For non-porous surfaces, PSI-590 Primer is recommended. Sealant can be applied after a 15-minute drying time. Primer should be applied

only to clean, dry surfaces prior to installation of backer rod, bond breaker tape, and sealant and should be kept within the confines of the joint to avoid staining adjacent surfaces. See data sheets and SDS for PSI-590 and PSI-591 Primers for more detailed information.

PSI's laboratory will conduct adhesion tests on submitted substrates and provide a written report.

Backup material: The purpose of backup material is to regulate the depth of the joint; to provide a surface against which the sealant is compressed when tooled, thus promoting better adhesion to the side walls; and to provide a non-adhering back surface, precluding the possibility of a three-sided joint. Where backup material is not necessary or where a type is used that does not have release properties, a bond breaker tape should be used.

Closed cell polyethylene foam backup material is recommended. It should not be twisted, punctured or excessively stretched during installation, nor should it be compressed more than 50% of its original diameter. Open cell backer rod is compatible with all PSI sealants as long as it

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.
- Avoid skin and eye contact. Wear protective gloves and eye protection. Contact lens wearers should practice proper precautions.
- If ingested, get medical attention..
- Keep away from heat and flame.
- KEEP OUT OF REACH OF CHILDREN.

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

remains dry.

Tooling: In vertical and horizontal joints, tooling is absolutely necessary to aid contact with the substrate, eliminate air bubbles and give a highly desirable concave appearance.

Cleaning: Immediately remove excess sealant and smears adjacent to joints with xylene as work progresses. For equipment cleanup, use xylene or its equivalent. Solvents are flammable. Keep away from sparks, flames, excessively

Performance Data*

Properties	Results	Test Methods
Uncured Properties		
Skin-over time	60 minutes	ASTM C679
Cure through time, 1/8" (3 mm) bead	24 hours	PSI S204
Flow, sag or slump		
Channel, 125K, 4 hr.	0	ASTM C639
Boeing jig	<0.1 in (<3 mm)	MIL-A-46106B
VOC content	.03 lb/gal (3.6 g/L)	
Specific gravity	1.57	
Application rate - 1/8" (3 mm) orifice, 30 psi (0.2 MPa), 75°F (24°C)	35 g/min.	TT-S-00230C
Cured Physical Properties		
Hardness, Shore A	30	ASTM C661
Tensile strength	175 psi (1.2 MPa)	ASTM D412
Ultimate elongation	600%	ASTM D412
Service temperature, cured bead	-40 to +180°F (-40 to +82°C)	PSI S406
Adhesion-in-peel on glass, concrete, PVC, steel and aluminum	40 pli (70 N/cm)	ASTM C794
Cured Construction Properties		
Weight loss	5% max.	ASTM C792
Cracking and chalking after heat aging	Pass	
Modulus, 100%	70 psi (0.5 MPa)	ASTM D412
Durability (bond and cohesion)		
movement on glass, aluminum and concrete	±25%	ASTM C719
Staining (see "Application Limitations")	None	ASTM C510

* 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.

high temperatures or other ignition sources. Refer to manufacturer's SDS for proper safe-handling precautions.

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 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 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.

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