



Sili-Thane® 803

Elastomeric Adhesive/Sealant

Product description

Sili-Thane 803 is a low odor, one-part, gun-grade, moisture-curing, silyl-terminated polyether (STPE) sealant. It has been specifically designed for a wide range of applications, including dynamically moving joints, bonding dissimilar materials, and sealing joints with varying coefficients of expansion. It cures to a medium-modulus rubber with extraordinary adhesion capable of accommodating joint movement of $\pm 25\%$ of the original joint width. In contrast to urethane sealants, Sili-Thane 803 will not foam or bubble when exposed to moist substrates or high humidity conditions during cure.

Basic uses

Use Sili-Thane 803 for interior and exterior perimeter caulking of frame openings; expansion control and isolation joints; coping and coping-to-facade joints; cornice and wash joints; poured-in-place; panels; tilt-up; underside of precast planks; top of non-loadbearing walls; and steps and risers. Use it also for flashing, joint seams, and other roofing applications; ventilation systems; non-structural glazing; etc. Sili-Thane 803 is also suitable for manufacturing uses, such as building extruded PVC windows and doors, travel trailers, mobile homes, and many other OEM applications.

Sili-Thane 803 has been tested and found to have excellent adhesion to unprimed aluminum, acrylic-coated aluminum, brass, steel, stainless steel, tin, concrete, mortar, granite, slate, glass, ceramic tile, fiberglass, ABS, PVC, Nylon 66, polyester, lauan wood and plywood.

Sili-Thane 803 has been tested and found to have adhesive/cohesive failure-in-peel to unprimed polystyrene, polycarbonate and acrylic.

Benefits

- Superior UV resistance; does not yellow, crack, craze or chalk.
- Very low odor for interior or exterior use.
- Exceptional adhesion to wet or dry surfaces; good underwater adhesion to non-porous surfaces.
- Solvent- and isocyanate-free; low VOCs.
- No shrinkage.

- Minimal dirt pick-up.
- Non-gassing; will not foam or bubble.
- Non-corrosive.
- Paintable after cure.
- Gunnable at cold temperatures.
- Long life (20+ years).

Application limitations

- Should not be used for structural or butt glazing, nor in expansion joints less than 1/4" (6 mm) in width or depth.
- Not recommended for use in water immersion applications on porous substrates.
- Not for use on absorptive surfaces such as marble, limestone or granite without prior testing for discoloration or staining. Testing has shown that Sili-Thane 803 is less likely to cause staining than silicones or urethanes.
- Any paint to be used should be tested on the sealant before using.
- Not for use in any application to be immersed in organic solvents.
- For applications on glass where the sealant is exposed to strong UV, a primer is required.

Colors

White, Gray, Limestone, Black. Custom colors available; minimum order quantities apply.

Packaging

Available in 10.3 fl. oz. (305 ml) polyethylene cartridges, 12 cartridges per carton. Pail and drum packaging available.

Applicable standards

Sili-Thane 803 meets or exceeds the requirements of Federal Specification TT-S-00230C, Type II, Class A; ASTM C920, Type S, Grade NS, Class 25, Use NT, G, M, A, and O; CAN/CGSB 19.13-M87. Sili-Thane 803 complies with Southern Coast Air Quality Management District (SCAQMD) Rule 1168 for adhesives and sealants.

Installation

Joint design: The width of the joint should be a minimum of 4 times the calculated joint movement. Minimum allowable joint width or depth is

1/4" (6mm). In joints up to 1/2" (12 mm) wide, sealant depth should be equal to the width. In joints wider than 1/2" (12 mm), the depth should be maintained at 1/2" (12 mm). Joints should not exceed 1/2" (12 mm) deep and 1" (25 mm) wide.

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 clean, sound, dry, smooth, uniform in dimensions, and free from defects, frost and all contaminants, such as waterproofing sealers, curing compounds, coatings, etc. To test adhesion, apply a bead of sealant and allow to cure thoroughly. Then pull one end of the bead to test adhesive strength. Protecting the top joint edges with masking tape will help make a nicer looking job.

Priming: Sili-Thane 803 has excellent adhesion to most common, firm, uncontaminated materials. In some applications it may be prudent to use a primer; for example, concrete that is friable, frequently wet or sandy, and some plastics. For primer recommendations, contact PSI's technical services department.

Health precautions

Colors White, Gray, and Limestone of this product are not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Additional hazards for BLACK Color only:



Danger

May cause cancer.

Refer to Safety Data Sheet (SDS) for complete health and safety information.

Backup material: The purpose of backup material is to regulate the joint depth; 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% its original diameter. Open cell backer rod is compatible with all PSI sealants as long as it remains dry.

Application: For adhesive applications, apply

Performance Data*		
Properties	Results	Test Methods
Uncured Properties		
Skin-over time	30 minutes (approximate)	ASTM C679
Cure time, 1/8" (3 mm) bead	<24 hours	
Sag	<0.1 in (<3 mm)	ASTM C2202
VOC content	0.15 lb/gal (18 g/L)	
Density	14 lb/gal (1.7 g/cm ³)	
Extrusion rate @ 40 psi, 1/8" (3 mm) orifice	>70 g/min.	TT-S-000230C
<i>Cured properties below at 7 days, 70°F (21°C) and 50% RH</i>		
Cured Properties		
Hardness, Shore A	35	ASTM C661
Tensile at break	180 psi (1.24 MPa)	ASTM D412
Tensile @ 100% elongation	80 psi (0.55 MPa)	ASTM D412
Elongation at break	450%	ASTM D412
Service temperature	-40 to +195°F (-40 to +90°C)	
Peel to unprimed concrete, aluminum and glass	15 pli (26 N/cm), 100 coh.	ASTM C794
Lap shear on aluminum	150 coh.	ASTM D2002
On steel	150 coh.	
Cured Construction Properties		
Durability (bond & cohesion)		
joint movement on glass, aluminum and concrete	±25%	ASTM C920
Sunshine weatherometer, 2000 hrs.	No appearance change	
* Typical properties are for information only, not for purposes of specification. The data above represents product		

sealant and press surfaces together firmly. For sealant applications, install backing material, apply sealant, and tool surface for maximum surface contact. Approximate skin-over time is 30 minutes. Air temperature and humidity at time of application has a direct influence on work life and cure speed.

Cleaning: Immediately wipe away excess sealant and smears with mineral spirits. For equipment cleanup, use mineral spirits or an equivalent solvent. Consult manufacturer's SDS for safety precautions prior to using solvents.

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 prepara-

tion 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. 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.

Contact Details

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