

LIQUIDWELD™ 309

One Component, Non-Slumping/Non-Sagging Hybrid Silyl-Polyether Adhesive & Sealant

Product Description

LIQUIDWELD 309 is a one component, high modulus, hybrid silyl-terminated polyether adhesive and sealant that cures at room temperature when exposed to atmospheric moisture. This material has a low VOC content, is non-corrosive, and is UV & color stable. It offers fungus and mildew resistance and provides tenacious adhesion to most materials including pvc, concrete, glass, aluminum, steel, painted surfaces, wood, brick, stone, ceramics, and many rigid plastics. The cured adhesive exhibits excellent resistance to outdoor weathering in all weather conditions, is waterproof, and meets today's Green Building Standards

Both low and medium modulus variations on this formulation are available featuring greater flexibility (LIQUIDWELD 306 and 307) and lower Shore Hardness values. See those separate technical datasheets for more information.

Key Features

- Will not shrink or crack – provides permanent tough adhesion
- Temperature Resistant from -76°F to +230°F (-60°C to 110°C)
- Superior weatherability
- RoHS and REACH Compliant and meets today's Green Building Standards

Typical Properties

UNCURED PROPERTIES	
Appearance	Black, Gray, Clear, White, Tan, or custom color
Viscosity	Thixotropic Paste
Extrusion Rate, 1/8" orifice at 50 psi	350 grams / minute
Specific Gravity	1.50
Volatile Organic Content	30 grams / liter
Skin Over Time at 25°C*	30 minutes
Tack Over Time at 25°C *	45 minutes
Cure Rate at 25°C & 50% Relative humidity	1/8" per 24 hours
Full Cure:	1- days at room temperature and with an ambient humidity of 30% - 80%. Sections thicker than 1/2" may take longer to cure.
Alternate Cure:	4-8 hours at 60°C in an oven with moisture vapor lines or a dish of water to provide humidity.

*Curing tested at 25C and 50% relative humidity in a 1/8" thickness. Ambient temperature, humidity levels, and product thickness will affect the cure rate.

CURED PROPERTIES:	
Tensile Strength	470 psi
Tensile Elongation	>100%
Shore A Hardness	70A
Movement capability	± 15%
Accelerated Weathering	No change after 2,000 hours in QUV weatherometer
Dielectric Strength	450 Volts/mil

Dielectric Constant at 100 Hz	3.1 kHz
Dissipation Factor	0.0018
Volume Resistivity	1 x 10 ¹³ ohm-cm
Temperature Range of Use, continuous or cyclical	-76°F to +230°F (-60°C to 110°C)
Maximum Short-Term Temperature Exposure Limit	250°F (121°C)

Note: Not for Product Specification Purposes – these are typical values and based on 7 days curing with approximately 50% relative humidity. Please contact SP&S for assistance in writing purchasing specifications.

Curing Characteristics

Under normal room temperature conditions (23°C - 27°C) and humidity (30% - 80% relative humidity) and in a thickness of 1/8" or less, the LIQUIDWELD 309 will develop a skin in about 30 minutes and cure to approximately 90% of its final strength in 18 – 24 hours. Full strength will typically develop within 1 - 2 days. Because this adhesive cures through exposure to moisture and under ambient temperature conditions, a change in curing speed may be seen if the temperature or humidity changes.

Application:

LIQUIDWELD 309 is typically applied directly from its original tube, syringe, or cartridge. Once dispensed it may be spread using a spatula or other tools to achieve the desired bond-line or seal. For most surfaces, including most metal, plastics, glass, and rubbers, priming will not be necessary. However, if insufficient bond strength is observed or curing inhibition is witnessed a primer such as our Primax SF may be useful to prime and seal the surface prior to application of the LIQUIDWELD 309.

The LIQUIDWELD 309, and many other adhesives, will also find it difficult to bond to surfaces that bleed oils, plasticizers, or solvents as these can prevent adhesion to the surfaces. Finally, please note that the cured LIQUIDWELD 309 is not intended for structural bonding.

Shelf-life and Storage

LIQUIDWELD 309 should be stored in their original, sealed containers in an environment that does not exceed 38°C (100°F). Under these conditions the expected shelf-life of the material is a minimum of 12 months from Date of Shipment. Storage at 4°C – 8°C, in the tightly closed original containers, may prolong the shelf-life to 18 months or longer.

FIRST AID

In case of contact:

Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

IMPORTANT: The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

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