

Sikasil® WS-290

Ultra low modulus, neutral cure silicone sealant



Description	Sikasil WS-290 is a one-part, neutral-curing, ultra low-modulus, low to no bleed silicone sealant that cures to a durable, flexible building sealant. Sikasil WS-290 performs exceptionally well under dynamic conditions due to its ultra-low modulus, high extension/compression, recovery properties and strong adhesion to most building materials. Sikasil WS-290 accommodates long-term movement of +100-50% in properly designed joints and is particularly well suited for use in Exterior Insulation Finish Systems (EIFS). Meets the requirements of ASTM C-920, Type S, Grade NS, Class 100/50, Use NT, M, G, A, O; TT-S-00230C, Type II, Class A; TT-S-001543A, Class A; CAN/CGSB-1 9.1 3-M87, AAMA 808.3
Where to Use	<ul style="list-style-type: none"> ■ Sealing expansion and control joints in precast concrete panels and metal curtain walls. ■ As a weatherseal in glass to glass butt joint glazing. ■ As a weatherseal in both conventional glazing and structural glazing* applications, including cap, toe and heel beads. ■ Exterior Insulation Finish Systems (EIFS) and numerous other areas requiring a high-performance sealant.
Advantages	<ul style="list-style-type: none"> ■ Unaffected by most atmospheric conditions ■ Non-staining ■ Joint movement +100/-50% ■ Excellent adhesion ■ One-component ■ Excellent gunnability in all temperatures ■ Ultra low Modulus
Packaging	10.1 fl.oz. (.300 ml) plastic cartridges, 20 fl.oz. (.592 ml) sausages, 2 gal. (7.57 L) pails

Typical Data

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life	12 months in original unopened cartridges.
Storage Conditions	Store in unopened containers at temperatures lower than 80°F (27°C).
VOC Content	29 g/l

Uncured Properties at 77°F (25°C), 50% R.H.

Tool Time (Initial Skin)	30 minutes, (higher temperatures and/or humidity will shorten this time)
Cure Time	7-14 days
Flow, Sag, Slump	none
Full Adhesion	7-14 days
Tack Free Time	50 minutes

Cured Properties after 7 days at 77°F (25°C), 50% R.H.

Dynamic Movement Capability (ASTM C-719)	+100%, -50%
Elongation (ASTM D-412)	1000%
Shore A Hardness (ASTM C-661)	12
Ozone/UV Resistance (weatherometer)	Excellent
Peel Strength (ASTM C-794)	20-40 pli
Staining, Color Change	none
Staining on Porous Substrates (ASTM C1248)	no staining
100% Modulus (ASTM D-412)	42 psi (0.29 MPa)
Service Temperature Range	-80°F to 350°F
Tensile Strength (ASTM D-412)	165 psi (1.14 MPa)



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How to Use

Surface Preparation

The substrate must be clean, dry, frost free, sound and free of any oils, greases or incompatible sealers, paints or coatings that may interfere with adhesion.

POROUS SUBSTRATES – clean by mechanical methods to expose a sound surface free of contamination and laitance.

NON-POROUS SUBSTRATES – for cleaning non-porous substrates, use two rag wipe method using xylene or an approved commercial solvent. Allow solvent to evaporate prior to sealant application.

Sikasil WS-290 is designed to obtain adhesion without the use of a primer; however, certain substrates may require a primer. Test by applying the sealant and/or primer sealant combination to confirm results and proposed application methods. Refer to Technical Data Sheet for Sikasil Primer 2100 and contact Technical Service for additional information.

Application

The number of joints and the joint width should be designed for a maximum of +100 and -50% movement of joint width at time of installation. The depth of the sealant should be 1/2 the width of the joint. The maximum depth is 1/2 inch (13mm) and the minimum is 1/4 inch (6mm). To control joint depth, use closed cell polyethylene, non-gassing polyolefin or open cell polyurethane backer rod. If joint depth does not allow for backer rod, use polyethylene bond breaker tape to prevent three-sided adhesion. Closed cell backer rod should be 25% larger than joint width; do not compress more than 40%. Open cell should be compressed 40%. Do not use open cell rod in horizontal on grade joint or with E.I.F.S. When installing during time of large temperature swings such as spring or fall, and in joints designed for movement greater than $\pm 25\%$, be aware of the significant joint movement before cure, may cause aesthetic issues such as ripples in the sealant surface. Performance will not be affected.

Ready to use, apply using professional caulking gun. Do not open product container until preparation work has been completed. Apply sealant using consistent, positive pressure to force sealant into the joint. Tool sealant to create a concave joint shape and maximum adhesion. Dry tooling is recommended. DO NOT use soapy water or other liquids when tooling.

Tooling & Finishing

All joints should be masked to ensure a neat appearance and prevent sealant applied outside the joint. Place nozzle of the gun into bottom of joint and fill entire joint making complete contact with joint sides. Keep the nozzle in the sealant, continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Tool the sealant slightly concave using dry-tooling techniques. Do not tool with soap or detergent and water solutions.

Limitations

- Do not allow sealant to come in contact with solvent during cure.
- Do not allow sealant to come in contact with curing polyurethane sealants during cure.
- Not intended for immersion.
- Sealant may be applied below freezing temperatures if substrates are completely dry, frost free and clean. Contact Technical Service for more information.
- Do not apply when substrate temperatures are below -20°F or above 130°F.
- Not intended for structural glazing.
- Not recommended for horizontal vehicular traffic.
- Do not apply to surfaces that will be painted as sealant surface will not hold paint.
- Do not apply to damp or wet substrates.
- Lower temperature and humidity will extend tack free and cure rates.
- Allow treated wood to age six months before application.
- Brass and copper may be discolored. Test apply prior to application.
- Test sensitive substrates, such as mirror backings, for compatibility before use.

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KEEP CONTAINER TIGHTLY CLOSED. KEEP OUT OF REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. FOR PROFESSIONAL USE ONLY.

For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety related data. Read the current actual Safety Data Sheet before using the product. In case of emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Product Data Sheet, product label and Safety Data Sheet which are available online at <http://usa.sika.com/> or by calling Sika's Technical Service Department at 800-933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.

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