

PRODUCT DATA SHEET

Sikasil® WS-290

Ultra low modulus, neutral cure silicone sealant

PRODUCT 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-19.13-M87.

USES

Sikasil® WS-290 silicone sealant has been specifically designed:

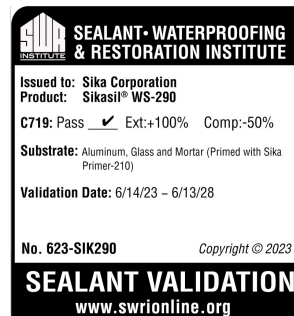
- For sealing expansion and control joints in precast concrete panels and metal curtain walls.
- As a weatherseal in glass to glass butt joint glazing.
- As a weatherseal in nonstructural glazing applications, including cap, toe and heel beads.
- Exterior Insulation Finish Systems (EIFS) and numerous other areas requiring a high-performance sealant.

CHARACTERISTICS / ADVANTAGES

- Ultra low modulus
- Unaffected by most atmospheric conditions
- Excellent resistance to UV and Ozone exposure
- Non-staining to most porous substrates
- Joint movement +100/-50 %
- Excellent adhesion to most substrates and surfaces
- One-component, moisture-curing
- Excellent gunnability in all temperatures

APPROVALS / STANDARDS

- Meets the requirements of ASTM C920, Type S, Grade NS, Class 100/50, Use NT, M, G, A, O
- SWRI validated acc. to ASTM C719 (No. 623-SIK290)
- Tested acc. to ASTM C1248 for staining on porous substrates
- Federal specification TT-S-00230C, Type II, Class A
- Canadian Standard CAN/CGSB 19.13-M87



PRODUCT INFORMATION

Packaging	10 fl.oz. (295 ml) cartridge, 20 fl.oz. (600 ml) sausages, 2 gal. pails (7.6 L)
Shelf Life	12 months in original unopened containers
Storage Conditions	Store in unopened containers at temperatures lower than 80 °F (27 °C).
Volatile organic compound (VOC) content	29 g/l

TECHNICAL INFORMATION

Shore A Hardness	12	(7 days at 77 °F (25 °C), 50 % R.H.) (ASTM C-661)
Tensile Strength	165 psi (1.14 MPa)	(7 days at 77 °F (25 °C), 50 % R.H.) (ASTM D-412)
Tensile stress at specified elongation	42 psi (0.29 MPa) at 100 %	(7 days at 77 °F (25 °C), 50 % R.H.) (ASTM D-412)
Elongation at Break	1000 %	(7 days at 77 °F (25 °C), 50 % R.H.) (ASTM D-412)
Movement Capability	+100 % / -50 %	(7 days at 77 °F (25 °C), 50 % R.H.) (ASTM C-719)
Adhesion in peel	20–40 pli	(7 days at 77 °F (25 °C), 50 % R.H.) (ASTM C-794)
Service Temperature	-80 °F to +350 °F (-62 °C to +177 °C)	
UV Exposure	Excellent	(7 days at 77 °F (25 °C), 50 % R.H.) (weatherometer)
Color	Staining, Color Change	None (ASTM C-510)
	Staining on Porous Substrates	No staining (ASTM C-1248)

APPLICATION INFORMATION

Coverage	10 oz (295 ml) Cartridge: Yield in Linear feet			
	Width/Depth	1/4"	3/8"	1/2"
	1/4"	24.1		
	3/8"	16.0	10.7	
	1/2"	12.0	8.0	6.0
	3/4"	8.0	5.3	4.0
	1"			3.0
	1.25"			2.4
	1.5"			2.0
	20 oz (600 ml) Sausage: Yield in Linear feet			
	Width/Depth	1/4"	3/8"	1/2"
	1/4"	48.1		
	3/8"	32.1	21.4	
	1/2"	24.1	16.0	12.0
	3/4"	16.0	10.7	8.0
	1"			6.0
	1.25"			4.8
	1.5"			4.0

1 gallon: Yield in Linear feet

Width/Depth	1/4"	3/8"	1/2"
1/4"	307.9		
3/8"	205.3	136.8	
1/2"	153.9	102.6	77.0
3/4"	102.6	68.4	51.3
1"			38.5
1.25"			30.8
1.5"			25.7

Sag Flow	none		
Cure Time	Tack Free Time	50 min.	(at 77 °F (25 °C) and 50 % R.H.)
	Cure Time	7-14 days	(ASTM C-679)
	Full Adhesion	7-14 days	
Tack Free Time	50 minutes		
Tooling Time	30 minutes, (higher temperatures and/or humidity will shorten this time)		

BASIS OF PRODUCT 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.

LIMITATIONS

- Not intended for structural sealant applications.
- 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 (-29 °C) or above 130 °F (54 °C).
- 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.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of

chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS**SUBSTRATE 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.

Priming

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 METHOD / TOOLS

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 ± 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.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

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

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service

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Product Data Sheet

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Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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