

Sikasil[®]-N Plus US

Neutral Cure Silicone Assembly Sealant

Technical Product Data (typical values)

Chemical Base	1-C silicone	
	Pigmented	Translucent
Cure mechanism	Moisture	Moisture
Cure type	Oxime	Oxime
Density (uncured)	11.6 lbs./gal.	8.4 lb/gal
VOC	37 g/L (0.31 lb./gal.)	36 g/L, 0.30 lbs/gal
Non-sag properties (ASTM C-639)	Non-sag	Non-sag
Slump	Nil	Nil
Skin Time (MNA Method)	15 minutes	20 minutes
Tack free time ² (ASTM D-679)	30 minutes	30 minutes
Extrusion Rate g/min (ASTM C-1183 modified) 1/8" orifice @ 90 psi	230	360
Curing speed (MNA Method)	1/8 inch 24 hours	1/8 inch 24 hours
Shrinkage	Nil	Nil
Shore A-hardness (ASTM C-661)	30 ± 5	15 ± 5
Tensile strength psi (mpa) (ASTM D-412)	300 psi (2.07)	190 psi (1.31)
Elongation at break (ASTM D-412)	430%	430 %
Bond durability - glass/ aluminum / concrete (ASTM-C793)	± 25 %	± 25 %
Movement capability (ASTM C-719)	± 25 %	± 25 %
Application Temperature ¹ product only	-35° to 140°F (-32 to 40°C)	
Service temperature	- 80° to 350°F (-62° to 176°C)	
Weathering Resistance	Excellent	
Shelf life (storage below 90°F (32°C))	Cartridge and Unipac	12 months
	Drum and Pail	12 months
		12 months

¹ Substrate and Air Temperature must be between 40° - 105°F (5 - 40°C). See "Application" Section for details.

² 77°F (25°C) / 50% r.h.

Description

Sikasil[®]-N Plus US is a general purpose, one-component, non-sag, elastomeric, 100% RTV neutral cure silicone sealant. Meets the requirements of ASTM C-920, Type S, Grade NS, Class 25, Use NT, T, M, G, A, O; TT-S-00230C, Type II, Class A; TT-S-001543A, Class A; CAN/CGSB-19.13-M87, AAMA 802.3 Type II, AAMA 803.3, AAMA 805.2, AAMA 808.3 and California Air Resources Board 2003 requirements for Volatile Organic Compound content.

Product Benefits

- Extremely long service life
- Excellent flexibility for dynamic joint movement
- Bonds to most substrates without priming
- Ready to use, no mixing required
- AAMA Certified component for window backbedding / glazing
- All season ease of application
- Fungicide additive for mildew resistance

Areas of Application

- Window and door fabrication
- Conventional glazing
- Back bedding and cap, toe and heel beads
- Perimeter sealing of windows, doors and skylights
- Expansion and control joints
- HVAC, White goods assembly
- Kitchen and bath countertops/solid surfaces, Sanitary Seals
- Marine cabins
- Truck/trailer/auto/RV

Typical Substrates

- Glass, aluminum, tile, fiberglass, plastic, ceramic, masonry, concrete, brick and wood

Industry



Coverage

Cartridge: Approximately 12.2 linear ft. (3.7 lin. m) for ½ x ¼ in (13 x 6 mm) bead.

Cure Mechanism

Sikasil®-N Plus US cures by reaction with atmospheric moisture. At low temperatures the water content of the air is lower and the curing reaction proceeds more slowly (see diagram below).

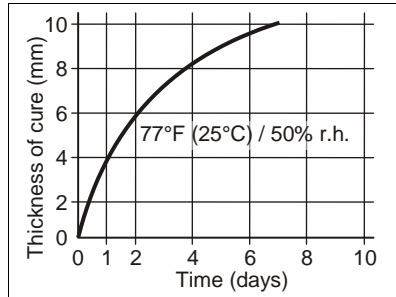


Diagram 1: Curing speed Sikasil®-N Plus US

Chemical Resistance

Sikasil®-N Plus US is resistant to UV radiation, fresh water, seawater and proprietary aqueous cleaning agents; temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils; no resistance to organic acids, concentrated mineral acids, caustic solutions and solvents. The above information is offered for general guidance only. Advice on specific applications will be given on request. Contact Technical Service at (tsmh@sika-corp.com).

Method of Application

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.

NON-POROUS SUBSTRATES – for cleaning non-porous substrates, use two cloth cleaning method using isopropyl alcohol, xylene or an approved, clean, pure non-diluted industrial grade solvent.. Allow solvent to evaporate completely prior to sealant application. Strictly follow solvent manufacturer's instructions for safe handling.

PRIMING Sikasil®-N Plus US 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 Product Data Sheet for primers Sikasil® 2100, or Sikasil® 2300 available at www.sikausa.com or by contacting Technical Service for additional information and recommendations at (tsmh@sika-corp.com).

Application

In all cases, make sure the joint design is correct. Proper joint design minimizes stresses on the sealant. Use masking tape if desired for areas adjacent to the joint to be sealed to prevent surface contamination. Apply sealant to dry, clean surfaces. An air operated or hand operated cartridge gun may be used. Do not break cartridge seal until just before use. Surfaces should be dried before the sealant is applied. Normally sealant skins in 8 minutes, dries to touch in 1 hour, and bonds in 24 hours.

This product is suitable for bulk dispensing straight from drums or pails by means of a pneumatic or hydraulic pump system. For recommendations on selecting and setting up a suitable pump system please contact our Technical Service Department at (tsmh@sika-corp.com).

Expansion Joint

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 ensure maximum adhesion. Dry tooling is recommended.

Adhesive Joint

Apply using professional caulking gun, dispensing equipment or trowel. Use sufficient quantity of adhesive to one or both substrates to provide designed contact area. Surfaces may be moved up to one hour after application without loss of adhesive strength.

Tooling and finishing

Tool joint, if necessary, and remove masking tape. Tooling should be completed in one continuous stroke. Tool immediately after sealant is applied and before a skin begins to form. Dry tool - DO NOT use soap, water or oil as a tooling aid. Remove masking tape immediately after tooling is completed. Complete tooling of product within 5 minutes of sealant application.

Removal

Uncured sealant may be removed from tools and equipment with solvents such as isopropyl alcohol or xylene, if cleaned before sealant has begun to cure. Strictly follow solvent manufacturer's instructions for use and warning statements. Once cured, the material can only be removed mechanically. Hands and exposed skin should be washed with soap and water immediately after use. Do not use solvents on skin!

Overpainting

Sikasil®-N Plus US cannot be overpainted.

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.
- Not intended for structural glazing.
- Sealant may be applied below freezing temperatures if substrates are completely dry, frost free and clean. Contact Technical Service for more information.
- Not recommended for horizontal traffic.
- Not recommended for absorptive surfaces such as natural stone, particularly limestone or marble where staining may occur. Test before use.
- Do not apply to surfaces that will be painted.
- Do not apply to substrates that bleed oil, plasticizers or solvent.
- 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 prior to application.
- Test sensitive substrates, such as mirror backings for compatibility before use.

WARNING: IRRITANT, SENSITIZER.

Contains Methyl ethyl ketoxime (CAS: 96-29-7), Oximino Silane (Trade Secret). Direct eye contact may cause irritation. Eye contact may cause conjunctivitis, corneal damage, or severe chemical burns. May cause skin irritation and sensitization. May be absorbed through the skin. May cause irritation to respiratory system. May cause drowsiness. May be harmful if swallowed. If heated, silicones can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer, and an irritant

Further information available at:
www.sikausa.com

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to the eyes, nose, throat, skin, and digestive system. Product contains oximes, possible skin sensitizers.

HMIS

Health	*1
Flammability	1
Reactivity	0
Personal Protection	C

FIRST AID

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, remove from skin and flush with water for 15 minutes. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. Get medical attention if irritation develops or ill effects persist. Treat according to persons condition and specifics of exposure.

Further Information

Copies of the following publications are available on our website www.sikausa.com or by contacting (tsmh@sika-corp.com)

- Material Safety Data Sheet
- Product Data Sheet

In case of emergency call:

Chemrec: 800-424-9300
International: 703-527-3887

For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety related data. It is highly recommended to read the actual Material Safety Data Sheet before using the product.

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

Packaging Information

Cartridge	10 fl. oz. (295ml)
Pail	4.5 gal (17 L) in a 5 gal pail
Drum	52 gal (197 L) in 55 gal drum

Value Basis

Further information available at:
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All technical data stated on this Product Data Sheet are based on the results of laboratory tests only. Actual measured data in the field may vary due to site specific conditions which are not known to Sika and beyond our control.

Handling and Storage

Use with adequate ventilation. Product evolves Methyl ethyl ketoxime (MEKO) and methanol when exposed to water or humid air. Provide adequate ventilation to control MEKO within exposure guidelines. Keep container closed and store away from water or moisture or oxidizing materials.

Storage: When stored in the original, unopened containers at or below 90°F (32°C), shelf life is one year. A product skin may form in pails and drums, remove prior to use.

Clean Up

Observe personal protective equipment recommendations described in MSDS. Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state and federal waste management regulations. Wipe up and contain for disposal. Final cleaning may require use of steam, solvents, or detergents.

Limited Material Warranty

Manufacturer / Distributor warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NO OTHER WARRANTIES IMPLIED OR EXPRESS SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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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 Material Safety Data Sheet which are available at www.sikausa.com. 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 Material Safety Data Sheet prior to product use.

