

PRODUCT DATA SHEET

Sikaflex® NP 1

(formerly MSeal NP 1)

ONE-COMPONENT, ACOUSTIC/SOUND DAMPING, ELASTOMERIC, GUN-GRADE POLYURETHANE SEALANT

PRODUCT DESCRIPTION

Sikaflex® NP 1 is a one-component, high-performance, non-priming, gun-grade, elastomeric polyurethane sealant. It requires no mixing and typically requires no priming to bond to many materials, including concrete and masonry. Used as an acoustical sealant, Sikaflex® NP 1 reduces sound transmission in partition systems to support high STC values by sealing spaces around cut-outs and at perimeters of partitions. The sealant cures to a tough rubber to form a long-lasting acoustical seal.

USES

- Interior and exterior
- Above and below grade
- Immersed in water
- Expansion joints
- Panel walls
- Precast units
- Aluminum and wood window frames
- Roofing
- Fascia
- Parapets
- Vinyl siding
- Storefront assemblies

Substrates

- Concrete
- Masonry
- Aluminum
- Wood
- Clay & concrete roof tiles
- Stucco
- Natural stone

CHARACTERISTICS / ADVANTAGES

- One-component formula requires no mixing, helping to reduce labor costs
- Joint movement capability $\pm 35\%$ provides excellent flexibility for keeping moving joints weathertight
- Easy to gun and tool, speeding up application and making neater joints
- Available in ProPaks, reducing job site waste and lowering disposal costs
- 12 standard colors to match a wide variety of common substrates
- No primer is required for most construction materials, lowering installation costs
- Weather resistant for long-lasting weathertight seals
- Wide temperature application range makes Sikaflex® NP 1 suitable for all climates
- Compatible with non-rigid coatings and can be painted
- Superior holding power for long-lasting roof tile installation
- UL listed; Passes 4-hour, 4-inch, fire and hose stream test when used with Ultra Block or mineral wool
- Suitable for water immersion with documented performance in wet areas
- Meets VOC requirements in all 50 states
- Can adhere to green concrete up to 72 hours after pour
- Can be used as an acoustic sealant to increase system STC value
- Minimizes sound transfer and supports high STC ratings

APPROVALS / STANDARDS

- ASTM C 920, Type S, Grade NS, Class 35, Use NT, M, A, T, O* and I
 - Federal Specification TT-S- 00230C, Type II, Class A
 - Corps of Engineers CRD-C- 541, Type II, Class A
 - Canadian Specification CAN/CGSB-19.13-M87, Classification MCG-2-25-A-N, No. 81026
 - CFI accepted
 - Underwriters Laboratories Inc.® classified (fire resistance only)
 - ISO 11600-F-25LM • STC (sound transmission class)
- * Refer to substrates in Uses

PRODUCT INFORMATION

Chemical Base	Sikaflex® NP 1 is a one-component moisture-curing polyurethane.
Packaging	▪ 300 ml (10.1 fl oz) cartridges, 30 cartridges per carton, and 12 cartridges per carton ▪ 590 ml (20 fl oz) ProPaks, 20 per carton
Color	White, Off-White, Limestone, Stone, Tan, Aluminum Gray, Medium Bronze, Special Bronze, Redwood Tan, Black, and Gray. For color availability in bulk packaging, call Customer Service.
Shelf Life	Cartridges and ProPaks: 1 year when properly stored.
Storage Conditions	Store in original, unopened containers away from heat and direct sunlight. Storing at elevated temperatures will reduce the shelf life.

TECHNICAL INFORMATION

Testing	At standard conditions	25 – 30	ASTM C 661
	After heat aging (max Shore A: 50)	25	
Shrinkage	None		
Tear Strength	50 pli		ASTM D 1004
Movement Capability	±35 %		ASTM C 719
Thermal Resistance	Weight loss, after heat aging, %	3	ASTM C 792
	Cracking and chalking, after heat aging	None	

Resistance to Weathering	Passes No surface cracking	ASTM C 793 ASTM G 26
Sound Insulation	44 (dB)	ASTM E 90
Service Temperature	-40 to 180°F (-40 to 82°C)	
Adhesion in peel	30* Passes* *Primed for water immersion dictated by ASTM C 920. Concrete and aluminum primed with Sikaflex® Primer-173.	ASTM C 794 ASTM C 794 (after UV radiation through glass)
Color	Passes	ASTM C 510
Contact with water	Passes 10 weeks with movement cycling	ASTM C 1247
Elongation at break	800%	ASTM D 412

APPLICATION INFORMATION

Coverage

Linear Feet Per Gallon

Joint Width (inches) Joint Depth (inches)

	1/4	3/8	1/2
1/4	308	-	-
3/8	205	-	-
1/2	154	-	-
5/8	122	82	-
3/4	-	68	51
7/8	-	58	44
1	-	51	38
1-1/2	-	-	26
2	-	-	19
3	-	-	12

Meters Per Liter

Joint Width (MM) Joint Depth (MM)

	6	10	13
6	24.8	-	-
10	16.5	-	-
13	12.4	-	-
16	9.8	6.6	-
19	-	5.5	4.1
22	-	4.7	3.5
25	-	4.1	3.0
38	-	-	2.2
50	-	-	1.5
75	-	-	0.7

Sagging	Rheological,(sag in vertical displacement) at 120 °F (49 °C)	No sag	ASTM C 639
Pot Life	Extrudability, 3 seconds	Passes	ASTM C 603

Cure Time

The cure of Sikaflex® NP 1 varies with temperature and humidity. The following times assume 75 °F (24 °C), 50% relative humidity, and a joint ½" width by ¼" depth (13 by 6 mm).

- Skins: overnight or within 24 hours
- Full cure: approximately 1 week
- Immersion service: 21 days

Tack Free Time

Passes

ASTM C 679

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

- Do not allow uncured Sikaflex® NP 1 to come into contact with alcohol-based materials or solvents.
- Do not apply polyurethane sealants in the vicinity of uncured silicone sealants or uncured hybrids sealant.
- Sikaflex® NP 1 should not come in contact with oil-based caulking, uncured silicone sealants, polysulfides, or fillers impregnated with oil, asphalt or tar.
- Protect unopened containers from heat and direct sunlight.
- In cool or cold weather, store container at room temperature for at least 24 hours before using. When Sikaflex® NP 1 is to be used in areas subject to continuous water immersion, cure for 21 days at 70 °F (23 °C) and 50% relative humidity. Allow longer cure times at lower temperatures and humidities. Always use Sikaflex Primer 173.
- Do not apply over freshly treated wood; treated wood must have weathered for at least 6 months.
- Do not use in swimming pools or other submerged conditions where the sealant will be exposed to strong oxidizers. Avoid submerged conditions where water temperatures will exceed 120 °F (50 °C).
- Substrates such as copper, stainless steel and galvanized steel typically require the use of a primer; Sikaflex Primer 173 or Sikaflex Primer 176 is acceptable. For Kynar 500 based coatings, use P 173 only. An adhesion test is recommended for any other questionable substrate.
- Sikaflex® NP 1 is an aromatic urethane, as such it may discolor over time with UV exposure. Where maintaining a true white appearance is critical, use Sikaflex HY 150 or Sikaflex CR 195 sealants.
- Sikaflex® NP 1 can be applied below freezing temperatures only if substrates are completely dry, free of moisture and clean. Contact Technical Service for more information.
- Lower temperatures and humidities will extend curing times.
- Pursuant to accepted industry standards and practices, using rigid paints and/or coatings over flexible sealants can result in a loss of adhesion of the applied paint

and/or coating, due to the potential movement of the sealant. However, should painting and/or coating be desired it is required that the applicator of the paint and/or coating conduct on-site testing to determine compatibility and adhesion.

- Proper application is the responsibility of the user. Field visits by Sika personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.
- Not for use in glazing applications. Do not apply on glass and plastic glazing panels. In green concrete applications, sealing joints in concrete prior to 72 hours after concrete placement will impact the ability of sealant to gain adhesion. Sikaflex Primer 173 should be used as a primer in all green concrete applications. It is always recommended to conduct a mock up when applying NP 1 to green concrete.

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

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

TABLE 1
Joint Width and Sealant Depth

JOINT WIDTH, IN (MM)	SEALANT DEPTH, AT MIDPOINT, IN (MM)
¼–½ (6–13)	¼ (6)
½–¾ (13–19)	¼–3/8 (6–10)
¾–1 (19–25)	3/8–½ (10–13)
1–1½ (25–38)	½ (13)

SUBSTRATE PREPARATION

Substrates must be structurally sound, fully cured, dry, and clean. Substrates should always be free of the following: dirt, loose particles, oil, grease, asphalt, tar, paint, wax, rust, waterproofing or curing and parting

Product Data Sheet

Sikaflex® NP 1

January 2025, Version 02.02

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compounds, membrane materials, and sealant residue.

Concrete, Stone and Other Masonry

Clean by grinding, sandblasting or wire brushing to expose a sound surface free of contamination and laitance.

Wood

New and weathered wood must be clean, dry and sound. Scrape away loose paint to bare wood. Any coatings on wood must be tested to verify adhesion of sealant or to determine an appropriate primer.

Metal

Remove scale, rust and loose coatings from metal to expose a bright white surface. Any coatings on metal must be tested to verify adhesion of sealant or to determine an appropriate primer.

Joint Preparation

1. The product may be used in sealant joints designed in accordance with SWR Institute's Sealants - The Professional's Guide.
2. In optimal conditions, the depth of the sealant should be $\frac{1}{2}$ the width of the joint. The sealant joint depth (measured at the center) should always fall between the maximum depth of $\frac{1}{2}$ " and the minimum depth of $\frac{1}{4}$ ". Refer to Table 1.
3. In deep joints, the sealant depth must be controlled by closed cell backer rod or soft backer rod. Where the joint depth does not permit the use of backer rod, a bond breaker (polyethylene strip) must be used to prevent three-point bonding.
4. To maintain the recommended sealant depth, install backer rod by compressing and rolling it into the joint channel without stretching it lengthwise. Closed cell backer rod should be about $\frac{1}{8}$ " (3 mm) larger in diameter than the width of the joint to allow for compression. Soft backer rod should be approximately 25% larger in diameter than the joint width. The sealant does not adhere to it, and no separate bond breaker is required. Do not prime or puncture the backer rod.

Priming

Sikaflex® NP 1 is considered a nonpriming sealant, but special circumstances or substrates may require a primer. It is the user's responsibility to check the adhesion of the cured sealant on typical test joints at the project site before and during application. Refer to

product data sheet on Sikaflex Primer-173 or Sikaflex Primer-176, and consult Technical Service for additional information.

2. For immersion applications, Sikaflex Primer-173 must be used.
3. For green concrete applications, Sikaflex Primer-173 must be used.
4. Apply primer full strength with a brush or clean cloth. A light, uniform coating is sufficient for most surfaces. Porous surfaces require more primer; however, do not over-apply.
5. Allow primer to dry before applying Sikaflex® NP 1. Depending on temperature and humidity, primer will be tack-free in 15–120 minutes. Priming and sealing must be done on the same day.

APPLICATION

1. Sikaflex® NP 1 comes ready to use. Apply using professional grade caulking gun. Do not open cartridges, ProPaks or pails until preparatory work has been completed.
2. Fill joints from the deepest point to the surface by holding an appropriately sized nozzle against the back of the joint.
3. Dry tooling is recommended. Proper tooling results in the correct bead shape, neat joints, and optimal adhesion.
4. For roof tile applications apply a bead of Sikaflex® NP 1 sufficient in size to make a bond between two tiles on the upper surface of the down slope tile. Install the upslope tile and press into the sealant bead to ensure good contact between the sealant and both tiles.

CLEANING OF TOOLS

1. Immediately after use, clean equipment with SikaSwell®-990 or xylene. Use proper precautions when handling solvents.
2. Remove cured sealant by cutting with a sharp-edged tool.
3. Remove thin films by abrading.

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

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.

SIKA 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 the product’s shelf life. User determines suitability of product for intended use and assumes all risks. User’s and/or buyer’s sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED 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.**



Product Data Sheet
Sikaflex® NP 1
January 2025, Version 02.02
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