

PRODUCT DATA SHEET

Sikaflex® NP 2

(formerly MSeal NP 2)

Multi-component, high performance polyurethane sealant

PRODUCT DESCRIPTION

Sikaflex® NP 2 is a multi-component, highly flexible, non-priming, high performance polyurethane sealant. It has been successfully tested for joint movement of $\pm 50\%$. Sikaflex® NP 2 can be tinted to multiple colours.

WHERE TO USE

- 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
- Parking structures

CHARACTERISTICS / ADVANTAGES

- Movement capability of $\pm 50\%$ adds protection against unanticipated movement
- Weather resistant for long-lasting weathertight seals
- Easy to gun and tool to speed up application and make neater joints
- No primer required for most construction materials
- Wide temperature application range makes Sikaflex® NP 2 suitable for all climates
- UL listed; Passes 2-hour, 100 mm (4 in), fire and hose stream test when used with Ultra Block or mineral wool
- Suitable for water immersion with documented performance in wet areas
- Chemical cure allows for faster turnaround time
- Bulk packaging results in less waste
- Long pot life provides extended working time
- Formulated to withstand pedestrian and vehicular traffic
- Can be applied to green concrete 24 h after pour
- Can be applied to damp concrete 1 h after water exposure

APPROVALS / CERTIFICATES

- ASTM C920, Type M, Grade NS, Class 50, use NT, T, A, M, O* and I
- Federal Specification TT-S-00227E, Type II, Class A
- Canadian Standards Board CAN/CGSB-19.24-M90, Classification MCG-2-40-A-N, No. 81029
- Underwriters Laboratories Inc.® classified (fire resistance only)

*Refer to substrates in Uses.

PRODUCT INFORMATION

Composition / Manufacturing	Multi-component polyurethane product
Packaging	5.67 L (1.5 US gal) unit packaged in 7.57 L (2 US gal) pail
Colour	Precast Grey, Limestone, and Tint Base Tint Base: 40 standard, stocked colours available. Refer to the <i>Popular Palette for Sealants and Waterproofing</i> . Custom matching available upon request.
Shelf Life	24 months in original, unopened containers
Storage Conditions	Store in unopened containers in a cool, clean, dry area. Do not open containers until ready for use.
Volatile organic compound (VOC) content	Refer to Safety Data Sheet

TECHNICAL INFORMATION

Shore Hardness	25 (after 21 days)	(ASTM C661)
Tensile Strength	1.1 MPa (118 psi) (after 7 days)	(ASTM D412)
Elongation at Break	974 % (after 7 days)	(ASTM D412)
Shrinkage	None	
Tear Strength	> 60 N/mm (34 lbf/in) (after 7 days)	(ASTM D624)
Movement Capability	± 50 %	(ASTM C719)
Temperature Resistance	None (Cracking and chalking after heat aging)	(ASTM C792)
Service Temperature	-40 °C to +82 °C (-40 °F to +180 °F)	
Colour Stability	Passes (no visible stain)	(ASTM C510)
Extrusion Rate	Passes (3 h after mixing)	(ASTM C603)

APPLICATION INFORMATION

Yield	Linear Feet/ US gal			
	Width/Depth (in)	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
	1.5	-	-	26
	2.0	-	-	19

Linear Metre/Litre

Width/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

Sagging	Nonsag Rheological (flow), at 49 °C (120 °F) (ASTM C639)		
Ambient Air Temperature	4 °C to 38 °C (40 °F to 100 °F) Note: Sealant should be installed when joint is at mid-range of its anticipated movement.		
Substrate Temperature	4 °C to 38 °C (40 °F to 100 °F) Note: Sealant should be installed when joint is at mid-range of its anticipated movement.		
Pot Life	Working Time		
	38 °C (100 °F)	23 °C (73 °F)	4 °C (40 °F)
	1 hour	1 h 30 min – 2 h 30 min	3 hours
Curing Time	3 days		

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

Product properties tested at 23 °C (73 °F) and 50 % RH, unless stated otherwise.

LIMITATIONS

Proper application is the responsibility of the User. Field visits by Sika personnel are to make technical recommendations only and not to supervise or provide quality control on the job site.

- In accordance with the accepted industry standards and practices, the use of paints or coatings over flexible sealants can result in a loss of adhesion of the applied paint or coating, due to the potential movement of the sealant. However, if the application of a paint or coating is desired, the Applicator must conduct on-site tests to determine compatibility and

adhesion.

- Do not allow uncured Sikaflex® NP 2 to come into contact with alcohol-based materials or solvents.
- Do not use Sikaflex® NP 2 as a cap, heel, or toe bead for exterior glazing.
- Do not apply polyurethane sealants in the vicinity of uncured silicone sealants or uncured Sikaflex® HY 150.
- Sikaflex® NP 2 should not come in contact with oil-based caulking, silicone sealants, polysulfides, or fillers impregnated with oil, asphalt, or tar.
- Do not apply epoxy-based coatings in the vicinity of uncured Sikaflex® NP 2.
- Do not apply to freshly treated wood; treated wood must have been weathered for at least six (6) months.
- Do not open containers until ready for use.
- Units are premeasured; do not use partial units, do not batch down.
- Sikaflex® NP 2 may yellow in the presence of unvented artificial heat; this is a surface phenomenon that does not affect sealant performance.
- When Sikaflex® NP 2 is used in areas subject to continuous water immersion, cure for 14 days at 23 °C (73 °F). Allow longer cure times at lower temperatures. Always use Sikaflex® Primer-429.
- Do not use it in swimming pools or in other submerged conditions where the sealant will be exposed to strong

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oxidizers. Avoid submerged conditions where water temperatures will exceed 50 °C (120 °F).

- Horizontal joints subject to traffic or intermittent ponding of water require the use of a primer. Contact Sika Canada Technical Services for details.
- Substrates such as copper, stainless, and galvanized steel typically require the use of a primer; Sikaflex® Primer-260 is acceptable. For Kynar coatings, use Sika® Primer-449 only. An adhesion test is recommended for any other questionable substrate.
- Use only Sikaflex®-900 color packs designed for use with Sikaflex® NP 2.

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

Table 1

Joint Width and Sealant Depth

Joint Width	Sealant Depth at Midpoint
6–13 mm (1/4–1/2 in)	6 mm (1/4 in)
13–19 mm (1/2–3/4 in)	6–10 mm (1/4–3/8 in)
19–25 mm (3/4–1 in)	10–13 mm (3/8–1/2 in)
25–75 mm (1–1 1/2 in)	13 mm (1/2 in)

SUBSTRATE QUALITY

Substrates must be structurally sound, fully cured, dry, and clean. Substrates should always be free of dirt, loose particles, oil, grease, asphalt, tar, paint, wax, rust, waterproofing or curing and parting compounds, membrane materials, and sealant residue.

SUBSTRATE PREPARATION

Concrete, Stone, and other Masonry Substrates

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 coating on wood must be tested to verify the adhesion of the sealant or to determine an appropriate primer.

Metal

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

MIXING

Sikaflex® NP 2 is a multi-component system with a configuration of Part A, Part B, and a colour pack. Note that pre-pigmented units do not require colour packs.

1. Transfer the entire contents of Sikaflex®-900 pigment colour pack into the Part A
2. Use a spatula or knife to remove all the pigment from the container
3. Continue mixing with a slow-speed drill and sealant mixing paddle until the colour is uniform
4. During the process, scrape the sides and bottom of the mixing container several times to obtain a complete mix
5. Transfer the entire content of Part B to pre-mixed Part A container using a spatula or margin trowel
6. Part B must be mixed thoroughly with pre-mixed Part A
7. Scrape the sides of the container to ensure complete mixing of mixed Parts A and B
8. Mix at slow-speed drill and a sealant mixing paddle for four (4) to six (6) minutes
9. Keep the paddle blade below the surface of the sealant to avoid whipping air into the sealant

Note: 5.67 L (1.5 US gal) unit kit uses **one (1)** Sikaflex®-900 pigment colour pack

APPLICATION

Joint Preparation

- The product may be used in sealant joints designed in accordance with SWR Institute's Sealants -The Professional's Guide.
- In optimal conditions, the depth of the sealant should be 1/2 the width of the joint. The sealant joint depth (measured at the center) should always fall between the maximum depth of 13 mm (1/2 in) and the minimum depth of 6 mm (1/4 in). The maximum recommended joint width is 25 mm (2 in). Refer to Table 1.
- In deep joints, the sealant depth must be controlled by a closed-cell backer rod or soft backer rod. Where the joint depth does not permit the use of a backer rod, a bond breaker (polyethylene strip) must be used to prevent three-point bonding. To maintain the recommended sealant depth, install the backer rod by compressing and rolling it into the joint channel without stretching it lengthwise. Closed cell backer rod should be about 3 mm (1/8 in) larger in diameter than the width of the joint to allow for compression. The 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 2 is considered a non-priming 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 the product data sheet on Sika® Primer-429 and consult Sika Canada Technical Services for additional information.
- For immersion applications, Sika® Primer-429 must be used.

1. Apply primer full strength with a brush or clean cloth
2. A light, uniform coating is sufficient for most surfaces. Porous surfaces require more primer; however, do not over-apply
3. Allow the primer to dry before applying Sikaflex® NP 2. Depending on temperature and humidity, the primer will be tack-free in 15–20 minutes.
4. Priming and sealing must be done on the same day.

Application

1. Apply Sikaflex® NP 2 by a professional bulk gun loaded at the job site, unless specific job conditions dictate the use of a knife or spatula
2. Fill joints from the bottom up to the exterior face by holding a properly sized nozzle against the joint bottom
3. Dry tooling is recommended. Proper tooling results in the correct bead shape, neat joints, and optimal adhesion
4. Best practices dictate that all caulking and sealing be done when temperatures are above 4 °C (40 °F) to avoid application to moisture-laden surfaces. Moisture on substrates will adversely affect adhesion
5. Application may be carried out as low as 4 °C (40 °F) if it is certain that substrate is completely dry, free of moisture, and clean as described under Surface Preparation.

Curing

The cure of Sikaflex® NP 2 varies with temperature and humidity. The following times assume 24 °C (75 °F), 50 % relative humidity, and a joint 13 mm (1/2 in) in width by 6 mm (1/4 in) in depth. Full cure in approximately three (3) days.

CLEAN UP

Immediately after use and before the sealant has cured, clean equipment with xylene. Cured sealant may be removed by cutting with a sharp-edged tool. Remove thin films by abrading.

LEGAL NOTES

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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August 2026, Version 02.01
02051100000002009