

PRODUCT DATA SHEET

Sikaflex® NP 2

(formerly MSeal NP 2)

MULTI-COMPONENT HIGH PERFORMANCE POLYURETHANE SEALANT

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 $\pm 25\%$. It can be tinted to multiple colors.

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
- Parking structures

FEATURES

- Movement capability of $\pm 25\%$ 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
- Sikaflex®-905 accelerator available for use in cold climate applications to help speed initial cure
- No primer required for most construction materials, lowering installation costs
- Wide temperature application range makes Sikaflex® NP 2 suitable for all climates
- 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
- 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

CERTIFICATES AND TEST REPORTS

- ASTM C 920, Type M, Grade NS, Class 25, use NT, T, A, M, O* (*Refer to substrates in Uses).
- Federal Specification TT-S-00227E, Type II, Class A
- Corps of Engineers CRD-C-506
- Canadian Standards Board CAN/CGSB-19.24-M90, Classification MCG-2-40-A-N, No. 81029
- CFI accepted
- Underwriters Laboratories Inc.® classified (fire resistance only)

PRODUCT INFORMATION

| | |
|---------------------------|--|
| Composition | Sikaflex® NP 2 is a multi-component polyurethane product. |
| Packaging | <ul style="list-style-type: none"> ▪ 5.67 L pails ▪ 5.7 L pails (with Sikaflex®-900 Color Pack) |
| Shelf life | Parts A and B: 15 months when properly stored Sikaflex®-900 Color Packs: 5.5 years |
| Storage conditions | Store in unopened containers in a cool, clean, dry area. Do not open containers until ready for use. |
| Colour | <ul style="list-style-type: none"> ▪ Standard pre-tinted colors: Precast Gray and Limestone ▪ Sikaflex®-900 Color Pack are available by air freight in 40 standard colors. Refer to color-chart for additional colors. |

TECHNICAL INFORMATION

| | | | |
|---------------------------------|--|-------------------------------------|---------------|
| Shore A hardness | At standard conditions | 25 | (ASTM C 661) |
| | After heat aging | 22 | |
| | (max Shore A: 50) | | |
| Tensile strength | 1.1 MPa (160 Psi) | | (ASTM D 412) |
| Elongation at break | 280% | | (ASTM D 412) |
| Movement capability | ±25% | | (ASTM C 719) |
| | Bond Durability % on aluminum and concrete | Passes | (ASTM C 719) |
| Adhesion in peel | > 10* | | (ASTM C 794) |
| | *Primed for water immersion dictated by ASTM C 920. Concrete and aluminum primed with Sika® Primer-173; glass primed with Sika® Primer-176 | | |
| Shrinkage | None | | |
| Service temperature | -40 to 82°C | | |
| Temperature resistance | Weight loss, after heat aging | 4.7% | (ASTM C 792) |
| | Cracking and chalking, after heat aging | None | |
| Contact with water | 50°C | Passes 10 weeks with movement cycle | (ASTM C 1247) |
| Resistance to weathering | Xenon arc, 250 hours | Passes | (ASTM C 793) |
| | Xenon arc, 2,000 hours | No surface cracking | (ASTM G 26) |
| Colour stability | Passes (no visible stain) | | (ASTM C 510) |
| Extrusion rate | Sec | 6 | (ASTM C 603) |
| | 3 hrs after mixing | Passes | |

APPLICATION INFORMATION

| Yield | Meters Per Liter | |
|-----------|------------------|------------------|
| | Joint Width (mm) | Joint Depth (mm) |
| | 6 | 10 |
| | 13 | 13 |
| 6 | 24.8 | - |
| 10 | 16.5 | - |
| 13 | 12.4 | - |
| 16 | 9.8 | 6.6 |
| 19 | - | 5.5 |
| 22 | - | 4.7 |
| 25 | - | 4.1 |
| 38 | - | - |
| 50 | - | - |
| 75 | - | - |

| | | | |
|-----------------------|-----------------------------|--------|------------------------------------|
| Sagging | Rheological (flow), at 49°C | Nonsag | (ASTM C 639) |
| Tack free time | <48 hrs | | (ASTM C 679) (maximum 72 hours) |

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND 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

| Join Width, mm | Sealant Depth at Mid-point, mm |
|----------------|--------------------------------|
| 13–16 | 6 |
| 16–19 | 6–10 |
| 19–25 | 10–13 |
| 25–75 | 13 |

Table 2
Working Time, hours

| | Standard Conditions 23 °C, 50% RH | Higher Temperature 35 °C, 5 – 90% RH | Colder Temperature 4 °C |
|----------------|--------------------------------------|---|----------------------------|
| No accelerator | 2 – 3 | 1 – 2 | 4 – 6 |
| 1 accelerator | 1 – 2 | < 1 | 2 – 3 |
| 2 accelerators | < 1 | — | 1.5 – 2.5 |

For Best Performance

- 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.
- 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 6 months.
- Do not open containers until ready for use.
- Units are premeasured; do not use partial units.
- 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. Allow longer cure times at lower temperatures. Always use Sika® Primer-173.
- Do not use it in swimming pools or in other submerged conditions where the sealant will be exposed to strong oxidizers. Avoid submerged conditions where water temperatures will exceed 50°C.
- Horizontal joints subject to traffic or intermittent ponding of water require the use of a primer. Call Technical Service for details.
- Substrates such as copper, stainless, and galvanized steel typically require the use of a primer; Sika® Primer-173 or Sika® Primer-176 are acceptable. For Kynar coatings, use Sika® Primer-173 only. An adhesion test is recommended for any other questionable substrate.
- Use only Sikaflex®-900 color packs designed for use with Sikaflex® NP 2.
- 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.

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

MIXING

1. Sikaflex® NP 2 is a multi-component system with a configuration of Part A, Part B, and a color pack.
2. Transfer the entire contents of Part B to Part A container using a spatula or margin trowel.
3. Part B must be mixed thoroughly with Part A. Before adding pigment, scrape the sides of the container to ensure complete mixing of Parts A and B. With a slow-speed drill and a sealant mixing paddle, mix for 4–6 minutes. Keep the paddle blade below the surface of the sealant to avoid whipping air into the sealant.
4. Transfer the entire contents of one Sikaflex®-900 pigment can into the mixed Part A and B. Use a spatula or knife to remove all the pigment from the container. Continue mixing with a slow-speed drill and slotted paddle until the color is uniform. During the process, scrape the sides and bottom of the mixing container several times to obtain a complete mix.
5. The pot life of the mixed Sikaflex®-905 accelerator is influenced by temperature. See Table 2 for specific data. Sikaflex®-905 accelerator may be added to adjust the initial cure rate.

APPLICATION

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 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 and the minimum depth of 6 mm. The maximum recommended joint width is 75 mm. Refer to Table 1.
3. 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.
4. 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 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

1. 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-173 and Sika® Primer-176, and consult Technical Service for additional information.
2. For immersion applications, Sika® Primer-173 must be used.
3. 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.
4. 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. Priming and sealing must be done on the same day.

Application

1. Except when unusual job conditions dictate the use of a knife or spatula, apply Sikaflex® NP 2 by a professional bulk gun loaded at the job site. Fill joints from the bottom up to the exterior face by holding a properly sized nozzle against the joint bottom.
2. Dry tooling is recommended. Proper tooling results in the correct bead shape, neat joints, and optimal adhesion.

1. Best practices dictate that all caulking and sealing be done when temperatures are above 4°C to avoid application to moisture-laden surfaces. Moisture on substrates will adversely affect adhesion.
2. Application may proceed as low as 4°C if there is a certainty that substrates are 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, 50% relative humidity, and a joint 13 mm in width by 6 mm in depth. – Skins: within 3–4 hours – Full cure: approximately 1 week. See Table 2 for use of Sikaflex®-905 accelerator.

CLEANING OF EQUIPMENT

Immediately after use and before the sealant has cured, clean equipment with SikaSwell®-990 or xylene. Cured sealant may be removed by cutting with a sharp-edged tool. Remove thin films by abrading.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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 written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. 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.

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ISO 9001, ISO 14001, ISO 45001 – SGS
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- Sika MB Construction Chemicals for Manufacturing LLC
- Master Builders Solutions LLC

All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



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