



PRODUCT DATA SHEET

Sika® Duoflex NS

Non-Sag, polysulfide sealant

PRODUCT DESCRIPTION

Sika® Duoflex NS is a two-component, non-sag, premium quality, polysulfide sealant, specifically designed for vertical and overhead surfaces.

WHERE TO USE

Sika® Duoflex NS may only be used by experienced professionals.

Sika® Duoflex NS is suitable for either exterior or interior use to seal both static and dynamic joints.

- Concrete and precast concrete joints in water treatment & storage facilities, bridges, roadways, and warehouse floors
- Expansion and control joints in concrete and masonry walls and ceilings
- Joints within secondary containment areas
- Joints located in gas station and refueling environments

CHARACTERISTICS / ADVANTAGES

- Provides a tough, elastic, rubber-like seal.
- Remains flexible with expansion and contraction of building component (based on good joint design).
- Stays resilient within a wide temperature range.
- Excellent resistance to water, oils, grease, most solvents, mild acids and alkalis.
- Effective under constant immersion or saturated conditions, when suitably primed with Sika® Duoflex Primer-5050.

APPROVALS / CERTIFICATES

- Meets ASTM C920, Type M, Grade NS, Class 25, Use T₂ (requiring appropriate total recessed joint design considerations), NT, I, A, G, M and O.
- Compliant with NSF/ANSI 61 "Drinking Water System Components - Health Effects" for potable water contact after full cure (reference: IAPMO R&T File No. K-12483).

PRODUCT INFORMATION

Packaging	5.7 L (1.5 US gal) unit with both Components "A" and "B" contained in a pail; 60 units per pallet
Appearance / Colour	<ul style="list-style-type: none">▪ Component A: Liquid / Grey▪ Component B: Liquid / Grey▪ Comp. A and B mixed: Non-sag consistency sealant / Bronze (Brownish Grey)
Shelf Life	12 months from date of production if stored properly in original, unopened and undamaged, sealed packaging.
Storage Conditions	Store in cool, dry, well ventilated conditions, out of direct sunlight at temperatures between 4 °C and 35 °C (40 °F and 95 °F).

TECHNICAL INFORMATION

Shore A Hardness	25 – 30	(ASTM D2240)
Abrasion Resistance	Excellent	
Tensile Strength	1.03 – 1.38 MPa (150 – 200 psi)	(ASTM D412)
Elongation at Break	500 – 550 %	(ASTM D412)
Movement Capability	± 25 %	
Chemical Resistance	Refer to the "Chemical Resistance Chart for Sika® Duoflex NS / SL".	
Resistance to UV Exposure	Very good	
Service Temperature	-40 °C to +77 °C (-40 °F to +170 °F) when fully cured	
Colour Stability	Very good	

APPLICATION INFORMATION

Mixing Ratio Always mix entire units. Do not batch down.

Yield	Linear metre per litre (Linear feet per liter)			
	Width/Depth	6 mm (1/4 in)	10 mm (3/8 in)	13 mm (1/2 in)
6 mm (1/4 in)		24.7 (81.1)		
10 mm (3/8 in)		16.5 (54.2)	11 (35.9)	
13 mm (1/2 in)		12.3 (40.4)	8.2 (27.0)	6.2 (20.3)
19 mm (3/4 in)		8.2 (27.0)	5.5 (18.0)	4.1 (13.5)
25 mm (1 in)				3.1 (10.0)
32 mm (1 1/4 in)				2.5 (7.9)
38 mm (1 1/2 in)				2.1 (6.6)

Product Temperature Precondition Components A and B to temperatures between 18 °C and 24 °C (65 °F and 75 °F) before mixing and application. Preconditioning components to approximately 21 °C (70 °F) before mixing are strongly recommended when working at the far ends of the application temperature range. Move preconditioned units of Sika® Duoflex NS to work areas just prior to mixing and installation.

Ambient Air Temperature 4 °C to 38 °C (40 °F to 100 °F)

Substrate Temperature 4 °C to 38 °C (40 °F to 100 °F)

Substrate Moisture Content **Beware of surface condensation** To avoid dew point conditions during application, substrate temperature must be at least 3 °C (5 °F) above measured dew point temperature.

Pot Life Approximately 1 hour

Curing Time 7 days

Tack-free time Approximately 6 hours

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 % R.H. unless stated otherwise.

LIMITATIONS

- Do not use the "B" Component from Sika® Duoflex NS with the "A" Component from Sika® Duoflex SL, and

vice versa.

- The ultimate performance of fully cured Sika® Duoflex NS depends on good joint design and proper application.
- Minimum age of concrete must be 21 – 28 days, depending on curing and drying conditions.
- Minimum depth of sealant in a working, dynamic joint is 6 mm (1/4 in).
- When used in joints subjected to impact or traffic, recess the sealant in accordance with standard industry practice.
- Do not cure in the presence of curing silicones.
- Avoid contact with alcohol and other solvent cleaners during cure.
- Allow a minimum seven (7) days of cure before subjecting sealant to total water immersion. Sika® Duoflex Primer-5050 is required if sealant will be subjected to total water immersion.
- In primary and/or secondary containment immersion applications, Sika® Duoflex Primer-5050 must be used.
- Avoid over-mixing Sika® Duoflex NS.
- Do not apply when moisture vapour transmission exists since this can cause bubbling within the sealant.
- When overcoating, allow a minimum three (3) days of cure. A job site mockup and test are essential to determine actual compatibility before proceeding with coating installation.
- Rigidly curing primers, paints or coatings may crack when placed over elastomeric sealants subject to expansion and/or contraction.
- Do not use in contact with bituminous or asphaltic materials.
- Do not use to treat joints subject to hydrostatic pressure (i.e. actively leaking or with the presence of standing water) at time of installation.
- Do not apply Sika® Duoflex NS on improperly prepared or contaminated surfaces.
- Do not use Sika® Duoflex NS in applications where anticipated joint movements are greater than $\pm 25\%$.
- Do not use Sika® Duoflex NS for structural glazing applications.
- Do not use Sika® Duoflex NS for joints where adhesion to painted surfaces is needed. Adhesion and compatibility tests are required before proceeding

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

SUBSTRATE PREPARATION

All joint surfaces must be clean, structurally sound, dry, free of contaminants, dust, and frost. Interior joint surfaces must be free of oils, grease, paints, coatings,

sealers, curing compound residues, rust and any other foreign matter that might prevent good adhesion. Ideally substrate preparation should be accomplished by mechanical means, such as sandblasting, abrasive grinding, etc. Mask off and protect any adjacent surfaces (edges of joint) that should not be in contact with Sika® Duoflex NS. Closed cell backer rod or bond breaker tape must be installed at the bottom or base of the joint prior to sealant installation to prevent three sided adhesion. Closed cell backer rod diameter should be slightly larger than actual width of joint to provide a friction fit and adequate sealant support.

Joint Design

Proper joint design for moving joints is 2:1 width to depth ratio (typical), with a recommended 6 mm (1/4 in) minimum and 13 mm (1/2 in) maximum depth of sealant. For nonmoving joints, the width to depth ratio can vary. Contact Sika Canada Technical Service for unusual joint configurations.

Priming

For maximum adhesion or when the fully cured sealant will be placed into Immersion service applications, the use of Sika® Duoflex Primer-5050 is necessary. Sika® Duoflex NS should completely cover primed surfaces. Contact Sika Canada Technical Service if unsure whether use of the primer is necessary. A uniform, glossy sheen appearance typically indicates adequate priming. Some surfaces, such as porous concrete, may require two (2) coats of Sika® Duoflex Primer-5050. Primer must be tack-free (dry to the touch) before applying sealant. Sealant must be applied same day as primer. Primed surfaces that have not received sealant and left overnight should be re-primed.

MIXING

Place entire contents of Component B into pail of Component A and mix at low speed (100–300 rpm) using rotary drill fitted with an appropriate mixing paddle. Mix for at least five (5) minutes to achieve a uniform colour, appearance and consistency. Scrape down sides of pail periodically during the mixing procedure. Avoid air entrapment during mixing.

Remark: Mixed material must be used within the published pot life. Do not attempt to thin or use material that has already started to harden and cure. The individual components of the product are formulated, manufactured and shipped to be used together.

Cold Conditions Mixing: When mixing material at temperatures $< 10\text{ }^{\circ}\text{C}$ ($50\text{ }^{\circ}\text{F}$), do not to force the mixing paddle to the bottom of the pail. After adding Component B to Component A, mix the top 1/2 to 3/4 of the pail's contents during the first minute of mixing. After scraping down the sides of the pail, mix again for another minute. The sealant mixing paddle should reach the bottom of the pail between the first and second

minute of mixing. Scrape down the sides of the pail a second time and then mix for an additional 2–3 minutes until sealant components are well blended to a uniform colour, appearance and consistency.

APPLICATION METHOD / TOOLS

Sika® Duoflex NS should be applied into joints when joint slot is at midpoint of its designed expansion and contraction.

Apply sealant only to well prepared, clean, sound, dry, rust-free and frost-free substrates. To place, draw mixed sealant directly into an appropriate bulk dispensing tool using a follower plate loading system. Place nozzle of dispensing tool into the bottom of the joint void, over the backer rod or bond breaker tape, and fill the entire joint. Keeping the nozzle deep in the sealant, continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping of sealant since this also potentially entraps air. Dry tool finish as required, ideally with a clean, plastic putty knife or similar implement.

CLEAN UP

Uncured material can be removed from surfaces with an approved solvent (e.g. Acetone, MEK or Xylene). Equipment should be cleaned immediately after use. Strictly follow solvent manufacturer's warnings and instructions for use. Cured material can only be removed from surfaces by mechanical means.

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 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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Product Data Sheet

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