

PRODUCT DATA SHEET

Sika® Duoflex NS

Two Component, 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.

USES

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:

- Joints in precast concrete
- Joints in and around swimming pools
- Joints within primary and/or secondary containment areas
- Joints in glass and metal curtain wall construction
- Expansion and control joints in concrete and masonry walls and ceilings
- Joints in metal siding
- Perimeters of aluminum window frames and metal panels
- Joints located in gas station and refueling environments

CHARACTERISTICS / ADVANTAGES

- Tough, elastic, rubber-like seal.
- Remains flexible with expansion and contraction of building component without adhesive or cohesive failure, based on good joint design.
- Stays resilient within a wide temperature range.
- Excellent resistance to water, oils, grease, most solvents, mild acids and alkalis.
- Tenacious adhesion to concrete, metal, wood, glass, stone, ceramic and masonry surfaces in any combination, typically without the need for priming with Sika® Duoflex Primer-5050.
- Effective under constant immersion or saturated conditions, when suitably primed with Sika® Duoflex Primer-5050.

APPROVALS / STANDARDS

- Sika® Duoflex NS 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	1.5 gallon (5.7 liter) unit with both Components 'A' and 'B' contained in a pail; 60 units per pallet
Color	Component 'A': Gray liquid / Component 'B': Gray liquid Components 'A' and 'B' mixed: Bronze (i.e. Brownish Gray) non-sag sealant
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 40 - 95 °F (4 - 35 °C).

Precondition Components 'A' and 'B' to 65 - 75 °F (18 - 24 °C) before mixing and application.

TECHNICAL INFORMATION

Shore A Hardness	25 - 30	(ASTM D2240) 73 °F (23 °C), 50% R.H.
Abrasion Resistance	Excellent	
Tensile Strength	150 - 200 psi (1.0 -1.4 MPa)	(ASTM D412) 73 °F (23 °C), 50% R.H.
Elongation at Break	500 - 550%	(ASTM D412) 73 °F (23 °C), 50% R.H.
Movement Capability	± 25%	73 °F (23 °C), 50% R.H.
Resistance to Static Puncture	Excellent	
Chemical Resistance	Please refer to the "Chemical Resistance Chart for Sika Duoflex NS / SL."	
UV Exposure	Very good	
Colour stability	Very good	
Service Temperature	- 40 to 170 °F (- 40 to 77 °C) when fully cured	

APPLICATION INFORMATION

Mixing Ratio	Mix entire unit. Do not batch down.		
Coverage	Per 1 gallon (3.8 liters) mixed: Yield in Linear Feet (linear meters)		
	1/4" (6 mm)	3/8" (10 mm)	1/2" (12 mm)
1/4" (6 mm)	307.9 (93.8)		
3/8" (10 mm)	205.3 (62.6)	136.8 (41.7)	
1/2" (12 mm)	153.9 (46.9)	102.6 (31.3)	77.0 (23.5)
3/4" (20 mm)	102.6 (31.3)	68.4 (20.8)	51.3 (15.6)
1" (25 mm)			38.5 (11.7)
1-1/4" (32 mm)			30.8 (9.4)
1-1/2" (38 mm)			25.7 (7.8)
Ambient Air Temperature	40 - 100 °F (4 - 38 °C) Sika® Duoflex NS should be installed when joint is at midrange of its anticipated movement.		
Substrate Temperature	40 - 100 °F (4 - 38 °C) Sika® Duoflex NS should be installed when joint is at midrange of its anticipated movement.		
Substrate Moisture Content	Beware of surface condensation! To avoid dew point conditions during application, substrate temperature must be at least 5 °F (3 °C) above measured dew point temperature.		
Pot Life	Approximately 1 hour	73 °F (23 °C), 50% R.H.	
Cure Time	7 days	73 °F (23 °C), 50% R.H.	
Tack Free Time	Approximately 6 hours	73 °F (23 °C), 50% R.H.	

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

All joint surfaces must be clean, sound, free of contaminants, dust-free, dry and frost-free. 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 (e.g. sandblasting, abrasive grinding, etc.). Mask off and protect any adjacent surfaces (e.g. edges of joint) that should not receive 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 1/4 inch (6 mm) minimum and 1/2 inch (13 mm) maximum depth of sealant. For nonmoving joints, the width to depth ratio can vary. Consult with Sika Technical Services for unusual joint configurations.

Priming: For maximum adhesion and/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. Consult with Sika Technical Services 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 coats of Sika® Duoflex Primer-5050. Primer must be Tack Free (i.e. 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 using a low speed rotary drill (100 - 300 rpm) and appropriate sealant mixing paddle (reference Sika product code: 108142). Mix for 3 to 5 minutes to achieve a uniform color, appearance and consistency. Scrape down sides of pail periodically during the mixing procedure. Avoid entrapment of air during mixing. 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 are formulated, manufactured and shipped to be used together.

When mixing in colder temperature conditions [i.e. < 50 °F (10 °C)], be careful not to force the sealant 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 to 3 minutes until sealant components are well blended to a uniform color, appearance and consistency.

APPLICATION METHOD / TOOLS

Recommended ambient and substrate application temperatures are between 40 to 100 °F (4 to 38 °C). Preconditioning components to approximately 70 °F (21 °C) 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. Apply sealant only to well prepared, clean, sound, dry, rust-free and frost-free substrates. Sika® Duoflex NS should be applied into joints when joint slot is at midpoint of its designed expansion and contraction.

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.

CLEANING OF TOOLS

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.

LIMITATIONS

- Do not use Component 'B' from Sika® Duoflex NS with Component 'A' 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 1/4 inch (6 mm).
- 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 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 vapor transmission exists since this can cause bubbling within the sealant.
- When overcoating, allow a minimum 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.
- Not suitable for:
 - Anticipated joint movement greater than $\pm 25\%$.
 - Structural glazing applications.
 - Improperly prepared or contaminated joint void surfaces.
 - Treating joints subject to hydrostatic pressure (i.e. actively leaking or with the presence of standing water) at time of installation.
 - Joints where adhesion to painted surfaces is needed. Adhesion and compatibility tests are required before proceeding.

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.

OTHER RESTRICTIONS

See Legal Disclaimer.

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 at 1-800-424-9300, International 703-527-3887.

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 usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in 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.

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