BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

Sikaflex®-1A

Elastomeric joint sealant / adhesive

PRODUCT DESCRIPTION

Sikaflex®-1A is a premium-grade, high-performance, moisture-cured, 1-component, polyurethane-based, non-sag elastomeric sealant. Sikaflex®-1A can be used in green and damp concrete applications.

WHERE TO USE

- Designed for all types of joints where maximum depth of sealant will not exceed 13 mm (1/2 in)
- For small joints and fillets, windows, door frames, reglets, flashing, common roofing detail applications, and many construction adhesive applications
- For vertical and horizontal joints; readily placeable at 4 °C (40 °F)
- As an elastic adhesive between materials with dissimilar coefficients of expansion
- In submerged conditions, such as canal and reservoir joints

CHARACTERISTICS / ADVANTAGES

- Eliminates time, effort, and equipment for mixing, filling cartridges, pre-heating or thawing, and cleaning of equipment
- Fast tack-free and final cure times
- High elasticity - cures to a tough, durable, flexible consistency with exceptional cut and tear resistance
- Stress relaxation
- Excellent adhesion - bonds to most construction materials without a primer
- Excellent resistance to aging, weathering
- Proven in tough climates around the world
- Applicable to green concrete 24 hours after pour
- Applicable to damp concrete 1 hour after getting wet
- Non-staining
- Jet fuel resistant
- Urethane-based; suggested by EPA as a caulk and crack sealant for radon reduction
- Paintable with water-, oil- and rubber-based paints
- Capable of ±35 % joint movement

APPROVALS / CERTIFICATES

- Meets Federal Specification TT-S-00230C, Type II, Class A.
- Meets ASTM C920, Type S, Grade NS, Class 35, Use T, NT, O, M, A, I. Canadian standard CAN/CGSB 19.13-M87.
- SWRI validated acc. to ASTM C719 (No. 0123-S0128)
- Federal specification TT-S-00230 C Type II, Class A
- Canadian Standard CAN/CGSB 19.13-M87
- Certified to NSF/ANSI/CAN 61 for potable water (meets applicable requirements of NSF/ANSI 600).

SEALANT• WATERPROOFING & RESTORATION INSTITUTE
Issued to: Sika Corporation
Product: Sikaflex®-1A
C719: Pass ✔ Ext:+35% Comp:-35%
Substrate: Aluminum (unprimed), Mortar (unprimed) and Mortar (primed). [mortar substrate primed with Sika Primer 429
Validation Date: 1/11/23 – 1/10/28
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SEALANT VALIDATION
www.swrionline.org

PRODUCT INFORMATION

Packaging	300 mL (10.1 US fl. oz) cartridge, 24/case 600 mL (20 US fl. oz) sausage, 20/case
Colour	White, colonial white, aluminium grey, limestone, black, dark bronze, capitol tan, stone and medium bronze. Special architectural colours on request.
Shelf Life	▪ **Cartridge**: 15 months in original, unopened packaging ▪ **Sausage**: 18 months in original, unopened packaging
Storage Conditions	Store between 4 and 35 °C (40 and 95 °F)
Volatile organic compound (VOC) content	Refer to Product Safety Data Sheet
Air quality and emissions	Contributes towards satisfying LEED® v4 EQ Credit - Low-Emitting Materials
Climate	Contributes towards satisfying LEED®v4 MR Credit - Building Product Disclosure and Optimization – Environmental Product Declarations

TECHNICAL INFORMATION

Shore A Hardness	45±5 (21 days)	(ASTM C661)
Elongation at Break	550 %	(ASTM D412)
Tear Strength	9.6 N/mm (55 lb/in)	(ASTM D624)
Movement Capability	±35 %	(ASTM C719)
Chemical Resistance	Good resistance to water, diluted acids, and diluted alkalines. Contact Sika Canada Technical Service for specific data.	
Resistance to Weathering	Excellent	
Service Temperature	−40 °C to 77 °C (-40 °F to 170 °F)	

Adhesion in Peel (ASTM C794) (TT-S-00230C)

Substrate	Peel Strength	Adhesion loss
Concrete	3.5 N/mm (20 lb)	0 %
Aluminium	3.5 N/mm (20 lb)	0 %
Glass	3.5 N/mm (20 lb)	0 %

Tensile Stress at Specified Elongation (ASTM D412)

21 day Tensile Stress	1.21 MPa (175 psi)
Stress @ 100 %	0,59 N/mm² (85 psi)

APPLICATION INFORMATION

Yield

300 mL (10.1 oz) Cartridge: Yield in Linear Meter (Lin. Ft)

Width/Depth - mm (in)	6 (1/4)	9.5 (3/8)	13 (1/2)
6 (1/4)	7.4 (24.3)		
9.5 (3/8)	4.9 (16.2)	3.3 (10.8)	
13 (1/2)	3.7 (12.1)	2.5 (8.1)	1.9 (6.1)
19 (3/4)	2.5 (8.1)	1.6 (5.4)	1.2 (4.0)
25 (1)			0.9 (3.0)
32 (1 1/4)			0.7 (2.4)
38 (1 1/2)			0.6 (2.0)

600 mL (20 oz) Sausage: Yield in Linear Meter (Lin. Ft)			
Width/Depth - mm (in)	6 (1/4)	9.5 (3/8)	13 (1/2)
6 (1/4)	14.7 (48.1)		
9.5 (3/8)	9.8 (32.1)	6.5 (21.4)	
13 (1/2)	7.3 (24.1)	4.9 (16.0)	3.7 (12.0)
10 (3/4)	4.9 (16.0)	3.3 (10.7)	2.4 (8.0)
25 (1)			1.8 (6.0)
32 (1 1/4)			1.5 (4.8)
38 (1 1/2)			1.2 (4.0)

Product Temperature	**Product Conditioning:** 18 °C – 24 °C (65 °F – 75 °F) before using. Note that for cold weather applications, Sikaflex®-1A must be conditionned at approximately 21 °C (70 °F).
Ambient Air Temperature	**Recommended application temperatures:** 4 °C – 38 °C (40 °F – 100 °F). Note that for cold weather applications, Sikaflex®-1A must be conditionned at approximately 21 °C (70 °F).
Curing Time	4 to 7 days
Curing Rate	Up to 3 mm (1/8 in) after 24 hours
Tack-free time	3 to 6 hours
CSC MasterFormat®	**07 92 13 | ELASTOMERIC JOINT SEALANTS**

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

- Allow one (1) week cure at standard conditions when using Sikaflex®-1A in total water immersion situations.
- When overcoating with water, oil and rubber-based paints, compatibility and adhesion testing is essential.
- Sealant should be allowed to cure for seven (7) days prior to overcoating.
- Avoid exposure to high levels of chlorine (maximum continuous level is 5 ppm).
- 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 50 °C (120 °F).
- Maximum depth of sealant must not exceed 13 mm (1/2 in); minimum depth is 6 mm (1/4 in)
- Maximum expansion and contraction should not exceed 35 % of average joint width.
- Do not cure in the presence of curing silicone sealants.
- Avoid contact with alcohol and other solvent cleaners during cure.
- Do not apply when moisture-vapour-transmission condition exists from the substrate as this can cause bubbling within the sealant.
- Use opened units the same day.
- When applying sealant, avoid air-entrapment.
- Since system is moisture-cured, permit sufficient exposure to air.
- White colour tends to yellow slightly when exposed to ultraviolet rays.
- Light colours can yellow if exposed to direct gas-fired heating element.
- The ultimate performance of Sikaflex®-1A depends on good joint design and proper application with joint surfaces properly prepared.
- The depth of sealant in horizontal joints subject to traffic is 13 mm (1/2 in)
- Do not tool with detergent or soap solutions.
- Do not use in contact with bituminous/asphaltic materials.
- In green concrete applications sealing joints in poor or low strength concrete 24 hours after pour may impact ability of sealant to gain proper adhesion.
- In damp concrete applications all standing water and excess water must be eliminated prior to the 60 minute waiting time.

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, sound, and frost-free. Joint walls must be free of oils, tar, asphalt, bitumen, grease, paints, coatings, sealers, curing compound residues, and any other foreign matter that might prevent adhesion. Ideally, substrate preparation and foreign matter removal should be accomplished by mechanical means. A roughened surface will also enhance bond. Install bond breaker tape or backer rod to prevent bond at base of joint. Priming is not usually necessary. Most substrates only require priming if testing indicates a need or where sealant will be subjected to water immersion after cure.

For green concrete applications control joints must be cut eight (8) hours prior to sealant installation and in expansion joint forms must be removed four (4) hours prior to sealant installation. For wet concrete applications, all excess or standing water must be displaced and concrete must then dry for a minimum of 60 minutes prior to sealant application. Refet to Sikaflex® Primer Technical Data Sheet or contact Sika Canada Technical Service for additional information on priming.

APPLICATION METHOD / TOOLS

For best performance, Sikaflex®-1A should be gunned into joint when joint slot is at mid-point of its designed expansion and contraction. Place nozzle of gun into bottom of the joint and fill entire joint. Keep the nozzle in the sealant, continue on with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping of sealant to eliminate entrapment of air.

Sikaflex®-1A can be applied on green concrete after the concrete has cured for a minimum of 24 hours at 24 °C (75 °F). Control joints must be cut and open for a minimum of 8 hours prior to application. Expansion joints must have forms removed a minimum of 4 hours prior to application. For damp concrete applications Sikaflex®-1A can be applied 60 minutes after any and all water has been displaced.

Tooling & Finishing

Tool sealant to ensure full contact with joint walls and remove air entrapment. Joint dimension should allow for 6 mm (1/4 in) minimum and 13 mm (1/2 in) maximum thickness for sealant. Proper design is 2:1 width to depth ratio, For use in horizontal joints in traffic areas, the absolute minimum depth of the sealant is 13 mm (1/2 in), and closed-cell backer rod is recommended.

Immersion and Over Painting

Allow 1-week cure at standard conditions when using Sikaflex®-1A in total water immersion situations and prior to painting.

CLEAN UP

Uncured material can be removed from equipment and tools using Sika Cleaning Wipes or a solvent, such as xylene. Strictly follow solvent manufacturer’s warnings and instructions for use. Cured material can only be removed manually or mechanically.

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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