BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-1a Arctic

ONE-COMPONENT ELASTOMERIC JOINT SEALANT FOR COLD TEMPERATURE APPLICATIONS

PRODUCT DESCRIPTION

Sikaflex®-1a Arctic is a 1-component, polyurethane, colored, moisture curing non-sag elastomeric sealant formulated for cold weather applications. Movement capability ± 25 %. Internal and external use.

USES

Sealing joints for:
- Movement and connections
- Facade elements
- Vertical and horizontal applications
- Window and door frames
- Reglets
- Flashing
- Common roofing detailing

Adhesive for:
- Most construction components and materials

CHARACTERISTICS / ADVANTAGES

- Primerless for most substrates and applications
- Resistant to weathering and aging
- Suitable for use in most global conditions
- Low VOC emissions
- Resistant to jet fuel exposure
- Urethane-based, suggested by EPA for radon reduction
- Paintable with oil and rubber based paints
- Movement capability ± 25 % (ASTM C 719)

PRODUCT INFORMATION

Packaging	20 fl. oz. uni-pac sausages, 20 uni-pac sausages per box	
Shelf Life	1 year in original unopened packaging.	
Storage Conditions	+15°F to +50°F (-9.4°C and +10°C) The product must be stored in original, unopened and undamaged sealed packaging in dry conditions.	
Density	95 lbs/ft3 (1.45 kg/l)	(ISO 1183-1)
Volatile organic compound (VOC) content	64.2 g/L	

TECHNICAL INFORMATION

Shore A Hardness	40	(ASTM C 661) (after 21 days)

Tensile Strength	175 psi	(21 days at 15 °F (-9 °C) and 50 % R.H.) (ASTM D-412)
Secant Tensile Modulus	80 psi (0.55 N/mm2) at 60 % elongation 73°F (23 °C) 131 psi (0,90 N/mm2) at 60 % elongation -4°F (−20 °C)	(ISO 8339)
Tensile stress at specified elongation	100 % 123 psi (0.85 Mpa)	(ASTM D 412)
Elongation	550 %	(ASTM D 412)
Elastic Recovery	90 %	(ISO 7389)
Adhesion in peel	**Substrate** / **Peel Strength** / **Adhesion Loss** Concrete / 20 lbs (9 kg) / 0 %	(TT-S-00230C) (ASTM C 794)
Tear Strength	55 lbs./in. (10 N/ mm) after 21 days	(ASTM D 624)
Movement Capability	± 25 %	(ASTM C 719)
Chemical Resistance	Good resistance to water, diluted acids and diluted akalines. Contact Sika Technical Services for specific data.	
Resistance to Weathering	Excellent	
Service Temperature	−40°F to +170°F (−40°C to +77°C)	

Joint Design

The joint dimensions must be designed to suit the movement capability of the sealant. The joint width must be ≥ ¼ inch (6.0 mm) and ≤ 1 ½ inch (40 mm). The joint depth must be ≥ ¼ inch (6.0 mm) and ≤ ½ inch (12 mm). For joints in facades a width to depth ratio of 2:1 must be maintained (for exceptions, see table below). For floor joints a width to depth ratio of 1:0.8 must be maintained. For use in horizontal joints in traffic areas, the absolute minimum depth of the sealant is ½ inch (12 mm).

Standard joint widths for joints between concrete facade elements:

Joint Distance	Min. Joint Width	Min. Joint Depth
m	mm	mm
2	10	10
4	15	10
6	20	10
8	28	14
10	35	17

The above information is for guidance only. All joints must be correctly designed and dimensioned in accordance with the relevant national standards and codes of practice before their construction. The basis for calculation of the necessary joint widths are the type of structure, dimensions, technical values of the adjacent building materials, joint sealing material and the specific exposure of the building and the joints.

APPLICATION INFORMATION

Coverage

Joint Width	Joint Depth	Joint Length
inch	inch	ft per cartridge (10 fl.oz.)
1/2	1/4	12.2
3/4	3/8	5.4
1	1/2	3
1 1/2	3/4	1.4

Joint Width inch	Joint Depth inch	Joint Length ft per sausage (20 fl.oz.)
1/2	1/4	24.4
3/4	3/8	5.4
1	1/2	3
1 1/2	3/4	1.4

Consumption depends on the roughness and absorbency of the substrate.These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.

Backing Material	Use closed cell, polyethylene foam backing rods.
Ambient Air Temperature	+15°F to +40°F (-9.4°C to +4.4°C)
Substrate Temperature	+15°F to +40°F (-9.4°C to +4.4°C). Min. 5°F (3°C) above dew point temperature. Sealants must be installed when substrates are at mid-range of their anticipated movement.
Curing Rate	**Tack-free Time:** 18 hours **Final Cure:** 21 days at 15°F (-9.4°C)

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.

AVAILABILITY/WARRANTY

- Pre-treatment Sealing and Bonding Chart
- Method Statement: Joint Sealing
- Method Statement: Joint Maintenance, Cleaning and Renovation
- Technical Manual: Facade Sealing

LIMITATIONS

- Allow full curing before using Sikaflex®-1a Arctic in total water immersion situations.
- Sikaflex®-1a Arctic can be overpainted with most conventional facade coating paint systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials. The best over-painting results are obtained when the sealant is allowed to fully cure first. Note: non-flexible paint systems may impair the elasticity of the sealant and lead to cracking of the paint film.
- Do not cure in the presence of curing silicones.
- Do not expose uncured Sikaflex®-1a Arctic to alcohol containing products as this may interfere with the curing reaction.
- Do not apply when moisture-cured-transmission condition exists from the substrate as this can cause bubbling within the sealant.
- Use opened cartridges and uni-pac sausages the same day.
- Since the system is moisture-cured, permit sufficient exposure to air.
- Color variations may occur due to exposure to chemicals, high temperatures and/or UV-radiation (especially with the colour shade white). However, a change in color is purely of aesthetic nature and does not adversely influence the technical performance or durability of the product.
- The ultimate performance of Sikaflex®-1a Arctic depends on good joint design and proper application with joint surfaces properly prepared.
- Do not use Sikaflex®-1a Arctic on bituminous substrates, natural rubber, EPDM rubber or on any building materials which might bleed oils, plasticizers or solvents that could attack the sealant.
- Do not use Sikaflex®-1a Arctic on natural stone.
- Do not use Sikaflex®-1a Arctic to seal joints in and around swimming pools.

ENVIRONMENTAL, HEALTH AND SAFETY

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Clean all surfaces. Joint walls must be sound, clean,frost-free, and free of oil and grease. Curing compound residues and any other foreign matter must be thoroughly removed. A roughened surface will also enhance bond. Install bond breaker tape or backer rodto 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. Consult Sikaflex Primer Technical Data Sheet or Technical Service for additional information on pricing.

MIXING

Single Component, Ready-to-Use

APPLICATION METHOD / TOOLS

Masking
It is recommended to use masking tape where neat or exact joint lines are required. Remove the tape within the skin time after finishing.
Joint Backing
After the required substrate preparation, insert a suitable backing rod to the required depth.
Priming
If required, prime the joint surfaces as recommended in substrate preparation. Avoid excessive application of primer to avoid causing puddles at the base of the joint.
Application
Sikaflex®-1a Arctic is supplied ready to use. Prepare the end of the foil pack or cartridge, insert into the sealant gun and fit the nozzle. For best performance, Sikaflex®-1a Arctic 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, ensuring that it comes into full contact with the sides of the joint and avoiding any air entrapment.. Avoid overlapping of sealant to eliminate entrapment of air.
Tooling & Finishing
Tool sealant to ensure full contact with joint walls andremove air entrapment. Joint dimension should allow for1/4 inch minimum and 1/2 inch maximum thickness forsealant. 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 1/2 in. and closed cellbacker rod is recommended.

CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Remover-208 immediately after use. Hardened material can only be removed mechanically. For cleaning skin use Sika® Cleaning Wipes-100.

OTHER RESTRICTIONS

See Legal Disclaimer.

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.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product’s shelf life. User determines suitability of product for intended use and assumes all risks. User’s and/or buyer’s sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537