

## PRODUCT DATA SHEET

# Sikaflex<sup>®</sup>-1c Arctic

### ONE-COMPONENT ELASTOMERIC JOINT SEALANT FOR COLD TEMPERATURE APPLICATIONS

#### PRODUCT DESCRIPTION

Sikaflex<sup>®</sup>-1c Arctic is a 1-component, polyurethane, colored, moisture curing non-sag elastomeric sealant formulated for cold weather applications. Movement capability  $\pm$  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

- 1-component no mixing equipment required
- Easy to gun, and tool down to 15°F
- At extreme cold temperatures the material will continue to be workable, gunable and toolable
- High elasticity and flexibility
- Good cut and tear resistance
- Low stress on substrate
- Good adhesion to many construction materials

#### PRODUCT INFORMATION

<b>Chemical Base</b>	Polyurethane
<b>Packaging</b>	20 fl. oz. uni-pac sausages, 20 uni-pac sausages per box

- 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  $\pm$  25 % (ASTM C 719)

#### APPROVALS / STANDARDS

<b>Color</b>	Limestone
<b>Shelf Life</b>	1 year in original unopened packaging.
<b>Storage Conditions</b>	+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.
<b>Density</b>	95 lbs/ft <sup>3</sup> (1.45 kg/l) (ISO 1183-1)
<b>Volatile organic compound (VOC) content</b>	64.2 g/L

## TECHNICAL INFORMATION

<b>Shore A Hardness</b>	40 (after 21 days)	(ASTM C 661)		
<b>Tensile Strength</b>	175 psi	(21 days at 15 °F (-9 °C) and 50 % R.H.) (ASTM D-412)		
<b>Secant Tensile Modulus</b>	80 psi (0.55 N/mm <sup>2</sup> ) at 60 % elongation 73°F (23 °C) 131 psi (0,90 N/mm <sup>2</sup> ) at 60 % elongation -4°F (-20 °C)	(ISO 8339)		
<b>Tensile Stress at Specified Elongation</b>	100 %	123 psi (0.85 Mpa) (ASTM D 412)		
<b>Elongation at Break</b>	550 %	(ASTM D 412)		
<b>Elastic Recovery</b>	90 %	(ISO 7389)		
<b>Adhesion in Peel</b>	<b>Substrate</b> Concrete	<b>Peel Strength</b> 20 lbs (9 kg)	<b>Adhesion loss</b> 0 %	(TT-S-00230C) (ASTM C 794)
<b>Tear Strength</b>	55 lbs./in. (10 N/ mm) after 21 days	(ASTM D 624)		
<b>Movement Capability</b>	± 25 %	(ASTM C 719)		
<b>Chemical Resistance</b>	Good resistance to water, diluted acids and diluted alkalines. Contact Sika Technical Services for specific data.			
<b>Resistance to Weathering</b>	Excellent			
<b>Service Temperature</b>	-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  $\geq \frac{1}{4}$  inch (6.0 mm) and  $\leq 1 \frac{1}{2}$  inch (40 mm). The joint depth must be  $\geq \frac{1}{4}$  inch (6.0 mm) and  $\leq \frac{1}{2}$  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  $\frac{1}{2}$  inch (12 mm).

Standard joint widths for joints between concrete facade elements:

#### Standard joint widths for joints between concrete facade elements:

Joint distance m	Min. joint width mm	Min. joint depth 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

## APPLICATION INFORMATION

Coverage	Joint width	Joint depth	Joint length
	inch	inch	ft per cartridge (10 fl.oz.)
	$\frac{1}{2}$	$\frac{1}{4}$	12,2
	$\frac{3}{4}$	$\frac{3}{8}$	5,4
	1	$\frac{1}{2}$	3
	$1\frac{1}{2}$	$\frac{3}{4}$	1,4
	Joint width	Joint depth	Joint length
	inch	inch	ft per sausage (20 fl.oz.)
	$\frac{1}{2}$	$\frac{1}{4}$	24,4
	$\frac{3}{4}$	$\frac{3}{8}$	5,4
	1	$\frac{1}{2}$	3
	$1\frac{1}{2}$	$\frac{3}{4}$	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.

<b>Backing Material</b>	Use closed cell, polyethylene foam backing rods.
<b>Ambient Air Temperature</b>	+15°F to +40°F (-9.4°C to +4.4°C)
<b>Substrate Temperature</b>	+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.
<b>Curing Rate</b>	<b>Tack-free Time:</b> 18 hours <b>Final Cure:</b> 21 days at 15°F (-9.4°C)

## APPLICATION INSTRUCTIONS

### SUBSTRATE PREPARATION

The substrate must be sound, clean, dry and free of all contaminants such as dirt, oil, grease, cement laitance, old sealants and poorly bonded paint coatings which could affect adhesion of the sealant. The substrate must be of sufficient strength to resist the stresses induced by the sealant during movement.

Removal techniques such as wire brushing, grinding, grit blasting or other suitable mechanical tools can be used. Repair all damaged joint edges with suitable Sika repair products

New or refurbished joints must be saw-cut.

Where joints in substrate are saw cut. After sawing, all slurry material, must be flushed away and joint surfaces allowed to dry.

All dust, loose and friable material must be completely removed from all surfaces before application of any activators, primers or sealant.

Sikaflex®-1c Arctic adheres without primers and/or activators.

For optimum adhesion, joint durability and critical, high performance applications such as joints on multi-storey buildings, highly stressed joints, extreme weather exposure or water immersion / exposure. The following

priming and/or pre-treatment procedures must be followed:

#### Non-porous substrates

Aluminium, anodised aluminium, stainless steel, PVC, galvanised steel, powder coated metals or glazed tiles. Slightly roughen surface with a fine abrasive pad. Clean and pre-treat using Sika® Aktivator-205 applied with a clean cloth.

Before sealing, allow a waiting time of > 15 minutes (< 6 hours).

Other metals, such as copper, brass and titanium-zinc, cleaned and pre-treat using Sika® Aktivator-205 applied with a clean cloth. After a waiting time of > 15 minutes (< 6 hours). Apply Sika® Primer-3 N applied by brush. Before sealing, allow a waiting time of > 30 minutes (< 8 hours)

PVC has to be cleaned and pre-treated using Sika® Primer-215 applied with a brush. Before sealing, allow a waiting time of > 30 minutes (< 8 hours).

#### Porous substrates

Concrete, aerated concrete and cement based renders, mortars and bricks must be primed using Sika® Primer-3 N applied with a brush. Before sealing, allow a waiting time of > 30 minutes (< 8 hours).

Adhesion tests on project specific substrates must be performed and procedures agreed with all parties before full project application. Contact Sika Technical

Services for additional information.

Note: Primers and activators are adhesion promoters and not an alternative to improve poor preparation / cleaning of the joint surface. Primers also improve the long term adhesion performance of the sealed joint.

## MIXING

1-part 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®-1c Arctic is supplied ready to use.

Prepare the end of the foil pack or cartridge, insert into the sealant gun and fit the nozzle. Extrude Sikaflex®-1c Arctic into the joint ensuring that it comes into full contact with the sides of the joint and avoiding any air entrapment.

### Finishing

As soon as possible after application, sealant must be firmly tooled against the joint sides to ensure adequate adhesion and a smooth finish.

Use a compatible tooling agent (e.g. Sika® Tooling Agent N) to smooth the joint surface. Water can be used. Do not use tooling products containing solvents.

## 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.

## LIMITATIONS

- Allow full curing before using Sikaflex®-1c Arctic in total water immersion situations.
- Sikaflex®-1c 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®-1c 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®-1c Arctic depends on good joint design and proper application with joint surfaces properly prepared.
- Do not use Sikaflex®-1c 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®-1c Arctic on natural stone.
- Do not use Sikaflex®-1c Arctic to seal joints in and around swimming pools.

## 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.

### Product Data Sheet

Sikaflex®-1c Arctic

February 2020, Version 01.01

020511010000000091

## 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](http://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](http://usa.sika.com)



### Product Data Sheet

Sikaflex®-1c Arctic  
February 2020, Version 01.01  
020511010000000091

Sikaflex-1cArctic-en-US-(02-2020)-1-1.pdf

