



## PRODUCT DATA SHEET

# Sikaflex®-11 FC+

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### MULTIPURPOSE ELASTIC ADHESIVE AND JOINT SEALANT

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#### PRODUCT DESCRIPTION

Sikaflex®-11 FC+ is a 1-part, multipurpose elastic adhesive and joint sealant with very good application properties which bonds and seals most construction material substrates. Internal and external use.

#### WHERE TO USE

An adhesive to bond construction components and materials such as:

- Concrete
- Masonry
- Reconstituted or cast stone
- Ceramic
- Wood
- Metal
- Glass

A sealant to seal vertical and horizontal joints.

#### CHARACTERISTICS / ADVANTAGES

- Movement capability of  $\pm 35\%$
- Bonds well to defined substrates without surface pre-treatment
- Good mechanical and weathering resistance
- Very low emissions

#### ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 EQc 2: Low-Emitting Materials

#### APPROVALS / CERTIFICATES

- ASTM C920-11 class 35, Sikaflex-11 FC+, MST, Report

## PRODUCT INFORMATION

Composition / Manufacturing	<i>i</i> -Cure technology polyurethane	
Packaging	300 ml cartridges : 12 cartridges per box	
Shelf Life	15 months from the date of production	
Storage Conditions	The product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +25 °C. Always refer to packaging.	
Colour	White, Black	
Density	~1,35 kg/l	(ISO 1138-1)

## TECHNICAL INFORMATION

Shore A Hardness	~37 (after 28 days)	(ISO 868)
Tensile Strength	~1,5 N/mm <sup>2</sup>	(ISO 37)
Secant Tensile Modulus	~0,60 N/mm <sup>2</sup> at 100 % elongation (+23 °C)	(ISO 8339)
Elongation at Break	~700 %	(ISO 37)
Movement Capability	±35 %	(ASTM C 719)
Elastic Recovery	~80 %	(ISO 7389)
Tear Propagation Resistance	~8,0 N/mm	(ISO 34)
Service Temperature	-40 °C min. / +80 °C max.	
Chemical Resistance	Resistant to many chemicals. Contact Sika® Technical Services for additional information.	

**Joint Design**

The joint dimensions must be designed to suit the movement capability of the sealant. The joint width must be  $\geq 10$  mm and  $\leq 35$  mm. A width to depth ratio of 2:1 for facade joints must be maintained (for exceptions, see table below).

### Typical joint dimensions for joints between concrete elements:

Joint distance (m)	Minimum joint width (mm)	Minimum joint depth (mm)
2	10	10
4	15	10
6	20	10
8	30	15
10	35	17

Minimum joint width for perimeter joints around windows is 10 mm. All joints must be correctly designed and dimensioned in accordance with the relevant 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. Joints  $\leq 10$  mm in width are for crack control and therefore non-movement joints. For larger joints contact Sika Technical Services for additional information.

## APPLICATION INFORMATION

<b>Yield</b>	<b>Bonding</b>		<b>Dimension</b>	
	<b>Yield</b>			
	<b>1 Cartridge (300 ml)</b>			
	~100 spots		Diameter = 30 mm	
			Thickness = 4 mm	
	~15 m bead		Nozzle diameter = 5 mm (~20 ml per linear meter)	
	<b>Sealing</b>			
	<b>Joint width</b>	<b>Joint depth</b>	<b>Joint length</b>	<b>Joint length</b>
	<b>mm</b>	<b>mm</b>	<b>m per Cartridge</b>	<b>m per foil pack</b>
			<b>(300 ml)</b>	<b>(600 ml)</b>
	10	10	3,0	6,0
	15	12	1,6	3,2
	20	17	0,9	1,8
	25	20	0,6	1,2
	30	25	0,4	0,8
	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>Sag Flow</b>	~1 mm (20 mm profile, +23 °C)		(ISO 7390)	
<b>Ambient Air Temperature</b>	+5 °C min. / +40 °C max.			
<b>Substrate Temperature</b>	+5 °C min. / +40 °C max. Minimum +3 °C above dew point temperature			
<b>Backing Material</b>	Use closed cell, polyethylene foam backing rod			
<b>Curing Rate</b>	~3,5 mm/24 hours (+23 °C / 50 % r.h.)		(CQP* 049-2)	
	*Sika Corporate Quality Procedure			
<b>Skinning time</b>	~70 min (+23 °C / 50 % r.h.)		(CQP 019-1)	

## 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.

## LIMITATIONS

- For good workability, the adhesive temperature must be +20 °C.
- Application during high temperature changes is not recommended (movement during curing).
- Before bonding or sealing, check adhesion and compatibility of paints and coatings by carrying out preliminary trials.
- Sikaflex®-11 FC+ can be overpainted with most conventional water-based coating and 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 adhesive is allowed to fully cure first. Note: non-flexible paint systems may impair the elasticity of the adhesive and lead to cracking of the paint film.
- Colour variations may occur due to the exposure in service to chemicals, high temperatures and/or UV-radiation (especially with white colour shade). This effect is aesthetic and does not adversely influence the technical performance or durability of the product.
- Always use Sikaflex®-11 FC+ in conjunction with mechanical fixings for overhead applications or heavy components.
- For very heavy components provide temporary support until Sikaflex®-11 FC+ has fully cured.
- Full surface applications / fixings are not recommended since the inner part of the adhesive layer may never cure.
- Before using on reconstituted, cast or natural stone, contact Sika Technical Services.
- Do not use on bituminous substrates, natural rubber, EPDM rubber or on any building materials which might leach oils, plasticisers or solvents that could degrade the adhesive.

- Do not use on polyethylene (PE), polypropylene (PP), polytetrafluoroethylene (PTFE / Teflon), and certain plasticised synthetic materials. Preliminary trials are recommended or contact Sika® Technical Services.
- Do not use to seal joints in and around swimming pools.
- Do not use for joints under water pressure or for permanent water immersion.
- Do not use to seal glass or sanitary joints.
- Do not use for trafficked floor joints. Contact Sika® Technical Services for advice on alternative products.
- Do not use for bonding glass if the bond line is exposed to sunlight.
- Do not use for structural bonding.
- Do not expose uncured Sikaflex®-11 FC+ to alcohol containing products as this may interfere with the curing reaction.

## 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

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 adhesive / sealant. The substrate must be of sufficient strength to resist with the stresses induced by the sealant during movement. Removal techniques such as wire brushing, grinding, sanding or other suitable mechanical tools can be used. All dust, loose and friable material must be completely removed from all surfaces before application of any activators, primers or adhesive / sealant. Contact Sika Technical Services for additional information.

### APPLICATION METHOD / TOOLS

Strictly follow installation procedures as defined in the latest Product Data sheet.

#### Bonding Procedure

##### Application

After the necessary substrate preparation, prepare the end of the cartridge / foil pack before or after inserting into the sealant gun then fit the nozzle. Apply in triangular beads, strips or spots at intervals of a few centimetres each. Use hand pressure only to fix the components to be bonded into position before skinning of the adhesive occurs. Incorrectly positioned components can easily be unbonded and repositioned

during the first few minutes after application. If necessary, use temporary adhesive tapes, wedges, or supports to hold the assembled components together during the initial curing time.

Fresh, uncured adhesive remaining on the surface must be removed immediately. Final strength will be reached after complete curing of Sikaflex®-11 FC+, i.e. after 24 to 48 hours at +23 °C, depending on the environmental conditions and adhesive layer thickness.

### Sealing Procedure

#### 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

Priming is not usually necessary. Most substrates only require priming if testing indicates a need. Consult Sikaflex® Primers Product Data Sheet for additional information

#### Application

Prepare the end of the cartridge / foil pack before or after inserting into the sealant gun then fit the nozzle. Extrude Sikaflex®-11 FC+ 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.

Do not use tooling products containing solvents.

### CLEAN UP

Clean all tools and equipment with Sika® Urethane Thinner and Cleaner. Once hardened, product can only be removed mechanically. Wash soiled hands and skin thoroughly in hot soapy water or use Sika® Hand Cleaner towels.

## 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](http://www.sika.ca)

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**Product Data Sheet**

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