BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-11 FC Purform®

Multipurpose elastic adhesive and joint sealant

DESCRIPTION

Sikaflex®-11 FC Purform® is a 1-part moisture curing elastic adhesive and sealant. It is used for interior and exterior multipurpose bonding and joint sealing. It has good and durable adhesion to most construction materials.

USES

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.

FEATURES

- Movement capability of ± 25% (ISO 9047)
- Movement capability of ± 35% (ASTM C719)
- Easy to apply and non-sagging
- Bonds well to most construction materials
- Good mechanical and weathering resistance
- Very low monomer content
- Adhesive-sealant with CE marking

SUSTAINABILITY

- Conformity with LEED v4 EQc 2: Low-Emitting Materials
- VOC emission classification GEV-Emicode EC1PLUS, license number 11290/20.10.00
- Class A+ according to French Regulation on VOC emissions
- VOC emission classification of building materials RTS M1
- Complies with European Model EPD Products

CERTIFICATES AND TEST REPORTS

- CE Marking and Declaration of Performance to EN 15651-1 - Sealants for non-structural use in joints in buildings - Facade elements - F EXT-INT CC 25HM
- CE Marking and Declaration of Performance to EN 15651-3 - Sealants for non-structural use in joints in buildings - Sealants for joints for non-structural use in sanitary areas - XS 3
- CE Marking and Declaration of Performance to EN 15651-4 - Sealants for non-structural use in joints in buildings - Sealants for pedestrian walkways - PW EXT-INT CC 25HM
- Migration Behaviour EN 1186, EN 13130, CEN/TS 14234, Sikaflex®-11 FC Purform, ISEGA, Certificate No. 54312 U 21

PRODUCT INFORMATION

Composition	Sika® Purform® polyurethane with a monomeric diisocyanate content of less than 0.1 % by weight.	
Packaging	300 ml cartridge	12 cartridges per box
	600 ml cylindrical foil pack	20 foil packs per box
Colour	White, black, concrete grey	
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.	
Density	~1.35 kg/l	(ISO 1138-1)

TECHNICAL INFORMATION

Shore A hardness	~33 (after 28 days)	(ISO 868)
Tensile strength	~1.8 N/mm²	(ISO 37)
Secant tensile modulus	~0.6 N/mm² at 100 % elongation (+23 °C)	(ISO 8339)
Tensile strain at break	~800 %	(ISO 37)
Elastic recovery	~85 %	(ISO 7389)
Lap shear strength	~1.0 MPa	(ISO 4587)
Tear propagation resistance	~8.0 N/mm	(ISO 34)
Movement capability	± 25 % ± 35 %	(ISO 9047) (ASTM C 719)
Chemical resistance	Resistant to many chemicals. Contact Sika® Technical Services for additional information.	
Service temperature	−40 °C min. / +80 °C max.	
Joint design	The joint dimensions must be designed to suit the movement capability of the sealant. The joint width must be ≥ 10 mm and ≤ 35 mm. A width to depth ratio of 1:0.5 for facade joints and a with to depth ratio of 1:0.8 for floor 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 ≤ 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

Consumption

Sealing

Approximate consumption for floor joints

Joint width [mm]	Joint depth [mm]	Joint length [m] per 300 ml	Joint length [m] per 600 ml
10	10	3	6
15	12–15	1.5	2.5–3
20	17	0.9	1.8
25	20	0.6	1.2
30	25	0.4	0.8

Minimum joint width for perimeter joints around windows is 10 mm.
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.

Yield

Bonding

Yield 1 Cartridge (300 ml)	Dimension
~15 m bead	Nozzle diameter = 5 mm (~20 ml per linear meter)

Yield 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 rod

Sag flow

0 mm (20 mm profile, +23 °C) (ISO 7390)

Ambient air temperature

+5 °C min. / +40 °C max.

Substrate temperature

+5 °C min. / +40 °C max. Minimum +3 °C above dew point temperature

Curing rate

~4.0 mm / 24 hours (+23 °C / 50 % r.h.) (CQP* 049-2)

*Sika Corporate Quality Procedure

Skinning time

~50 min (+23 °C / 50 % r.h.) (CQP 019-1)

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTATION

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

IMPORTANT CONSIDERATIONS

- 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 Purform® 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 Purform® in conjunction with mechanical fixings for overhead applications or heavy components.
- For very heavy components provide temporary support until Sikaflex®-11 FC Purform® 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.
- 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 Purform® to alcohol containing products as this may interfere with the curing reaction.

ECOLOGY, HEALTH AND 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.
Sikaflex®-11 FC Purform® adheres without primers and/or activators.
However, for adhesion to many substrates, joint durability and critical, high performance applications 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® Cleaner P or Sika® Aktivator-205 applied with a clean cloth.
Before bonding / sealing, allow a waiting time of > 15 minutes (< 6 hours).
Other metals, such as copper, brass and titanium-zinc, clean and pre-treat using Sika® Cleaner P or Sika® Aktivator-205 applied with a clean cloth. After a waiting time of > 15 minutes (< 6 hours). Apply Sika® Primer-3 N by brush.
Allow a further waiting time of > 30 minutes (< 8 hours) before bonding / sealing,
PVC has to be cleaned and pre-treated using Sika® Primer-215 applied with a brush.
Before bonding / sealing, allow a waiting time of > 15 minutes (< 8 hours).

Porous substrates

Concrete, aerated concrete and cement-based renders, mortars and bricks, prime surface using Sika® Primer-3 N or Sika® Primer-115 applied by brush.
Before bonding / sealing, allow a waiting time of > 30 minutes (< 8 hours).
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.
Contact Sika Technical Services for additional information.

APPLICATION METHOD / TOOLS

Strictly follow installation procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

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 Purform®, 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

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

Prepare the end of the cartridge / foil pack before or after inserting into the sealant gun then fit the nozzle. Extrude Sikaflex®-11 FC Purform® 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. Do not use tooling products containing solvents.

CLEANING OF EQUIPMENT

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

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 written recommendations, or from any other advice offered. The user of the product must test the product’s suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. 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.