

## PRODUCT DATA SHEET

## Sikaflex®-11 FC

## ONE-COMPONENT ADVANCED POLYURETHANE, ELASTIC JOINT SEALANT AND ADHESIVE

## DESCRIPTION

Sikaflex®-11 FC is a one-component, gun-grade, adhesive and sealing compound of permanent elasticity. This dual-purpose material is based on a special moisture-cured polyurethane with an accelerated curing time that meets ASTM C920 Type S, Grade NS, Class 12.5 for internal and external applications.

## USES

**As an elastic adhesive for:**

- Cover plates, gaskets and coverings.
- Acoustic ceiling tiles.
- Floor moldings and door sills.
- Light weight construction materials.
- Wood or metal and door frames.
- Roof tiles.

**As an elastic joint sealer for:**

- Air ducts and high vacuum systems.
- Containers, tanks, and silos.
- Gaskets in openings in walls or floors for ducts, piling, etc.
- Reservoirs or water retaining structures.
- Aluminum fabrication.
- Bolted lap joints.

## CHARACTERISTICS / ADVANTAGES

- Excellent adhesion to all cement-based materials, brick, ceramics, glass, metals, wood, epoxy, polyester and acrylic resin
- Fast cure rate
- Good weathering and water resistance
- Non-corrosive
- Can be over painted with water, oil, and rubber-based paints. (Preliminary tests recommended).
- High durability and ageing resistance
- High pick resistance

## PRODUCT INFORMATION

|                    |  |
|--------------------|--|
| Chemical Base      | Polyurethane elastomer   |
| Packaging          | 310 ml cartridge, 12 cartridges per box<br>600 ml foil pack (Grey Only), 20 foil packs per box   |
| Colour             | White, Grey, Black   |
| Shelf Life         | Twelve (12) months from the date of production, if it is stored in undamaged, original sealed packaging and if storage conditions are met. |
| Storage Conditions | Store in dry conditions, where it is protected from direct sunlight and at temperatures between +5 °C and +25 °C                           |

|   |               |
|---|---------------|
| Density                                 | ~1.2 kg/litre |
| Volatile organic compound (VOC) content | 28.5 g/L      |

## TECHNICAL INFORMATION

|                          |   |   |
|--------------------------|---|---|
| Shore A Hardness         | 40–45   | (+23 °C and 50 % R.H.) (ASTM D-2240)                          |
| Tensile Strength         | ~1.55 N/mm <sup>2</sup>   | (+23 °C and 50 % R.H.) (ASTM D-412)                           |
| Elongation at Break      | 600 %   | (+23 °C and 50 % R.H.) (ASTM D-412)                           |
| Elastic Recovery         | >90 %   | (+23 °C and 50 % R.H.) (ASTM C-719)                           |
| Lap Shear Strength       | 1.13 N/mm <sup>2</sup>  | (23 °C and 50 % R.H.) (ASTM D-1002 modified, glass substrate) |
| Chemical Resistance      | Good resistance to water, weak acids, weak alkalis, sewerage, mineral oils, vegetable oils, fats, fuels. (Not resistant to organic solvents, paint thinner, strong acids, strong alkalis). Consult Technical Service for specific data. |   |
| Service Temperature      | -20 °C to +70 °C  |   |
| Resistance to Weathering | Excellent   |   |

## APPLICATION INFORMATION

|                         |  |                                   |                  |
|-------------------------|--|-----------------------------------|------------------|
| Consumption             | Joint length (m) per 600ml foil pack   | Joint width (mm)                  | Joint depth (mm) |
|                         | 6  | 10                                | 10               |
|                         | 4  | 15                                | 10               |
|                         | 3  | 20                                | 10               |
|                         | 2  | 25                                | 12               |
|                         | 1.3  | 30                                | 15               |
| Backing Material        | Use closed cell polyethylene foam backing rods.  |                                   |                  |
| Ambient Air Temperature | +5°C to +40°C. Sealant should be installed when joint is at mid-range of its anticipated movement. |                                   |                  |
| Curing Rate             | Tack-free Time (TT-S-00230C)   | 1 to 2 hours depending on climate |                  |
|                         | Final Cure   | 3 to 5 days                       |                  |

## APPLICATION INSTRUCTIONS

### SUBSTRATE PREPARATION

All surfaces must be structurally sound, clean, dry and free from grease, oil, wax, dust and surface contaminants such as curing compounds, release agents, coatings and friable material. Sikaflex®-11 FC adheres without primers and/or activators. However, for optimum adhesion and critical, high performance applications, such as on multi storey buildings, highly stressed joints, extreme weather exposure or water immersion, the following priming/or pre treatment procedures shall 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 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® Aktivator-205 applied with a clean cloth. After a waiting time of

> 15 minutes (< 6 hours). Apply Sika® Primer-3 N applied by brush. Allow a further waiting time of > 30 minutes (< 8 hours) before bonding / sealing.

**Porous substrates:** Concrete, aerated concrete and cement based renders, mortars and bricks, prime surface using Sika® Primer-3 N applied by brush. Before bonding / sealing, allow a waiting time of > 30 minutes (< 8 hours). For more detailed advice and instructions contact Sika Technical Services.

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

## 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:** 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 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 the joint surface. Do not use tooling products containing solvents.

## CLEANING OF TOOLS

Clean all tools and application equipment immediately after use with Sika® Remover-208 and / or Sika® Thinner C. Once cured, hardened material can only be removed mechanically. For cleaning skin use Sika® Ever-build Wonder Wipes.

## FURTHER DOCUMENTS

- Safety Data Sheet (SDS)
- Pre-treatment chart Sealing and Bonding

## LIMITATIONS

- Allow 5 day cure at standard conditions when using Sikaflex®-11 FC in total water immersion applications.
- Sikaflex®-11 FC can be overpainted with most conventional 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 Sikaflex®-11 FC is allowed to fully cure. Note: non-flexible paint systems may impair the elasticity and lead to cracking of the paint film.
- Avoid exposure to high levels of chlorine. (Maximum level is 5ppm).
- Maximum depth of sealant must not exceed 12 mm, minimum depth is 6 mm when used as a joint sealant.
- Maximum expansion and contraction should not exceed 12.5 % of average joint width.
- Do not apply when moisture-vapor-transmission conditions exist from the substrate as this may cause bubbling.
- When applying sealant, air-entrapment must be avoided as this may cause bubbling.
- As Sikaflex®-11 FC is moisture-cured, ensure sufficient exposure to air.
- White tends to discolour / yellow slightly when exposed to ultraviolet rays.
- The ultimate performance of Sikaflex®-11 FC depends on proper application, good design and proper preparation of joint surfaces.

- Not for use in expansion joints.
- For very heavy components provide temporary support until Sikaflex®-11 FC has fully cured.
- Do not use on bituminous substrates, natural rubber, EPDM rubber or on any materials which might leach oils, plasticisers or solvents.
- Do not use to seal joints in and around swimming pools.
- Do not expose uncured Sikaflex®-11 FC to alcohol-containing products and solvent cleaners as this may interfere with the curing reaction.

## BASIS OF PRODUCT DATA

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

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## ECOLOGY HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## 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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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