

PRODUCT DATA SHEET

Sikaflex[®]-400 Fire

FIRE RATED JOINT SEALANT

DESCRIPTION

Sikaflex[®]-400 Fire is a fire rated, 1-component, moisture-curing, elastic joint sealant.

USES

Sikaflex[®]-400 Fire is designed for fire rated movement and connection joints on porous and non-porous substrates. It is suitable for interior and exterior applications.

CHARACTERISTICS / ADVANTAGES

- Up to 4 hours fire resistance according to AS 1530.4
- Up to 4 hours fire resistance according to EN 1366-4
- Movement capability of $\pm 25\%$ (ASTMC719)
- Easy to smooth and very good workability
- Good adhesion to many different substrates
- Long open time

APPROVALS / STANDARDS

- AS1530.4 FRL
- EN 1366-4
- ASTM C920 class 25
- ISO 11600 class 25 LM
- EN 15651-1 F EXT-INT CC

PRODUCT INFORMATION

Chemical base	<i>i-Cure</i> [®] Technology polyurethane	
Packaging	600 ml foil pack, 20 foil packs per box	
Colour	Grey	
Shelf life	Sikaflex [®] -400 Fire has a shelf life of 12 months from the date of production, if it is stored in undamaged, original, sealed packaging, and if the storage conditions are met.	
Storage conditions	Sikaflex [®] -400 Fire shall be stored in dry conditions, where it is protected from direct sunlight and at temperatures between +5 °C and +25 °C	
Density	1.40 kg/l approx.	(ISO 1183-1)
Shore Hardness	25 approx.(after 28 days)	(ISO 868)
Secant Tensile Modulus	0.30 N/mm ² approx. at 100% elongation (23 °C) 0.45 N/mm ² approx. at 100% elongation (-20 °C)	(ISO 8339)

Elongation at Break	650% approx.	(ISO 37)
Elastic Recovery	85% approx.	(ISO 7389)
Tear Propagation Resistance	5.0 N/mm approx.	(ISO 34)
Movement Capability	±25% ±25%	(ISO 9047) (ASTM C 719)
Service Temperature	-40 °C to + 70 °C	

Joint Design
The joint width must be designed to suit the joint movement required and the movement capability of the sealant. The joint width shall be ≥ 10 mm and ≤ 40 mm. The joint depth shall be ≤ 20 mm. A width to depth ratio of 2:1 must be maintained (for exceptions, see table below).

Standart joint widths for joints between concrete elements:

Joint distance [m]	Min.joint width [mm]	Min. joint depth [mm]
2	10	10
4	15	10
6	20	10
8	30	15
10	35	17

All joints must be correctly designed and dimensioned in accordance with the relevant standards, before their construction. The basis for calculation of the necessary joint widths are the type of structure and its dimensions, the technical values of the adjacent building materials and the joint sealing materials, as well as the specific exposure of the building and the joints. For larger joints please contact our Technical Service Department.

Consumption	Joint width [mm]	Joint depth[mm]	Joint lenght [m] per 600ml foil pack
	10	10	6
	15	10	4
	20	10	3
	25	12	2
	30	15	1.3

Backing Material Use polyethylene foam backing rods.

Sag Flow 0 mm approx. (20 mm profile, 50 °C) (SO 7390)

Ambient Air Temperature +5 °C to +40 °C

Substrate Temperature +5 °C to +40 °C, min. 3 °C above dew point temperature

Curing Rate 1.5 mm/24 hours approx. (23 °C / 50% r.h.) (CQP 049-2)

Skin time 180 minutes approx. (23 °C / 50% r.h.) (CQP 019-1)

Tooling Time 150 minutes approx. (23 °C / 50% r.h.) (CQP 019-2)

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

The substrate must be clean, dry, sound and homogeneous, free from oils, grease, dust and loose or friable particles. Sikaflex®-400 Fire adheres without primers.

However, for optimum adhesion and critical, high performance applications, such as on multi-story buildings, highly stressed joints, extreme weather exposure, the following priming and/or pre-treatment procedures shall be followed:

Porous substrates

Concrete, aerated concrete and cement based renders, mortars and bricks shall be primed using Sika® Primer-215 or Sika® Primer-3 N applied with a brush. Before sealing, allow a flash-off time of > 30 minutes (< 8 hours).

For more detailed advice and instructions please contact Sika Technical Services.

Note: Primers are adhesion promoters. They are neither a substitute for the correct cleaning of a surface, nor do they improve the strength of the surface significantly.

APPLICATION METHOD / TOOLS

Sikaflex®-400 Fire is supplied ready to use. After the necessary substrate preparation, insert a suitable backing rod to the required depth and apply any primer if necessary. Insert a foil pack or cartridge into the sealant gun and extrude Sikaflex®-400 Fire into the joint making sure that it comes into full contact with the sides of the joint and avoids any air entrapment. Sikaflex®-400 Fire sealant must be firmly tooled against the joint sides to ensure adequate adhesion. It is recommended to use masking tape where exact joint lines or neat lines are required. Remove the tape within the skin time. 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® Top-Clean T. Once cured, residual material can only be removed mechanically.

FURTHER DOCUMENTS

- Safety Data Sheet (SDS)
- AS 1530.4 test report
- Brochure Sika Fire Protection Solutions

LIMITATIONS

- Sikaflex®-400 Fire can be overpainted with most conventional facade coating paint systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials (e.g. according to ISO technical paper: Paintability and Paint Compatibility of Sealants). The best over painting results are obtained when 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.
- Colour variations may occur due to exposure to chemicals, high temperatures and/or UV-radiation (especially with the colour shade white). However, a change in colour is purely of aesthetic nature and does not adversely influence the technical performance or durability of the product.
- Do not use Sikaflex®-400 Fire on natural stone.
- Do not use Sikaflex®-400 Fire 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®-400 Fire to seal joints in and around swimming pools.
- Do not use Sikaflex®-400 Fire for joints under water pressure or for permanent water immersion.
- Do not expose uncured Sikaflex®-400 Fire to alcohol containing products (tooling agents etc.) as this may interfere with the curing reaction.

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.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data and uses.

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.

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