BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-400 Fire

Fire resistant polyurethane joint sealant

DESCRIPTION

Sikaflex®-400 Fire is a fire resistant, polyurethane, 1-part, moisture-curing, elastic joint sealant. Movement capability ±35 %. Internal and external use.

USES

Sikaflex®-400 Fire is designed for fire rated movement and connection joints and penetrations on porous and non-porous substrates.

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 ±35 % (ASTMC719)
- Easy to smooth and good workability
- Good adhesion to many different substrates
- Long open time

ENVIRONMENTAL INFORMATION

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

APPROVALS / STANDARDS

- ASTM C920-14 Class 35, Sikaflex®-400 Fire, MST, Report No 1117920V-SIKA
- Fire Resistance AS 1530.4, Sikaflex®-400 Fire, CSIRO, Report No FSP 1819
- Fire Resistance AS 1530.4, Sikaflex®-400 Fire, Exova, Report No 376610B
- Fire Resistance ISO/IEC 17025, Sikaflex®-400 Fire, NATA, Report No FSP 1839
- Fire testing EN 13501-2, Sikaflex®-400 Fire, Exova, Report No 391651
- Performance Test EN 15651-1, Sikaflex®-400 Fire, SKZ, Report No 123504/16-III
- Test ISO 11600, Sikaflex®-400 Fire, SKZ, Report No 123504/16-IV

PRODUCT INFORMATION

Chemical Base	1- part Polyurethane	
Packaging	600 ml cylindrical foil pack: 20 foil packs per box	
Colour	Grey	
Shelf Life	12 months from date of production	
Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +35 °C. Always refer to packaging.	
Density	~1,40 kg/l	(ISO 1183-1)

TECHNICAL INFORMATION

Shore Hardness	~25 (after 28 days)	(ISO 868)

Secant Tensile Modulus	~0,30 N/mm² at 100 % elongation (23 °C) ~0,45 N/mm² at 100 % elongation (–20 °C)	(ISO 8339)
Elastic Recovery	~85 %	(ISO 7389)
Elongation at Break	~650 %	(ISO 37)
Tear Propagation Resistance	~5,0 N/mm	(ISO 34)
Movement Capability	±25 % ±35 %	(ISO 9047) (ASTM C 719)
Resistance to fire	Refer to 'Approvals / Certificates', Sika Passive Fire Protection Handbook or contact Sika Technical Services for specific information.	
Service Temperature	–40 °C to + 70 °C	
Joint Design	Refer to 'Approvals / Certificates', Sika Passive Fire Protection Handbook or contact Sika Technical Services for specific information.	

APPLICATION INFORMATION

Consumption

Joint width mm	Joint depth mm	Joint length m per foil pack (600 ml)
10	10	6
15	10	4
20	10	3
25	12	2
30	15	1,3

Backing Material	Refer to 'Approvals / Certificates', Sika Passive Fire Protection Handbook or contact Sika Technical Services for specific information.	
Sag Flow	~0 mm (20 mm profile, 50 °C)	(SO 7390)
Ambient Air Temperature	+5 °C to +40 °C	
Substrate Temperature	+5 °C to +40 °C. Minimum 3 °C above dew point temperature	
Curing Rate	~2,5 mm/24 hours (+23 °C / 50 % r.h.)	(CQP 049-2)
Skin Time	~180 minutes (+23 °C / 50 % r.h.)	(CQP 019-1)
Tooling Time	~150 minutes (+23 °C / 50 % r.h.)	(CQP 019-2)

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.

FURTHER DOCUMENTS

- Pre-treatment Sealing and Bonding Chart
- Method Statement: Joint Sealing
- Method Statement: Joint Maintenance, Cleaning and Renovation
- Technical Manual: Facade Sealing
- Sika passive fire protection handbook

LIMITATIONS

- Sikaflex®-400 Fire can be over-painted with most conventional facade paint coating 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). Optimum 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 coating. Depending on type of paint used, plasticizer migration may occur causing the paint to become surface 'tacky'.
- 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.
- Do not use on natural stone.
- 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 sealant.
- Do not use to seal joints in and around swimming

pools.
- Do not use for joints under water pressure or permanent water immersion.
- Do not expose uncured Sikaflex®-400 Fire to alcohol containing products as this may interfere with the curing reaction

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.

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®-400 Fire adheres without primers and/or activators.
For optimum adhesion and joint durability, the following substrate priming (and/or pre-treatment) procedures must be followed:
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)
Porous substrates
Concrete, aerated concrete and cement based renders, mortars and bricks surfaces must be primed using Sika® Primer-3 N or Sika® Primer-210 applied by brush.
Before sealing, allow a waiting time of > 30 minutes (< 8 hours).
Concrete, aerated concrete and cement based renders, mortars and bricks must be primed using Sika® Primer-3 N or Sika® Primer-210. For more details such as application and flash-off times, refer to the most recent Product Data Sheet of the respective pre-treatment product.
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

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.
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®-400 Fire 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®-400 Fire 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

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.

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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