

## PRODUCT DATA SHEET

# Sikaflex<sup>®</sup>-422

Polyurethane sealant for floor joints, rigid pavements and civil engineering applications

## DESCRIPTION

Sikaflex<sup>®</sup>-422 is a 1-part, polyurethane, moisture curing, elastic joint sealant for sealing many types of joint configurations in floors and civil engineering structures, and specially designed for rigid pavements. It provides a waterproof seal with good mechanical properties and remains elastic over a wide range of temperatures.

## USES

Sealing vertical and horizontal saw cut and expansion joints for:

- Floors
- Pedestrian and traffic areas
- Car park parking decks
- Warehouse and production floor areas
- Rigid pavements on highways, airports, bridges
- Other types of undefined horizontal gap filling likely to experience medium to high movement

## CHARACTERISTICS / ADVANTAGES

- Suitable for rigid pavements
- Movement capability  $\pm 25$  (ASTM C 719)
- Good workability
- Good adhesion to many substrates
- Solvent-free
- Very low emissions

## PRODUCT INFORMATION

Chemical base	Hybrid polyurethane
Packaging	600 ml foil pack, 20 foil packs per box
Colour	Concrete grey
Shelf life	12 months from the date of production
Storage conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +10 °C and +25 °C. Protect from direct sunlight.
Density	~1.65 kg/L (ISO 1183-1)

## TECHNICAL INFORMATION

Shore A hardness	~ 32 (ASTM D 2240: 2015/ISO 868)
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<b>Tensile strength</b>	≥ 1.0 N/mm <sup>2</sup>	(ASTM D 412:2016/ISO 37)				
<b>Secant tensile modulus</b>	~ 0.4 N/mm <sup>2</sup>	(ISO 8339:2005)				
<b>Elastic recovery</b>	<table border="1"> <tr> <td>Before ageing</td> <td>&gt; 92 %</td> </tr> <tr> <td>After fuel immersion</td> <td>&gt; 90 %</td> </tr> </table>	Before ageing	> 92 %	After fuel immersion	> 90 %	(BS 5212-1990)
Before ageing	> 92 %					
After fuel immersion	> 90 %					
<b>Tear propagation resistance</b>	≥ 6.0 N/mm	(ASTM D 624:2000/ISO 34)				
<b>Movement capability</b>	± 25 % (Pass for Class 25)	(ASTM C 719:2014)				
	<b>Classification as per IRC 57</b>					
	Pass at ± 25 % (No Cohesive or Adhesion Failure)	(IRC 57-2006)				
<b>Resistance to fire</b>	Resistant to flame, shows no sign of flow, cracking, flaking, hardening or any other effects	(BS 5212-1990)				
<b>Service temperature</b>	-40 °C min. / +70 °C max.					

**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 ≤ 50 mm. A width to depth ratio of 2:1 must be maintained (for exceptions, see table below).

**Standard joint widths for joints between concrete elements**

<b>Joint distance [m]</b>	<b>Min. joint width [mm]</b>	<b>Min. joint depth [mm]</b>
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 material, as well as the specific exposure of the building and the joints.

For larger joints please contact our Technical Service Department.

<b>Elongation at break</b>	~ 500 %	(ASTM D 412:2016)
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## APPLICATION INFORMATION

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

<b>Sag flow</b>	Non sag	
<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 rods 25 % larger than the joint width. If the joint depth does not allow for backer rod, use polyethylene bond breaker tape to prevent three-sided adhesion.	
<b>Curing rate</b>	~2 mm/24 hours (+23 °C / 50 % r.h.)	Corporate Quality Procedure (CQP 049-2)
<b>Skin time</b>	~50 minutes (+23 °C / 50 % r.h.)	Corporate Quality Procedure (CQP 019-1)

## 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 for Silane Terminated Polymers
- General Guideline on Sealing and Bonding with Sikaflex®

## FURTHER DOCUMENTS

Adhesion & Cohesion	No Failure	(BS 5212 - 3:1990)
VOC	< 50 g/L	(IS 101-P-2/Sec 3): 2015

## IMPORTANT CONSIDERATIONS

- 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 mix or expose the uncured product to substances that may react with isocyanate, especially alcohols that are often present in thinners, removers, solvents, cleaning agents, release agents, etc., as this contact interferes or interrupts the curing crosslinks of the material.
- Do not use Sikaflex®-422 on natural stone.
- Do not use for structural glazing or as a glass sealant.
- Do not use on bituminous substrates, natural rubber or any building materials which might leach oils, plasticisers or solvents that could degrade the sealant. EPDM or other gaskets in direct contact with Sikaflex®-422 must be tested for compatibility prior to application. For specific advice contact Sika Technical Services.
- Do not use Sikaflex®-422 to seal joints in and around swimming pools.
- Do not use Sikaflex®-422 for joints under water pressure or for permanent water immersion.
- Do not use for medical or pharmaceutical applications.

## 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 clean, dry, sound and free from oils, grease, dust, cement laitance and loose or friable particles.
- Removal techniques such as wire brushing, grinding, grit blasting or other suitable mechanical tools can be used.
- Damaged joint edges can be repaired with suitable Sika repair products.
- 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.

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, 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 applied by brush. Before sealing, allow a waiting time of > 30 minutes (< 8 hours).
- PVC has to be cleaned and pre-treated using Sika® Primer-215 applied with a 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 applied by brush. Before sealing, allow a waiting time of > 30 minutes (< 8 hours).

Adhesion tests on project specific substrates must be performed and procedures agreed with all parties before full project application.

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.

#### **Masking**

It is recommended to use masking tape where neat or exact joint lines are required. Remove the tape within the skinning 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®-422 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®-422 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 immediately after use with Sika® Remover-208. 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.

### Sika India Pvt. Ltd.

620, Diamond Harbour Road  
Commercial Complex II  
Kolkata - 700 034  
West Bengal, India

### Contact:

Phone: +91 33 2447 2448  
Fax: +91 33 2397 8688  
info.india@in.sika.com  
www.sika.in



### Product Data Sheet

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