

## PRODUCT DATA SHEET

# Sikaflex<sup>®</sup>-421

Sealant for precast concrete applications

## DESCRIPTION

Sikaflex<sup>®</sup>-421 is a 1-component, moisture-curing, elastic joint sealant. Suitable for use in hot and tropical climatic conditions.

## USES

Sikaflex<sup>®</sup>-421 is designed for movement and connection joints between concrete precast elements.

## FEATURES

- Good resistance to weathering
- Movement capability of  $\pm 25\%$  (ASTM C 719)
- Over paintable
- Good adhesion to concrete

## CERTIFICATES AND TEST REPORTS

- ASTM C 920 class 25
- VOC test report (US EPA 24)
- VOC Emission Test Report (CDPH)

## PRODUCT INFORMATION

<b>Composition</b>	Polyurethane Hybrid
<b>Packaging</b>	600 mL foil pack, 20 foil packs per box
<b>Shelf life</b>	Sikaflex <sup>®</sup> -421 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.
<b>Storage conditions</b>	Sikaflex <sup>®</sup> -421 shall be stored in dry conditions, where it is protected from direct sunlight and at temperatures between +5°C and +25°C.
<b>Colour</b>	White, off-white, concrete grey and beige (other colors on request)
<b>Density</b>	~ 1.27 kg/l (ISO 1183-1)
<b>Volatile organic compound (VOC) content</b>	≤ 50 g/l (US EPA Method 24)

## TECHNICAL INFORMATION

Shore A hardness	~ 37 (after 28 days)	(CQP023-1 / ISO 7619-1)
Tensile strength	~ 0.9 MPa	(CQP036-1 / ISO 527)
Elongation at break	~ 100 %	(CQP036-1 / ISO 527)
Movement capability	± 25%	(ASTM C 719)
Shrinkage	~ 2 %	
Service temperature	-40°C min. / +80°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 ≤ 40 mm. 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 more detailed advice and instructions please contact our Technical Department.	

## APPLICATION INFORMATION

Ambient air temperature	+5°C min. / +45°C max. (min. 3°C above dew point temperature)	
Substrate temperature	+5°C min. / +45°C max.	
Backing material	Use closed cell, polyethylene foam backing rods or bond braker tapes	
Curing rate	~ 3 mm/24 hours (+23°C / 50 % r.h.)	(CQP049-1)
Skinning time	~ 30 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 INFORMATION

- Pre-treatment Chart Sealing & Bonding
- Method Statement: Joint Sealing

## IMPORTANT CONSIDERATIONS

- Sikaflex®-421 can be overpainted with most conventional facade coating paint systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials (example according to ISO technical paper: Printability and Paint Compatibility of Sealants). The best over-painting 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 film.
- Colour variations may occur due to exposure to chemicals, hot temperatures and/or UV-radiation (especially with the colour shade white). However, a change in colour is purely of an aesthetic nature and does not adversely influence the technical performance or durability of the product.
- Do not use Sikaflex®-421 on natural stone.
- Do not use Sikaflex®-421 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®-421 to seal joints in and around swimming pools.
- Do not use Sikaflex®-421 for joints under water pressure or for permanent water immersion.
- Do not expose uncured Sikaflex®-421 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 before using any products. 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

Sikaflex®-421 generally has strong adhesion without primers or activators to most clean, dry and sound precast concrete substrates.

The substrate must be clean, dry, sound and homogeneous, free from oils, grease, dust and loose or friable particles. 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-3 N or Sika® Primer-210. For details like application and flash-off times refer to the most recent PDS of the respective pre-treatment product. Adhesion tests on project specific substrates must be performed prior to application. For more detailed advice and instructions please contact Sika technical service.

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®-421 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®-421 into the joint making sure that it comes into full contact with the sides of the joint and avoid any air entrapment.

Sikaflex®-421 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.

If Sikaflex®-421 is dry-tooled it shows a slightly structured, concrete-like surface. If it is wet-tooled (using a compatible tooling agent, example Sika® Tooling Agent N) it shows a smooth surface.

Do not use tooling products containing solvents.

### CLEANING OF EQUIPMENT

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.

## 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.

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Sika UAE LLC  
Sika International Chemicals LLC  
Sika Gulf B.S.C. (c)  
ISO 9001, 14001 - SGS:  
Sika Saudi Arabia Limited  
ISO 9001, 14001 - TÜV:  
Master Builders Solutions  
Construction Chemicals LLC  
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All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



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