BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-406 KC

One-part, polyurethane, self-levelling, high-performance sealant that can be accelerated with Sikaflex®-406 KC Booster.

DESCRIPTION

Sikaflex®-406 KC is a one-part, self-levelling, elastic floor joint sealant that can be accelerated with Sikaflex®-406 KC Booster. The Product is used for movement and connection floor joints where high mechanical and chemical resistance are required. Adding Sikaflex®-406 KC Booster allows the product to cure rapidly and homogeneously in situations where a quick release of the joint is required.

USES

Sikaflex®-406 KC may only be used by experienced professionals.

Sikaflex®-406 KC is used for sealing:
- Connection joints between steel, specified asphalt types, concrete, granite, paving stones, and rails in the road-track superstructure
- Movement joints in roads or other situations where early exposure to traffic is required

FEATURES

- High movement capability: ±25 % (EN 15651-4) and ±35 % (EN 14188-2)
- Low stress on joint flanks
- Very good mechanical resistance
- Very good resistance to hydrocarbons like fuels, oils and many other chemicals
- Solvent-free according to TRGS 610

SUSTAINABILITY

- Environmental Product Declaration (EPD) in accordance with EN 15804. EPD independently verified by Institut für Bauen und Umwelt e.V. (IBU)

CERTIFICATES AND TEST REPORTS

- CE marking and declaration of performance based on EN 14188-2:2004 Joint fillers and sealants — Part 2: Specifications for cold applied sealants
- CE marking and declaration of performance based on EN 15651-4:2012 Sealants for non-structural use in joints in buildings and pedestrian walkways — Part 4: Sealants for pedestrian walkways

PRODUCT INFORMATION

Composition	Sika® i-Cure® Technology polyurethane with the possibiliy to acecelerated with Sika® Booster-Technology	
Packaging	Sikaflex®-406 KC	10 L container
	Sikaflex®-406 KC Booster	150 ml foil packs, 5 per box
Colour	Available in a range of colours, refer to the price list for further information.	
Shelf life	15 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 +30 °C. Always refer to the packaging.
Refer to the current Safety Data Sheet for information on safe handling and storage.

Density

Sikaflex®-406 KC	1.40 kg/L	(ISO 1183-1)
Sikaflex®-406 KC Booster	1.15 kg/L	
Mixed Products	1.40 kg/L	

TECHNICAL INFORMATION

Shore A hardness

SIKAFLEX®-406 KC

Cured 28 days at +23 °C and 50 % R.H.	28	(EN ISO 868)
Cured 8 hours at +23 °C and 50 % R.H.	16	(EN ISO 868)

(EN ISO 868)

Temperature	Cured state at 25 % of final hardness	Cured state at 50 % of final hardness	Cured state at 80 % of final hardness	Cured state at 100 % of final hardness
5 °C	14 h	24 h	48 h	-
23 °C	5 h	8 h	24 h	28 days
35 °C	3 h	6 h	24 h	-

At 80 % of its final hardness, the sealant is considered sufficiently cured to withstand mechanical loads.

Secant tensile modulus

0.45 N/mm² at 100 % elongation and +23 °C (ISO 8339)

Tensile strain at break

700 % (ISO 37)

Elastic recovery

90 % (EN ISO 7389)

Tear propagation resistance

8.0 N/mm (ISO 34-2)

Movement capability

± 35 % (EN 14188-2)

± 25 % (EN ISO 9047)

Chemical resistance

Sikaflex®-406 KC has very good resistance to:
- Water and seawater
- Dilute alkalis
- Cement slurry
- Water dispersed detergent

Sikaflex®-406 KC has limited resistance to:
- Diesel
- Oil
- Jet fuel

Sikaflex®-406 KC is not resistant to:
- Hydrocarbons besides the above mentioned
- Alcohols
- Organic acids
- Concentrated alkalis
- Concentrated acids

Contact Sika Technical Services for additional information.

Service temperature

Maximum	+80 °C
Minimum	-40 °C

Joint design	For rail connection joints, refer to the Sika® Method Statement: Joint Sealing of Rails in Track Superstructureswith Sikaflex®-406KC For movement joints in floors and pavements, refer to the Sika® Method Statement: Sealing of Floor and Speciality Joints For movement joints in roads and pavements, refer to the Sika® Method Statement: Method Statement Joint Sealing of Road and Pavement joints with Sikaflex®-406 KC For maintenance, refer to: Application manual - Joint Maintenance, Cleaning and Renovation

APPLICATION INFORMATION

Mixing ratio	Sikaflex®-406 KC : Sikaflex®-406 KC Booster	100 : 1.5 by volume

Consumption	For rail connection joints, refer to the Sika® Method Statement: Joint Sealing of Rails in Track Superstructureswith Sikaflex®-406KC For movement joints in floors and pavements, refer to the Sika® Method Statement: Sealing of Floor and Speciality Joints For movement joints in roads and pavements, refer to the Sika® Method Statement: Method Statement Joint Sealing of Road and Pavement joints with Sikaflex®-406 KC	

Backing material	Use closed cell, polyethylene foam backing rod.	

Sag flow	Self-levelling, can be used on slopes ≤ 3 %	
	Product	**Layer thickness**
	Sikaflex®-406 KC	Up to 35 mm
	Sikaflex®-406 KC + Sikaflex®-406 KC Booster	Up to 70 mm
	For other layer thicknesses, please contact Sika Technical Service. For applications on sections with a steep longitudinal slope, Sika® Extender T can be added in an amount appropriate to the slope (pre-tests recommended), up to a maximum of 3 % by weight. The top surface of the infill made with Sikaflex®-406 KC should be maintained at least 3 mm below the level of the adjacent surfaces	

Material temperature	Maximum	+40 °C
	Minimum	+5 °C

Ambient air temperature	Maximum	+40 °C
	Minimum	+5 °C

Relative air humidity	Maximum	90 %
	Minimum	30 %

Dew point	The substrate temperature must be at least +3 °C above dew point to reduce the risk of condensation decreasing adhesion.	

Substrate temperature	Maximum	+40 °C
	Minimum	+5 °C

Pot Life	Sikaflex®-406 KC + Sikaflex®-406 KC Booster	
	At +23 °C and 50 % R.H.	20 min

Curing time

	Curing conditions	Curing time
Sikaflex®-406 KC	+23 °C and 50 % r.h.	3.0 mm / 24 hours
Sikaflex®-406 KC + Sikaflex®-406 KC Booster	+23 °C and 50 % r.h. Surface broadcasted with quartz sand	Recessed joints can be trafficable by rubber car tyres after 3 hours
Sikaflex®-406 KC + Sikaflex®-406 KC Booster	+23 °C and 50 % r.h.	24 hours to reach full mechanical properties

Following its application, Sikaflex®-406 KC + Sikaflex®-406 KC Booster can be broadcast with quartz sand after 1 hour at +23 °C.

Skinning time

For Sikaflex®-406 KC:	
At +23 °C and 50 % r.h.	100 minutes

Tack free time

For Sikaflex®-406 KC Booster:	
Without sand at +23 °C and 50 % R.H.	3.5 hours
With sand at +23 °C and 50 % R.H.	1 hour

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.

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

IMPORTANT
Poor adhesion due to incorrect priming procedure
Incorrectly defined or uncontrolled priming procedures may lead to a variation in Product performance.

1. Test adhesion on project-specific substrates and agree on procedures with all parties before full project application. For more information contact Sika Technical Services.

Poor adhesion due to inadequate surface preparation
Note: Primers are adhesion promoters. Primers cannot replace proper surface preparation and surface cleaning.

1. Do not use primers for improving poorly prepared or poorly cleaned joint surfaces.

The substrate must be sound, clean, dry and free of contaminants such as dirt, oil, grease, cement laitance, sealant residues and poorly bonded coatings which could affect adhesion of the primer and sealant.
The substrate must be of sufficient strength to withstand the stress induced by the sealant during movement.

1. Use techniques such as wire brushing, grinding, grit blasting or other suitable mechanical methods to remove all weak substrate material.
2. Repair all damaged joint edges with suitable Sika repair products.
3. Remove dust, loose and friable material from all surfaces before applying the sealant.

Use the following priming or pre-treatment procedures to ensure optimum adhesion and joint durability, or if the Product is used for high-performance applications such as joints on multi-storey buildings, highly stressed joints, or joints exposed to extreme weather.
ASPHALT (ACCORDING TO EN 13108-1 AND EN 13108-6)
Fresh cut or existing cut asphalt must have a clean bonding surface with more than 50 % exposed aggregate.

1. IMPORTANT Avoid excessive application of primer to avoid causing puddles. Prime the surface with Sika® Primer-3 N or Sika® Primer-115 applied with a brush.

For more information before using the Product on asphalt, rubber or EPDM, contact local Sika Technical Services.
DAMP OR GREEN CONCRETE
Damp or green concrete must be primed with Sikadur®-32+.

MIXING

1. Mix the Product for 60–90 seconds using a stirrer with a U-shaped paddle (600 rpm).
2. IMPORTANT Avoid excessive mixing to minimise air entrainment. Add the booster to the Product and mix continuously for 2–3 minutes until a uniform mix is achieved.

APPLICATION

IMPORTANT
Strictly follow installation procedures
Strictly follow installation procedures as defined in Method Statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

IMPORTANT

Staining on natural stone substrates due to plasticiser migration

Staining from plasticiser migration may occur when used on cast, reconstituted or natural stone such as granite, marble or limestone substrates.

1. Do not use on natural stone substrates

IMPORTANT

Degradation of sealant due to chemical attack

1. Do not use the Product to seal joints in and around swimming pools containing water treatment agents such as chlorine.

IMPORTANT

Insufficient curing due to exposure to alcohol

Exposure to alcohol during curing may interfere with the curing reaction and cause the Product to remain soft or become tacky.

1. Do not expose the Product to alcohol-containing products during the curing period.

1. After the required substrate preparation, insert a backing rod to the required depth.
2. Prime the joint surfaces as recommended in substrate preparation. Note Avoid excessive application of the primer.
3. Mix the Product as described in the section “Mixing”.
4. Apply the Product into the joint. Note Avoid air entrapment. Make sure that the Product comes into full contact with the adhesion area of the joint.

OVERPAINTING THE SEALANT

IMPORTANT

Tacky paint due to plasticiser migration

Paints and sealants or adhesives may contain plasticizers and other substances that migrate and can cause the painted surface to become tacky.

IMPORTANT

Cracking paint due to joint movement

Rigid paint applied on top of a sealant or flexible adhesive may crack when used on joints subject to movement.

The Product can be overpainted with most conventional paint coating systems.

1. Allow the Product to fully cure before overpainting.
2. Before overpainting, carry out preliminary trials to test compatibility of the paint or coating system with the Product in accordance with ISO/TR 20436:2017 – Buildings and civil engineering works — Sealants — Paintability and paint compatibility of sealants.

Colour variation

Note: Colour variation may occur especially with white or other light colour shades. This effect is purely aesthetic and does not adversely influence the technical performance or durability of the Product.

CLEANING OF EQUIPMENT

Clean all tools and application equipment immediately after use with Sika® Remover-208 or Sika® Cleaning Wipes-100. Once cured, hardened 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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