BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-406 KC

Polyurethane self-levelling high performance booster accelerated sealant

DESCRIPTION

Sikaflex®-406 KC is a 1-part self-levelling booster accelerated elastic floor joint sealant with high mechanical and chemical resistance. Rapid and homogeneous curing throughout the entire sealant is achieved by the addition of the Sikaflex®-406 KC Booster. Sikaflex®-406 KC is especially designed for elastic joint sealing between rails, adjacent surfaces and with Icosit KC products.

USES

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

- Connection joints between steel, defined asphalt types, concrete, granite, rails in track superstructure, roads and floors
- Movement joints in road and airport pavements, pedestrian and traffic areas and other situations where early exposure to traffic is required

FEATURES

- Movement capability ±25 %
- Low stress on joint edges
- Very high mechanical and chemical resistance e.g. to diesel and jet fuel
- Recessed and broadcasted joints can be opened to traffic after 3 hours

CERTIFICATES AND TEST REPORTS

- CE Marking and Declaration of Performance to EN 15651-4 - Sealants for non-structural use in joints in buildings - Sealants for pedestrian walkways
- CE Marking and Declaration of Performance to EN 14188-2 - Joint fillers and sealants – Part 2: Specifications for cold applied sealants
- Performance Test DIN EN 15651-4:2012-09, Sikaflex®-406 KC, SKZ, Test report No. 131282/18-II
- Testing of Properties DIN EN 14188-2:2005-03, Sikaflex®-406 KC, SKZ, Test report No. 131282/18-I

PRODUCT INFORMATION

Product declaration	PW EXT-INT CC EN 14188-2	(EN 15651-4)
Composition	i-Cure® Technology polyurethane accelerated with Sika® Booster-Technology	
Packaging	Sikaflex®-406 KC	Container: 10 l
	Sikaflex®-406 KC Booster	150 ml foil pack 5 foil packs per box
Shelf life	Sikaflex®-406 KC	12 months from date of production
	Sikaflex®-406 KC Booster	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 +25 °C. Always refer to packaging.	
Colour	Black	
Density	Sikaflex®-406 KC ~1,40 kg/l Sikaflex®-406 KC Booster ~1,15 kg/l Mixed ~1,40 kg/l	(ISO 1183-1)

TECHNICAL INFORMATION

Shore A hardness	~28 (after 28 days) with Sikaflex®-406 KC Booster ~16 (after 8 hours) with Sikaflex®-406 KC Booster	(ISO 868) (ISO 868)
Secant tensile modulus	~0,45 N/mm² at 100 % elongation (23 °C) with Sikaflex®-406 KC Booster	(ISO 8339)
Tensile strain at break	~700 % with Sikaflex®-406 KC Booster	(ISO 37)
Movement capability	±25 % with Sikaflex®-406 KC Booster ±35 % with Sikaflex®-406 KC Booster	(ISO 9047) (EN 14188-2)
Elastic recovery	~90 % with Sikaflex®-406 KC Booster	(ISO 7389)
Tear propagation resistance	~8,0 N/mm² with Sikaflex®-406 KC Booster	(ISO 34)
Service temperature	-40 °C to +80 °C	
Chemical resistance	Resistant to water, seawater, diluted alkalis, cement slurry and water dispersed detergent and temporary resistant to diesel, oil and jet fuel (EN 14187-6, see test report EN 14188-2 from SKZ) Sikaflex®-406 KC is not resistant to alcohols, organic acids, concentrated alkalis and concentrated acids as well as hydrocarbons besides the above mentioned. Contact Sika Technical Services for additional information.	
Joint design	Movement joints in floors and pavements refer to Sika® Method Statement: Sealing of Floor and Specialty Joints Rail connection joints refer to Sika® Method Statement: Sealing of Rail and Tram Tracks	

APPLICATION INFORMATION

Mixing ratio	Sikaflex®-406 KC : Sikaflex®-406 KC Booster 100 : 1,5 Vol.-%
Consumption	Movement joints in floors and pavements refer to Sika® Method Statement: Sealing of Floor and Specialty Joints Method Statement Road and Pavement Joints. Rail connection joints refer to Sika® Method Statement: Sealing of rails in track superstructure
Ambient air temperature	+5 °C to +40 °C, min. 3 °C above dew point
Substrate temperature	+5 °C to +40 °C
Backing material	Movement joints in floors and pavements refer to Sika® Method Statement: Sealing of Floor and Specialty Joints Rail connection joints refer to Sika® Method Statement: Sealing of rails in track superstructure
Pot Life	~20 min (23 °C / 50 % r.h.) with Sikaflex®-406 KC Booster

Curing time	~24 hours to reach full mechanical properties with Sikaflex®-406 KC Booster. When the surface is broadcast with quartz sand, recessed joints can be trafficable by rubber car tyres after approx. 2 hours (+23 °C/50 % r.h). Tack free after approx. 3,5 hours (+23 °C/50 % r.h) when used with Sikaflex®-406 KC Booster.	
Tack free time	Without sand	~3,5 hours (+23 °C)
	With sand	~1 hour (+23 °C)

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 DOCUMENTATION

- Pre-treatment Chart Sealing & Bonding
- Sika® Method Statement: Joint Sealing of Rails in Track Superstructures with Sikaflex®-406 KC
- Sika® Method Statement: Joint Sealing of Road and Pavement Joints with Sikaflex®-406 KC
- Sika® Method Statement: Joint Maintenance, Cleaning and Renovation

IMPORTANT CONSIDERATIONS

- Sikaflex®-406 KC cannot be used on slopes > 3 %.
- 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.
- Sikaflex®-406 KC 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'.
- Do not use Sikaflex®-406 KC on natural stone without pre-testing according to ISO 16938.
- Do not use for structural glazing or as a glass sealant.
- 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 on bituminous substrates, natural rubber or any building materials which might leach oils, plasticisers or solvents that could degrade the sealant. These types of materials if in direct contact with Sikaflex®-406 KC have to be tested for compatibility prior to application. For specific advice contact Sika technical services.
- Do not use Sikaflex®-406 KC to seal joints in or around swimming pools.
- Do not expose uncured Sikaflex®-406 KC to alcohol containing products as this may interfere with the curing reaction.
- Sikaflex®-406 KC is not resistant to alcohols, organic acids, concentrated alkalis, concentrated acids or hydrocarbons besides the mentioned

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 (concrete: damp / wet / dry), sound and free from oils, grease, dust, laitance and loose or friable particles.
All dust, loose and friable material must be completely removed from all surfaces before application of any activators, primers or sealant.
For optimum adhesion and critical, high performance applications, such as rail connection joints, highly stressed joints, extreme weather exposure or water immersion, the following priming and/or pre-treatment procedures must be followed:

Concrete, steel, stainless steel and asphalt (acc. to EN 13108-1 and EN 13108-6)

Fresh cut asphalt must have a bonding surface with minimum 50 % exposed aggregate and must be primed using Sika® Primer-115 or Sika® Primer-3 N.
For more details such as application and flash-off times, refer to the most recent Product Data Sheet of the respective pretreatment product.

Damp or green concrete

Must be primed with Sikadur®-32 Normal, refer to Product Data Sheet. For more detailed information especially before using Sikaflex®-406 KC on asphalt, rubber or EPDM, contact local Sika Technical Services.
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.
Refer also to the following documents:

- Sika® Method Statement - Joint Sealing of Rails in Track Superstructures with Sikaflex®-406 KC
- Sika® Method Statement - Joint Sealing of Road and Pavement Joints with Sikaflex®-406 KC

MIXING

For mixing an electric stirrer with a U-shaped stirring paddle (~600 r/min) must be used. Before adding the Sikaflex®-406 KC Booster the material should be pre-mixed of about 60–90 seconds depending on the material temperature. Add Sikaflex®-406 KC Booster to Sikaflex®-406 KC and mix continuously for 2 to 3 minutes until a uniformly coloured mix has been achieved. Over mixing must be avoided to minimise air entrainment.

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.

Joint Backing

After the required substrate preparation, insert a suitable backing rod to the required depth.

Priming

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

Pour Sikaflex®-406 KC into the joint ensuring that it comes into full contact with the sides of the joint and avoiding any air entrapment.

CLEANING OF EQUIPMENT

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

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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