BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-423 PowerCure

Accelerated polyurethane sealant for floor joints and civil engineering applications

PRODUCT DESCRIPTION

Sikaflex®-423 PowerCure is a 1-part, accelerated, elastic polyurethane sealant. It seals many kinds of joint configurations in floors and civil engineering structures. The elasticity is maintained over a wide temperature range and high mechanical and chemical resistance provides good durability.

USES

The Product is used for the following horizontal and vertical interior and exterior joint sealing applications:
- Warehouse and production floor areas.
- Sewage treatment plants.
- Tunnels.
- Car park decks.
- Pedestrian and traffic areas.
- Sea walls.
- Secure environments where a tamper-resistant sealant may be required e.g. prisons & secure units (supervised & hard-to-reach areas).

CHARACTERISTICS / ADVANTAGES

- High movement capability: ±25 % (ISO 9047).
- Fast development of mechanical properties.
- Very good mechanical resistance.
- Very good resistance to specific chemicals.
- High resistance to weathering.
- Good durability.
- Non-staining to a wide range of substrates.
- Monomeric diisocyanate content <0.1 %: no user safety training needed (REACH restriction 2023, Annex XVII entry 74).
- Bubble-free curing.
- Good adhesion to many construction materials.
- Durable anti-pick formulation for joints subject to idle tampering and acts of vandalism where traditional sealants may be more easily damaged or removed.

APPROVALS / STANDARDS

- CE marking and declaration of performance based on EN 15651-1:2012 Sealants for non-structural use in joints in buildings and pedestrian walkways — Part 1: Sealants for facade elements.
- 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.
- Testing of the booster accelerated joint sealant EN 15651-1, SKZ, No. 220740/21-VII.
- Testing of the booster accelerated joint sealant EN 15651-4, SKZ, No. 220740/21-VIII.
- Testing of the booster accelerated sealant ISO 11600, SKZ, No. 220740/21-IX.

PRODUCT INFORMATION

Product Declaration	EN 15651-4: PW EXT-INT CC 25 HM
Chemical Base	Accelerated Sika® Purform® Polyurethane Technology
Packaging	600 ml Powercure Pack with booster | 14 foil packs with booster per box Refer to the current price list for available packaging variations.
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 +25 °C. Always refer to packaging.
Colour	Colour range to be defined by local sales organisation
Density	~1,30 kg/l (ISO 1183-1)

SYSTEM INFORMATION

Compatibility

- Non-staining on many natural stones according to ASTM 1248-04 and ISO 16938-1.
- To confirm suitability, tests must be carried out according to ISO 16938-1 or ASTM 1248-04 before using on natural stones and full project application.

TECHNICAL INFORMATION

Shore A Hardness

FINAL SHORE A HARDNESS
~40 (after 28 days)
80 % DEVELOPMENT OF SHORE A HARDNESS

80 % of final hardness	Time
+5 °C	6 days
+10 °C	5 days
+23 °C	2 days
+40 °C	1 day

(EN ISO 868)

DEVELOPMENT OF SHORE A HARDNESS
Testing conditions +23 °C / 50 % rH.

Time	+5 °C	+23 °C	+35 °C
2 hours	<5	~7	~16
4 hours	~5	~15	~23
8 hours	~10	~21	~26
24 hours	~26	~28	~32
7 days	~32	~31	~37

(EN ISO 868)

Secant Tensile Modulus	~0.65 N/mm² at 100 % elongation (+23 °C) ~1.00 N/mm² at 100 % elongation (−20 °C)	(ISO 8339)
Elongation at Break	~800 %	(ISO 37)
Movement Capability	± 25 %	(EN ISO 9047)
Elastic Recovery	~90 %	(EN ISO 7389)
Tear Propagation Resistance	~9,0 N/mm	(ISO 34-2)

Service Temperature

Maximum	+80 °C
Minimum	-40 °C

Chemical Resistance	Resistant to many chemicals. Refer to EN 15651-4 SKZ test report for water and salt water. Contact Sika Technical Services for additional information.
Joint Design	The joint dimensions must be designed to suit the movement capability of

the sealant. The joint width must be a minimum of 10 mm and a maximum of 40 mm.
All joints must be correctly designed and dimensioned in accordance with the relevant standards and codes of practice before their construction. The basis for calculation of the necessary joint widths are:

- The type of structure
- Dimensions
- Technical values of adjacent building materials
- Joint sealing material
- The specific exposure of the building and the joints

A width to depth ratio of 1:0.8 for floor joints must be maintained (for exceptions, see table below).
For larger joints, contact Sika ® Technical Services for additional information.
Example for typical joint widths for joints between concrete elements for interior applications considering 25 % movement capability according to EN 15651-4:

Joint distance	Minimum joint width	Minimum joint depth
2 m	10 mm	10 mm
4 m	10 mm	10 mm
6 m	10 mm	10 mm
8 m	15 mm	12 mm
10 m	18 mm	15 mm

Example for typical joint widths for joints between concrete elements for exterior applications considering 25 % movement capability according to EN 15651-4:

Joint distance	Minimum joint width	Minimum joint depth
2 m	10 mm	10 mm
4 m	15 mm	12 mm
6 m	20 mm	17 mm
8 m	28 mm	22 mm
10 m	35 mm	28 mm

For details of joint design and calculations refer to the following document, Sika® Design guidlines: Dimensioning of construction joints.

APPLICATION INFORMATION

Consumption

Joint width	Joint depth	Joint length per 600 ml foil pack
10 mm	10 mm	6 m
15 mm	12 mm	3.3 m
20 mm	16 mm	1.9 m
25 mm	20 mm	1.2 m
30 mm	24 mm	0.8 m

Sag Flow

0 mm (20 mm profile, +50 °C) (EN ISO 7390)

Product Temperature

Maximum	+40 °C
Minimum	+5 °C

Ambient Air Temperature

Maximum	+40 °C
Minimum	0 °C

For applications at temperatures below +5 °C, please contact Sika Technical Services.

Substrate Temperature

Maximum	+40 °C
Minimum	0 °C

The substrate temperature must be +3 °C above dew point temperature and free from frost and ice.

Backing Material	Use closed cell, polyethylene foam backing rod
Tooling Time	~15 minutes (+23 °C / 50 % r.h.)

VALUE BASE

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 & Bonding Chart.
- Method Statement Joint Sealing.
- Method Statement Joint Maintenance, Cleaning and Renovation.
- Sika® Additional Technical Information: Dimensioning of construction joints.

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
Bituminous, natural rubber or EPDM rubber substrates
Do not use the product on any building materials which might leach oils, plasticisers or solvents that could degrade the sealant.
Primers are adhesion promoters and not an alternative to improve poor preparation or cleaning of the joint surface.
Note: Primers also improve the long term adhesion performance of the sealed joint.
Substrate testing
Note: Adhesion tests on project specific substrates must be performed and procedures agreed with all parties before full project application. For more detailed advice and instructions contact Sika Technical Services.
The substrate must be sound, clean, dry and free of all contaminants such as dirt, oil, grease, cement laitance, old sealants and poorly bonded coatings which could affect adhesion of the sealant.
The substrate should be of sufficient strength to cope with the stresses induced by the sealant during movement. Removal techniques such as wire brushing, grinding, grit blasting or other suitable mechanical tools must be used. Repair all damaged joint edges with suitable Sika repair products. All dust, loose and friable material must be completely removed from all surfaces before application of any activators, primers or sealant.
Where joints in the substrate are saw cut: After sawing, all slurry material must be flushed away and joint surfaces allowed to dry.
For optimum adhesion, joint durability and critical, high performance applications such as joints on multi-storey buildings, highly stressed joints, extreme weather exposure the following priming and pre-treatment procedures must be followed:
NON-POROUS SUBSTRATES
Aluminium, anodised aluminium, stainless steel, galvanised steel, powder coated metals, or glazed tiles:
1. Lightly roughen the surface with a fine abrasive pad.
2. Clean and pre-treat using Sika® Aktivator-205 applied with a clean cloth.

Other metals, such as copper, brass and titanium-zinc:
1. Lightly roughen the surface with a fine abrasive pad.
2. Clean and pre-treat using Sika® Aktivator-205 with a clean cloth.
3. Wait until the flash off time has been achieved.
4. Apply Sika® Primer-3 N by brush.

PVC substrates:
1. Clean and pre-treat using Sika® Primer-215 applied with a brush.

POROUS SUBSTRATES
Concrete that is 2–3 days old, or matt wet (surface dry):
1. Prime surface using Sika® Primer-115 applied by brush.

Concrete, aerated concrete and cement based renders, mortars and bricks:
1. Prime surface using Sika® Primer-3 N or Sika® Primer-115 applied by brush.

Reconstituted, cast or natural stone:
1. Preliminary trials must be carried out to check if the stone experiences plasticiser migration. For a suitable primer to prevent plasticiser migration, contact Sika ® Technical Services for further information.

ASPHALT (ACCORDING TO EN 13108-1 AND EN 13108-6)
Fresh cut or existing cut asphalt must have a clean bonding surface with minimum 50 % exposed aggregate:
1. Prime surface using Sika® Primer-3 N or Sika® Primer-115 applied by brush.

For more details of the primer or pre-treatment products refer to the individual Product Data Sheet. Contact Sika Technical Services for additional information.

MIXING

1-part accelerated by PowerCure®.

APPLICATION

IMPORTANT
Swimming pools
Do not use to seal joints in and around swimming pools.
IMPORTANT
Exposure to alcohol during curing
Do not expose the product to alcohol-containing

products during the curing period as this may interfere with the curing reaction.

1. Apply masking tape where neat or exact joint lines are required. Remove the tape within the skinning time of the product after finishing.
2. After the required substrate preparation, insert a backing rod to the required depth.
3. Prime the joint surfaces as recommended in substrate preparation. Avoid excessive application of primer to avoid causing puddles at the base of the joint.
4. Set up the PowerCure Dispenser according to the PowerCure User Manual. Cut the nozzle to the required bead size.
5. IMPORTANT: Replace the mixer if the application is discontinued for more than 10 minutes (at +23 °C). Extrude the product into the joint ensuring that it comes into full contact with the sides of the joint and avoiding any air entrapment. Temperature will affect product reactivity and application properties.
6. IMPORTANT: Do not use tooling products containing solvents. As soon as possible after application, tool the sealant firmly against the joint sides to ensure adequate adhesion and a smooth finish. Use a compatible tooling agent such as Sika® Tooling Agent N to smooth the joint surface.

Over-painting the sealant

Note: The product can be over-painted with most conventional paint coating systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials (according to the 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, plasticiser migration may occur causing the paint to become surface 'tacky'.

Colour variations

Note: Colour variations may occur due to the exposure in service to chemicals, high temperatures 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.

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

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.

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