BUILDING TRUST

PRODUCT DATA SHEET

SikaSwell® S-2

Hydrophilic, swellable joint sealant

DESCRIPTION

SikaSwell® S-2 is a 1-part, hydrophilic polyurethane sealant that expands upon contact with water, effectively sealing construction joints and penetrations in concrete structures. It is used to adhere SikaSwell® A and SikaSwell® P profiles to the concrete structure.

USES

SikaSwell® S-2 is used to seal:
- Construction joints
- Pipe and steel work penetrations through walls and floor slabs
- Around all types of penetrations and construction joints
- Construction joints in cable ducts

SikaSwell® S-2 is used for fixing and adhering the following swellable profiles:
- SikaSwell® A
- SikaSwell® P

Please note:
- Do not use SikaSwell® S-2 for movement joints.
- SikaSwell® S-2 is suitable for sealing against water pressures up to 2 bar. For pressures above 2 bar, use an alternative or supplementary Sika® joint sealing solution. For more information, contact Sika Technical Services.

FEATURES

- 1-part, easy and fast to apply
- Highly economical joint sealing solution
- Versatile solution for joints and details
- Optimised expansion rate
- Water-resistant (wet and dry cycles)
- Good adhesion to various substrates
- BBA Agrément Certificate with SikaSwell® A-2010

SUSTAINABILITY

- Contributes towards satisfying Indoor Environmental Quality (EQ) Credit: Low-Emitting Materials under LEED® v4
- Contributes towards satisfying Materials and Resources (MR) Credit: Building Product Disclosure and Optimization — Sourcing of Raw Materials under LEED® v4
- Contributes towards satisfying Materials and Resources (MR) Credit: Building Product Disclosure and Optimization — Material Ingredients under LEED® v4

CERTIFICATES AND TEST REPORTS

- Resistance to water pressure and durability SikaSwell® A2010, SikaSwell® S-2, BBA, Certificate No.13/4994

PRODUCT INFORMATION

Composition	1-part polyurethane, moisture curing	
Packaging	600 ml unipacs	20 unipacs per box
	Refer to the current price list for available packaging variations.	
Colour	Oxide red	
Shelf life	12 months from date of production.	

Storage conditions	The Product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +25 °C. Always refer to packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.
Density	1.24 kg/L (EN ISO 2811-1)

TECHNICAL INFORMATION

Shore A hardness	30–50, unswollen (7 d / +23 °C / 50 % r.h.) (EN ISO 868)

Service temperature

Minimum	-20 °C
Maximum	+50 °C

Change of volume (EN 14498)

Time	Demineralised water	5 % saline solution
1 day	~25 %	~8 %
7 days	~100 %	~25 %
30 days	~200 %	~50 %

Note: The Product expands when it comes into contact with water, a process that takes several hours. When totally dry, the Product shrinks to its original dimensions. Upon further contact with water, the Product expands again.

Swelling pressure

The pressure developed by the material depends on the stiffness of the surrounding concrete structure. The stiffness is influenced by concrete quality, voids, gaps and other weaknesses. If the concrete structure is in perfect condition, the material can create a swelling pressure of > 10 bar.

APPLICATION INFORMATION

Consumption

Size of triangular section	300 ml cartridges	600 ml unipacs
12 mm	4.1 m	8.2 m
15 mm	3.1 m	6.2 m
20 mm	1.8 m	3.6 m

Consumption depends on the roughness and absorbency of the substrate.
Note: Consumption data is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply the Product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.

Sag flow (ISO 7390)

Tested at +23 °C / 50 % r.h.	< 2 mm

Material temperature

Maximum	+35 °C
Minimum	+5 °C

Ambient air temperature

Maximum	+35 °C
Minimum	+5 °C

Substrate temperature

Maximum	+35 °C
Minimum	+5 °C

Substrate moisture content

Dry or matt damp. Do not apply in construction joints with standing water.

Curing rate	Cured 1 day at +23 °C / 50 % r.h.	~2.0 mm	(CQP049-2)
	Cured 10 days at +23 °C / 50 % r.h.	~10.0 mm	
Skinning time	Tested at +23 °C / 50 % r.h.	60 minutes	(EN 15651-1)
	Place SikaSwell® profiles onto SikaSwell® S-2 within a maximum of 30 minutes.		

SYSTEM INFORMATION

System structure	STAND-ALONE SOLUTION	
	Sealant	SikaSwell® S-2
	WITH A SIKASWELL® PROFILE	
	Adhesive	SikaSwell® S-2
	Swelling profile	SikaSwell® A SikaSwell® P System

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 QUALITY

The substrate must be sound, clean, dry or matt damp and free from all surface contaminants that could impair the adhesion of the sealant.

SUBSTRATE PREPARATION

EXISTING CONCRETE
Rough surfaces are susceptible to leaking. If the surface is too irregular for SikaSwell® S-2 to effectively level, the irregularities must be eliminated. Prior to applying SikaSwell® S-2 and the SikaSwell® A or SikaSwell® P profile, smooth the area with a suitable Sika® leveling mortar or through mechanical means.
FRESHLY CAST CONCRETE
Freshly cast concrete can be smoothed with a batten where SikaSwell® S-2 is to be placed.

APPLICATION

IMPORTANT
Poor Product performance due to insufficient concrete covering the SikaSwell® profile
The SikaSwell® profile must be covered with concrete that withstands the pressure created when the SikaSwell® profile expands. If the concrete cover is insufficient, in case of low density concrete or voids, the SikaSwell® profile will not be able to perform its waterproofing function effectively.

1. Place the SikaSwell® profile in the centre of the covering concrete structure.
2. In reinforced concrete, apply a minimum cover of 8 cm on both sides of the SikaSwell® profile.
3. In unreinforced concrete, apply a minimum cover of 15 cm on both sides of the SikaSwell® profile.

SEALANT WITH A SIKASWELL® PROFILE

1. Apply the SikaSwell® S-2 adhesive in a narrow bed onto the prepared substrate, extruded in a triangular section ~12 mm wide and ~12 mm deep.
   Note: Extrude enough material to level the roughness of the substrate.
2. Press the SikaSwell® profile firmly into the freshly applied SikaSwell® S-2.
   Note: Place the SikaSwell® profile within a maximum of 30 minutes (+23 °C / 50 % r.h.). Ensure that full and continuous contact between the SikaSwell® S-2 adhesive and both the SikaSwell® profile and the substrate is achieved.
3. Allow SikaSwell® S-2 to harden for at least 12 hours before placing concrete. For pouring height > 50 cm, allow SikaSwell® S-2 to harden for at least 24 hours before placing concrete.
4. Protect the SikaSwell® S-2 and the SikaSwell® profile against water – for example, rain – until the concrete is placed.
5. When placing the concrete, compact the fresh concrete well around the SikaSwell® profile to achieve dense concrete without any honeycombing or voids.

SEALANT AS STAND-ALONE SOLUTION

Structure thickness	Size of triangular section
< 20 cm	12 mm
20–30 cm	15 mm
30–50 cm	20 mm

1. Apply SikaSwell® S-2 in a triangular bead onto the prepared substrate.
   Note: Use a triangular nozzle, or cut the nozzle, to obtain a regular triangular extrusion section. Apply SikaSwell® S-2 according to the dimensions specified in the table.
2. Ensure that full and continuous contact between the SikaSwell® S-2 and the substrate is achieved.
3. Allow SikaSwell® S-2 to harden for at least 12 hours before placing concrete. For pouring height > 50 cm, allow SikaSwell® S-2 to harden for at least 24 before placing concrete.
4. Protect the SikaSwell® S-2 against water – for example, rain – until the concrete is placed.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Colma Cleaner immediately after use. 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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