BUILDING TRUST

PRODUCT DATA SHEET

SikaSwell® S-2

Hydrophilic swellable joint sealant

DESCRIPTION

SikaSwell® S-2 is a 1-part polyurethane hydrophilic sealant which swells in contact with water to seal all types of construction joints and penetrations in concrete structures.
It is used to adhere the SikaSwell® A and SikaSwell® P profiles to the structure.

USES

Joint sealing:
- 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

Fixing / Adhering swellable profiles:
- SikaSwell® A Profiles
- SikaSwell® P Profiles

CHARACTERISTICS / ADVANTAGES

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

SUSTAINABILITY

- Conforms to LEED v2009 IEQc 4.1 Low Emitting Materials-Adhesives and Sealants (VOC content requirement: < 420g/l less water)

PRODUCT INFORMATION

Composition	1-part polyurethane, moisture curing	
Packaging	300 ml cartridges	12 cartridges / box
	600 ml unipacs	20 unipacs / box
	Refer to current price list for packaging variations	
Appearance and colour	Oxide red	
Shelf life	9 months from the 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.	
Density	1.24 kg/l (at +23 °C)	(ISO 2811)

TECHNICAL INFORMATION

Shore A hardness

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

Change of volume (EN 14498)

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

Note: In a totally dry state, the Product shrinks to its original dimensions. The product then expands again upon further contact with water.

Swelling pressure

The pressure developed by the material depends on the stiffness of the surrounding concrete structure, which is influenced by the concrete quality, voids, gaps and other weaknesses.
In an ideal concrete structure the material can develop a swelling pressure up to > 10 bar.

Service temperature

Minimum	-20 °C
Maximum	+50 °C

SYSTEM INFORMATION

System structure

Stand-alone solution:

Sealant	SikaSwell® S-2

With a SikaSwell® profile:

Adhesive	SikaSwell® S-2
Swelling profile	SikaSwell® A or SikaSwell® P

APPLICATION INFORMATION

Sag flow

< 2 mm (+23 °C / 50 % r.h.) (ISO 7390)

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: These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.

Substrate moisture content

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

Curing rate (CQP049-2)

1 day (+23 °C / 50 % r.h.)	~2.0 mm
10 days (+23 °C / 50 % r.h.)	~10.0 mm

Skinning time

60 minutes (+23 °C / 50 % r.h.) (EN 15651-1)
Place SikaSwell® profiles onto SikaSwell® S-2 within a maximum of 30 minutes.

Material temperature	Minimum	+5 °C
	Maximum	+35 °C
Ambient air temperature	Minimum	+5 °C
	Maximum	+35 °C
Substrate temperature	Minimum	+5 °C
	Maximum	+35 °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.

IMPORTANT CONSIDERATIONS

- Do not use SikaSwell® S-2 for movement joints.
- SikaSwell® S-2 expands if it becomes in contact with water. This is not instantaneous and will take a few hours.
- SikaSwell® S-2 is recommended for sealing against water pressures up to 2 bar. For pressures higher than 2 bar use a alternative or supplementary Sika Joint Sealing solutions or contact Sika Technical Services for further information.

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 roughness cannot be leveled with SikaSwell® S-2 the roughness need to be removed. Use an appropriate Sika leveling mortar or mechanical treatment before the SikaSwell® S-2 and SikaSwell® A profile or SikaSwell® P profile is applied.
FRESHLY CAST CONCRETE
Freshly cast concrete can be smoothed with a batten where SikaSwell® S-2 is to be placed.

APPLICATION METHOD / TOOLS

IMPORTANT
Minimum concrete cover
The Product must be placed in the centre of the concrete structure. The minimum cover to sealant on both sides must be 8 cm (reinforced concrete) or 15 cm (unreinforced concrete).
IMPORTANT
Ensure good compaction
During placement compact the fresh concrete well around the SikaSwell® to ensure a good dense concrete without voids or honeycombs
SIKASWELL® S-2 SEALANT WITH A SIKASWELL® PROFILE

1. Apply SikaSwell® S-2 adhesive in a narrow bed (size of triangular section ~12 mm) onto the prepared substrate. Extrude enough aterial to level the roughness of the substrate.
2. Press the SikaSwell® A profile or SikaSwell® P profile firmly into the fresh applied SikaSwell® S-2. The profiles must be placed within maximum 30 minutes (at +23 °C / 50 % r.h.).
3. Ensure full and continuous contact between the SikaSwell® S-2 and both the SikaSwell® profile and the substrate is achieved.
4. Allow SikaSwell® S-2 to harden for 12 hours before placing concrete. For pouring height > 50 cm, SikaSwell® S-2 must harden for at least 24 hours before placing concrete.
5. Protect the SikaSwell® S-2 against water (for example rain) until the concrete is placed.
6. During placement compact the fresh concrete well around the SikaSwell® profile.

SIKASWELL® S-2 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 triangle bead onto the prepared substrate. Use a triangular nozzle or cut the nozzle to obtain a regular triangular extrusion section and apply SikaSwell® S-2 according to the above table.
2. Ensure full and continuous contact between the SikaSwell® S-2 and the substrate is achieved.
3. Allow SikaSwell® S-2 to harden minimum 12 hours before placing concrete. For pouring height > 50 cm, SikaSwell® S-2 must 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 immediately after use with Sika® Colma Cleaner. 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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