

PRODUCT DATA SHEET

SikaSwell® S-2

POLYURETHANE HYDROPHILIC SWELLABLE 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.

USES

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, etc.

Fixing / Adhering swellable profiles:

- SikaFuko® Swell 1 Injection hoses
- SikaSwell®-A Profiles
- SikaSwell®-P Profiles

CHARACTERISTICS / ADVANTAGES

- Easy to apply
- Good adhesion to various substrates
- Optimised expansion rate, therefore no damage to fresh concrete during curing
- Highly economical
- Swells in contact with water
- Permanently water resistant
- Adaptable to fit many different types of detailing

APPROVALS / CERTIFICATES

- Agrément Certificate, Sika Hydrophilic Waterstops, BBA, Certificate No.13-4994
- Test Report, Water tightness testing of hydrophilic waterstop, Vattenfall, Report No.1278-10
- Test Report, Water Permeability Test, Hong Kong Testing Co Ltd, Report No.S016410M01064

PRODUCT INFORMATION

Composition	1-part polyurethane, moisture curing	
Packaging	600 ml unipacs	20 unipacs/box, 48 boxes/pallet
	300 ml cartridges	12 cartridges/box, 112 boxes/pallet
	Refer to current price list for packaging variations	
Appearance / Colour	Oxide red	
Shelf life	9 months from the 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.	
Density	1,33 kg/l (at 23 °C)	(ISO 2811)

TECHNICAL INFORMATION

Shore A Hardness	Swollen (7d in tap water)	> 10	(DIN 53505)
	Non-swollen (7 d / +23 °C / 50 % r.h.)	40–60	(EN 868)
Change of Volume	1 day in tap water	< 25 %	(DIN 53521)
	7 days in tap water	< 100 %	(EN 14406)

Swelling properties in salty water will be reduced and delayed.

APPLICATION INFORMATION

Sag Flow	<2 mm	(ISO 7390)	
Consumption	Size of triangular section	600 ml unipacs	300 ml cartridges
	15 mm	6,2 m	3,1 m
	20 mm	3,6 m	1,8 m

Consumption depends on the roughness and absorbency of the substrate. These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.

Substrate Moisture Content	Dry or matt damp		
Curing Rate	1 day (+23 °C / 50 % r.h.)	~2,0 mm	(CQP 049-2)
	10 days (+23 °C / 50 % r.h.)	~10,0 mm	
Skinning time	2 hours (+23 °C / 50 % r.h.)	(CQP 019-1)	
Ambient Air Temperature	+5 °C min. / +35 °C max.		
Substrate Temperature	+5 °C min. / +35 °C max.		

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

The substrate must be sound, clean, dry or matt damp, free from all surface contaminants.

SUBSTRATE PREPARATION

Existing Concrete

All loose particles, release agents, laitance, paint, rust and other poorly adhering materials must be removed by suitable hand or mechanical preparation.

Freshly cast concrete

During concreting, compact well around SikaSwell® S-2 to provide a dense concrete without any honeycombing or voids.

Surfaces which are excessively rough can be susceptible to leaking. It is recommend to smoothen the freshly cast concrete with a batten where the sealant is to be placed.

APPLICATION METHOD / TOOLS

SikaSwell® S-2 Sealant application for fixing

Apply SikaSwell® S-2 in a narrow bed (size of triangular section ~5 mm) onto the prepared substrate. Extrude sufficient quantity to level the roughness of the substrate.

Profile and Injection hose application

Press the SikaSwell®-A and P Profiles or SikaFuko® Swell 1 Injection Hose into the freshly applied SikaSwell S-2 until a small quantity is extruded from both sides of the profile /hose to achieve a full surface bond. The profiles must be placed within max. 30 minutes. Allow SikaSwell® S-2 to harden for 2–3 hours before placing concrete. Protect the SikaSwell® S-2 profiles against water (e.g. rain) until the concrete is placed.

Buried sealant for construction joint

Use a triangular nozzle or cut the nozzle to obtain a regular triangular extrusion section and apply SikaSwell® S-2 according to the following table:

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

Place SikaSwell® S-2 in the centre of the concrete section. Protect the SikaSwell® S-2 against water (e.g. 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.

IMPORTANT CONSIDERATIONS

- Ensure a full and continuous contact between the SikaSwell® S-2 profiles and the substrate is achieved.
 - Minimum cover to sealant on both sides must be 10 cm (reinforced concrete) or 15 cm (unreinforced concrete).
 - For pouring heights < 50 cm allow sealant to harden for 2-3 hours. If the pouring height is > 50 cm, SikaSwell® S-2 must harden for at least 2 days.
 - SikaSwell® S-2 expands in contact with water. Expansion is not immediate and may take a few hours. It is advisable not to leave SikaSwell® S-2 any length of time in standing water (max. 24 hours as long as the water can drain away).
 - Do not use SikaSwell® S-2 for movement joints.
 - If the water level suddenly increases the watertightness of joints will be achieved when SikaSwell® S-2 has swollen.
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- In a totally dry state, SikaSwell® S-2 shrinks to its original dimensions then expands again in contact with water.
 - Although SikaSwell® S-2 has been tested to water pressures up to 5 bar, it is not recommended for sealing against water pressures higher than 2 bar due to the limited sealing distance. For pressures > 2 bar, SikaSwell® S-2 can be used to fix SikaFuko® Swell 1 Injection Hoses or as a supplementary sealing measure for Sika® Waterbars.

BASIS OF PRODUCT DATA

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.

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.

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ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

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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