Construction

SikaSwell® S-2

Swellable sealant

Product Description	One part polyurethane sealant which swells in contact with water.
Uses	To seal waterproof-structures and fix SikaSwell®-P Profiles or Sika® Injectoflex Hoses. 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. Fixation: ■ Sika® Injectoflex-System Type HP and Type NS ■ 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 detail tasks

Product Data

Form

Colour	Oxide red
Packaging	600 ml unipacs (20 unipacs/box, 48 boxes/pallet) 300 ml cartridges (12 cartridges/box, 112 boxes/pallet)

Storage

Storage Conditions / Shelf-Life	9 months from date of production if stored in unopened, undamaged original packaging in dry conditions at temperatures between +5 °C and +25 °C.

Technical Data

Chemical Base	1-part polyurethane, moisture curing
Density	1.33 kg/l (+ 23 °C)
Skinning Time	2 hours (+23 °C / 50% r.h.)
Curing Rate	After 1 day: ~ 2.0 mm (+23 °C / 50% r.h.)

	After 10 days: ~ 10.0 mm (+23°C / 50% r.h.)
Sag Flow	< 2 mm
Change of Volume	1 day in tap water: < 25 % 7 days in tap water: > 100 % Swelling properties in salty water will be reduced and delayed.

Mechanical / Physical Properties

Shore A Hardness	Swollen (7 days in tap water): > 10 Non-swollen (7 days: +23°C / 50% r.h.): 40-60

System Information

Application Details

Substrate Quality	The substrate must be sound, clean, dry max. mat moist, free from all surface contaminants.
Substrate Preparation	All loose particles, release agents, laitance, paint rust and other poorly adhering materials must be removed by suitable hand or mechanical preparation techniques.

Application Conditions / Limitations

Substrate Temperature	+5°C min. / +35°C max.
Ambient Temperature	+5°C min. / +35°C max.
Substrate Moisture Content	The substrate must be dry, max. mat moist.

Application Instructions

Application Method / Tools

For the fixation of SikaSwell®-P Profiles and Sika® Injectoflex Hoses:
Apply SikaSwell® S-2 (through triangular nozzle of approx. 5 mm sections) to prepared substrate. In case of uneven substrates the extruded triangular section of SikaSwell® S-2 may need to be adjusted accordingly. SikaSwell®-P Profiles or Sika® Injectoflex Hoses must be pressed well into the fresh SikaSwell® S-2.
Allow SikaSwell® S-2 to harden for 2-3 hours before placing concrete.
Please consult the product data sheet of the mentioned products.

As 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	*Theoretical yield of 600 ml unipacs	*Theoretical yield of 300 ml cartridges
< 30 cm	15 mm	6.2 m	3.1 m
30 - 50 cm	20 mm	3.6 m	1.8 m

*The actual yield can be lower than the theoretical yield depending on job-site conditions (substrate roughness, size of aggregates, etc.)

Place SikaSwell® S-2 in the centre of the concrete section.

Minimum cover to sealant on both sides must be 10 cm (reinforced concrete) or 15 cm (non reinforced 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.
During concreting, compact well around SikaSwell® S-2 to provide a dense concrete without any honeycombs or voids.

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Cleaning of Tools	Clean application tools immediately after use with Sika® Colma-Cleaner. Hardened / cured material can only be removed mechanically.
Notes on Application / Limitations	SikaSwell® S-2 expands in contact with water. This does not happen immediately, but slowly after a few hours. Nevertheless 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. In a totally dry state SikaSwell® S-2 shrinks to its original dimensions, but 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 because of the limited sealing distance. For pressures > 2 bar SikaSwell® S-2 can be used to fix Sika® Injectoflex Hoses or as a supplementary sealing measure for Sika® Waterbars.
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.
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.
Health and Safety Information	For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet 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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