Construction

SikaSwell®-P Profiles

Swellable joint sealing profiles

Product Description	Sealing profiles which swell in contact with water.
Uses	To seal: ■ Construction joints ■ Pipe and steel work penetrations through walls and floor slabs ■ Construction joints in precast concrete ■ Construction joints in tunnel segments ■ Construction joints in cable ducts, etc. ■ Around all types of penetrations through concrete
Characteristics / Advantages	■ Easy to apply ■ Can be applied on different substrates ■ With protective coating to avoid premature swelling ■ Highly economical ■ Swells in contact with water ■ Water resistant ■ No hardening time required ■ No welding required ■ Adaptable to fit many different detailing tasks ■ Different types and dimensions available

Tests

Approval / Standards	STUVA: Water tightness test (15.10.1999). FH Aachen: Test of resistance to ageing (06.07.01). PSB Corporation: Testing of hydrophilic sealing profiles (15.08.02).

Product Data

Form

Appearance / Colours

Mono Types:

Plain section swelling profiles

Highly swellable red profiles

Hybrid Types:

Plain-section or hollow-care hybrid swelling profiles

Dual swellable profiles

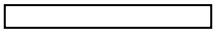
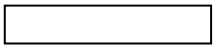
Red outer covering: Highly swellable red part

Black inner core: Swellable part

Packaging

Rolls packed in cardboard boxes, quantity depending on type of profile, consult the following table.

Types

Type	Width (mm)	Thickness (mm)	Cross section (schematically view)	Description	m / box
Mono Types					
2003	20	3		Highly swellable profile	1 x 10 = 10
2005	20	5			7 x 20 = 140
2010	20	10			1 x 10 = 10 5 x 10 = 50
Hybrid Types					
2010 H	20	10		Dual swellable profile with stabilizing inner core	1 x 10 = 10 5 x 10 = 50
2507 H	25	7		Dual swellable profile with pressure relief chambers	

Other profiles are available to order on request.

Storage

Storage Conditions / Shelf Life

48 months from date of production if stored in unopened, undamaged and sealed original packaging in dry conditions at temperatures between +5°C and +35°C. Protect from UV light.

Technical Data

Chemical Base

Red part: Combination of hydrophilic swelling resins and rubber
Black inner care: EPDM

Change of Volume

Hydrophilic swelling red part:

7 days in tap water: ≥100% (DIN 53521)
14 days in tap water: ≥150%

10 dry-wet cycles in tap water: ≥100% (DIN 53521)
(1 cycle = 7 days dry and 7 days in tap water)

Swelling Pressure

≤ 15 bar after 7 days stored in tap water

Mechanical / Physical Properties

Tensile Strength	*Hydrophilic swelling red part:*	
	≥ 2.5 N/mm^2	(DIN 53504)
	EPDM black part:	
	≥ 7.0 N/mm^2	(DIN 53504)
Shore A Hardness	*Hydrophilic swelling red part:*	
	75 +/- 5	(DIN 53505)
	EPDM black part:	
	80 +/- 5	(DIN 53505)
Elongation at Break	*Hydrophilic swelling red part:*	
	≥ 250%	(DIN 53504)
	EPDM black part:	
	≥ 100%	(DIN 53504)

System Information

Application Details

Substrate Quality	The substrate must be sound, clean, dry, 'mat damp', 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. Surfaces which are excessively rough tend to leak later on. We recommend smoothing of freshly placed concrete with a batten where the sealing profile is to be placed.

Application Conditions / Limitations

Substrate Temperature	Dependent on the adhesive which has been selected. Please consult the corresponding product data sheet.
Ambient Temperature	Dependent on the adhesive which has been selected. Please consult the corresponding product data sheet.
Substrate Moisture Content	The substrate must be dry or "mat damp".

Application Instructions

Application Method / Tools

Fixing methods:

SikaSwell®-P Profiles can be fixed with SikaSwell® S-2 and/or Sika® Trocal Adhesive C-705 depending on substrate type and condition.

Smooth, flat, dry substrates such as PVC, metals, precast concrete elements etc.

- With Sika® Trocal Adhesive C-705

  The adhesive is applied at the width of the profiles onto the substrate as well as to one side of the profiles with a small brush.

  After a drying time of ~ 15 minutes the SikaSwell®-P Profiles are placed and pressed well onto the primed substrate.

- With SikaSwell® S-2

  Apply SikaSwell® S-2 in a narrow bed (size of triangular section ~ 5 mm) to the substrate. The profiles must be placed within max. 30 minutes onto and pressed well into the still fresh SikaSwell® S-2 sealant until small quantities of SikaSwell® S-2 ooze out from both side of the profiles.
  Allow SikaSwell® S-2 to harden for 2-3 hours before placing concrete.
  Please consult the product data sheet of SikaSwell® S-2.

Rough, uneven, dry or 'mat damp' substrates (e.g. scabbled concrete):

- With SikaSwell® S-2

  SikaSwell® S-2 must be extruded in sufficient quantity to level the roughness of the substrate.
  Apply SikaSwell® S-2 in a narrow bed (size of triangular section ~ 5 mm) to the substrate. The profiles must be placed within max. 30 minutes onto and pressed well into the still fresh SikaSwell® S-2 sealant until small quantities of SikaSwell® S-2 ooze out from both side of the profiles.
  Allow SikaSwell® S-2 to harden for 2 - 3 hours before placing concrete.
  Please consult the product data sheet of SikaSwell® S-2.

General:

It is important that a full and continuous contact between the SikaSwell®-P Profiles and the substrate is achieved.

Place SikaSwell®-P Profiles in the centre of the concrete section.

Minimum cover to profiles on both sides must be 10 cm (reinforced concrete) or 15 cm (non reinforced concrete).

Connections and corners must be butt jointed and fixed.

During concreting, compact well around SikaSwell®-P Profiles to provide a dense concrete without and honeycombs or voids.

Tool maintenance

Removal of fresh remnants from tools and application equipment can be carried out using Sika® Colma immediately after use. Hardened / cured material can only be mechanically removed.

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Notes on Application / Limitations

SikaSwell®-P Profiles expand in contact with water. This does not happen immediately, but slowly after several hours. Nevertheless it is advisable not to leave SikaSwell®-P Profiles any length of time in the open air or exposed to rain water (max. 24 hours as long as water can drain away).

Do not use SikaSwell®-P Profiles for movement joints!

Do not use SikaSwell®-P Profiles in salty water. For seawater use SikaSwell® P-2003 M / -2005 M or -2507 HM Profiles (separate Product Datasheet).

If the water level suddenly increases the watertightness of joints will only be achieved when SikaSwell®-P Profiles have swollen.

In a totally dry state SikaSwell®-P Profiles shrink to their original dimensions, but expand again in contact with water.

Do not use SikaSwell®-P Profiles for sealing against water pressures higher than 2 bar because of the limited sealing distance.

If SikaSwell®-P Profiles are to be fixed around small diameter pipes use additional mechanical fixing with tie wire or a sleeve.

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

This product is an article within the meaning of Regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. Therefore, there are no registration requirements for substances in articles within the meaning of Article 7.1 of the Regulation.

Based on our current knowledge, this product does not contain SVHC (substances of very high concern) from the candidate list published by the European Chemicals Agency in concentrations above 0.1 % (w/w).

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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