Construction

Sikaflex®-1A

Versatile One-Part Polyurethane Sealant

Product Description	A one-component, moisture curing, polyurethane joint sealant. Complies with: ■ U.S. Federal Specification TT-S00230C Type II Class A. ■ Label de SNJF Type 1 Cat. 1 (France). ■ ASTM - C920 Type - S Grade N.S. ■ CEBT Norm 85401 (France) ■ Canadian Board 19-GP-16a Type II. ■ U.K. Agreement Board 83/1106 BS 4254. ■ J.I.S. - A5754.
Uses	Sikaflex® -1A has excellent adhesion to many materials. It is used extensively in both civil engineering and building construction for sealing: ■ Around windows. ■ On roofs and terraces. ■ Parapets and retaining walls. ■ Between precast elements. ■ Drinking water reservoirs. ■ Suitable on full submerged areas. ■ Sewage tanks and sewage treatment plants.
Advantages	■ Easy and economical in use. ■ Excellent adhesion without primer on most materials. ■ Outstanding aging and weathering properties. ■ Non-sag in both vertical and overhead joints. ■ Good resistance to micro-organisms. ■ Resistant to salt water. ■ Good chemical resistance. ■ Suitable for contact with drinking water. ■ Resistant to city sewage medium. ■ One-component, ready for use.
Certificate of Approval	■ The Egyptian National Organisation for Water And Sanitary Water.
Agreement/UEAtc Approved	Sikaflex® -1A conforms to the following European UEtc Directive for the assessment of Building sealant with the following code: A_3 R_5 M_4 S_2 E_2 A_3 = total joint deformation up to 25% of joint width. R_5 = elastic recovery in excess of 90%. M_4 = shear modulus over 0.5 Mpa. S_2 = slump resistant up to a joint width of 40 mm. E_2 = resistant to direct contact with water even prior to curing. International and Local approval certificates available on request.

Product Data

Type	Polyurethane Elastomer
Colour	White, light grey, concrete grey, brown, black. Other colours are available on request.
Packaging	310 ml cartridges (12 per carton) 310 ml unipacs (12 per carton) 600 ml unipacs (20 per carton)
Storage	Store at temperatures between + 5°C and 25°C. Keep away from moisture and heat.
Shelf life	12 months from date of production if stored properly in original unopened packing.

Technical Data

Density	1.2 - 1.3 kg/l (depending on colour).
Movement Capacity	± 25% of the average joint width.
Shore A-Hardness	
DIN 53505	25 - 35 (after 28 days at 23°C / 50% r.h.)
ASTM-D-2240	40 ± 5 (at 21 days)
Curing Time	1 - 1.5 mm/day (depending on temperature and r.h.)
Tensile Strength	
DIN 52450	50% elongation at 20°C = 0.15 - 0.18 N/mm^2 100% elongation at 20°C = 0.2 - 0.3 N/mm^2
ASTM -D, 412	140 psi at 21 days
Elongation at Break	
DIN 52455	> 400%
ASTM-D, 412	700% at 21 days
Recovery	> 80%

Application Data

Joint configuration

- Minimum joint depth for movement joints: 8 mm
- Maximum joint width : 40 mm
- Width / depth ratio for joints up to 10 mm wide 1 : 1
- Width / depth ratio for joints from 10 mm to 40 mm 2 : 1

Note

- Joint widths + 30 to 40 mm to be Triangulated application.

Consumption

A guide to Sikaflex® -1A quantities (for fillet work multiply metre run per cartridge or "sausage" by two)

Joint size in mm	Liter Sikaflex® -1A per meter run	Meter run per Cartridge	Meter run per Sausage	Joint size in mm	Liter Sikaflex® -1A per meter run	Meter run per Cartridge	Meter run per unipak
5 x 5	0.025	12.4	24	20 x 10	0.200	1.55	3
5 x 10	0.050	6.2	12	20 x 15	0.300	1.04	2
5 x 15	0.075	4.2	8	20 x 20	0.400	0.78	1.5
10 x 10	0.100	3.1	6	25 x 12.5	0.310	1.00	1.94
10 x 15	0.150	2.0	4	25 x 15	0.380	0.81	1.58
10 x 20	0.200	1.55	3	25 x 20	0.500	0.62	1.20
10 x 25	0.250	1.24	2.40	25 x 25	0.630	0.50	0.95
15 x 10	0.150	2.06	4	30 x 15	0.450	0.69	1.33
15 x 15	0.225	1.35	2.70	30 x 20	0.600	0.51	1.00
15 x 20	0.300	1.04	2	30 x 25	0.750	0.42	0.80
15 x 25	0.375	0.82	1.60	40 x 20	0.800	0.39	0.75
15 x 30	0.450	0.69	1.33	40 x 25	1.000	0.31	0.60
15 x 40	0.600	0.51	1.00	40 x 30	1.200	0.26	0.50

(Refer to joint design guide)

Surface Preparation

All surfaces must be clean, dry and free from oil, grease and all loosely adhering particles.

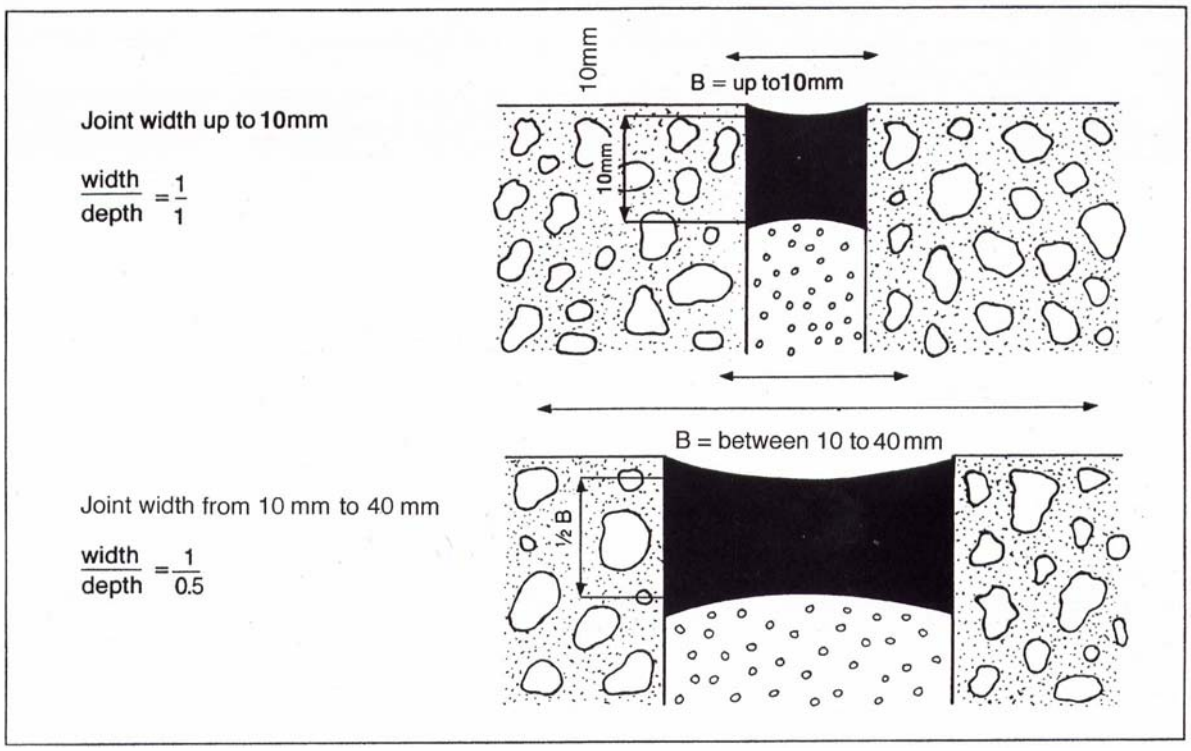
Application

Service Temperature	-30°C to +80°C
Application Temperature	+5°C to 35°C
Priming	On porous surfaces such as concrete, render, brickwork and timber, use Sika Primer® -3. For other substrates consult Sika Primer Chart.
Application	Sikaflex® -1A is applied direct from the cartridge or the unipac with a suitable sealant gun.
Back -up	Use closed cell polyethylene profiles.
Cleaning	Clean all tools and equipment immediately ager use with Sika Colma Cleaner.

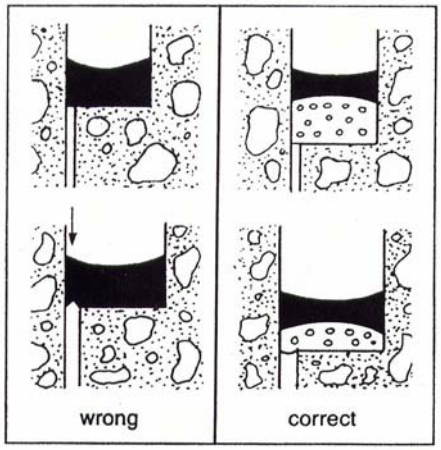
Important Notes

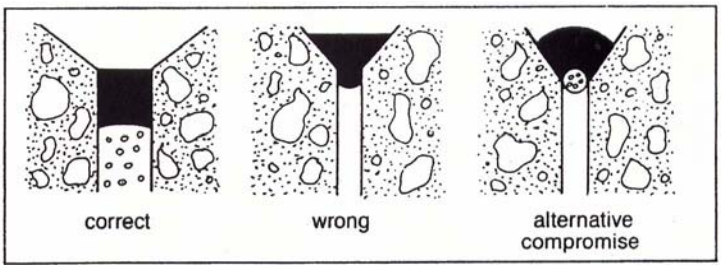
- Do not use Sikaflex® -1A for expansion joints in weak building materials such as cement mortar, aerated concrete or rigid foam.
- Ensure that all traces of release agents, curing compounds and silicone treatments are removed or test for adequate adhesion first.
- Although still good functionally, white Sikaflex® -1A may discolour slightly with age (external application).
- For best results in tooling the sealant, use a spatula and liquid detergent diluted 1 : 10 with water (for smoothing).
- If the sealant is to be used for other applications, consult our technical service.
- Not to be used for glazing.
- Sikaflex® -1A may be over-coated, preliminary adhesion / compatibility testing is necessary.
- Do not apply to concrete treated with "glazing" coating.
- For contact with drinking water, sealant must have cured for at least 3 weeks.

Joint design for elastic sealants
When constructing a joint the following measurements have to be observed. Normally the joint structure has to have the following values.

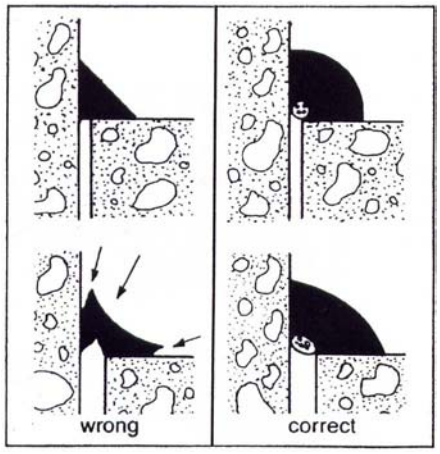


For concrete and masonry joints subject to movement the depth of the joint has to be at least 8 mm





The "floor" of the joint must not restrict the deformation of the sealant since could result in failure during joint opening. The depth of the joint should be adjusted by inserting Sika Backing Rod



In corner joints the insertion of a strip of Sika Backing Rod is required. Otherwise the sealant will fail during expansion of the joint.

Note: Joints wider than 35 mm should normally be triangulated in accordance with standard practice.

Construction

Safety Instructions

Ecology	Do not dispose of into water or soil but according to local regulations.
Transport	Non-hazardous
Safety Precautions	Wear rubber gloves during application, change soiled clothes after work and wash hands with warm water and soap.
Toxicity	Non-toxic under relevant health and safety codes.

Legal notes

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