

PRODUCT DATA SHEET

Sikaflex® PRO

High performance polyurethane joint sealant

DESCRIPTION

Sikaflex® PRO is a 1-component, thixotropic, polyurethane based joint sealant. It cures under the influence of atmospheric moisture to form an elastomeric material with adhesive properties. In some cases without the need for priming of the substrate.

USES

As an elastic joint sealant for:

- Expansion joints in buildings and civil structures above and below ground.
- Construction joints.
- Joints in precast concrete elements.
- External walling and cladding joints.
- Infill panel joints.
- Curtain walling.
- Sanitary installations.
- Sealing around window and door frames.
- Flexible draught proofing.
- Sealing penetrations in walls or floors for ducts, piping etc.
- Retaining walls.

CHARACTERISTICS / ADVANTAGES

- New Sikaflex® PRO will bond well to well cleaned Sikaflex® PRO.
- Excellent adhesion on all cement materials, brick ceramics, polyurethane, epoxy, most polyester, most metals and most timbers.
- High durability.
- Good weathering resistance.
- Non-sag on vertical and soffit joints up to 30 mm width.
- Short skinning time.
- Short cut off string, even after storage.
- Ready for immediate use - no mixing, saves time.
- No potential mixing errors or waste due to mixed quantities being greater than required.
- Non-corrosive.
- Can be painted over with many water, solvent and rubber based paints (preliminary tests recommended).
- Approved for use in potable water (AS4020:2005)
- Resistant to bacterial attack.

APPROVALS / CERTIFICATES

Sikaflex® PRO is supplied throughout the world by Sika® and conforms to the most stringent sealant standards, for example:

- US Federal Specification TT-S-00230C, Type II, Class A.
- BS4254: For one part polyurethane based sealants for the building industry.
- JIS A 5758: For one part polyurethane based sealants for the construction industry.

PRODUCT INFORMATION

Composition	Moisture curing polyurethane prepolymer.
Packaging	310 ml cartridge, 12 cartridges per box 600 ml foil pack, 20 foil packs per box Sika Primers are supplied in 250 ml and 1 litre cans (Flammable)

Sika Activator 205 supplied in 250 ml and 1 litre cans (Flammable)
 Sika Colma Cleaner is supplied in 1 litre and 20 litre cans (Flammable)

Shelf life	Sikaflex® PRO has a shelf life of 12 months from the date of production, if it is stored in undamaged, original, sealed packaging, and if the storage conditions are met.
Storage conditions	Sikaflex® PRO shall be stored in dry conditions, where it is protected from direct sunlight and at temperatures between +5 °C and +25 °C.
Colour	Grey, dark grey, black, white Colours are shown as a guide only. For true representation of colours please contact your local Sika® office or Technical Sales Department.
Density	1.25 - 1.3 kg/l depending on colour

TECHNICAL INFORMATION

Shore A hardness	23 - 27 after 28 days (at +23 °C, 50% R.H.)		
Tensile strain at break	>500%		
Movement capability	Refer Joint Design section.		
Elastic recovery	>80%	(JIS A 5758 1992)	
Tear strength	>0.2 MPa @ 50% elongation @ +23 °C	(JIS A 5758 1992)	
Service temperature	-30 °C to +70 °C (maximum +40 °C in water and temporarily +50 °C)		
Chemical resistance	Long Term	Mid Term	Low to Very Low
	Water	Mineral oils	Organic solvents
	Sea water	Vegetable oils	Paint diluents
	Dilute mineral acids	Fats	Strong acids
	Dilute mineral alkalis	Swimming / Spa	Strong Alkalis
	Domestic sewage	Pool water	
		Fuel oils	

Joint design

Permissible change in the joint width at ambient temperatures:

- above 0°C is ±30% of average joint width at the time of sealing
- below 0°C is a total of ±20% of average joint width at the time of sealing
- admissible total shear movement is 20% of joint width at the time of sealing

For the successful sealing of joints with Sikaflex® PRO it is essential that the following guidelines on joint configuration are observed:

General use:

- for joints up to 12 mm wide, width to depth ratio = 1:1
- for joints over 12 mm wide, width to depth ratio = 2:1 (minimum joint depth 8mm, maximum joint width 35mm).

An approximate rule of thumb for joints in precast concrete

Joint interval (metres) up to	2.0	2.0-3.5	3.5-5.0	5.0-6.5	6.5-8.0
Joint width (mm)	10	15	20	25	30

To ensure that the correct width to depth ratio is achieved and to provide a firm backing against which the sealant can be tooled off and also to prevent the sealant from adhering to the bottom of the joint, the space under the Sikaflex® PRO must be filled with a tight fitting, non-rotting, non-absorbent backing material eg. fibreboard combined with a bond breaking tape (eg. polypropylene or PVC) or, alternatively, an open cell polyurethane or closed cell polyethylene backer rod supplied by Sika. Open cell PU backer rod has the advantages of allowing moisture access to the front and back of the joint simultaneously facilitating faster curing. Also open cell PU backer rod is much more compressible than closed cell PE foams thus one diameter rod can be used in a much wider range of joints widths. Closed cell PE backer rod can cause bubbling in uncured sealant in rising temperature conditions if it's outer skin is punctured. It is essential that oil or tar



APPLICATION INFORMATION

Consumption

SIKAFLEX® ESTIMATING CHART

Quantities: a guide to Sikaflex® PRO quantities (for fillet work multiply metre runs per cartridge or 'unipac' by two).

Joint Size in MM	Litre Sikaflex® PRO per metre run	Metre run per cartridge (310ml)	Metre run per cartridge (600ml)
5x5	0.025	12.4	24
5x10	0.050	6.2	12
5x15	0.075	4.2	8.0
10x10	0.100	3.1	6.0
10x15	0.150	2.0	4.0
10x20	0.200	1.55	3.0
10x25	0.250	1.24	2.4
15x10	0.150	2.06	3.9
15x15	0.225	1.35	2.7
15x20	0.300	1.04	2.0
15x25	0.375	0.82	1.6
15x30	0.450	0.69	1.3
15x40	0.600	0.51	1.0
20x10	0.200	1.55	3.0
20x15	0.050	1.04	2.0
20x20	0.400	0.78	1.5
25x12.5	0.310	1.00	2.0
25x15	0.380	0.81	1.6
25x20	0.500	0.62	1.2
25x25	0.630	0.50	0.9
30x15	0.450	0.69	1.3
30x20	0.600	0.51	1.0
30x25	0.750	0.42	0.8
40x20	0.800	0.39	0.8
40x25	1.000	0.31	0.6
40x30	1.200	0.26	0.5

Ambient air temperature +5 °C to +40 °C, min. 3 °C above dew point temperature

Curing rate 2 mm in first 24 hours (+23 °C / 50% r.h.)

Skimming time 2 to 4 hours (+23 °C / 50% r.h.)

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

- Sikaflex® PRO is best stored at temperatures between +10°C to +25°C in dry areas. The storage temperature should not exceed +30°C for extended periods.
- For best result use opened cartridge or sausage the same day otherwise the Sikaflex® PRO in the nozzle will cure and have to be removed.
- When applying sealant, avoid air entrapment.
- Joint movement must not exceed ±30% (above 0°C) of the width of the joint at the same time it is sealed.
- Minimum joint width for caulking around window frames is 10 mm.
- White and off white coloured sealant, in certain situations may yellow. This does not affect the performance of the sealant.
- Sikaflex® PRO in White or Off White are not recommended for Kitchen and Bathroom tile joint sealing as the sealant can discolour. Sikasil® PRO or SikaSeal® Kitchen & Bathroom are recommended for this application.
- White and off white coloured sealant can be discoloured if detergent tooling aids are used.
- Joints in low humidity environment should be sprayed with a mist of water as soon as tooling off is complete to accelerate the curing process and minimise the risk of early movement cracks.
- For specific chemical resistance please contact our Technical Service Department.
- If there is no history of a particular coating/paint be-

ing applied over cured Sikaflex® PRO for a period of 6 months or more an over paintability test should be made to determine:

- That the paint dries properly within the expected time frame.
- That if the paint film dries satisfactorily it is not subsequently softened and/or stained where it comes into contact with the Sikaflex® PRO when exposed to the heat of the sun.
- That the adhesion of the paint/coating is satisfactory to the Sikaflex® PRO
- Conduct a simple test, overpaint a cured sample of Sikaflex® PRO, allow the normal drying time for the coating to elapse and then expose it to a Temperature of 80°C continuously for seven days. Sika's Technical Department can conduct this testing.
- Do not paint Sikaflex® PRO with Sikagard-680S - it will not dry satisfactorily.
- Do not use mineral turpentine or solvent based solutions as tooling aids.
- Do not use Sikaflex® PRO to seal joints in chlorinated swimming pools or spa pools because occasional over dosing with chlorine etc. can eventually cause the Sikaflex® PRO surface to become sticky.
- Where possible backer rod should be placed in a joint before it is primed.
- Do not twist or puncture closed cell polyurethane backer rod during installation, this can lead to "out gassing". The gas from the backer rod blows bubbles into freshly applied Sikaflex® PRO during conditions of rising temperature.
- Open cell backer rod allows moist air access to the bottom of the joint so that the Sikaflex® PRO can cure simultaneously from the front and back of the joint.
- Sikaflex® PRO should be used with care in resealing joints that were previously filled with silicone sealant. Consult our Technical Department.
- Not to be used in glazing applications where the Sikaflex® to glass bond is exposed to direct or indirect sunlight or UV radiation.
- Alcohol containing solvents should not be used as a tooling aids, as these will inhibit the cure of polyurethane adhesives / sealants.
- Epoxy resin coatings should be fully cured prior to the application of the adhesive / sealant as the uncured amine component could inhibit the cure of polyurethane adhesives / sealants.

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.

PRODUCT DATA SHEET

Sikaflex® PRO

March 2022, Version 01.02

02051101000000012

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Clean, sound, dry and free of oil, grease and surface contaminants such as form release agents, curing membranes and hydrophobic water repellents. Thoroughly remove all loose particles and dust.

Masonry / Brick / Concrete: Any loose particles or laitance should be removed with a rotary mechanical wire brush followed by blowing out with oil free compressed air. Use Sika cementitious or epoxy mortars for making good spalled or damaged joints.

Metals: Surface must be free of rust, scale or oxide films and should be degreased using Sika® Colma Cleaner, Acetone or M.E.K.

PRIMING

(Refer to Primer Selection Guide for detailed information. This is separate document).

APPLICATION METHOD / TOOLS

Minimum application temperature +5°C. For easier use we recommend the material is stored between +10°C to +30°C and prior to use. Sikaflex® PRO is available in 310 ml cartridges or 600 ml unipac. Cartridge: break the inner seal at nozzle end, affix nozzle and cut to accommodate the desired joint size. Unipac: slide unipac into the application gun, then either "nick" the unipack wrapper at the extrusion end or cut off the very end of the sausage if it contains partially cured lumpy Sikaflex. Fit the gun with a suitable nozzle that has been cut to the deliver the right bead size. All primer on joint sides, which is generally applied after backer rods or release tapes are in place (refer joint design section) must have not exceeded it's open time and it must be thoroughly dry and not just skinned over; otherwise in conditions of rising temperature trapped solvent can blow bubbles in the uncured sealant. Porous substrates such as poorly compacted or cracked concrete must have their porous bond area surfaces thoroughly sealed to avoid the possibility of air bubbles being blown into the uncured sealant if the substrate temperature rises. Extrude the Sikaflex® PRO into the joint ensuring that no air is trapped in the joint. Wide joints will require more than one pass of the application gun to make sure that Sikaflex® PRO is in full contact with the sides and bottom of the joint. Tooling-off the sealant will assist by forcing the sealant into the joint against its sides and back up material; this will also break any air bubbles and expose any air pockets. Final tooling of the joint surface can be done effectively with a spatula dipped in a 20% solution of washing up detergent in water (test to ensure it does not discolor the cured Sikaflex® PRO) or a profiled piece of raw potato. When tooling off with detergent solution, ensure no solution is allowed to get onto adjacent joint sides/bonding areas before the sealant has reached the final tooling stage in those locations. When masking sides of joints for neatness, remove tape before the sealant cures. Always allow sufficient surface exposed to moisture. In conditions of low atmospheric humidity, say less than 45% R.H. at +20°C or <60% R.H. at +10°C when early joint movement is anticipated (eg. The joint has been sealed in the late

afternoon sun and sunset a rapid temperature drop is expected - Canberra or Alice Springs in winter), it is advisable to spray the surface of tooled Sikaflex with a fine mist of water to promote early skinning. Seal joints in walls facing west in the morning.

CLEANING OF EQUIPMENT

Use Sika Colma Cleaner to remove uncured sealant from tools after first removing the bulk of the Sikaflex material with a scraper followed by a rag or paper tissue. Sikaflex Hand Cleaner will remove fresh and partially cured Sikaflex from the skin. 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.



PRODUCT DATA SHEET
Sikaflex® PRO
March 2022, Version 01.02
020511010000000012

SikaflexPRO-en-MN-(03-2022)-1-2.pdf

