

Sikaflex[®] 11FC

One component polyurethane sealant/adhesive

Construction

Description	Sikaflex 11FC is a fast curing one-component polyurethane sealant/adhesive with permanent elasticity.
Uses	<p>As an elastic adhesive for:</p> <ul style="list-style-type: none"> • Assembling metal framed buildings. • Cover plates and coverings. • Light-weight construction materials. • Acoustic ceiling tiles. • Wood, metal or plastic window and door frames. • Floor mouldings and door sills. <p>As an elastic joint sealant for:</p> <ul style="list-style-type: none"> • Sealing joints in concrete, epoxy, stone and quarry tiled floors. • Sealing joints in roofing and guttering etc. • Flexible draught proofing. • Containers, water tanks and silos. • Excellent pick resistance for applications in shop fronts, prisons, schools, public amenities and buildings. • Bolted lap joints. • Sealing penetrations in walls or floors for ducts, piping, etc. • Sanitary purposes.
Advantages	<ul style="list-style-type: none"> • New Sikaflex 11FC will bond to well cleaned old Sikaflex 11FC. • Excellent adhesion on all cement-based materials, brick, ceramics, metals, wood, polyurethane, epoxy, and some polyesters. • Fast cure rate. • High durability. • High abrasion resistance and tear strength. • Good weathering and water resistance. • Non-sag on vertical joints up to 30 mm width. • Ready for immediate use – no mixing. • Non-corrosive. • Can be painted over with many water, solvent and rubber-based paints (preliminary tests recommended). • Certified for use in contact with potable water (AS4020-2005).
Instructions for Use	
Surface 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.
Priming	<i>(Refer to Primer Selection Guide for detailed information. This is a separate document).</i>
Application	Minimum application temperature 5°C. For easier use store cartridges at temperatures between 10°C and 20°C. Break inner seal at extrusion end of cartridge. Affix nozzle to cartridge, cut tip to suit joint size. Install into a caulking gun. For adhesive purposes apply in spots or beads on the prepared surface, tapping or pressing the part to be adhered against the substrate. The thickness of the bead depends on the surface texture (1mm to 5mm). When sealing is completed, joints may be smoothed with a 20% solution of washing up detergent in water. When masking sides of joints for

Application (continued)	neatness, remove tape before the sealant cures. Always allow sufficient surface exposed to moisture.
Cleaning	Use Sika Colma Cleaner to remove uncured sealant from tools. Sikaflex Hand Cleaner will remove fresh and partially cured Sikaflex from the skin. Hardened material can only be removed mechanically.
Joint Design	<p>Permissible change in joint at ambient temperatures:</p> <ul style="list-style-type: none"> • Above 0°C is ± 10% of average joint width at time sealing • Below 0°C is a total of ± 5% of average joint width at the time of sealing <p>For successful sealing of joints with Sikaflex-11FC it is essential that the following guidelines on joint configuration are observed:</p> <p>General Use: for joints up to 12 mm, width to depth ratio = 1 : 1 for joints over 12 mm wide, width of depth ratio = 2 : 1</p> <p>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-11FC must be filled with a tight fitting, non-rotting, non-absorbent backing material, e.g. fibreboard combined with a bond breaking tape or, alternatively, an open cell polyurethane or closed cell polyethylene backer rod supplied by Sika.</p> <p>It is essential that oil or tar impregnated backing materials are not used.</p>

Criteria that have to be observed in designing expansion joints

Usually the joint has the following geometry:

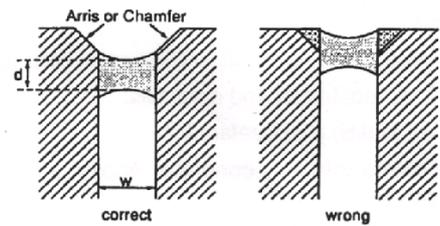
For joint widths up to 12mm

Width = 1 or w=d
Depth 1

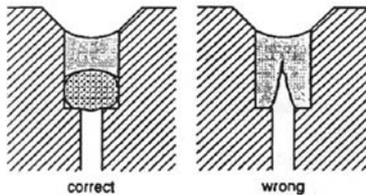
For joint widths 12mm to 40mm

Width = 1 or w=2d
Depth 0.5

For concrete and masonry joints subject to movement the depth of the joint has to be at least 6mm.



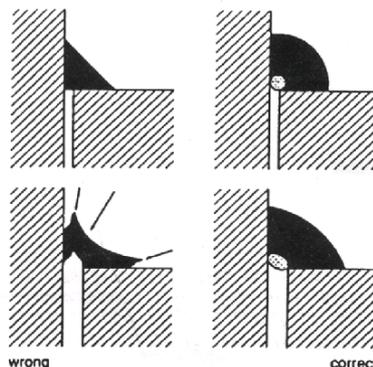
The edges or corners of concrete joints are often weak because of poorly compacted concrete, thus it is desirable to use chamfers and recess the joint.



The "bottom" of the joint must not restrict the deformation of the sealant since this could result in failure during the opening of the joint. The depth of the joint should be adjusted by inserting a suitable joint backing material.



In corner joints too, the insertion of a release tape or backer rod is required, otherwise the sealant will fall during expansion of the joint.

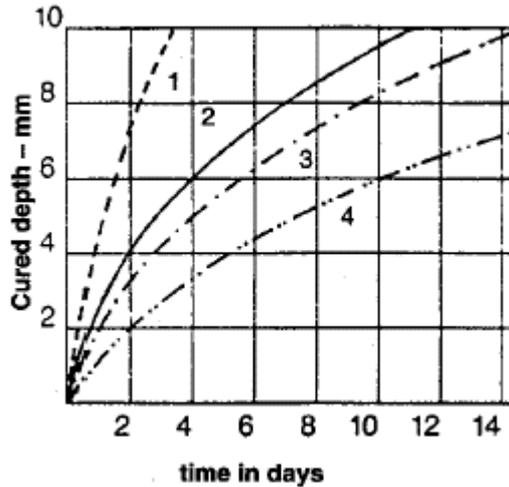


Technical Data (Typical)

Colours	Sikaflex® 11FC 
Density	1.15 – 1.2 kg/litre depending on colour
Basis	Accelerated moisture curing polyurethane prepolymer
Priming	Refer separate Primer Selection Guide for details
Application Temperature	5°C to 40°C
Service Temperature	-40°C to 80°C (maximum 50°C in water)
Shelf Life	Minimum 12 months stored dry below 30°C unopened in original container
Skinning Time	45 to 75 minutes depending on climate
Shore A hardness	40-45
Elastic Recovery	>90%
Tensile Strength	0.5 MPa approx. @ 50% elongation (20°C)
Elongation at Break	Over 450%
Maximum Working Expansion and Contraction	Refer Joint Design section
Tear propagation resistance	7 MPa
Tensile Strength at Break	Approx. 1.4 MPa

Cure rate at various relative humidities and temperatures

- 1)..... 40°C/65%RH
- 2)..... 20°C/65% RH
- 3)..... 20°C/40% RH
- 4)..... 5°C/65% RH



Chemical Resistance	Long Term	Medium Term	Low to Very Low Term
	Water	Mineral oils	Organic solvents
	Weak acids	Vegetable oils	Paint thinners
	Weal alkalis	Fats	Strong acids
	Sewage	Fuels	Strong alkalis

Consumption One pack of Sikaflex-11FC will produce the following lengths of bead for various bead diameters (approx. per pack):

	310 ml Cartridge		600 ml Sausage	
3 mm bead	43 metres	3 mm bead	81 metres	
4 mm bead	24 metres	4 mm bead	45 metres	
5 mm bead	15 metres	5 mm bead	28 metres	
6 mm bead	10 metres	6 mm bead	19 metres	

Sika Primers (referred to above): About 5m² per kilo of primer.

As a typical guide a 250 ml can of primer will normally be sufficient for about 11 to 13 cartridges or 5 to 8 600ml sausages of Sikaflex-11FC.

Sika Adhesive Cleaner 1 approximately 0.13litres/m².



Packaging	310 ml cartridge in cartons of 12 600 ml sausage in cartons of 20
Important Notes	<ul style="list-style-type: none"> • Sikaflex-11FC is best stored at temperatures between 10°C and 25°C in dry areas. The storage temperature should not exceed 30°C for extended periods. • For best results use opened cartridge or sausage the same day otherwise the Sikaflex-11FC in the nozzle will cure and have to be removed. • When applying sealant, avoid air entrapment. • Do not use in high movement expansion joints. • Joint movement must not exceed $\pm 10\%$ of joint width. • White coloured material yellows with age. • In some bathroom and kitchen environments Sikaflex-11FC can be stained by the fumes from other components used in the structure and finishes. Ceramic tile adhesives containing rubber from old car tyres could be a cause. • Joints in low humidity environments 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. • Protect from water immersion during the first three hours of cure. • Some adhesive joints may require clamping during the cure period if the “green strength” of the Sikaflex-11FC is not high enough. • For specific chemical resistance please contact our Technical Service Department. • If there is no history of a particular coating/paint being applied over cured Sikaflex-11FC for a period of 6 months or more an overpaintability test should be made to determine: <ul style="list-style-type: none"> i) that the paint dries properly within the expected time frame. ii) that if the paint film dries satisfactorily it is not subsequently softened and/or stained where it comes into contact over the Sikaflex-11FC when exposed to the heat of the sun. <p>Conduct a simple test, overpaint a cured sample of Sikaflex-11FC, 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.</p> <ul style="list-style-type: none"> • Do not paint Sikaflex-11FC with Sikagard-690S or Sikagard-670W – it will not dry satisfactorily. • Do not use Sikaflex-11FC to seal joints in chlorinated swimming pools because occasional overdosing with chlorine can eventually cause the Sikaflex-11FC 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 polyethylene backer rod during installation, this can lead to “out gassing”. The gas from the backer rod blows bubbles into freshly applied Sikaflex-11FC during conditions of rising temperature. • Open cell backer rod allows moist air access to the bottom of the joint so that the Sikaflex-11FC can cure simultaneously from the top and bottom of the joint. • 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 aid, 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.
Handling Precautions	<p>Sika sealants are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should also be taken to prevent the uncured materials from coming into contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is recommended. The skin should be thoroughly cleansed at the end of each working period either by washing with soap and warm water or by using a resin removing cream – the use of powerful solvents is to be avoided. Disposable paper towels – not cloth towels – should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water – consult a doctor immediately.</p>
Important Notification	<p>The information, and, in particular, the recommendations relating to the application and end-use of Sika’s 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 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 proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the most recent issue of the Australian version of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.</p> <p>PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.</p>