BUILDING TRUST

PRODUCT DATA SHEET

Sikadur® Crack Repair Kit

Concrete crack repair system

DESCRIPTION

Sikadur® Crack Repair Kit is for repairing and sealing of small / minor cracks in concrete and masonry. It includes a 2-part polyester surface crack sealer, 2-part low viscosity epoxy injection resin and all the necessary accessories needed for the application.

USES

Sikadur® Crack Repair Kit may only be used by experienced professionals.

Repairing and / or sealing cracks in concrete and solid masonry using:
- Low pressure resin injection technique for vertical, horizontal or overhead applications
- Gravity feed technique for horizontal applications

CHARACTERISTICS / ADVANTAGES

- Full Kit including all necessary accessories for carrying out complete application
- Easy application using cartridges that fit standard caulking dispensers
- Fast curing surface crack sealer and injection resin
- Low viscosity for deep penetration into cracks
- Convenient 'mix in the nozzle' cartridge system

APPROVALS / CERTIFICATES

- CE Marking and Declaration of Performance to EN 1504-5 - Concrete injection
- Conforms to ASTM C-881 Grade 1, Class C, Types I, II.

PRODUCT INFORMATION

Packaging	Kit contents: ▪ Sikadur® Crack Sealer 300 ml cartridge (2 pcs) ▪ Sikadur® Injection Resin 250 ml cartridge (2 pcs) ▪ Sikadur® Crack Sealer mixer nozzle (2 pcs) ▪ Sikadur® Crack Sealer applicator fan (2 pcs) ▪ Cartridge flow restrictor (2 pcs) ▪ Sikadur® Injection Resin mixer nozzle with extended tube (2 pcs) ▪ Push fit connector (1 pc) ▪ Injection ports (16 pcs) ▪ Pair of gloves (2 pcs) ▪ Wooden applicator (Spatula) (2 pcs) Refer to current price list for packaging variations.
Shelf life	18 months from date of production
Storage conditions	The product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +25 °C. Always refer to packaging.

Colour	Sikadur® Crack Sealer (Parts A+B mixed)	Concrete grey	
	Sikadur® Injection Resin (Parts A+B mixed)	Transparent / Yellowish	
Density	Sikadur® Crack Sealer (A+B mixed)	~1,6 kg/l	
	Sikadur® Injection Resin (A+B mixed)	~1,1 kg/l	
Viscosity	Sikadur® Injection Resin (A+B mixed)	~500 cps at +23 °C	
Volatile organic compound (VOC) content	Sikadur® Crack Sealer	4,3 %	(ASTM D2369)
	Sikadur® Injection Resin	5,4 %	

TECHNICAL INFORMATION

Compressive strength

Sikadur® Injection Resin

(ASTM D695-96)

Time	Temperature		
	+5 °C	**+20 °C**	**+35 °C**
4 hours			~4 N/mm²
8 hours			~16 N/mm²
16 hours		~17 N/mm²	~25 N/mm²
1 day		~24 N/mm²	~37 N/mm²
3 days	~11 N/mm²	~62 N/mm²	~39 N/mm²
7 days	~46 N/mm²	~65 N/mm²	~49 N/mm²
14 days	~55 N/mm²	~67 N/mm²	~55 N/mm²
28 days	~65 N/mm²	~70 N/mm²	~70 N/mm²

Product cured and tested at temperatures indicated in table. Test specimen size: 12,7 mm × 12,7 mm × 25,4 mm

Modulus of elasticity in compression	~16 900 N/mm² (7 days, +23 °C)		(ASTM D 695)
Tensile strength in flexure	~70 N/mm² (7 days / +23 °C)		(ASTM D 732)
Tensile strength	~43 N/mm² (7 days / +23 °C)		(ASTM D 638)
Modulus of elasticity in tension	~18'000 N/mm² (7 days / +23 °C)		(ASTM D 638)
Tensile strain at break	~25 % (7 days / +23 °C)		(ASTM D 638)
Tensile adhesion strength	Dry concrete	> 3,2 N/mm² (concrete failure)	(ASTM D 897)
	Moist concrete	> 2,0 N/mm² (concrete failure)	
	all values determined after 7 days at +23 °C		
Heat deflection temperature	~43 °C (~110 ° F) (7 days / +23 °C)		(ASTM D 648)
Water absorption	~0,24 % (7 days / +23 °C)		(ASTM D 570)

APPLICATION INFORMATION

Mixing ratio	Sikadur® Crack Sealer	Part A : Part B = 10:1
	Sikadur® Injection Resin	Part A : Part B = 1:1
Consumption	Depends on crack width and crack depth, the kit yields approximately 2-4 metres of crack length	
Layer thickness	Sikadur® Crack Sealer	~8 mm
	Sikadur® Injection Resin	0,1–6 mm

Sag flow	Sikadur® Crack Sealer (A+B mixed)	Non-sag, including overhead
	Sikadur® Injection Resin (A+B mixed)	Liquid
Material temperature	+5 °C min. / +30 °C max.	
Ambient air temperature	+5 °C min. / +45 °C max.	
Dew point	Beware of condensation. Substrate temperature during application must be at least +3 °C above dew point.	
Substrate temperature	+5 °C min. / +45 °C max.	

Curing time

Sikadur® Crack Sealer

Temperature	Open time - T_{gel}	Curing time - T_{cur} (Injection Time)
+30 °C (86 °F)	4 minutes	30 minutes
+25 °C (77 °F)	5 minutes	40 minutes
+20 °C (68 °F)	6 minutes	50 minutes
+10 °C (50 °F)	10 minutes	85 minutes
+5 °C (41 °F)	18 minutes	145 minutes

Sikadur® Injection Resin

Temperature	Open time - T_{gel}	Peel-off time (Crack sealer removal)	Curing time - T_{cur}
+30 °C (86 °F)	20 minutes	3 hours	12 hours
+20 °C (68 °F)	30 minutes	6 hours	24 hours
+5 °C (41 °F)	2 hours	18 hours	72 hours

BASIS OF PRODUCT DATA

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.

FURTHER INFORMATION

- Sika Method Statement: Sikadur® Crack Repair Kit 850 42 08

IMPORTANT CONSIDERATIONS

- Do not apply onto wet, glistening substrates or into wet cracks. Contact Sika Technical Services for alternative products.
- Not for injection of cracks subjected to osmotic or hydrostatic pressure during application.
- The injection resin is not an aesthetic product. The colour may change due to variations in lighting and/or UV exposure.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

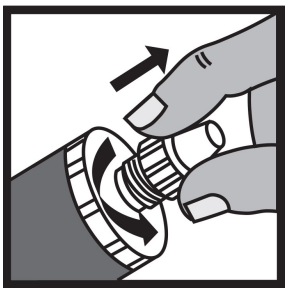
APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

- Minimum age of concrete must be 21–28 days, depending on curing and drying conditions.
- Substrate surfaces along the line of the crack required for the Sikadur® Crack Sealer, must be sound, clean and dry. Free from standing water, ice, dirt, oil, grease, coatings, laitance, efflorescence, old surface treatments, all loose particles and any other surface contaminants that could affect adhesion of the injection ports.
- Cracks must be clean. Horizontal cracks, which are filled by the 'gravity feed' technique, should be v-notched along the entire crack length with grinding equipment.

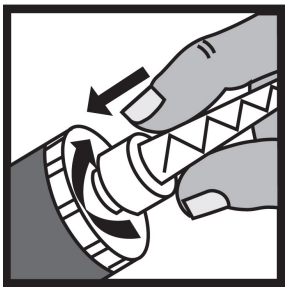
MIXING

Preparing the Sikadur® Crack Sealer Cartridge

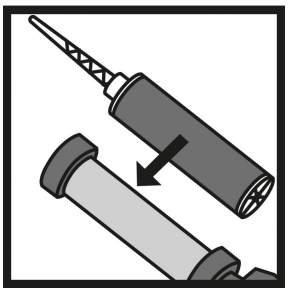


1. Unscrew and remove the cap

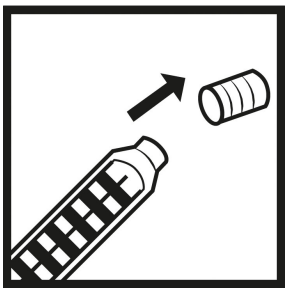
2. Cut the end off the protective film



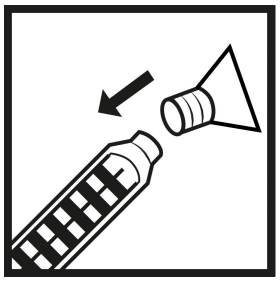
3. Screw on the square mixing nozzle



4. Place the cartridge into the application gun ready for use. Pump gun until both resin parts are extruded as one mixed consistent colour. Do not use unmixed material.



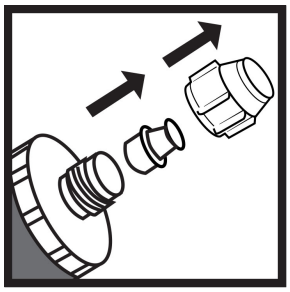
5. After bonding on the injection ports, remove the tip from the static mixing nozzle



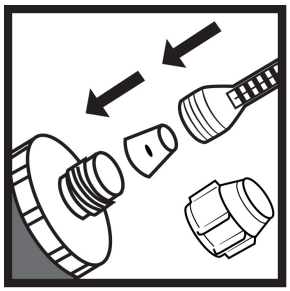
6. Fit the applicator fan onto the square mixing nozzle then start the crack sealing application.

Note: When the work is interrupted, the square mixing nozzle can remain on the cartridge after the gun pressure has been released. If the resin has hardened in the nozzle when work is resumed, a new square mixing nozzle must be attached.

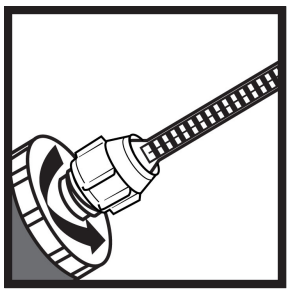
Preparing the Sikadur® Injection Resin cartridge



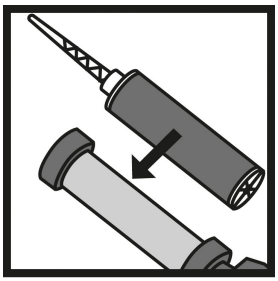
1. Unscrew the screwcap (do not throw away) and remove the plug from the cartridge outlet



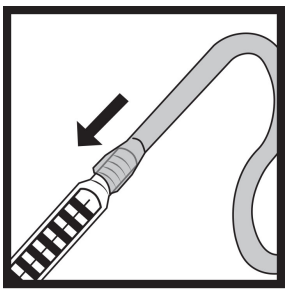
2. Fit the cartridge outlet plug into the cartridge then place injection resin mixer nozzle onto the cartridge



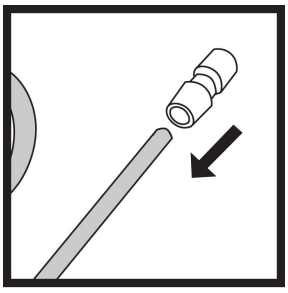
3. Slide the screwcap over the injection resin mixer nozzle and screw onto the cartridge



4. Place the Sikadur® Injection Resin cartridge into the application gun ready for use



5. Fit the flexible extension hose onto the injection resin mixer nozzle



6. Fit push fit connector onto the hose. Pump gun until both resin parts are extruded as one mixed consistent colour. Do not use unmixed material. Place connector over an injection port and start the injection application.

APPLICATION METHOD / TOOLS

Important: The Sikadur® Injection Resin is specially designed to flow into all areas of a crack and small fissures. When using the product in very porous substrates, it is likely to be absorbed by the substrate. This may result in a loss of volume of the resin in the crack, leading to an under filled crack.
Note: The distance between the injection ports is generally greater than the estimated depth of the crack (typically 1,5 times).

Vertical cracks (walls, columns, beams)

Crack sealing

1. Apply Sikadur® Crack Sealer to the base of the injection ports. Perforations in the packaging box can be used to hold the injection ports.
2. Bond the injection ports onto the prepared substrate. Make sure the port positioning needle is inserted into the crack.
3. Apply the Sikadur® Crack Sealer over the crack between the injection ports. Use wooden applicator to smooth surface and close any voids which could cause leaking of the resin during application.

Injection

1. Allow Sikadur® Crack Sealer to cure. Refer to the curing table on the cartridge.
2. If cracks are likely to be contaminated, purge cracks with Sikadur® Injection Resin by injecting through the ports until the resin runs clean and contaminant free.
3. Inject resin into the first (lower) port. When resin begins to flow from the adjacent port, close off the first port and disconnect the injection cartridge hose.
4. Reconnect injection cartridge hose to the second port
5. Inject resin until resin starts to flow from the third port.
6. Repeat the process working along the length of the crack until the complete crack has been injected.
7. Allow Sikadur® Injection Resin to cure. Refer to the curing table on the cartridge.
8. If necessary, remove the injection ports and crack sealer with grinder or similar equipment.
9. Make good any holes or voids with Sikadur® or MonoTop® repair products.

Horizontal cracks (floors, slabs etc)

Important: If the crack extends through the substrate, if possible, seal the underside of the substrate with Sikadur® Crack Sealer before filling the crack with Sikadur® Injection Resin.
Note: The crack seal and injection ports may not be required for this application as the resin could be introduced into the crack by the 'gravity feed' technique.

Option 1: Injection

1. Allow Sikadur® Crack Sealer to cure. Refer to the curing table on the cartridge.
2. If cracks are likely to be contaminated, purge cracks with Sikadur® Injection Resin by injecting through the ports until the resin runs clean and contaminant free.
3. Inject resin into the first port. When resin begins to flow from the adjacent port, close off the first port and disconnect the injection cartridge hose.
4. Reconnect injection cartridge hose to the second port
5. Inject resin until resin starts to flow from the third port.
6. Repeat the process working along the length of the crack until the complete crack has been injected.
7. Allow Sikadur® Injection Resin to cure. Refer to the curing table on the cartridge.
8. If necessary, remove the injection ports and crack sealer with grinder or similar equipment.
9. Make good any holes or voids with Sikadur® or MonoTop® repair products.

Option 2: Gravity feed

1. Pour the injection resin slowly into the vee-notched crack.
2. Continue filling until crack is completely filled.
3. Make good the vee-notch if not completely filled with resin using Sikadur® or MonoTop® repair products

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Colma Cleaner immediately after use. Hardened material can only be removed mechanically.

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.

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.

Sika Hellas ABEE
15 Protomagias Str.
14568 Kryoneri
Attica-Greece
Tel.: +30 210 8160 600
Fax: +30 210 8160 606
www.sika.gr | sika@gr.sika.com