

# METHOD STATEMENT

## Sikadur<sup>®</sup> Crack Repair Kit

02 2020 / 01 / SIKA SERVICES AG / MARCO POLTERA

**CRACK INJECTION KIT / CONCRETE REPAIR SYSTEM**

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# 1 INTRODUCTION

This Method Statement is written as a guideline for the use of the Sikadur® Crack Repair Kit. This document must be used and referred to, in combination with all other relevant Product Data Sheets (PDS), Safety Data Sheets (SDS) and the specific Project Specifications.

Injection applications are technically high demanding works, if additional clarification or advice is needed, please do not hesitate to contact your local Sika® Technical Service Department who will be pleased to assist you.

# 2 SYSTEM DESCRIPTION

Sikadur® Crack Repair Kit is used in the following situations:

- Low pressure injection of cracks in structural concrete and solid masonry.
- Gravity feed cracks in horizontal concrete and horizontal solid masonry.

## 2.1 REFERENCES

To ensure the correct application of Sikadur® Crack Repair Kit, please refer also to the following documents:

- PDS (Product Data Sheet)
- SDS (Safety Data Sheet)

## 2.2 LIMITATIONS

- The products must only be used in accordance for their intended applications.
- Local differences in some products may result in performance variations. The most recent and relevant local Product Data Sheets (PDS) and Material Safety Data Sheets (MSDS) shall apply and must be referred to.
- For any other specific construction / build information refer to the Architect's, Engineer's or Specialist Contractor's details, drawings, specifications and risk assessments.
- All of the works must be carried out as directed by a qualified engineer as the Supervising Officer.
- According to the Product Data Sheet, certain application limitations are given:
  - Crack width (minimum and maximum)
  - Substrate temperature
  - Substrate humidity / Cracks with water (also with pressure)
  - Ambient temperature
  - Material temperature
  - Age of Concrete
  - UV Exposure

Please refer to the PDS (Product Data Sheet).

### 3 PRODUCT

#### Sikadur® Crack Repair Kit

The Sikadur® Crack repair Kit for small concrete repairs with Sealing Material & Injections resin including all necessary Accessories & CE Marking according to 1504-5 (Injections)

- Sealing Material in Cartridges to seal the crack.
- Injection resin to inject the crack
- All necessary Accessories for the application



Method Statement  
Sikadur® Crack Repair Kit  
02 2020, 01  
850 42 08

English/Sika Services AG/Translation template  
template for local adaption

## Contents:

- Cartridge Crack Sealer 300 ml 2 pcs
- Cartridge Injection Resin 250 ml 2 pcs
- Crack Sealer mixer nozzle 2 pcs
- Crack Sealer applicator fan 2 pcs
- Cartridge Flow Restrictor 2 pcs
- Injection resin mixers with extended tube 2 pcs
- Push fit connector 1 pc
- Injection Ports 16 pcs
- Pair of Gloves 2 pcs
- Wooden Applicator (Tongue Spatula) 2 pcs



### 3.1 MATERIAL STORAGE

Materials must be stored properly in undamaged original sealed packaging, in dry and cooled conditions. Refer to specific information contained in the Product Data Sheets regarding minimum and maximum storage temperatures. Protect the products from direct sunlight.

## 4 SAFETY MEASURES ON SITE

### 4.1 RISK ASSESSMENT

The risks to health and safety from everything including any defects in the structure, working procedures and all of the chemicals used during the materials installation must be properly assessed and safely accommodated.

Any working areas on platforms and temporary structures must also provide a stable and safe area to work. All work and working procedures must be carried out fully in accordance with the relevant local health and safety legislation.

### 4.2 PERSONAL PROTECTION

The following symbols are typical of the internationally required labelling. In accordance with these, the products should be stored and applied according to the appropriate local regulations. Please also observe any other relevant local regulations (Refer to local PDS and MSDS).



Caution – used for less serious health hazards like skin irritation



Flammable



Dangerous to the environment



Corrosive



Longer term health hazards such as carcinogenicity

The following protective equipment is essential for anyone working with any acrylic resin based products and the instructions must be strictly adhered to:



protective overalls



safety goggles



protective gloves

In addition to protective clothing it is also recommended to use a barrier cream on the skin. The use of a barrier cream is more useful and effective than often reputed, they are inexpensive, convenient, and protect well if they are not frequently flushed with solvents. However, barrier creams are only a supplement to and not a replacement for protective gloves, so always wear gloves. Always ensure there is no contamination inside gloves before reusing them.

Ensure sufficient ventilation during application in closed or confined spaces.

If any resin or hardener component gets on clothing, remove the garment at once. The friction of resin-saturated fabric on the skin can cause serious chemical burns. Wash your exposed skin occasionally during the workday and immediately if any chemicals get on it. Avoid using solvents since they can help chemicals penetrate in to the skin and solvents themselves are aggressive and harmful to the skin. If no or only very little water is available at any time, clean the contamination with sand instead. Certain hand cleaners (for example Sika Cleaning Wipes) also work without harmful effects. Citrus skin cleaners, for example, are effective and mild. Soap and water takes time, but also eventually works for small areas. Avoiding skin contact by keeping tools and equipment clean is one of the best ways to protect oneself.



Despite safety precautions, with any instances of skin contact rinse immediately with clean water and use warm water and soap to thoroughly clean the skin.

No injection application should ever proceed without sufficient water being adjacent and available for eye washing. If adequate clean water is not provided then the project should not commence, no matter what the urgency. If a professional eyewash kit is not available, then at the very minimum one quart of clean water must be present. The water can be in a pail, plastic jug or via a hosepipe, but it must always be directly adjacent to the grouting operation ie a water source on the opposite side of the building or site is not good enough. Safety glasses or other eye protection are compulsory, but they can also create a false sense of security. **Do not take risks with health!**



Professional eyewash kit available

In the event of any spillage or contact into the eyes, always seek medical advice immediately after rinsing and cleaning the eyes with the clean water.

Dependent on local regulations respiratory masks may be required. Please observe all relevant local regulations



Breathing protection required

The following equipment is also generally recommended on construction sites:



hard hats



safety shoes with steel toe caps



ear protection

for use of mixing equipment  
please refer to the  
manufacturers advice

Please refer to the local country regulations and the specific construction site requirements.

#### 4.3 DISPOSAL

Brush away and remove any excess of material into appropriate containers for disposal before it has hardened.

Hardened material can be disposed of with other combustible waste in a waste incineration plant.

In no circumstances, burn the material in an open fire due to the potentially dangerous gases which can be released.

Uncured material must be disposed of as hazardous waste. It is forbidden to mix it with conventional waste.

Always dispose of excess or waste materials in accordance with local regulations.

#### Cleaning of Tools:

Uncured material can be removed with Sika Colma Cleaner. Cured material can only be removed mechanically.

## 5 PREPARATION WORK

### 5.1 SUBSTRATE PREPARATION

For a successful application, very thorough preparation is a must. The crack to be treated must be dry and free from oil, grease, dust and other contaminants. Any loose material must be blown or brushed clear.

For **Vertical Cracks** (walls, columns, beams) - The surface of the crack should be sealed with the fast setting Sikadur Crack Sealer supplied.

The Crack Sealer should also be used to affix the injection ports. The distance between the injection ports should be greater than the estimated depth of the crack (typically 1.5 times. If depth is not known, consult technical services).

For **Horizontal Cracks** (floors, slabs, etc.) - The Sikadur Crack Sealer and injection ports may not be required as the resin may be introduced into the crack by gravity.

## 6 APPLICATION / INSTALLATION

### 6.1 APPLICATION

For **Vertical Cracks** (walls, columns, beams) - The resin should be injected into the first (lower) port. When the resin begins to flow from the adjacent port, close off the first port and disconnect the hose. Reconnect to the second port and inject until resin starts to flow from the third; this process is repeated until the whole crack has been injected. After the resin has been allowed to cure, the injection ports and crack sealer material should be removed, and any holes or voids should be filled.

For **Horizontal cracks** (floors, slabs, etc.) - To gravity feed cracks, seal the underside of the substrate prior to filling if the crack reflects through. Dispense the injection resin slowly into the vee-notched crack. Continue injecting until completely filled.

### 6.2 REMOVAL

After the resin has been allowed to cure, the injection ports and crack sealing material should be mechanically removed and any holes or voids should be filled.

### 6.3 LIMITATIONS

- Minimum substrate and ambient temperature 5°C (40°F)
- Maximum substrate temperature 45° C (95° F).
- Minimum age of concrete must be 21-28 days, depending on curing and drying conditions.
- Do not apply over wet, glistening surfaces.
- Not for injection of cracks subjected to osmotic or hydrostatic pressure during application.
- Do not inject cracks smaller than 0.1 mm. Consult Sika Technical Services.
- Do not inject cracks greater than 6 mm. Consult Sika Technical Services.
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.

6.4 APPLICATION PROCEDURE

1



Take the Crack Sealer Cartridge

2



Load the Crack Sealer cartridge in the Applicator Tool

3



Unscrew the cap and cut off metal clip to open the cartridge

4



Attach square mixing nozzle

5



Perforation in box can be used.....

6



...to hold injection ports.....

7



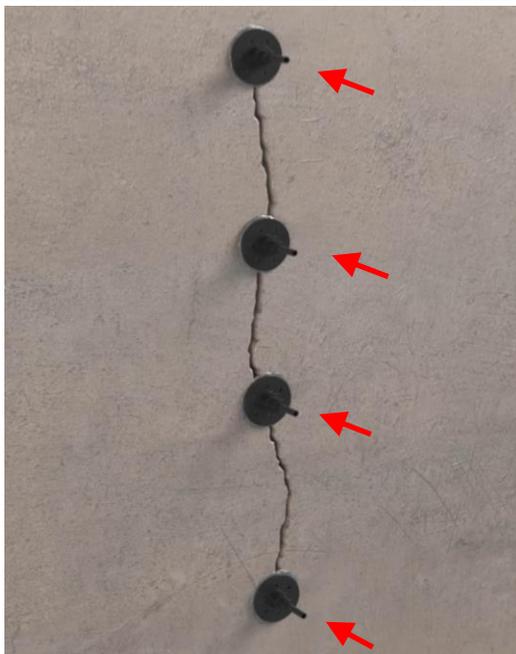
...while Sikadur Crack Sealer is being applied as shown  
Important: Keep injection port holes clear

8



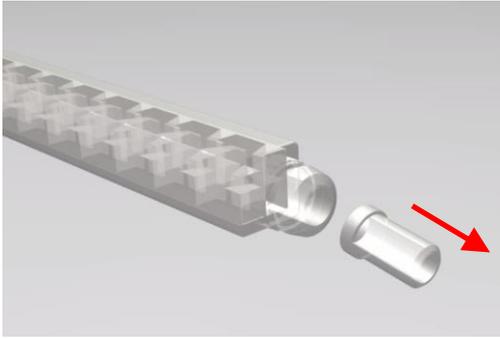
Fix injection ports to crack....

9



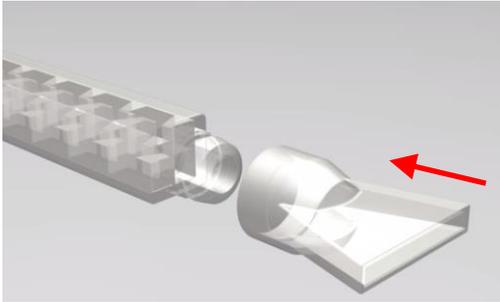
....distributed over the whole length

10



Remove fine tip from square mixing nozzle...

11



...and fit applicator fan

12



Seal the crack between the ports.....

13



..... and around the injection ports

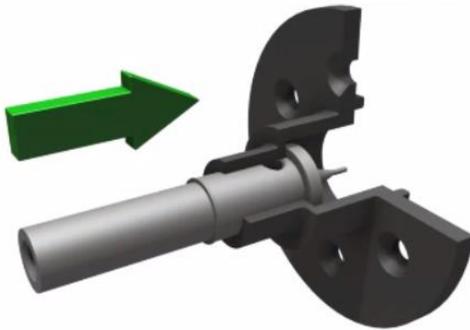
14



Smooth Sikadur Crack Sealer using spatula as required

Allow Sikadur Crack Sealer to cure minimum 30 minutes @ 20°C (68°F)

15



Ensure all injection ports are open

16



Take the Sikadur Injection Resin Cartridge

17



Remove screwcap (do not throw away)

18



Take away the plug which is in the cartridge outlet

19



Fit cartridge outlet plug in the cartridge..

20



...in additional, apply the injection resin mixer nozzle on the cartridge....

21



Slide screwcap over injection resin mixer nozzle and attach to cartridge

22



Load Sikadur Injection Resin cartridge in the Applicator Tool

23



Fit push fit connector to the injection resin mixer nozzle

24



Extrude a quantity of resin to waste to ensure an even homogeneous mixture

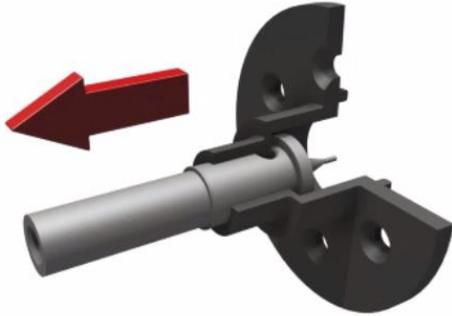
25



Injecting the crack:

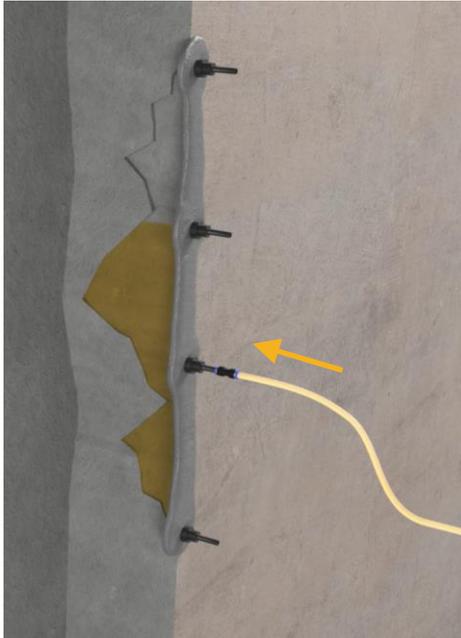
Begin the injection at the lowest injection port and inject until resin begins to flow from the adjacent port

26



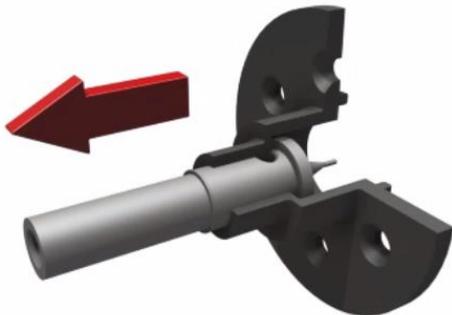
Close off the first injection port....

27



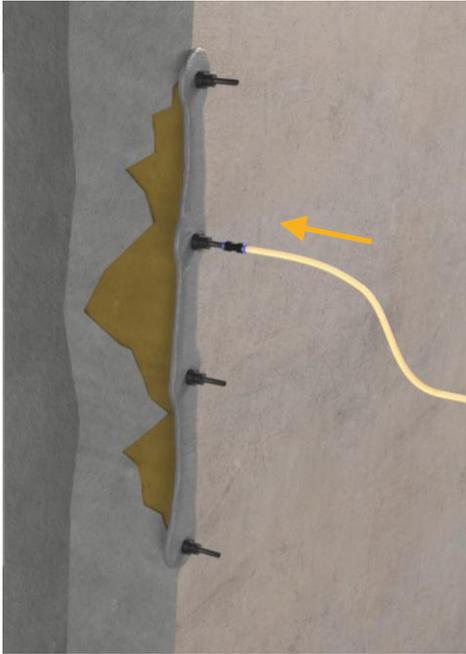
...disconnect the injection cartridge from the first port and reconnect to the second port and inject until resin flows from the third port....

28



Always close off the previous injection port

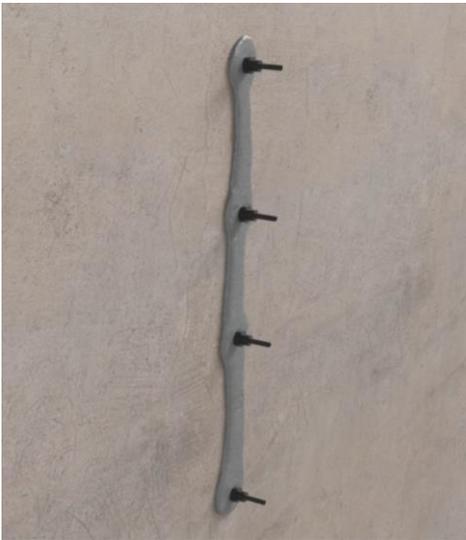
29



...continue this procedure until the crack is completely full.



30



Allow Sikadur Injection Resin to cure minimum 12 hours @ 20°C (68°F)

Ensure all injection ports remain closed during curing

31



Use appropriate tools to fully remove all injection ports and Crack Sealing material

**32**



Make any final repairs to surface of concrete to  
make good

## 7 CONSUMPTION TABLES

### 7.1 METRICAL SYSTEM

Consumption of Sikadur Crack Repair Kit - Injection Resin in a crack:

Length [cm]	Width [mm]	Depth [cm]	Cubic cm or ml	# of cartridges
100	0.1	5	5	0.02
100	0.2	5	10	0.04
100	0.3	5	15	0.06
100	0.5	5	25	0.10
100	0.75	5	37.5	0.15
100	1	5	50	0.20
100	2	5	100	0.40
100	3	5	150	0.60
100	4	5	200	0.80
100	5	5	250	1.00
100	6	5	300	1.20

Length [cm]	Width [mm]	Depth [cm]	Cubic cm or ml	# of cartridges
100	0.1	10	10	0.04
100	0.2	10	20	0.08
100	0.3	10	30	0.12
100	0.5	10	50	0.20
100	0.75	10	75	0.30
100	1	10	100	0.40
100	2	10	200	0.80
100	3	10	300	1.20
100	4	10	400	1.60
100	5	10	500	2.00
100	6	10	600	2.40

Length [cm]	Width [mm]	Depth [cm]	Cubic cm or ml	# of cartridges
100	0.1	15	15	0.06
100	0.2	15	30	0.12
100	0.3	15	45	0.18
100	0.5	15	75	0.30
100	0.75	15	112.5	0.45
100	1	15	150	0.60
100	2	15	300	1.20
100	3	15	450	1.80
100	4	15	600	2.40
100	5	15	750	3.00
100	6	15	900	3.60

Length [cm]	Width [mm]	Depth [cm]	Cubic cm or ml	# of cartridges
100	0.1	20	20	0.08
100	0.2	20	40	0.16
100	0.3	20	60	0.24
100	0.5	20	100	0.40
100	0.75	20	150	0.60
100	1	20	200	0.80
100	2	20	400	1.60
100	3	20	600	2.40
100	4	20	800	3.20
100	5	20	1000	4.00
100	6	20	1200	4.80

Consumption of Sikadur Crack Repair Kit - Crack Sealer on a crack:

Length [cm]	Width [cm]	Thickness [cm]	Cubic cm	# of cartridges
100	1	0.3	30	0.10
100	1	0.5	50	0.17
100	1	0.7	70	0.23
100	2	0.3	60	0.20
100	2	0.5	100	0.33
100	2	0.7	140	0.47
100	3	0.3	90	0.30
100	3	0.5	150	0.50
100	3	0.7	210	0.70
100	4	0.3	120	0.40
100	4	0.5	200	0.67
100	4	0.7	280	0.93

7.2 IMPERIAL SYSTEM

Consumption of Sikadur Crack Repair Kit - Injection Resin in a crack:

Length [in]	Width [in]	Depth [in]	Cubic inches	# of cartridges
40	0.004	2	0.32	0.02
40	0.008	2	0.64	0.04
40	0.012	2	0.96	0.06
40	0.020	2	1.6	0.10
40	0.030	2	2.4	0.16
40	0.040	2	3.2	0.21
40	0.080	2	6.4	0.42
40	0.120	2	9.6	0.63
40	0.160	2	12.8	0.84
40	0.200	2	16	1.05
40	0.240	2	19.2	1.26

Length [in]	Width [in]	Depth [in]	Cubic inches	# of cartridges
40	0.004	4	0.64	0.04
40	0.008	4	1.28	0.08
40	0.012	4	1.92	0.13
40	0.020	4	3.2	0.21
40	0.030	4	4.8	0.31
40	0.040	4	6.4	0.42
40	0.080	4	12.8	0.84
40	0.120	4	19.2	1.26
40	0.160	4	25.6	1.68
40	0.200	4	32	2.10
40	0.240	4	38.4	2.52

Length [in]	Width [in]	Depth [in]	Cubic inches	# of cartridges
40	0.004	6	0.96	0.06
40	0.008	6	1.92	0.13
40	0.012	6	2.88	0.19
40	0.020	6	4.8	0.31
40	0.030	6	7.2	0.47
40	0.040	6	9.6	0.63
40	0.080	6	19.2	1.26
40	0.120	6	28.8	1.89
40	0.160	6	38.4	2.52
40	0.200	6	48	3.15
40	0.240	6	57.6	3.77

Length [in]	Width [in]	Depth [in]	Cubic inches	# of cartridges
40	0.004	8	1.28	0.08
40	0.008	8	2.56	0.17
40	0.012	8	3.84	0.25
40	0.020	8	6.4	0.42
40	0.030	8	9.6	0.63
40	0.040	8	12.8	0.84
40	0.080	8	25.6	1.68
40	0.120	8	38.4	2.52
40	0.160	8	51.2	3.36
40	0.200	8	64	4.19
40	0.240	8	76.8	5.03

Consumption of Sikadur Crack Repair Kit - Crack Sealer on a crack:

Length [in]	Width [in]	Depth [in]	Cubic inches	# of cartridges
40	0.4	0.12	1.92	0.10
40	0.4	0.2	3.2	0.17
40	0.4	0.3	4.8	0.26
40	0.8	0.12	3.84	0.21
40	0.8	0.2	6.4	0.35
40	0.8	0.3	9.6	0.52
40	1.2	0.12	5.76	0.31
40	1.2	0.2	9.6	0.52
40	1.2	0.3	14.4	0.79
40	1.6	0.12	7.68	0.42
40	1.6	0.2	12.8	0.70
40	1.6	0.3	19.2	1.05

## 8 APPLICATION VIDEO

### Application Video:

To ensure a safe and easy use, an animated method statement is also available (application video).

A QR-Code on the Carton Box and on the Cartridge leads the user to this animated method statement; explaining step by step the application.



For further information and instructional videos  
Für weitere Informationen und Anleitungsvideos  
Pour de plus informations et des vidéos  
d'instruction  
Para más información y videos instructivos  
了解更多信息和教學視頻  
さらなる情報と教育ビデオのために  
لمزيد من المعلومات ومقاطع الفيديو التعليمية



The Video is already available in several different languages:

## 9 INSPECTION, SAMPLING, QUALITY CONTROL

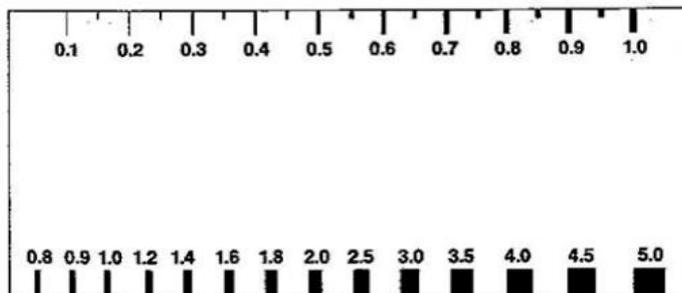
### During work:

Before injection, make sure, all injection ports are open

Make sure the Crack Sealer is applied well and there are no potential leakage voids when smoothen it with the wooden spatula.

After injection, make sure, all injection ports are closed.

Check with a scale the crack width:



### After work:

Check hardening time of the Crack Sealer material with the curing time-table in the Product Data Sheet or listed on the cartridge. Check, whether the material is really hardened before inject the resin.

After removing the crack sealer material, check for any holes or voids which should be filled.

## 10 EQUIPMENT – TOOLS



Use appropriate tools for substrate preparation or to fully remove all injection ports and Crack Sealing material and Injection ports.

## 11 LEGAL NOTE

The information contained herein and any other advice 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. The information only applies to the application(s) and product(s) expressly referred to herein and is based on laboratory tests which do not replace practical tests. In case of changes in the parameters of the application, such as changes in substrates etc., or in case of a different application, consult Sika's Technical Service prior to using Sika products. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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.

## 12 KEY WORDS

Sikadur® Crack Repair Kit, Crack Injection Kit / Concrete Repair System



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**Method Statement**  
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