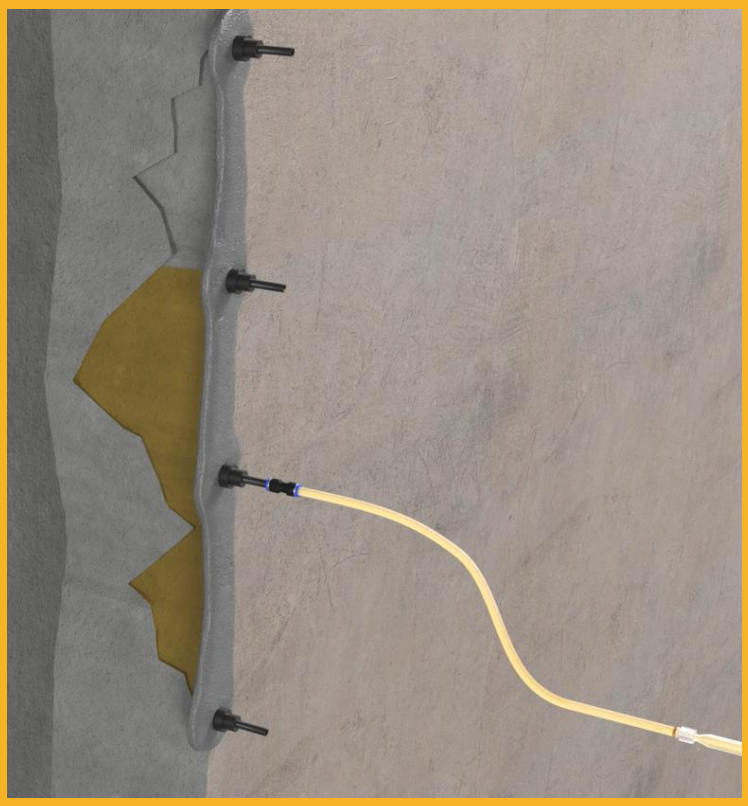


METHOD STATEMENT
Sikadur® Crack Repair Kit

05.01.2023 / VERSION 1.0 / SIKA® LIMITED / JAMIE SQUIRES

CRACK INJECTION KIT / CONCRETE REPAIR SYSTEM

BUILDING TRUST

TABLE OF CONTENTS

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 Services 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 with their intended applications.
- Local differences in some products may result in performance variations. The most recent and relevant local Product Data Sheets (PDS) and Safety Data Sheets (SDS) 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 containing water (also with pressure)
  - Ambient temperature
  - Material temperature
  - Age of the concrete
  - Ultraviolet (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 and injection resin, including all necessary accessories and CE Marking in accordance with BS EN 1504-5 (Concrete Injection).

Contains:

- Sealing material provided in cartridges to seal the crack.
- Injection resin to inject the crack.
- All necessary accessories for the application.

Contents:

• Cartridge Crack Sealer (300ml)	2 pcs
• Cartridge Injection Resin (250ml)	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 cool 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 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 SDS).

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 come into contact with it. Avoid using solvents since they can help chemicals penetrate 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 most effective 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 – i.e., a water source on the opposite side of the building or site is not sufficient. 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 manufacturer's advice)

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

4.3 DISPOSAL

Brush away and remove any excess 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.

Under 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® Thinner C** (or an Isopropanol based cleaner). Cured material can only be removed mechanically.

5 PREPARATION WORK

5.1 SUBSTRATE PREPARATION

For a successful application, 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, etc.) - The surface of the crack should be sealed with the fast-setting **Sikadur®** Crack Sealer supplied.

The **Sikadur®** 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 Sika® 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, etc.) - The resin should initially be injected into the first (lowest) 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 shall be 5°C (40°F).
- Maximum substrate temperature shall be 45° C (95° F).
- Minimum age of concrete must be 21-28 days, depending on the 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. Colour may alter due to variations in lighting and/or UV exposure.

6.4 APPLICATION PROCEDURE

1

Take the **Sikadur®** 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.

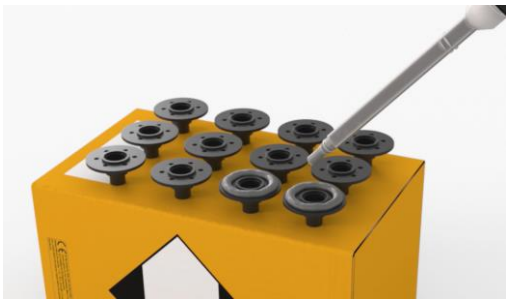
5

Perforations in box can be used…

6

to hold Injection Ports…

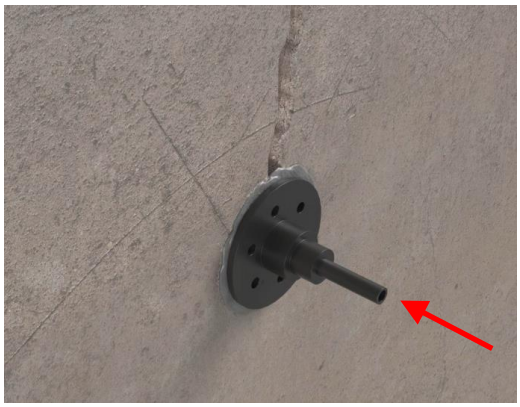
7



while **Sikadur®** Crack Sealer is being applied as shown.

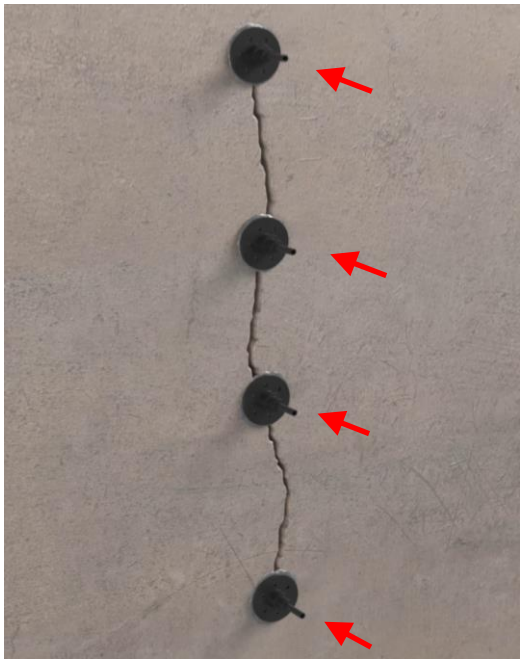
Important: Keep Injection Port Holes clear!

8



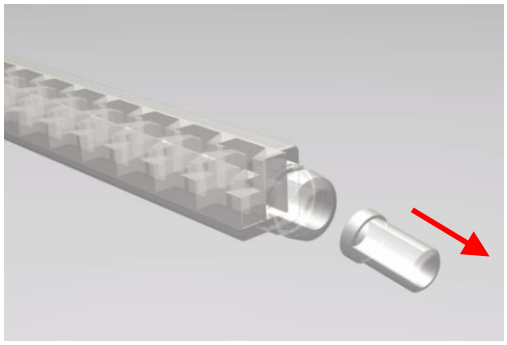
Fix Injection ports to crack.

9



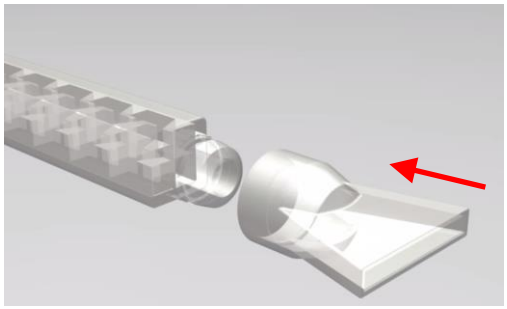
Distribute evenly over the whole length.

10



Remove fine tip from Square Mixing Nozzle.

11



Fit Applicator Fan.

12

Seal the crack between the ports…

13

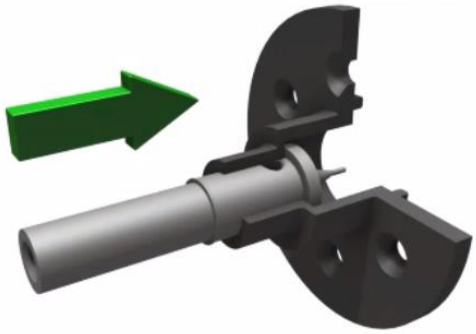
and around the Injection Ports.

14

Smooth **Sikadur®** Crack Sealer using spatula as required.

Allow **Sikadur®** Crack Sealer to cure for at least 30 minutes at 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

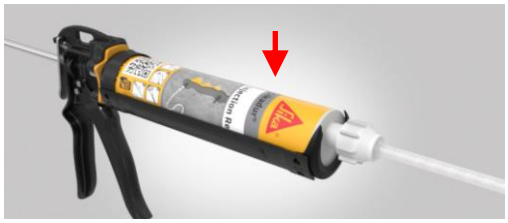
20

Apply the Injection Resin Mixer Nozzle on the Cartridge.

21

Slide screwcap over Injection Resin Mixer Nozzle and attach to Cartridge.

22

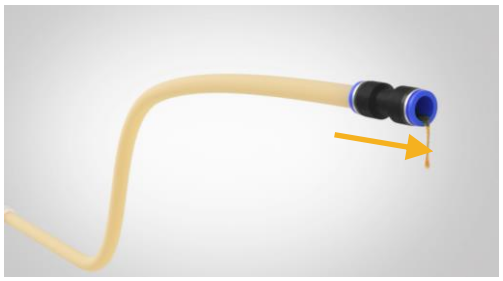


Load **Sikadur®** Injection Resin Cartridge into the Applicator Tool.

23

Fit Push Fit Connector to the Injection Resin Mixer Nozzle.

24



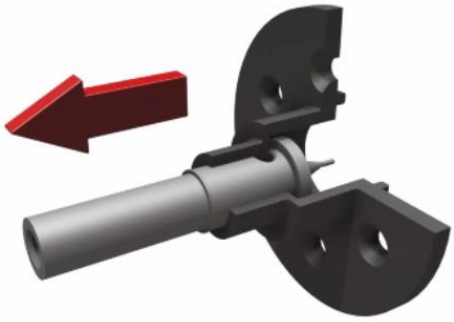
Extrude a quantity of resin to waste to ensure an even homogeneous mixture.

25

Injecting the crack:

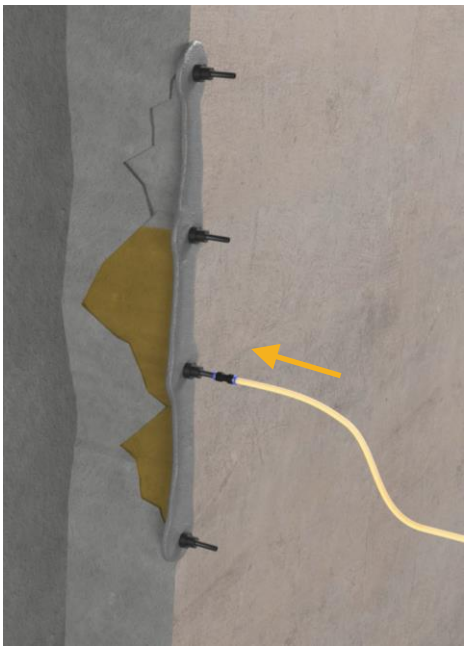
Begin the injection at the lowest Injection Port and inject until resin begins to flow from the adjacent port.

26



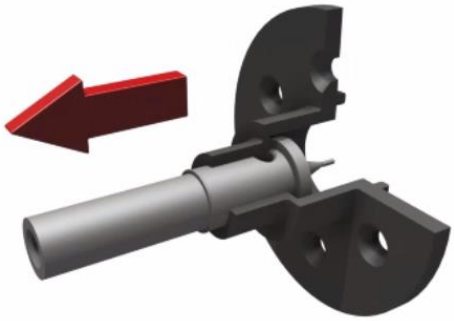
Close off the first Injection Port….

27



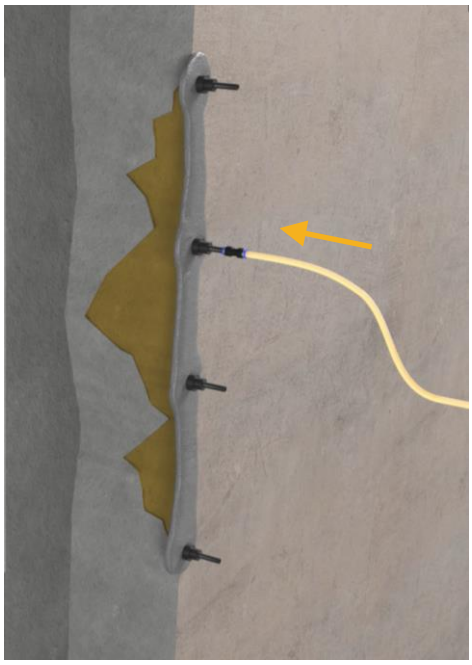
…disconnect the Injection Cartridge from the first port and reconnect to the second port and inject until resin flows from the third port….

28



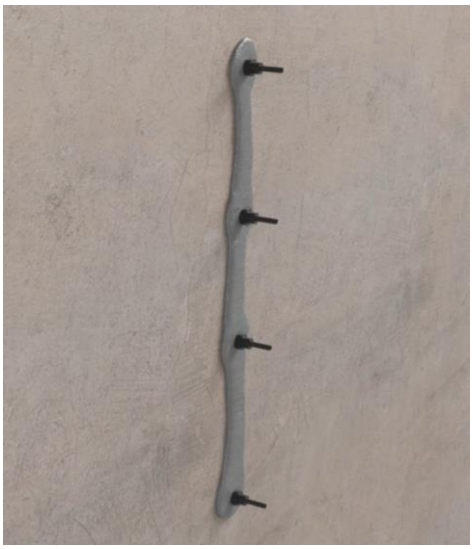
Always close off the previous Injection Port.

29



…continue this procedure until the crack is completely full.

30



Allow **Sikadur®** Injection Resin to cure for at least 12 hours at 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 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

9 INSPECTION, SAMPLING AND QUALITY CONTROL

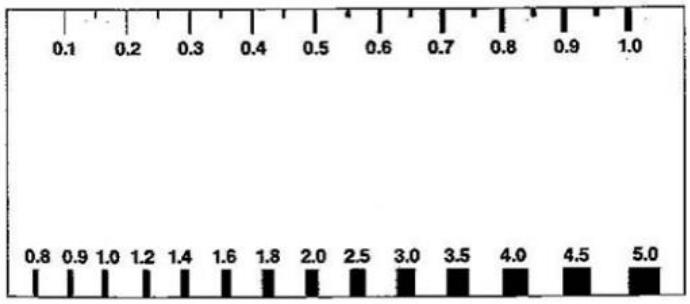
During work:

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 timetable on the Product Data Sheet or listed on the Cartridge. Check whether the material has really hardened before injecting 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

SIKA® LIMITED
Target Market SCS
Watchmead
Welwyn Garden City
Hertfordshire
United Kingdom
AL7 1BQ

Version Provided By:
Jamie Squires

Phone : 01707 394444

Email: scs.technical@uk.sika.com