

Concrete Crack Injection Kit

Low viscosity, fast curing and easy to use epoxy sealing system to repair cracks in concrete

Applications

- Low pressure injection of cracks in structural concrete
- Gravity feed of cracks in horizontal concrete
- Suitable for crack widths of 0.2mm – 6mm

Features

- As strong as concrete
- Convenient mix-in-the-nozzle cartridge system for both the crack sealer and the injection resin
- Cartridges that fit standard caulking guns
- CrackFix injection resin conforms to ASTM C-881

Main Components

- **CapSeal** – A rapid cure thixotropic injection port adhesive and crack surface sealer
- **CrackFix** – A low viscosity, 100% solids epoxy



Coverage

- **CapSeal cartridge:** approximately 300ml
- **CrackFix cartridge:** approximately 250ml

Contents

	Quantity
300ml CapSeal cartridges	2
250ml CrackFix cartridges	2
CapSeal square mixing nozzles	2
CrackFix round mixing nozzles	2
Injection ports	16
Push-fit connector	1
Fan nozzles	2
Spatulas	2
Pairs of gloves	2
Restrictors	2
Extension tubes	2
Instruction sheet	1

Note: caulking gun is not included in the kit



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Installation Procedures

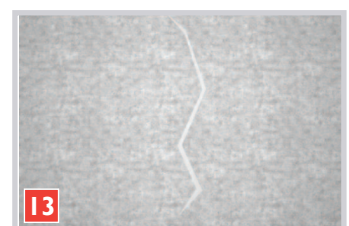
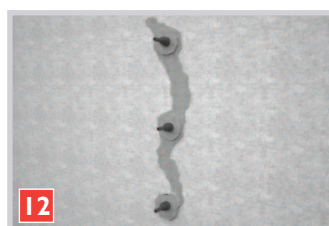
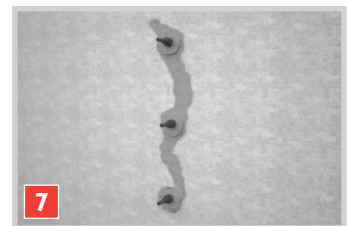
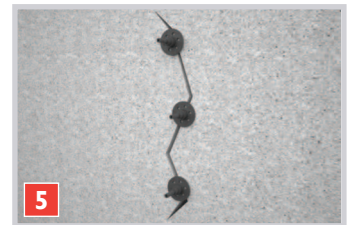
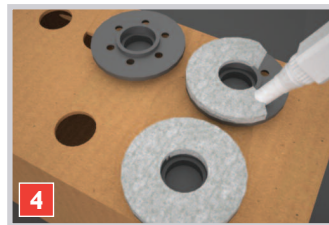
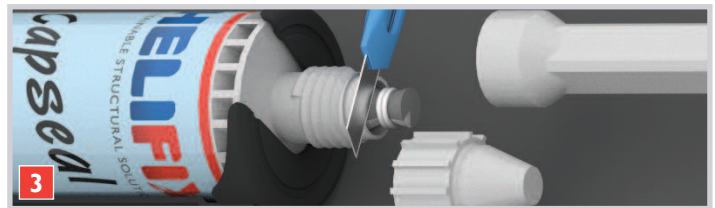
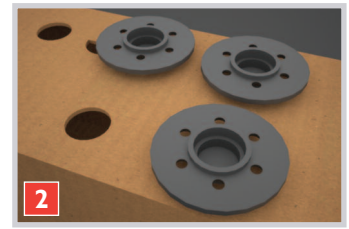
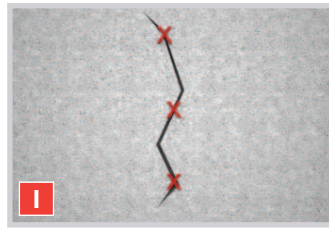
A successful application depends on thorough preparation. The crack to be treated must be dry and free from grease, oil, dust and other contaminants. Any loose material must be blown or brushed clear.

For vertical cracks (walls, columns, beams)

The surface of the crack should be sealed with the fast setting CapSeal supplied. Both sides of the substrate will need to be sealed if the crack extends right through.

For horizontal cracks (floors, slabs, etc)

The CapSeal and injection ports may not be required when injecting into horizontal cracks as the resin may be introduced into the crack by gravity. Seal the underside of the substrate if the crack reflects through. For horizontal cracks in lintels and window sills this is particularly important to ensure the crack is properly filled and mess from any drips minimised.



1. Mark positions for injection ports along centre line of the crack
2. Place injection ports in the holes on the side of the inner box
3. Remove cap from CapSeal cartridge, cut capsule below metal ring and fit square mixing nozzle. Dispense CapSeal to waste until colour of mixture is uniform
4. Apply layer of CapSeal to base of the ports keeping central hole clear
5. Position ports along the centre of the crack
6. Break off the nozzle tip and fit fan nozzle. Seal surface of the crack with CapSeal
7. Remove all excess CapSeal from the surface with the spatula provided and allow to cure fully
8. When CapSeal has cured remove cap and plug from CrackFix cartridge
9. Fit restrictor and mixing nozzle, retaining with the screw cap. Dispense CrackFix until colour of mixture is uniform
10. Push extension tube firmly over end of mixing nozzle. Fit the connector to other end of the tube. Ensure all ports are open and connect tube to the lowest port
11. Inject CrackFix until it flows out of the adjacent port. Close port and disconnect tube
12. Connect tube to next port and repeat process until the whole crack is full. Leave CrackFix to cure fully with all ports closed
13. Remove ports and clean all excess material to leave a clean surface

Note:

- Minimum substrate and ambient temperature 5°C. Maximum substrate temperature 45°C.
- 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 into cracks greater than 6mm wide.
- Not an aesthetic product. Colour may alter due to variations in lighting and/or UV exposure.

Technical Data

CrackFix	
Shelf life	18 months in original unopened containers
Storage conditions	Store dry at 5 – 24°C
Colour	Clear amber
Mixing ratio	Component A : Component B 1:1 by volume
Viscosity mixed	500cps at 23°C
Typical mixed density	1.1g/cm ²
Typical pot life	25 – 30 minutes at 23°C
Tack free time	3 hours at 23°C
Typical cure time	12 hours at 20°C

CrackFix Physical Properties		
Test	Test Standard	5°C
Viscosity Mixed 23° C	ASTM D 2393	500cps
Pot Life 23°C, 60g mass	ASTM C 881	30 minutes
Compressive Strength 7 days @ 23°C	ASTM D 695	65 N/mm ²
Compressive Modulus 7 days @ 23°C	ASTM D 695	1.69 GN/m ²
Tensile Strength 7 days @ 23°C	ASTM D 638	43 N/mm ²
Elongation at Break 7 days @ 23°C	ASTM D 638	25%
Tensile Modulus 7 days @ 23°C	ASTM D 638	1.8 GN/m ²
Flexural Strength 7 days @ 23°C	ASTM D 732	70 N/mm ²
Bond Strength 2 days @ 23°C (Dry Cure)	ASTM D 897	3.2 N/mm ² Concrete Failure
Bond Strength 3 days @ 15°C (Moist Cure)	ASTM D 897	2.0 N/mm ² Concrete Failure
Water Absorption 7 days @ 23°C (Dry Cure)	ASTM D 570	0.24%
Heat Deflection Temperature 7 days @ 23°C (Dry Cure)	ASTM D 648	43.2°C

Crack Fix				
Compressive strength		5°C	20°C	35°C
4 hours	N/mm ²	–	–	4
8 hours	N/mm ²	–	–	16
16 hours	N/mm ²	–	17	25
1 day	N/mm ²	–	24	37
3 days	N/mm ²	11	62	39
7 days	N/mm ²	46	65	49
14 days	N/mm ²	55	67	55
28 days	N/mm ²	65	70	70

CapSeal Technical Data	
Shelf life	18 months in original unopened containers
Storage conditions	Store dry at 5 – 24°C
Colour	Concrete grey
Mixing ratio	Component A: Component B 10:1 by volume
Typical mixed density	1.7g/cm ²

Capseal Open and Injection Times		
Temp	Gel Time	Ready for Injection
5°C	18 minutes	145 minutes
10°C	10 minutes	85 minutes
20°C	6 minutes	50 minutes
25°C	5 minutes	40 minutes
30°C	4 minutes	35 minutes

Health and Safety

CrackFix and CapSeal consist of epoxy resins and hardener systems, which are currently classified as hazardous materials.

Wear suitable protective clothing, eye/face protection and gloves, and ensure adequate ventilation.

CapSeal and CrackFix Safety Data Sheets are available to download at www.helifix.com.au.



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