



HOHMANN &
BARNARD, INC.

MiTek®

CRACK FIX KIT

TECHNICAL DATA SHEETS

CRACK FIX KIT



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Description

The H&B Crack Fix Kit is specifically formulated as a two component, low viscosity, fast curing epoxy sealing system for repairs to cracks in concrete and solid masonry. The injection resin conforms to ASTM C-881: Grade 1, Class C, Types I, II.

The H&B Crack Fix Kit comprises two main products:

- 1. A rapid cure thixotropic injection port adhesive and crack surface sealer
- 2. A low viscosity, 100% solids epoxy

Where to use

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

Advantages

- As strong as concrete
- Convenient mix in the nozzle cartridge system for both the Crack Seal resin and the Crack Fill resin
- Cartridges that fit standard caulking guns

Coverage

- The crack sealant cartridge yields approximately 10.1 fl oz (300ml)
- The crack injection cartridge yields approximately 8.5 fl oz (250ml)

Health & Safety

For H&S info please refer to the relevent material safety data sheet.

Storage

The H&B Crack Fix Kit should be stored in their original packaging, the correct way up, in cool conditions between +41°F to +77°F (+5°C to +25°C) out of direct sunlight. When stored correctly, the product shelf life will be 18 months from the date of manufacture.

Packaging

Each carton contains one complete kit that comprises of:

Item Description	No. of items per kit
10.1 fl oz (300ml) Crack Seal cartridge	1
Crack Seal mixer nozzles	1
Crack Seal applicator fan	1
8.5 fl oz (250ml) Crack Fill cartridge	1
Cartridge outlet plug	1
Injection resin mixers with extension tube	1
Push fit connector	1
Injection ports	8
Pairs of gloves	1
Wooden applicators	2



H&B Crack Fill - Injection Resin**Technical Data**

Shelf life	18 months in original unopened containers
Storage conditions	Store dry at +41 to +75°F / +5 to +24°C
Colour	Clear amber
Mixing ratio	Component A : Component B 1:1 by volume
Viscosity mixed	500cps at 72°F / 23°C
Typical mixed density	9.2lb/gal / 1.1g/cm³
Typical pot life	25 - 30 minutes (60 gram mass) at +72°F / +23°C
Tack free time	3 hours at +72°F / +23°C
Typical cure time	12 hours at +68°F / +20°C
VOC	ASTM D2369 - 5.4%

Compressive strength, ASTM D 695		+41°F / +5°C	+68°F / +20°C	+95°F / +35°C
4 hours	PSI	-	-	580
	N/mm²	-	-	4
8 hours	PSI	-	-	2320
	N/mm²	-	-	16
16 hours	PSI	-	2465	3625
	N/mm²	-	17	25
1 day	PSI	-	3480	5365
	N/mm²	-	24	37
3 days	PSI	1595	8990	5655
	N/mm²	11	62	39
7 days	PSI	6670	9425	7105
	N/mm²	46	65	49
14 days	PSI	7975	9715	7975
	N/mm²	55	67	55
28 days	PSI	9425	10150	10150
	N/mm²	65	70	70

Physical Properties

Test	Test Standard	Value	
		Imperial	SI
Viscosity Mixed +73°F / +23°C	ASTM D 2393	500cps	
Pot Life +73°F / +23°C, 2.1oz / 60g Mass	ASTM C 881	30 minutes	
Compressive Strength 7 Days @ +73°F / +23°C	ASTM D 695	9425psi	65N/mm²
Compressive Modulus 7 Days @ +73°F / +23°C	ASTM D 695	232000psi	1.69GN/m²
Tensile Strength 7 Days @ +73°F / +23°C	ASTM D 638	6235psi	43N/mm²
Elongation at Break 7 Days @ +73°F / +23°C	ASTM D 638	25%	
Tensile Modulus 7 Days @ +73°F / +23°C	ASTM D 638	261000psi	1.8GN/m²
Flexural Strength 7 Days @ +73°F / +23°C	ASTM D 732	10150psi	70N/mm²
Bond Strength 2 Days @ +73°F / +23°C (Dry Cure)	ASTM D 897	464psi concrete failure	3.2N/mm² concrete failure
Bond Strength 3 Days @ +60°F / +15°C (Moist Cure)	ASTM D 897	290psi concrete failure	2.0N/mm² concrete failure
Water Absorption 7 Days @ +73°F / +23°C	ASTM D 570	0.24%	
Heat Deflection Temperature 7 Day @ +73°F / +23°C	ASTM D 648	+109.7°F	+43.2°C

H&B Crack Seal Resin - Sealant Cartridge**Technical Data**

Shelf life	18 months in original unopened containers
Storage conditions	Store dry at +41 to +75°F / +5 to +24°C
Colour	Concrete grey
Mixing ratio	Component A : Component B 1:10 by volume
Typical mixed density	14.2lb/gal / 1.7g/cm³
Typical cure time	12 hours @ +68°F / +20°C
VOC	ASTM D2369 - 4.3%

Opening & Injection Times

Temperature	Open Time	Injection Time
+41°F / +5°C	18 minutes	145 minutes
+50°F / +10°C	10 minutes	85 minutes
+68°F / +20°C	6 minutes	50 minutes
+77°F / +25°C	5 minutes	40 minutes
+86°F / +30°C	4 minutes	35 minutes

Application

The following notes are of necessity general in nature, since each injection application is unique and must be assessed on its own merits, but they may be used as guidelines.

1. Substrate Preparation

A successful application depends on very 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 Crack Seal resin supplied. The Crack Seal should also be used to fix the injection ports. The distance between the injection ports should be greater than the estimated depth of the crack (typically 1.5 times).

For horizontal cracks (floors, slabs etc)

The Crack Seal resin and injection ports may not be required as the resin may be introduced into the crack by gravity

2. Cartridge Set-Up

Crack Seal - sealant cartridge

Open screw cap, cut film to remove metal clip and attach nozzle, extrude to waste until a uniform colour is achieved. For applying the Crack Seal to the injection ports the nozzle has a fine tip. To fix the fan the fine tip is easily snapped off. Use the fan to apply the Crack Seal over the surface of the crack.

Crack Fill - injection cartridge

Remove screw cap, insert outlet plugs, attach mixer nozzle with extension tube*. Extrude to waste to form a homogeneous mix. Use the push fit connector to connect to injection port.

* For horizontal cracks (floors, slabs, etc), remove the extension tube

3. Application

For vertical cracks (walls, columns, beams)

The resin should be injected into the first (lower) port. When 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 capseal should be removed and any holes or voids made good.

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 Crack Fill resin slowly into the vee-notched crack. Continue injecting until completely filled**.

** The Crack Fix Kit (CFK) material is specially designed to flow into all areas of a crack, even the smallest fissures. As a result, special care must be used when using the CFK material in very porous substrates, as it is likely to be absorbed by the substrate. This may result in a loss of volume of the CFK material in the crack leading to an under filled crack.

Limitations

- Minimum substrate and ambient temperature +41°F / +5°C. Maximum substrate temperature +95°F / +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 cracks greater than 1/4in. (6mm).
Consult Technical Services.
- Not an aesthetic product. Colour may alter due to variations in lighting and/or UV exposure.

Important Note

Whilst all reasonable care is taken in compiling technical data on the Company's products, all recommendations or suggestions regarding the use of such products are made without guarantee, since the conditions of use are beyond the control of the Company. It is the customer's responsibility to satisfy themselves that each product is fit for the purpose for which they intend to use it, that the actual conditions of use are suitable and that, in the light of our continual research and development programme the information relating to each product has not been superceded.