

Low Viscosity 2 Component Injection Resin

Guardian CIR is a two component, low viscosity, injectable high strength epoxy resin to be injected into cracks & cavities in concrete where it cures to a rigid high strength material.

Guardian CIR complies with ASTM C881-78 Type 1 Grade 1 Class B + C and BS 6319.

Complies to EN1504 Part 9 and EN1504 Part 5 Class (F)

Principle 1 : Protection Against Ingress (PI).

Method 1.5 – Filling Cracks.

Principle 4 : Structural Strengthening (SS).

Method 4.5 – Injecting in Cracks, Voids or Interstices.

Method 4.6 – Filling Cracks, Voids or Interstices.

USES & ADVANTAGES

Guardian CIR is used as a structural binder to repair cracked and damaged concrete. It has a proven history for use as a structural repair epoxy and bonds tenaciously to concrete and steel.

It can be used for sealing cavities and cracks in structural components such as columns, beams, foundations, decks, and water retaining structures.

It not only forms an effective barrier against water infiltration but also bonds the concrete sections together restoring the original structural strength.

Advantages include:-

- Waterproofs structure.
- Deep penetration.
- Excellent adhesive quality.
- Suitable for both dry & damp conditions.
- High mechanical & adhesive strength.
- Shrinkage free hardening.
- Prevents corrosion of rebar.

Guardian CIR can also be used as a structural patching repair compound for spalled concrete, as a grouting compound for anchoring bolts and anchors in concrete and as bridge deck nosing compound by mixing with Guardian aggregates.

PROPERTIES

Colour:	Yellow to light brown (mixed)	
Viscosity (mixed):	200-300 cPs @ 25°C	
Specific Gravity:	A + B = 1.06 ± 0.02	
Tensile Strength:	> 20 N/mm ²	
Flexural Strength:	> 30 N/mm ²	
Potlife:	50-70 min	
Compressive Strength:	≥ 60 N/mm ²	
(7 days)		
Bond Strength:		
To Concrete ≥ 2 N/mm ²	(Concrete Failure)	
To Steel 10 - 15 N/mm ²	(Sand Blasted)	
(35°C, 65% r.H., 10 days)		

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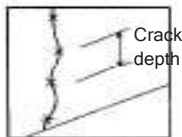
MIXING

Guardian CIR is supplied in factory proportioned units comprising correct quantities of comp A (resin) and comp B (hardener). Decant all of comp B into comp A and mix thorough for approx. 3 min, still homogenous material achieved. This material is now ready to be injected in horizontal and vertical cracks.

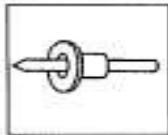
APPLICATION

Several application methods may be used to apply **Guardian CIR**. We recommend you consult Guardian Technical Service Department for assistance. When used to fill cracks **Guardian CIR** may be gravity fed (or) pressure injected for horizontal surfaces only pressure injection is suitable for vertical (or) overhead cracks. Crack, should be between 0-5 mm.

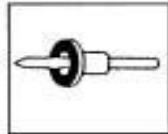
TYPICAL INJECTION



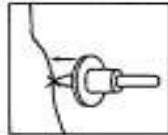
1. Mark position of nipple on concrete surface. (Distance between flange should not be more than depth of crack.)



2. Press fixing nail through plastic injection port.



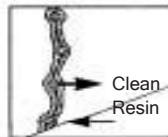
3. Apply **Guardian EAP Paste** epoxy to underside of plastic injection port.



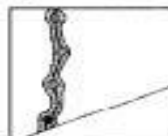
4. Place plastic injection port on position marked in step 1 and press firmly onto concrete.



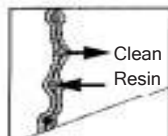
5. Seal flanges and surface of crack with **Guardian EAP Paste**.



6. Inject bottom flange using **Guardian CIR** until material flows from next flange above.



7. Seal flange.



8. Repeat process working from bottom to top until crack is filled.



9. After curing, remove flanges and grind off crack sealant.

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IMPORTANT NOTES

The maximum width of a crack to be injected should be no more than 5 mm. The concrete should be at least 3 weeks old. To obtain characteristics stated in the data sheet the mixing ratio must be maintained.

LIMITATIONS

Guardian CIR should not be used to seal cracks where future movement is expected. Other solutions should be undertaken to rectify this problem e.g. creating a movement joint.

MIX RATIO

A : B = 4 : 1 by weight.
A : B = 3 : 1 by volume.

STORAGE & SHELF LIFE

Guardian CIR has a shelf life of 12 months when unopened and stored in a cool, dry environment.

PACKAGING

Guardian CIR is supplied in 2 kg. or 20 kg. packs.

HEALTH & SAFETY

Guardian recommends that protective clothing, gloves, eye protection and mask be worn.

Guardian CIR contains resins which upon contact with the skin, may cause irritation. Avoid inhalation of vapour. In case of contact with skin, do NOT use solvent, remove immediately with resin removing cream, followed by soap and water. In the instance of contact with eyes rinse thoroughly with clean water and seek medical advice. In the instance of swallowing, do NOT induce vomiting, seek medical attention.

TECHNICAL SERVICE

Guardian Coating Service Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

QUALITY ASSURANCE

ISO 9001: 2015 verified by TUV Nord.