

Shieldrep EN10

Two-component, Injection Epoxy Repair



Description

Shieldrep EN10 is a two-component, low-viscosity, epoxy repair material, formulated to repair cracks by injection in concrete structures, in order to maintain and enhance the durability in various structures.

Uses

- To restore the structural integrity of foundations, bridges, dams, and buildings.
- Sealing cracks in waterproofing structures.
- As a repair for old structures and historical buildings to restore the structural integrity of damaged components.

Characteristics / Advantages

- Excellent adhesion, compressive, and flexural strength to various substrates.
- Versatile and easy in application.
- Provides a quick setting and fast repair.
- Provides durable and long-lasting bond.
- Cost-effective solution to restore integrity.
- Chemical resistance and non-shrink properties.

Packaging

Shieldrep EN10 is supplied in 4.6 kg packs.

Safety Instructions

The application should be done in a well-ventilated area with adequate air circulation, away from any heat source, and ensure having gloves, eye protection, masks, and protective clothing. Avoid contact with the eyes and skin. In case of direct contact with the skin, wash the affected area immediately with water for several minutes. If it comes into contact with the eyes, rinse immediately with lukewarm water for at least 15 minutes and get medical advice or treatment if any emergency warning signs appear. Dispose of any leftover epoxy and waste materials according to local regulations. For further information, refer to the Material Safety Data Sheet.

Typical Properties

Mixed Density (@ 23°C)	1.00 ± 0.10 g/ml
Pot Life (@ 23°C)	90 minutes
Viscosity (@ 23°C)	3 – 5 Poise
Application Thickness	0.05 – 10 mm
Bond Strength (ASTM C882) @7 days	≥ 8 MPa
Compressive Strength (BS 6319-2) @7 days	≥ 70 MPa
Flexural Strength (BS 6319-3) @7 days	≥ 45 MPa
Minimum Application Temperature	5° C

Shelf Life and Storage

Shieldrep EN10 has a shelf life of 12 months when stored in its original unopened packaging in cool and dry conditions, protected from direct sunlight, heat, and moisture. Shelf life may be reduced if the recommended storage conditions are not followed.

Application Instructions

1. Surface Preparation

Inspect the structure to identify and mark the cracks or voids that need repair. The surface to be repaired must be free from dust, loose materials, contamination, and any materials that may reduce bond or prevent adhesion. Clean out cracks using compressed air or vacuum to remove loose particles or contamination.

Install injection ports or nozzles along the length of the crack (usually 6 – 12") apart depending on the width and depth of the crack). Fix the ports aligned with the crack surface using an epoxy adhesive and ensure they are firmly in place and apply the epoxy adhesive along the crack surface to seal the cracks and prevent the injection material from leaking out.

2. Mixing

Mix **Component B** (hardener pack) and **Component A** (base pack) together using a low-speed mixing drill for 3 minutes while reaching the walls and the bottom of the container until a homogeneous and consistent material is obtained. Once mixed, the material should be used within its specific pot life.

3. Application

The injection process typically begins at the lowest point of a vertical crack upwards and at the narrowest crack of a horizontal surface.

Begin injecting the mixed material of **Shieldrep EN10** from the first packer using the application pump or gun and move to the next one. Repeat the process until the entire crack is filled and continue injecting until **Shieldrep EN10** appears at the next packer.

Monitor the flow of injection material to ensure that it is penetrating and filling the crack adequately.

After completing the injection process, the ports and the adhesive should be removed.

4. Cleaning

Clean the tools and any uncured material immediately before reaching the setting time using a suitable solvent. Hardened material should be removed mechanically.

Limitations

- Do not apply the product if the ambient temperature is less than 5°C.
- The product is not suitable for large cracks, higher than 10 mm in width.
- The product is suitable for dry or damp surfaces, not effective for cracks that are actively leaking water.

Technical Support

Refer to technical information, method statement, or contact technical support team for any inquiry.

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