

Shieldgrout EP100

High Performance, Epoxy Non-shrink Grout



Description

Shieldgrout EP100 is a three-component, high-strength Epoxy non-shrink grout that consists of resin and selected aggregates. It is designed to provide dimensional stability, chemical resistance, and high-strength properties, and is ideal for filling gaps at thicknesses of 10 – 100 mm.

Uses

- Under the base plates of equipment and machinery.
- Fixing columns to the foundation in steel structures and anchoring works.
- Pile cap waterproofing.
- Anchor bolts and bridge bearings.
- Areas that require chemically resistant grout, such as heavy industrial floors.
- Bridge bearings, tie-rods, and bolts.
- Structural repairs.
- Installation of large and heavy machinery baseplates.
- Compressors, pumps, and turbines.

Characteristics / Advantages

- Non-shrink properties, ensuring full effective bearing area.
- Impermeable.
- Excellent adhesion strength.
- Excellent resistance to chemicals, oils, and fuels.
- High mechanical properties.
- Creep and impact resistance.

Packaging

Shieldgrout EP100 is supplied in 27 kg kits.

Shelf Life and Storage

Shieldgrout EP100 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.

Typical Properties

Maximum Aggregate Size	4 mm
Application Thickness	10 – 100 mm
Fresh Wet Density (23°C)	2.00 ± 0.05 g/ml
Flow (brass cone)	180 – 200 mm
Working Time (23°C)	~ 60 minutes
Setting Time (23°C)	~ 4 hours
Gel Time (40°C)	70 minutes
Peak Exothermic Temperature (40°C)	45°C
Peak Exothermic Time (40°C)	50 minutes
Full Cure	7 days
Bleeding	Nil
Crack Formation (100 mm)	Nil
Compressive Strength (ASTM C579)	≥ 110 MPa @ 7 days
Flexural Strength (ASTM C580)	≥ 25 MPa @ 7 days
Effective Bearing Area (ASTM C1339)	> 85%
Application Temperature	10 – 40
Yield (27 kg)	~ 13.5 L

Application Instructions

1. Surface Preparation

Concrete surfaces must be free from dust, loose materials, surface contamination, and any materials that may reduce bond or prevent adhesion of the grout. The substrate must be dry before starting the application. Metal surfaces should be free from scale, rust, oil, and grease, and grit blasted to achieve SA 2.5 profile.

2. Mixing

Transfer the contents of **components A** and **B** into a separate clean container and start mixing using a low-speed mixing drill for 3 minutes while reaching the walls and bottom of the container until a homogeneous and consistent material is obtained.

Add the content of **Component C** into the mixed base and hardener, continue mixing for 2 – 3 minutes, and avoid mixing too vigorously to eliminate introducing air bubbles. Once mixed, the material should be used within its specific pot life.

3. Application

The desired ambient temperature for pouring is approximately 23 °C. At this temperature, it is essential that the grout is placed within its pot life, as this will ensure the expansion process is maximized. The application thickness is 10 – 100 mm.

The following shall be done to ensure the entire grouted area is filled completely:

- Ensure all formwork is leak-free and sealed.
- Use a suitable head box to ensure a continuous flow of grout.
- Place / pour grout from one side, minimizing the likelihood of trapped air.
- The grout head must always be maintained so that a continuous grout front is achieved.
- Do not use mechanical vibrators to assist in flow, as this will cause aggregate segregation.
- Discard any material that shows signs of stiffening.
- Large sections or thick applications should be placed in multiple layers.

4. Cleaning

Clean the tools and any uncured material using a suitable solvent or epoxy thinner. Hardened material should be removed mechanically.

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.

Limitations

- Do not apply the product if the ambient temperature is less than 10°C.
- Hot weather practices should be adopted during application and curing if the temperature is above 35°C. In hot conditions, store the material in a cool environment 24 hours prior to mixing and application.
- Do not change the mixing ratio and ensure fully timed mixing is carried out as detailed to obtain proper performance and curing.
- Do not add solvents, thinners, or other additives to the mix.

Technical Support

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

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