

SHIELDREP CLM

Single-component, Cement-based Lining Mortar



MICSHIELD®

Description

Shieldrep CLM is a single-component, cement-based lining mortar, consisting of Portland cement, silica, and specially designed polymers. **Shieldrep CLM** is specially supplied as a ready-to-use blend of dry powders, and only requires the addition of clean water on site.

Uses

- Strengthening and repairing compound for concrete.
- Lining of concrete and steel pipes.
- As a lining coat for bridges, dams, boundary walls, etc.
- Can be applied to old or new structures.

Characteristics / Advantages

- Can be applied by hand.
- Low shrinkage characteristics.
- High durability and high-performing characteristics during service conditions.
- Easy and fast application.
- Excellent adhesion strength.

Safety Instructions

Shieldrep CLM contains hydraulic cement and may cause irritation to skin or eyes. Refer to the most recent Material Safety Data Sheet for information and advice on the safe handling, storage, and disposal of the product.

Shelf Life and Storage

Shieldrep CLM has a shelf life of 12 months when stored in its original unopened packing in cool and dry conditions, protected from direct sunlight, heat, and moisture.

Shelf life may reduce if the recommended storage conditions are not followed.

Typical Properties

Color / Appearance

Grey powder

Fresh Wet Density (@ 23°C)

2.20 ± 0.02 g/ml

Working Time (@ 23°C)

2 hours

Compressive Strength (ASTM C109)

@ 7 days
@ 28 days

> 55 MPa
> 65 MPa

Packaging

Shieldrep CLM is supplied in 25 kg bags.

Application Instructions

1. Surface Preparation

The substrate shall be free from dust, loose materials, surface contamination, and materials that reduce bond or prevent adhesion of the repair mortar. Remove damaged concrete by suitable means. All substrate surfaces in the repair area shall be roughened by suitable means e.g., light scabbling or grit blasting to provide a key for the repair material.

Remove by suitable means from any exposed steel reinforcement; rust, scale, mortar, concrete, dust, or any other loose materials that reduce bond or contributes to corrosion. Metal surfaces (iron and steel) should be free from scale, rust, oil, and grease.

Prior to application, thoroughly saturate concrete surfaces to provide a Saturated Surface Dry condition (SSD). Poor quality concrete may require soaking for a significant time. Any surface water should be removed using an oil-free compressed air jet.



2. Mixing

Shieldrep CLM requires 4.50 – 4.75 liters of potable water per 25 kg bag. For optimum results, mixing should be performed using a forced action mixing paddle powered by a heavy-duty electric mixing drill.

Add the pre-measured amount of water to a clean mixing bucket.

Add **Shieldrep CLM** powder slowly to water whilst mixing and continue mixing for 3 – 5 minutes until a homogenous, lump-free consistency is achieved.

3. Application

Shieldrep CLM is applied to the prepared substrate by manual application or centrifugal casting. Water content can be adjusted according to the used method of application.

4. Cleaning

All mixing and application equipment should be cleaned immediately with clean water. Hardened material should be mechanically removed.

5. Curing

Treat exposed surfaces with a curing compound or use other approved curing methods such as polyethylene sheeting or wet hessian.

Limitations

- Do not apply the product if the ambient temperature is less than 5°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 prior to mixing.
- Protect freshly applied material from direct rain (or water contact) until at least the initial set.

Technical Support

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

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