

MONNELI ESPOCEM PC

High Strength Pile Cap Cementitious Leveling Grout

Product Description

A single component, ready to use, which requires simple addition of water to produce a non-shrink, flowable and consistent grout repair material for filling voids and pile cap re-profiling. ESPOCEM PC is composed of high resistance hydraulic binder, graded high quality selected aggregates, and special additives, which control shrinkage and reduce water demand.

Uses

ESPOCEM PC can be used to provide repairs in a variety of situations, such as:

- Pile cap re-profiling and encapsulation
- Structural repairs to columns
- Replacing sections of concrete beams
- General grouting and void filling operations. Designed to reinstate large concrete sections, and can be used where access is difficult or congestion of reinforcement limits the use of traditional materials

Advantages

- Free flow mix which requires no vibration or compaction
- Excellent adhesion to concrete substrates
- Low permeability inhibits the ingress of chlorides and carbon dioxide
- Non-shrink with early strength characteristics.
- One part, easy to use product
- Sulphate and chloride resistant
- Compatible to all cementitious products
- Can be pumped or poured manually
- Low alkaline and chloride free product

Instructions for Use

Surface Preparation

The boundary of the repair area should be cut using a concrete saw to provide a neat edge to the damaged area with no feather edging. The area to be repaired may then be broken out up to the prepared boundary. The substrate should be perfectly cleaned, free from dust, inconsistent parts, traces from stripping oils, efflorescence, rust, etc.

Repairs using ESPOCEM PC should be applied in layers up to 25 mm in depth. ESPOCEM PC may be applied for greater depths depending on the design of the structure being repaired.

All reinforcement, which shows signs of corrosion must be fully exposed to an adequate depth behind the bar in order to allow ease of access for the fluid repair compound. The steel bars should be grit blasted to bright metal. Immediately after the cleaning of steel bars is completed, coat the bars with BETOFER or EPOZINC as a protection layer to prevent further corrosion. After application of the protective materials, allow the coated steel to dry before commencing with the repair application.

Use proper formwork to be able to cast the flowable mix. The formwork should be rigid and tight to the substrate to prevent movement and grout loss. It is advisable to use silicon sealant around the edges of formwork to prevent grout loss. To ensure that water is not absorbed from the repair material by the formwork, the interior faces of the formwork should be coated with DISARMANTE release agent.

Normally, it will only be necessary to saturate the surface with clean water in order to prevent possible backwater at the moment of application.

Mixing

To prepare the grout, pour into container about 3.5 Liters of water then slowly add the content of the bag of 25 Kg. of ESPOCEM PC and mix till obtaining a homogeneous product using a slow speed electric drill attached with proper paddle to obtain the full benefit of the fluidity provided.

Application

Apply ESPOCEM PC immediately after mixing. Grout should be poured only from one side of the formwork to eliminate the entrapment of air. This can be achieved by pouring the grout across the shortest distance.

Curing

Any exposed areas not covered by formwork must be cured using a proprietary curing compound, such as BETOCURE, or covered with clean wet Hessian cloth and kept moist until grout surface is ready to be finished. Once the formwork is removed, the total repaired area should be cured by the same process.

Cleaning

All used tools should be cleaned with SOLVENTE 10 before the product cures.

Recommendations

For application during days of high temperature (+35°C or above) the following instructions should be followed:

- Store ESPOCEM PC bags in a shaded area
- Use cold water to mix the product
- Mix enough material to ensure continuous process
- Avoid application during the hottest time of the day in direct sunlight
- Cover the casted pile head profiling immediately after pouring or cure with BETOCURE.

Applicable Standards

- ASTM C 109, 1107, 827
- BS 6319, 1881 & 4551

Technical Data

Properties	Results
Appearance	Grey powder
Wet density at 25°C	2.3 kg/L
VOC	4.5 g/L
Compressive strength At 1 day At 7 days At 28 days (ASTM C579)	27 N / mm ² 48 N / mm ² 65 N / mm ²
Flexural strength at 28 days (ASTM C580)	9.0 N / mm ²

All values are subject to 5-10 % tolerance

Packaging

ESPOCEM PC is supplied in 25kg bags

Shelf Life

If kept the in a dry covered place and into the original well closed packaging, the product will have a shelf life of 12 months.

Health & Safety

ESPOCEM PC is a cement-based product is a cement-based product. During application, wear appropriate protective clothing, goggles, gloves and respiratory equipment if necessary.

In case of contact with skin, rinse with water and again wash thoroughly with soap and water. In case of contact with eyes, rinse with plenty of water and seek medical advice accordingly. If ingested, obtain medical attention immediately. Do not induce vomiting.

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ESPOCEM PC
Technical Data Sheet
Edition: January 2020
Revision: 02

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