

Cemprotec Clutch Filler

Sealing of Interlocks between Piles

Product Overview

Two component, water-based epoxy and polymer modified cementitious mortar.

Uses

For sealing the surface gap at the interlock or clutch between sheet piles prior to the application of a Flexcrete cementitious anti-corrosion coating.

Advantages

- Materials are pre-packaged in a convenient and easy to handle size, requiring only mixing on site.
- A unique blend of surfactants enables easy application with a pointing gun. Gel structure breaks down under shear to ensure complete filling.
- Excellent adhesion to steel. Tolerant to lower levels of steel preparation, including chloride contamination.
- Self-priming, hydrates to provide an alkaline environment which chemically reacts with the substrate to accelerate the re-passivation of steel.
- Water-based product which cures without the release of hazardous solvents. Equipment easily cleaned with water.

Product Description

CEMPROTEC CLUTCH FILLER is a two component, water-based, epoxy and cementitious modified polymer mortar. It incorporates advanced cement chemistry, microsilica, fibre, epoxy and styrene acrylic copolymer technology to provide multi-functional protection with enhanced chemical resistance.

When mixed, **CEMPROTEC CLUTCH FILLER** can be applied with a pointing gun exhibiting a high degree of thixotropy to enable ease of application and filling of the void without sagging. It is specially formulated to chemically accelerate the passivation of ferrous metals, even in the presence of chlorides, and give maximum adhesion to steel.

Specification Clause

The clutch filler shall be a two component, water-based, epoxy and cementitious modified polymer mortar that incorporates microsilica, fibre, epoxy and styrene acrylic copolymer technology. It shall comply with the following performance specification:

- Compressive strength at 20°C. of at least 21MPa in 1 day and 50.5MPa in 28 days.
- Impermeable to water under 10 bar hydrostatic pressure such that a 2.0mm coating is equivalent to 6000mm of concrete.
- Flexural strength at 28 days (20°C. & 65% R.H) of at least 12.5MPa in accordance with BS 4551.
- Adhesive strength of at least 3MPa onto steel in accordance with BS 4551.

Technical Data

| Property | Standard |
|--|--|
| Basis | Cement and epoxy modified, styrene acrylic copolymer |
| Compressive Strength (BS 4551 Tested at 20°C.) | 1 day 21.0MPa 7 days 45.0MPa 28 days 50.5MPa |
| Adhesive Strength | 28 days 3.0MPa |
| Flexural Strength (EN196-1) | 28 days 12.5MPa |
| Mixed Colour | Grey |
| Mixed Density | 1900kg/m ³ |
| Minimum Application Temperature | 5°C. |
| Maximum Application Temperature | 35°C. |
| Workability | 30 minutes at 20°C. |

Preparation

The areas to be treated must be free from all unsound material, i.e. dust, oil grease, corrosion by-products and organic growth. Smooth surfaces should be roughened and all loose rust and mill scale removed using blast cleaning techniques. Steel should be cleaned back to bright metal, ideally to Sa2½ as defined in BS 7079: Part A1/ISO 8501 (Swedish Standard SIS-05-59-00) although lower forms of preparation are acceptable providing all loose oxides are removed. Arrises and welds should be ground to remove sharp edges.

All water infiltration through the clutch must be arrested using **FASTFILL WP**, as described on the individual technical data sheet.

Priming

CEMPROTEC CLUTCH FILLER is self-priming and requires direct contact with the steel to afford maximum corrosion protection. Please contact our Technical Department for further advice.

Mixing

Shake Part A (liquid) and pour into a suitable mixing vessel. Slowly add the Part B (powder) and mix for a minimum of 5 minutes until homogeneous. The modules must be mechanically mixed using a drill and paddle specially designed to entrap as little air as possible. Bottles of liquid and bags of powder are **not** to be split.

Placing

CEMPROTEC CLUTCH FILLER can be easily applied using a handheld pointing gun or pressure pointing equipment. To optimise the filling of the joint we recommend that it is filled from the bottom of the joint. Once the material has structured (typically a maximum of 10 minutes), excess material can be removed and the surface smoothed.

Carefully check on completion for voids and misses and spot treat where necessary. Allow to cure for a minimum of 1 hour before overcoating with **CEMPROTEC E942**.

Curing and Overcoating

It is important that the surface of the mortar is protected from strong sunlight and drying winds. When not overcoating within the same tidal window, allow to cure for a minimum of 1 hour before immersion, and in extreme conditions use **FLEXCRETE CURING MEMBRANE WB**. Allow to cure overnight and wash down all surfaces with sweet water prior to the application of **CEMPROTEC E942**.

Cleaning and Storage

All tools should be cleaned with water immediately after use.

Materials can be stored for 12 months in dry, frost free conditions with unopened bags at moderate temperatures not greater than 25°C.

Packaging

CEMPROTEC CLUTCH FILLER is supplied in 16.5kg composite packs.

Yield and Coverage

8.5 litres of mortar per 16.5kg pack: 1.9kg/mm/m²

Each 16.5 kg composite pack will treat 85 linear metres of 10 x 10mm joint.

Health and Safety

Safety Data Sheets are available on request.

Application Top Tips

- Care should be taken during application to ensure that no voids are left in the treated interlock or clutch area.
- If **CEMPROTEC CLUTCH FILLER** thickens, remix for 30 seconds. **DO NOT ADD WATER.**
- Can be used to form small fillets around steel plates and other fittings welded to the surface prior to application of **CEMPROTEC E942**.
- Apply **CURING MEMBRANE WB** as an even fine mist spray. Do not over apply or allow to pond on the surface or cracking may occur.
- In cold humid conditions, condensation may form on surfaces treated with **CEMPROTEC CLUTCH FILLER** resulting in darkening of the finish and retardation of set.
- Cold Weather Working (See separate Guide)
 - ≥3°C. on a rising thermometer.
 - ≥5°C. on a falling thermometer.
 - Do not use any Part A which has been frozen.
- Hot Weather Working (See separate Guide)
 - Store material in cool conditions to maximise working life.
 - Shade applied material from strong sunlight.
 - Spray apply a second coat of **CURING MEMBRANE WB**.
 - If possible, avoid extreme temperatures by working at night.
- In a tidal zone, areas overcoated with **CEMPROTEC E942** must be allowed to cure for a minimum of 2 hours before immersion. Protect from abrasion or aggressive tidal flow until set.

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.

