



Cemprotec Levelling Coat

Self-Levelling Cementitious Coating & Wearing Screed

Product Overview

Two component, epoxy and polymer modified cementitious screed for levelling and waterproofing uneven concrete floors.

Description

CEMPROTEC LEVELLING COAT is a water-based, epoxy and polymer modified cementitious screed for levelling and waterproofing concrete substrates. It exhibits a degree of flow to enable ease of application by pouring or pumping techniques to give an even finish with a slightly dimpled texture. It rapidly hardens to form a durable surface which resists abrasion and trafficking. It may also be overcoated with resin coatings and screeds.

Uses

Suitable for surface protection systems principles 2.2, 5.1, 6.1, 8.2 as defined in BS EN 1504-2.

Advantages

- Pre-packaged material mixed on site to give a mortar which can be rapidly applied by trowel or squeegee.
- Suitable for use on both level and sloping substrates.
- Applied in a thickness range typically from 0-60mm.
- Used on damp or saturated substrates, including green concrete.
- Reduces transmission of water to provide a temporary moisture barrier.
- Rapid hardening, hydrating to give high early strength with low moisture and minimal overcoat times.
- Water-based product, cures without the release of hazardous solvents. Equipment is cleaned with water.
- Dense matrix offers low permeability to water, even at 10 bar positive and negative pressure.
- Forms a highly abrasion resistant wearing screed.

Compliance

- UKCA & CE marked in accordance with EN 1504-2.
- UKCA & CE marked in accordance with BS EN 13813 Class CT-C40-F10-AR1.

Application Instructions

Preparation

The areas to be repaired must be free from all unsound material including laitance, corrosion by-products and organic growth. This is best achieved using totally enclosed shot blasting equipment, scarification or scabbling. Remove all debris to leave a thoroughly clean, dust free, open textured surface.

Oil or grease must be removed by proprietary degreasant, hot compressed air equipment, flame spalling or steam cleaning techniques. Smooth surfaces should be roughened.

Any defective concrete should be reinstated with the appropriate Flexcrete repair mortar. Any active water infiltration must first be stopped using **FASTFILL WP**.

The compressive strength of the parent concrete should be minimum 20 MPa.

The prepared substrate should be thoroughly soaked (preferably 24 hours before) with clean water until uniformly saturated without standing water.

Substrate Priming

Seal the substrate with **CEMPROTEC EF PRIMER** at a typical coverage rate of 5m²/litre to prevent out-gassing. Allow to become transparent before proceeding, typically 1-3 hours depending on climatic conditions.

Mixing

CEMPROTEC LEVELLING COAT is supplied as a two pack, Part A liquid and Part B powder. The two components must not be split. Mix all of Part A with all of Part B.

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 homogenous, without any lumps. Mix with a slow-speed drill and paddle designed to entrap as little air as possible.

It is important to ensure that a continuous supply of mixed material is available for laying. On larger contracts, multiple packs can be mixed at once. To maximise the working life, the Part A (liquid) should be stored in cool conditions or chilled in cold water.

- Note - These instructions must be adhered to as Flexcrete will not be responsible for failure due to incorrect mixing.



Joins & Cracks

Before applying **CEMPROTEC LEVELLING COAT**, fill static cracks with a suitable Flexcrete mortar. Reinforce construction joints by embedding **CEMPROTEC 2000-S** into a local 1mm stripe coat of **CEMPROTEC E942**. All formed joints must be continued through into the new coating. Live cracks cannot be coated with **CEMPROTEC LEVELLING COAT**.

Placing

CEMPROTEC LEVELLING COAT should be poured or pumped onto the prepared surface and spread to the required thickness with a trowel, squeegee or pin leveller. When applying as a wearing screed, ensure a minimum thickness of 3mm is achieved over the high spots.

Immediately once levelled, lightly roll the top surface with a spiked roller to remove entrapped air. This produces a slightly dimpled finish and must be completed within the working life of the material and no later than 10 minutes after placing.

Subject to a minimum coating thickness of 3mm, to enhance skid and abrasion resistance, broadcast **CEMPROTEC EF GRIT** into the surface of the freshly applied coating. Distribute the particles evenly to prevent disrupting the surface.

Allow to cure for a minimum of 4 hours before subjecting the application to light foot traffic.

Curing

Normal procedures relating to curing of cementitious products should be strictly adhered to. The surface must be protected from strong sunlight, drying winds and high air movements, to prevent skinning during placing and rapid drying out in the plastic state.

On unsanded finishes, use **CURE-SEAL WB**, taking care to avoid overspray onto surfaces yet to be treated.

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 20°C.

Packaging

- **CEMPROTEC LEVELLING COAT** is supplied in 30kg composite packs.

Yield and Coverage

- 15 litres per 30kg.
- 30kg covers 3m² at 5mm thickness (2.0 kg/mm/m²).

Health and Safety

- Safety Data Sheets are available on request.

Application Top Tips

1. Keep the wet edge live by spike rolling.
2. Regularly clean and dry spiked rollers to avoid material build up.
3. Use spiked shoes during application to avoid disturbing the coating.
4. Regularly check coating thickness during application using a wet film thickness gauge.
5. Apply **CURE-SEAL WB** as an even, fine mist spray. Do not over apply or allow to pond on the surface or cracking may occur.
6. Join fresh product to existing hardened material with a simple butt joint. Use adhesive tape for a neat joint and remove whilst the newly applied material is wet.
7. Formed joints can be marked and filled with a suitable Flexcrete mortar before coating. After curing, use saw cutting techniques to form a new joint.
8. If overcoating with **CEMPROTEC E-FLOOR** the surface must be primed with **CEMPROTEC EF PRIMER**.
9. Care should be taken during application to ensure that air is not entrapped into the surface.
10. Cold Weather Working (See separate Guide)
 - Do not use any Part A which has been frozen.
11. 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 mist coat of **CURE-SEAL WB**.
 - If possible, avoid extreme temperatures by working at night.

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.

Technical Data

Property	Standard	EN 1504-2 Requirement	Typical Result
Compressive Strength Development	EN 12190	Class I ≥ 35 MPa	4 hours 4-10 MPa 1 day 10-20 MPa 7 days 30-35 MPa 28 days 40-50 MPa
Flexural Strength	EN 196-1	-	10-15 MPa
Adhesive Bond	EN 1542	≥ 2 MPa	4.5 MPa - Concrete >2 MPa - Asphalt (substrate failure)
Thermal Compatibility	EN 13687-1	≥ 2 MPa	3.1 MPa
Water Vapour Permeability (Equivalent Air Layer Thickness)	EN ISO 7783-2	Class 1: $S_D \leq 5$ m	$S_D = 0.55$ m
Water Permeability Coefficient Equivalent Concrete Thickness	DIN 1048	-	6.07×10^{-14} m/sec (7 day cure) 6mm = 484mm of typical concrete
Chloride Ion Permeability	ASTM C1202-M		195 Coulombs - Very Low
Wear Resistance	EN 13813	-	AR0,5 (Highest classification of wear resistance)
Liquid Water Transmission Rate (Capillary Absorption and Permeability to Liquid water)	EN 1062-3	Class III (low) $w < 0.1 \text{ kg}/(\text{m}^2 \cdot \text{h}^{0.5})$	$w = 0.058 \text{ kg}/(\text{m}^2 \cdot \text{h}^{0.5})$
Coefficient of Thermal Expansion	EN 1770	$\leq 30 \times 10^{-6} \text{ K}^{-1}$	$15.2 \times 10^{-6} \text{ K}^{-1}$
Mixed Density		-	2000kg/m ³
Mixed Colour		-	Grey
Application Thickness		-	0-60mm, typically applied at 10mm
Min Application Temperature		-	$\geq 3^\circ\text{C}$ on a rising thermometer $\geq 5^\circ\text{C}$ on a falling thermometer
Working Life (approx.)		-	30 minutes at 20°C
Finishing Time		-	Within 10 minutes of placing
Time Before Foot Traffic			4-24 hours depending on temperature
Reaction to Fire	EN 13501-1	-	A2 _{FL} – s1

The properties given above are obtained from laboratory tests: results obtained from on-site testing may vary according to site conditions.



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