Cemprotec E-Floor HB

Epoxy and Polymer Modified Cementitious Flooring System: 3-6mm

Product Overview

Two component, epoxy and polymer modified cementitious coating for waterproofing and protection of concrete floors and decks.

Description

CEMPROTEC E-FLOOR HB is a water-based, epoxy and polymer modified cementitious coating for waterproofing and protection of concrete floors. The unique blend of surfactants results in high flow producing a smooth finish when applied by pouring or pumping techniques. The hard-wearing, durable finish offers enhanced chemical resistance and is suitable for trafficked areas in demanding internal and external environments.

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 only requiring mixing on site.
- Unique blend of surfactants gives high flow for fast and easy application.
- Excellent abrasion and impact resistance.
- Resists a wide range of aggressive chemicals.
- Prevents osmotic blistering on wet substrates or floors.
- Can be applied on green concrete.
- High early strength, enabling rapid opening to traffic.
- Water-based product, cures without the release of hazardous solvents. Equipment easily cleaned with water.
- Dense matrix offers low permeability to water, even at 10 bar positive and negative pressure, and very high diffusion resistance to chlorides and oxygen.
- Enhances effective cover to steel reinforcement.
- Waterproof underlayment for resin coatings and screeds, wood flooring, carpets or tiles.

Compliance

- UKCA & CE marked in accordance with EN 1504-2.
- UKCA & CE marked in accordance with 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 E-FLOOR HB 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.

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

Joints & Cracks

Before applying **CEMPROTEC E-FLOOR HB**, fill static cracks with a suitable Flexcrete mortar and 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 E-FLOOR HB**.

Placing

CEMPROTEC E-FLOOR HB should be poured or pumped onto the prepared surface and spread to a minimum thickness of 2mm with a squeegee or pin leveller.

Immediately roll the surface with a spiked roller to remove entrapped air and to ensure a dense finish. Care must be taken to ensure a minimum 2mm thickness is achieved.

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.

Finishing must be completed within the working life of the material and no later than 10 minutes after placing. Allow to cure for a minimum of 4 hours before subjecting to light foot traffic.

Any excess sand may be recovered, sieved and re-used. For light to moderate traffic, seal the sand broadcast with **CURE-SEAL WB** by roller at 5m²/litre.

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 E-FLOOR HB** is supplied in 30kg composite packs.

Yield and Coverage

- 15 litres per 30kg.
- 30kg covers 5m² at 3mm thickness (1.95kg/mm/m²).

Health and Safety

- Safety Data Sheets are available on request.

Application Top Tips

1. Keep the wet edge live with a steady supply of mixed material and regular spike rollering.

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 the coating thickness during application using a wet film thickness gauge.

5. Care should be taken during application to ensure that air is not entrapped into the surface.

6. 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.

7. 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.

8. 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.

9. In cold, humid conditions condensation may form on surfaces treated with **CEMPROTEC E-FLOOR HB**, resulting in darkening of finish and retardation of set.

10. To enhance the mechanical bond of high build decorative or tile finishes, broadcast **CEMPROTEC EF GRIT FINE** into the freshly laid material.

11. When broadcasting **CEMPROTEC EF GRIT** use techniques so that the particles are projected upwards to fall evenly without disrupting the smooth surface of the coating. Use a grit blower on larger areas.

12. Cold Weather Working (See separate Guide)

- Do not use any Part A which has been frozen.

13. 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.

Technical Data

Property	Standard	EN 1504-2 Requirement	Typical Result
Compressive Strength Development	EN 12190	≥ 35 MPa (Class I)	4 hours 5 MPa 1 day 12 MPa 7 days 27 MPa 28 days 40 MPa
Flexural Strength	EN 196-1	-	13 MPa
Adhesive Bond	EN 1542	≥ 2 MPa	4.5 MPa
Thermal Compatibility	EN 13687-1	≥ 2 MPa	3.6 MPa
Water Vapour Permeability (Equivalent Air Layer Thickness)	EN ISO 7783-2	Class 1: S_D ≤ 5m	S_D = 0.86m
Water Permeability Coefficient Equivalent Concrete Thickness	DIN 1048	-	3.4 x 10^{-16} m/sec 3mm = 3390mm of typical concrete
Resistance to Water Pressure	DIN 1048-1	-	10 bar resistance (100m hydrostatic head) positive or negative
Chloride Ion Diffusion Resistance	Vinci Technology		No steady state flux of chloride after 24 months on test.
Chloride Ion Permeability	ASTM C1202-M		440 Coulombs - Very Low
Wear Resistance	EN 13813	-	Exceeds 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 kg/(m^2.$h^{0.5}$)	w=0.021 kg/(m^2.$h^{0.5}$)
Coefficient of Thermal Expansion	EN 1770	≤ 30 x $10^{-6}K^{-1}$	20.5 x $10^{-6}K^{-1}$
Mixed Density		-	1950kg/m^3
Mixed Colour		-	Grey
Application Thickness		-	Minimum 3-6mm in 1 coat Maximum typically 10mm
Min Application Temperature		-	≥3ºC on a rising thermometer ≥5ºC 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.

CE 2797 UKCA 0086 CRA CERTIFIED ISO 9001 · ISO 14001 ISO 45001 UKAS MANAGEMENT SYSTEMS 001