Cemprotec Levelling Coat

Self-Levelling Cementitious Coating / Wearing Screed for Concrete Floors

Product Overview

Two component, epoxy and polymer modified cementitious screed for levelling and waterproofing uneven concrete floors. CE-marked in accordance with to BS EN 1504-2 and BS EN 13813.

Uses

Levelling and waterproofing uneven concrete floors and floors with no waterproofing membrane. Can be used as a stand-alone waterproof cementitious coating, an underlayment or as a wearing screed to provide resistance to abrasion and trafficking. Suitable for surface protection systems principles 2.2, 5.1, 6.1,8.2 as defined in BS EN 1504-2.

Advantages

- Materials are pre-packaged in a convenient and easy to handle size, requiring only mixing on site to give a mortar which can be rapidly applied by trowel or squeegee.
- Suitable for use on both level and sloping substrates and ramps.
- Can be applied in thicknesses ranging from 0 - 60mm.
- Suitable for saturated substrates, or floors with no waterproofing membrane, without risk of blistering.
- Rapid hardening - hydrates to give high early strength material with low moisture and minimal overcoat times.
- 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.
- Ideal for use as a wearing screed due to its high abrasion resistance.
- Can be used as a base layer prior to the application of **CEMPROTEC E-FLOOR** in heavily trafficked areas.

Description

CEMPROTEC LEVELLING COAT is a two component, epoxy and polymer modified cementitious coating/wearing 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. It cures to form a dense screed, giving low permeability to water. It rapidly hardens to form a durable surface, which can typically be overcoated within 24 hours.

Compliance

- CE-marked in accordance with BS EN 1504-2. Suitable for surface protection systems principles 2.2, 5.1, 6.1,8.2 as defined in BS EN 1504-2.
- CE-Marked in accordance with BS EN 13813 Class CT-C40-F10-AR1.

CE
2797

Flexcrete Technologies Ltd
Tomlinson Road, Leyland PR25 2DY England
18

2797-CPD-530942

EN1504-2: Surface Protection Systems - Coating Moisture Control (MCC) Rigid Trafficked System

Compressive Strength	:	Class I ≥ 35 MPa
Adhesive Bond	:	> 2.0 MPa
Water Vapour Permeability	:	Class I < 5m
Coefficient of Thermal Exp.	:	≤ 30 x 10^{-6} K^{-1}
Thermal Compatibility	:	> 2.0 MPa
Capillary Absorption	:	Class III<0.1 $kg.m^{-2}.h^{-0.5}$
Dangerous Substances	:	Complies with 5.4
Reaction to Fire	:	Euroclass $A2_{FL}$-s1

CE
2797

Flexcrete Technologies Ltd
Tomlinson Road, Leyland PR25 2DY England
18

EN13813 CT-C40-F10-AR1

Reaction to Fire	:	Euroclass $A2_{FL}$-s1
Release of Corrosive Substances (Cementitious Screed)	:	CT
Water Permeability	:	W <0.1kg/($m^2.h^{0.5}$)
Compressive Strength	:	C40
Flexural Strength	:	F10
Abrasion Resistance	:	AR1
Adhesive Bond	:	> 2.0 MPa

Technical Data / Mechanical Characteristics

Property	Standard	BS EN1504-2 Requirement	Result
Compressive Strength	EN12190	Class I≥35MPa	45MPa
Compressive Strength Development @ 20°C	BS 4551		4 hours: 4 - 10 MPa 7 days: 30 - 40 MPa 1 day: 10– 20 MPa 28 days: 45 - 55 MPa
Flexural Strength	EN196-1		10-15 MPa
Adhesive Bond	EN1542	≥ 2.00MPa	3.28 MPa: Concrete >2 MPa: Asphalt (substrate failure)
Thermal Compatibility	EN13687-1	≥ 2.00 MPa	3.10Mpa
Water Vapour Permeability (Equivalent Air Layer Thickness)	BS EN ISO 7783-2	Class I S_D ≤ 5m	S_D = 1.32m
Water Permeability Coefficient Equivalent Concrete Thickness	DIN 1048		3.44 x 10^{-14}m/sec: 7day cure 13mm = 1000mm of concrete
Wear Resistance	EN13813		AR1
Liquid Water Transmission Rate (Capillary Absorption and Permeability to Liquid water)	EN1062-3	Class III (Low) w< 0.1 kg.m^{-2}.$h^{-0.5}$	w = 0.098 kg.m^{-2}.$h^{-0.5}$
Coefficient of Thermal Expansion	EN1770	≤ 30 x 10^{-6} K^{-1}	15.2 x 10^{-6} K^{-1}
Application Thickness			0-60mm: typically 10mm
Minimum Application Temp Maximum Application Temp			5ºC 35ºC
Reaction to Fire	EN13501-1	Euroclass	Euroclass $A2_{FL}$ – s1
Mixed Colour			Grey
Mixed Density			2000 kgs/m^3
Working Life (approx.)			30 minutes at 20ºC
Drying Time			30 minutes at 20ºC
Finishing Time			Within 10 minutes of placing

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

Note: Applied as a two component wearing screed, a minimum thickness of 3mm must be achieved over high spots.

Application Instructions

Preparation

The areas to be treated must be free from all unsound material, i.e. surface laitance, dust, oil, grease, organic growth or previous surface treatments, and smooth surfaces should be mechanically roughened. This is best achieved using totally enclosed shot blasting equipment or alternatively a surface scaler/planer or scabbling machine can be used.

Areas still exhibiting signs of oil, grease, etc. must be treated with a proprietary degreasant. In instances of heavy contamination, it may be necessary to use hot compressed air equipment, flame spalling or steam cleaning techniques. All debris should be removed to leave a thoroughly clean, dust free, open textured surface. Concrete should have a minimum strength of 20MPa.

Priming of Concrete

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water. To prevent out-gassing, the substrate should be sealed with **CEMPROTEC EF PRIMER**, at a typical coverage rate of 5m²/litre. Allow to become transparent, typically 1-3 hours, dependent upon climatic conditions, before proceeding.

Mixing

It is important to ensure that a continuous supply of mixed material is available for laying. 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. 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.

BOTTLES OF LIQUID AND BAGS OF POWDER MUST NOT BE SPLIT.

Please Note: It is vital to the success of the application that these instructions are strictly adhered to. Flexcrete cannot be held responsible for any product failures due to incorrect mixing.

Joints

All construction joints and 'live' cracks in the existing floor must be continued through into the new coating. The material should be continued into the faces of joints or cracks. Allow to cure for a minimum of 24 hours before reinstating joints with suitable sealant.

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. Lightly roll the top surface with a spiked roller to remove entrapped air and to produce a slightly dimpled finish. 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 the application to light foot traffic.

Curing and Overcoating

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. Cure using **CURING MEMBRANE WB**, taking care to avoid overspray onto surfaces yet to be treated. If overcoating with **CEMPROTEC E-FLOOR** allow to cure overnight and prime the surface with **CEMPROTEC EF PRIMER** prior to over progressing.

Cleaning and Storage

All tools should be cleaned with water immediately after use.

CEMPROTEC LEVELLING COAT can be stored for 12 months in dry, frost free conditions at moderate temperatures not greater than 20°C.

Packaging

CEMPROTEC LEVELLING COAT is supplied in a 30kg composite pack.

Yield and Coverage

15 litres per 30kg pack.

A 30kg composite pack 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 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 coating thickness during application using the wet film thickness gauge available from Flexcrete.

5. Fresh material can be joined up to existing hardened material using a simple butt joint. Apply tape to the hardened material and apply fresh material up to it. Remove tape whilst wet to leave a neat edge.

6. If overcoating with **CEMPROTEC E-FLOOR** the surface must be primed with **CEMPROTEC EF PRIMER**.

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

8. 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.

9. Hot Weather Working (See separate Guide)

- Store material in cool conditions to maximise working life.
- Shade applied material from strong sunlight.
- If possible, avoid extreme temperatures by working at night.

FM 41091 Quality
EMS 597350 Environmental
OHS 597351 Health & Safety