Technical Data Sheet

CEMPROTEC LEVELLING COAT

Cementitious Coating and Wearing Screed for Levelling & Waterproofing Concrete Floors

USES

CEMPROTEC LEVELLING COAT is a versatile, two component cementitious coating / wearing screed for levelling and waterproofing tamped or uneven concrete floors, or floors with no waterproofing membrane. It can be used as a waterproof cementitious coating, an underlayment or as a wearing screed to provide resistance to abrasion and trafficking.

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.
- Can be applied to saturated substrates, or floors with no waterproofing membrane, without risk of blistering.
- Rapid hardening - hydrates to give high early strength material with low moisture, 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 an base layer prior to the application of **CEMPROTEC E-FLOOR** in heavily trafficked areas.

PRODUCT DESCRIPTION

CEMPROTEC LEVELLING COAT is a two component epoxy and polymer modified cementitious coating / wearing screed for levelling and waterproofing concrete substrates. It incorporates advanced cement chemistry, metakaolin, fibre, epoxy and styrene acrylic copolymer technology to give enhanced performance and excellent adhesion to concrete surfaces. When mixed, it exhibits a degree of flow to enable ease of application by pouring or pumping techniques to give an even finish. It hydrates to form a dense screed, which exhibits both polymeric and resinous properties giving low permeability to water and ensuring long term performance. It is specially formulated to harden rapidly to form a durable surface, which can typically be overcoated within 24 hours.

TECHNICAL DATA

Mixed Colour:	Concrete Grey	Mixed Density:	2000 kg/m³
Min Application Temperature:	5°C	Max Application Temperature:	35°C
Working Life (Approx):	30 minutes at 20°C	Finishing Time:	Within 10 mins of placing
Application Thickness:	0-60mm, typically 10mm	Drying Time:	2-3 hours

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

APPLICATION AND SAFETY DATA

Application Guide and Safety Data Sheet available on request.

CE 0086

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0086-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 Expansion:	≤30 x 10^{-6} K^{-1}
Thermal Compatibility EN13687-1:	> 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

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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:	≥ 2.0MPa

MECHANICAL CHARACTERISTICS (TYPICAL)

Compressive Strength: BS 4551 Tested at 20°C

4 hours	4 - 10 MPa
1 day	10– 20 MPa
7 days	30 - 40 MPa
28 days	45- 55 MPa

Water Permeability Coefficient: DIN 1045 Tested at 10 bar

7 day cure	3.44x 10^{-14}m/sec

i.e. 13mm **LEVELLING COAT**= 1000mm typical concrete

Flexural Strength: BS 4551 Tested at 20ºC

1 day	5 MPa
28 days	12 MPa

Adhesive Strength: BS 1881 Part 207

Concrete	3 MPa
Asphalt	>2 MPa (substrate failure)

Abrasion Resistance: BS 8204 Part 2
AR1 Category for Very High Abrasion

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

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 are **not** to be split.

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 **FLEXCRETE CURING MEMBRANE WB**, taking care to avoid overspray onto surfaces yet to be treated. Allow to cure overnight and prime with **CEMPROTEC EF PRIMER** before overcoating with **CEMPROTEC E-FLOOR**.

CLEANING

All tools should be cleaned with water immediately after use.

SHELF LIFE

Shelf life is 12 months in dry, frost free conditions at moderate temperatures not greater than 20ºC.

PACKAGING AND COVERAGE

Pack Size: 30kg

Coverage: 15 litres per 30kg pack
2.0 kg/mm/m²; i.e. A 30kg composite pack covers 3m² at 5mm thickness

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