Flexcrete

Technical Data Sheet

CEMPROTEC E-FLOOR

Epoxy and Polymer Modified Cementitious Flooring: 2mm

USES

CEMPROTEC E-FLOOR is a major advancement in flooring technology incorporating the benefits of copolymer and epoxy resin technologies into a self smoothing, water based, cementitious system. This chemical combination gives a hard, durable 2mm thick coating with excellent resistance to abrasion, water, chloride ions and aggressive chemicals for the protection of concrete floors and decks subject to trafficking in the most demanding internal and external environments.

ADVANTAGES

- Pre-packaged material only requiring mixing on site.
- A unique blend of surfactants gives high flow to enable fast and easy application.
- Excellent abrasion and impact resistance. Very high resistance to a wide range of aggressive chemicals.
- Can be applied without risk of osmotic blistering to ñgreenò concrete, wet substrates or floors with no effective waterproofing membrane.
- Excellent adhesion to dry or damp cementitious substrates.
- Hydrates to give high early strengths, enabling rapid reinstatement of 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.
- Easily treated with resin coatings or overlayed with wood flooring, carpets or tiles.

COMPLIANCE

CE marked in accordance with BS EN 1504 Part 2.

PRODUCT DESCRIPTION

CEMPROTEC E-FLOOR is a two component epoxy and cementitious modified polymer coating for the protection of concrete floors in demanding environmental conditions. It incorporates advanced cement chemistry, metakaolin, fibre, epoxy and styrene acrylic copolymer technology to provide multi-functional protection. When mixed, it exhibits a high degree of flow to enable ease of application by pouring or pumping techniques to give a smooth surface finish. It hydrates rapidly to form a dense, hard wearing, durable coating, which exhibits both polymeric and resinous properties, giving low permeability to water and providing very high chemical and abrasion resistance to ensure long term performance. Can be reinforced with **CEMPROTEC 2000-S** tape to accommodate movement over cracks and around joints where further movement is expected.

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

Compressive Strength:	Class I Ó35 MPa
Adhesive Bond:	Ó2.0 MPa
Water Vapour Permeability:	Class I <5m
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

TECHNICAL DATA

Mixed Colour:	Grey
Mixed Density:	1850 kg/m³
Min Application Thickness:	One coat at 2mm
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
Drying Time:	2-3 hours

MECHANICAL CHARACTERISTICS (TYPICAL)

Compressive Strength:	BS 4551 Tested at 20°C
4 hours	8.0 MPa
1 day	18.0 MPa
7 days	33.5 MPa
28 days	55.0 MPa
Water Permeability Coefficient:	Taywood Test
7 day cure	1.12 x 10^{-16} m/sec
i.e. 2mm **E-FLOOR** = 2310mm typical concrete	
Abrasion Resistance:	BS 8204 Part 2
Special Category for Severe Abrasion	
Surface Resistance:	BS 2050 60Mq

APPLICATION DATA

Application Guide available on request.

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 roughened. This is best achieved using totally enclosed shot blasting equipment, scarification, scabbling or grinding. 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 20 MPa.

PRIMING

The prepared substrate, including **CEMPROTEC LEVELLING COAT** or any previous coats of **E-FLOOR**, 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 formed joints in the existing floor or deck **must** be continued through into the new coating. Over construction joints and ñliveòcracks, **E-FLOOR** should be reinforced with **CEMPROTEC 2000-S** using **CEMPROTEC E942** as the embedment material. Please consult separate Technical Data Sheet for further information.

PLACING

CEMPROTEC E-FLOOR should be poured or pumped onto the prepared surface and spread to a minimum thickness of 2mm with a squeegee or pin leveller. 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 the skid and abrasion resistance of the finished **E-FLOOR**, immediately broadcast **CEMPROTEC EF GRIT** into the surface ensuring that the particles are distributed evenly without disrupting the smooth surface of the coating. Allow to cure for a minimum of 4 hours before removing any excess sand, which may be sieved and re-used. Apply **CEMPROTEC SANDSEAL** with a roller at 5m²/litre. 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. On unsanded finishes the coating must be cured using **FLEXCRETE CURING MEMBRANE WB**, taking care to avoid overspray onto surfaces yet to be treated.

CLEANING

All tools should be cleaned with water immediately after use.

SHELF LIFE

12 months in dry, frost free conditions with unopened bags at 20°C.

PACKAGING AND COVERAGE

Pack Size:	30kg
Yield:	16.2 litres per 30kg pack
Coverage:	1.85kg/mm/m² i.e. A 30kg composite pack covers 8.1m² at 2mm thickness

SAFETY DATA

Safety Data Sheet available on request.

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