

DATA Sheet



CEMPROTEC E-FLOOR

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. These chemically combine to give a hard, durable 2mm thick coating with excellent resistance to abrasion, water, chloride ions and aggressive chemicals for the protection of concrete floors in the most demanding internal and external environments.

ADVANTAGES

SIMPLE:	Materials are pre-packaged in a convenient and easy to handle size, requiring only mixing on site.
HIGH FLOW:	A unique blend of surfactants enables fast and easy application.
RESISTANT:	Excellent abrasion and impact resistance. Very high resistance to a wide range of aggressive chemicals.
TOLERANT:	Can be applied to wet substrates, or floors with no effective waterproofing membrane, without risk of osmotic blistering.
ADHESIVE:	Excellent adhesion to dry or damp cementitious substrates.
RAPID HARDENING:	Hydrates to give high early strengths, enabling rapid reinstatement of traffic.
SAFE:	Water based product which cures without the release of hazardous solvents. Equipment easily cleaned with water.
LOW PERMEABILITY:	Dense matrix offers low permeability to water, even at 10 bar pressure, and very high diffusion resistance to chlorides and oxygen.

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 to form a dense, highly alkaline 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. It is specially formulated to harden rapidly to form a hard wearing and durable surface.

TECHNICAL DATA

Basis:	Cement and epoxy modified, styrene acrylic copolymer.
Mixed Colour:	Standard: Grey and White. Special: Blue, Green and Red.
Mixed Density:	1850-1900kg/m ³ .
Min. Application Temp:	5°C.
Max. Application Temp:	35°C.
Working Life:	30 minutes at 20°C.
Finishing Time:	Within 10 minutes of placing.
Drying Time:	2-3 hours.
No. of Coats Required:	Normally one at a minimum of 2mm thickness.

MECHANICAL CHARACTERISTICS (TYPICAL)

Compressive Strength: BS 4551 Tested at 20°C:

4 hours	5.0N/mm ² .
1 day	13.0N/mm ² .
7 days	33.5N/mm ² .
28 days	56.0N/mm ² .

Flexural Strength: BS 4551 Tested at 20°C:

1 day	5.0N/mm ² .
28 day	14.0N/mm ² .

Adhesive Strength: BS 1881 Part 207

3N/mm². (including primer)

Water Permeability Coefficient: Taywood Test

7 day cure 1.12 x 10⁻¹⁶ m/sec.

i.e. 2mm **E-FLOOR** = 2310mm of typical concrete.

Abrasion Resistance: BS 8204 Part 2

Category Special for severe abrasion.

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 **FLEXCRETE DEGREASANT** as instructed on the individual data sheet. Repeat applications may be required in areas where the contamination is persistent. In some instances of heavy contamination, it may be necessary to use hot compressed air equipment, flame spalling or steam cleaning techniques prior to sealing the surface with **CEMPROTEC EPOXY PRIMER** as described on the individual Data Sheet. All debris should be removed to leave a thoroughly clean, dust free open textured surface.

PRIMING

The prepared substrate, including **CEMPROTEC LEVELLING COAT** and previous coats of **E-FLOOR**, should be thoroughly soaked (preferably 24 hours before) with clean water until uniformly saturated without any standing water. To enhance adhesion and to prevent blistering, the surface should be sealed with **CEMPROTEC EF PRIMER**, at a typical coverage rate of 5m² per litre. Allow to dry, typically 1-3 hours, dependent upon climatic conditions, before proceeding. Substrates, which have been subjected to hot compressed air treatment, should be treated immediately with **CEMPROTEC EPOXY PRIMER** and allowed to cure overnight before proceeding.

MIXING

It is important to ensure that a continuous supply of mixed material is available for laying. Shake Part A and pour into a suitable mixing vessel. Slowly add the 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 or a continuous mixer/pump used. Bottles of liquid and bags of powder are **not** to be split. Please contact our Technical Department for further advice.

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 that a minimum 2mm thickness of material 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 and do not disrupt 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 760** with a gloss roller at 0.2 litre/m².

Finishing must be completed within the working life of the material and no later than 10 minutes after placing. All construction joints and "live" cracks in the existing floor **must** be continued through into the new coating.

The **E-FLOOR** should be continued into the faces of the joints or cracks. Ideally the floor should be divided up into bays to aid accurate material application. The operation should be continuous, working to only one wet edge, and full bays should be treated within the working life of the material, to prevent cold joints and to provide an even appearance.

CURING AND OVERCOATING

Normal procedures relating to curing of cementitious products should be strictly adhered to. It is important that the surface is 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, as instructed on the relevant data sheet. Please consult our Technical Department for advice on overcoating and for alternative surface finishes.

CLEANING

All tools should be cleaned with water immediately after use.

STORAGE

Store in dry, frost free conditions at moderate temperatures. Avoid storage at temperatures greater than 20°C.

SHELF LIFE

12 months with unopened containers under the above conditions.

PACKAGING AND COVERAGE

Pack Size: 35kg.
Yield: 18.9 litres per 35kg pack.
Coverage: 1.85kg/mm/m².
Each 35kg composite pack at 2mm thickness will cover approximately 9.5m².

IMPORTANT POINTS

To maximise the working life, the liquid component (Part A) should be stored in cool conditions or chilled in cold water.

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

Experience has shown that condensation can form on surfaces treated with **CEMPROTEC E-FLOOR**, particularly in cold conditions. This will cause a darkening of the **E-FLOOR** and may retard the setting.

Temporary variation in colour of the material may be observed initially which will even out on curing.

SAFETY DATA

Safety Data Sheet available on request. 12/06



Flexcrete Technologies Limited

Tomlinson Road • Leyland • Lancashire
• PR25 2DY • England

Tel: +44 (0) 845 260 7005 • Fax: +44 (0) 845 260 7006

e-mail: info@flexcrete.com

www.flexcrete.com

