Cemprotec Elastic

Elastomeric Cementitious Flexible Coating

Product Overview

Two component, polymer modified, elastomeric cementitious waterproofing coating. CE-Marked in accordance with BS EN 1504-2.

Uses

Waterproofing and protecting concrete and masonry substrates which exhibit cracking and where further movement is expected. Sealing of water tanks and waterproofing of exposed, buried or green roofs. Can also be used as a crack isolation membrane on concrete floors or screeds. Suitable for surface protection systems principles 1.3, 2.2, 8.2 as defined in BS EN 1504 -2.

Advantages

- Pre-packaged materials only requiring mixing on site.
- Brush, trowel or spray applied, normally in two coats. Flooring applications are a one coat operation.
- Tough, flexible coating which maintains its elastomeric properties even under immersed conditions to accommodate movement in cracks.
- Good abrasion resistance and very high resistance to freeze/thaw cycles and de-icing salts.
- Excellent adhesion to sound prepared concrete and masonry substrates, as well as steel.
- Dense matrix offers low permeability to water, even at 10 bar pressure, and very high diffusion resistance to carbon dioxide gas.
- A 2mm coat provides the equivalent to 135mm of good quality concrete cover.
- Can be applied to damp substrates in temperatures down to 5°C.
- Water-based and free from hazardous solvents, ideal for use in confined spaces. Non-toxic when cured.
- Barrier to root penetration, making it suitable for green roof applications.

Description

CEMPROTEC ELASTIC is a two component, thixotropic, cementitious modified, polymer rich waterproofing coating. It cures to form a durable, highly alkaline, permanently elastomeric coating which protects concrete and other mineral substrates from water penetration and carbon dioxide diffusion, but also accommodates movement in cracks.

Compliance

CE-Marked in accordance with EN 1504 Part 2. Suitable for surface protection systems principles 1.3, 2.2, 8.2 as defined in BS EN 1504 Part 2.

Specification Clause

Structural Waterproofing: The structural waterproofing coating shall be a two component, thixotropic, polymer modified, cementitious coating. It shall be CE-Marked in accordance with BS EN 1504-2, and shall comply with the following performance specification:

- Elongation of at least 120% in ambient conditions and 70% immersed (2.0mm film cured for 28 days).
- Impermeable to water under 10 bar hydrostatic pressure such that a 2.0mm coating is equivalent to 2,270mm of concrete.
- Oxygen diffusion resistance coefficient of at least 1.706 x 10-5 cm^2/s in accordance with BS EN 1062-6.

Roofing: The roof coating shall be a two component, thixotropic, polymer modified, cementitious coating. It shall be CE-Marked in accordance with BS EN 1504-2, and shall comply with the following performance specification:

- Impermeable to water under 10 bar hydrostatic pressure such that a 2.0mm coating is equivalent to 2270mm of concrete.
- Elongation of at least 120% in ambient conditions and 70% immersed (2.0mm film cured for 28 days).
- Tensile strength of at least 0.5MPa in ambient conditions and 0.4MPa immersed (2.0mm film cured for 28 days).
- Barrier to root penetration in accordance with Lupin Root Resistance Test TS 14416: 2005.

CE
2797

Flexcrete Technologies Ltd
Tomlinson Road, Leyland PR25 2DY England
17
2797-CPD-530942

EN1504-2: Surface Protection Systems
- Coating Protection Against Ingress (PIC)

Adhesive Bond	:	≥ 0.8 MPa
Permeability to Water Vapour	:	Class I < 5m
Permeability to CO_2	:	Equiv. to 135mm of concrete
Therm. Comp. EN 13687-1	:	≥0.8 MPa
Capillary Absorption	:	Class III < 0.1 $kg.m^{-2}.h^{-0.5}$
Dangerous Substances	:	Complies with 5.4
Reaction to Fire	:	Euroclass B-s1, d0
Crack Bridging EN 1062-7	:	
Static	:	Class A5 >2500µm
Dynamic	:	Class B4.1 0.2-0.5mm

Technical Data / Mechanical Characteristics

Property	Standard	BS EN 1504-2 Requirement	Result
Compressive Strength	BS 4551	-	28 days: 8-10 MPa
Adhesive Bond	EN 1542	≥ 0.8MPa Crack bridging flexible systems without trafficking	0.89 MPa
Permeability to CO_2	EN 1062-6	R≥50m	57m 2mm equivalent to 135mm of concrete
Water Vapour Permeability (Equivalent Air Layer Thickness)	BS EN 7783-2	Class 1 S_D ≤ 5m	S_D = 1.55m
Thermal Compatibility	EN13687-1	≥ 0.8MPa Crack bridging flexible systems without trafficking	0.88MPa,
Water Permeability Coefficient Equivalent Concrete Thickness	DIN 1048		5.37×10^{-16}m/sec 2mm = 2270mm of concrete
Resistance to Water Pressure	DIN 1048		10 bar (100m hydrostatic head) positive & negative
Flexural Strength	EN196-1		3.5 – 4.0 MPa
Tensile Strength	BS903-A2		Ambient 0.5MPa Immersed 0.4MPa
Static Crack Bridging	EN 1062-7	Declared Class	Class A5 > 2500µm
Dynamic Crack Bridging	EN 1062-7	Declared Class	Class B4.1 0.2 – 0.5mm
Elongation at beak	BS903-A2		Ambient 120-130% Immersed 70-80%
Liquid Water Transmission Rate (Capillary Absorption and Permeability to Liquid water)	EN1062-3	Class III (low) w< 0. 1kg.m^{-2}.h$^{-0.5}$	w=0.0086 kg.m^{-2}.h$^{-0.5}$
Thickness			2 x 1mm on walls and vertical surfaces 1 x 2mm on decks and floors
Root Resistance	DD CENT/TS 14416		Barrier to Root Penetration (Lupin Test)
Reaction to Fire	EN 13501-1	Euroclass	Euroclass B-s1, d0
Mixed Colour			Grey and White
Mixed Density			1600 kg/m³
Drying Time			4-6 hours dependent on temperature
Minimum Application Temp Maximum Application Temp			5ºC 35ºC
Working Life (approx)			45 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

Application Instructions

Preparation

The areas to be treated must be free from all unsound material, dust, oil, grease, corrosion by-products and organic growth.

Smooth surfaces should be roughened, all loose material and surface laitance removed and reinforcement cleaned to bright steel using wet grit blasting techniques or equivalent approved methods.

The strength of the concrete sub-base should be a minimum of 20MPa.

Priming of Concrete

The prepared substrate should be thoroughly soaked (preferably 24 hours before) with clean water until uniformly saturated without standing water. Except when reinforcing with **CEMPROTEC GEO80**, floors and other horizontal areas should be sealed with **CEMPROTEC EF PRIMER** to prevent outgassing.

Mixing

CEMPROTEC ELASTIC is supplied as a two pack, Part A liquid and Part B powder. **The two components MUST NOT be split. All of Part and all of Part B MUST be mixed.** 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. Mixing should be carried out using a slow-speed drill and paddle designed to entrap as little air as possible.

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.

Placing

CEMPROTEC ELASTIC is applied by brush or trowel over smaller areas, taking care to ensure that air is not entrapped into the surface. Over larger areas, spray techniques are recommended. Apply the first coat, approximately 1mm thick, onto the prepared substrate. If necessary, embed **CEMPROTEC GEO80**. To ensure total protection, a second coat should be applied in the same way, after waiting approximately 4-6 hours - depending on temperature (when the first coat is stable but not fully set). On horizontal deck applications, apply a single 2mm layer with a skid leveller or notched trowel, and immediately release entrapped air with a spiked roller.

IMPORTANT NOTES:

1. Apply only to clean, sound substrates which should be saturated but surface-dry and free of water back pressure.
2. Care should be taken when curing in hot, sunny or windy conditions.
3. **CEMPROTEC ELASTIC** is not a decorative finish and may temporarily discolour until uniformly weathered. It may, however, be overcoated with a specialist membrane in the Flexcrete range.

Reinforcement

Over expansion or formed joints and other critical movement areas, **CEMPROTEC ELASTIC** may require reinforcing with **CEMPROTEC 2000-S**. Embed the reinforcement in a 1mm layer of **CEMENTITIOUS COATING 851** or **CEMPROTEC E942,** pressing the fabric into the freshly applied material and leave to become stable. Finish with a 1mm coat of **CEMPROTEC ELASTIC** if using as a localised joint or crack sealing system. See separate Technical Data Sheet for **CEMPROTEC 2000-S** for further information. **CEMPROTEC GEO80** should be used over surfaces exhibiting general cracking or where movement in the substrate is expected.

Curing

Normal concreting procedures should be strictly adhered to. It is important that the surface of the coating is protected from strong sunlight and drying winds with **CURING MEMBRANE WB,** polythene sheeting or similar. In floor and deck applications **CEMPROTEC EF GRIT** can be broadcast onto the surface of the wet coating to provide effective curing, whist also providing an abrasion and slip-resistant finish. Curing **MUST** commence within 10-15 minutes of the completed application of the coating.

Cleaning and Storage

Tools should be cleaned with water immediately after use.

Materials can be stored for 24 months in dry, frost free conditions with unopened bags at 20°C.

Packaging

CEMPROTEC ELASTIC is supplied in a 30kg composite pack.

Coverage and Yield

18.8 litres per 30kg pack.

A 30kg pack will cover approximately 9.4 m² at 2mm thickness.

Health and Safety

Safety Data Sheets are available on request

Application Top Tips

1. Thickness gauge is available from Flexcrete.

2. Apply **CURING MEMBRANE WB** as an even fine mist spray. Do not over apply or allow to pond on the surface or cracking may occur.

3. **CEMPROTEC ELASTIC** is not a decorative coating and may dry with a patchy appearance until uniformly weathered. Can be overcoated with Flexcrete membranes to give a coloured finish.

4. Over heavily cracked areas or where greater tensile strength is needed, the **CEMPROTEC ELASTIC** is reinforced with **CEMPROTEC GEO80,** a thermally bonded geotextile, which is embedded in the first 1mm coat.

5. In cold, humid conditions condensation may form on surfaces treated with **CEMPROTEC ELASTIC,** resulting in darkening of finish and retardation of set.

6. **CEMPROTEC ELASTIC** skins readily, however through curing progresses at a slower rate. Ensure that the coating is through cured before returning to service. Allow to cure for a minimum of 7 days before immersion.

7. On horizontal/deck/podium applications:

   - use protection boards following application to prevent damage to the applied material.
   - if the application is being covered with paviours, etc, use a sand bed or pedestals.

8. When applying by airless spray add a maximum of 0.5 litres of clean water per 30kg unit to improve finish.

9. 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.

10. Hot Weather Working (See separate Guide)

    - Store material in cool conditions to maximise working life.
    - Shade applied material from strong sunlight.

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.

CONCRETE REPAIR ASSOCIATION

bsi. UKAS MANAGEMENT SYSTEMS 003

FM 41091 Quality
EMS 597350 Environmental
OHS 597351 Health & Safety