

# Cemprotec Elastic

## Elastomeric Cementitious Flexible Coating

### Product Overview

Two component, polymer modified, elastomeric cementitious waterproofing coating.

### Description

**CEMPROTEC ELASTIC** is a two component, thixotropic, polymer rich, cementitious waterproof coating. It cures to form a durable, highly alkaline, permanently elastomeric coating which bridges minor cracks and protects concrete or other mineral substrates from water penetration and carbon dioxide diffusion. It can also be used as a crack isolation membrane on concrete floors or screeds.

### Uses

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.
- Maintains elastomeric properties under immersion to accommodate movement in cracks.
- Good resistance to abrasion, 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 and high diffusion resistance to carbon dioxide gas.
- 2mm is equivalent to 135mm of concrete cover.
- Can be applied to green concrete.
- Water-based and free from hazardous solvents, ideal for use in confined spaces. Non-toxic when cured.
- Barrier to root penetration, suitable for green roofs.

### Compliance

- UKCA & CE marked in accordance with EN 1504-2.

### Application Instructions

#### Preparation

The areas to be repaired must be free from all unsound material including laitance dust, oil, grease, corrosion by-products and organic growth. Smooth surfaces should be roughened.

Any defective concrete should be reinstated with the appropriate Flexcrete repair mortar. Any active water infiltration must first be stopped using **FASTFILL WP**.

The compressive strength of the parent concrete should be minimum 20 MPa.

The prepared substrate should be thoroughly soaked (preferably 24 hours before) with clean water until uniformly saturated without standing water.

#### Substrate Priming

**CEMPROTEC ELASTIC** does not generally require a primer. In addition to substrate saturation, roofs and decks must also be sealed with **CEMPROTEC EF PRIMER**. Other highly porous substrates may benefit from additional sealing with **CEMPROTEC EF PRIMER**.

#### Mixing

**CEMPROTEC ELASTIC** is supplied as a two pack, Part A liquid and Part B powder. The two components must not be split. Mix all of Part A with all of Part B.

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. Mix with a slow-speed drill and paddle designed to entrap as little air as possible.

- Note - These instructions must be adhered to as Flexcrete will not be responsible for failure due to incorrect mixing.

#### Placing

**CEMPROTEC ELASTIC** is applied by brush, trowel or spray techniques, taking care to ensure that air is not entrapped into the surface.

Apply the first coat, approximately 1mm thick, onto the prepared substrate. If necessary, embed **CEMPROTEC GEO80** reinforcement. A second coat should be applied in the same way when the first coat is stable but not fully set (approximately 4-6 hours depending on temperature).

On roofs or decks, apply in a single 2mm layer, spreading with a notched trowel, squeegee or skid leveller, and immediately use a spiked roller to remove entrapped air.

## Reinforcement

Over expansion joints and other critical movement areas, introduce reinforcement with **CEMPROTEC 2000-S**. Embed the reinforcement in a 1mm layer of **CEMENTITIOUS COATING 851** or **CEMPROTEC E942**. Press the fabric into the freshly applied material and leave to become stable. Finish with a 1mm coat of **CEMPROTEC ELASTIC**. See separate Technical Data Sheet for **CEMPROTEC 2000-S**.

**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 **CURE-SEAL WB**.

On roofs or decks **CEMPROTEC EF GRIT** can be broadcast onto the surface of the wet coating to provide effective curing and leave an abrasion and slip-resistant finish. In exposed conditions, curing must commence immediately as work continues over adjacent area.

## Important Notes

- Only apply to substrates which are free of water pressure from behind the coating.
- Special attention must be paid to curing in hot, sunny or windy condition to prevent skinning.

## Cleaning and Storage

- All 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 30kg composite packs.

## Yield and Coverage

- 18.8 litres per 30kg.
- 30kg covers 9.4m<sup>2</sup> at 2mm thickness.

## Health and Safety

- Safety Data Sheets are available on request.

## Application Top Tips

1. Regularly check the coating thickness during application using a wet film thickness gauge.
2. Apply **CURE-SEAL WB** as an even fine mist spray. Do not over apply or allow to pond on the surface or cracking may occur.
3. Over cracked areas or where greater tensile strength is needed, reinforce with **CEMPROTEC GEO80**, a thermally bonded geotextile, which is embedded in the first 1mm coat.
4. In cold, humid conditions, condensation may form on freshly coated surfaces resulting in darkening of finish and retardation of set.
5. **CEMPROTEC ELASTIC** is not a decorative coating. It can be overcoated with Flexcrete membranes to give a coloured finish.
6. **CEMPROTEC ELASTIC** skins readily with through curing progressing 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 pavements, 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.
  - Spray apply a second mist coat of **CURE-SEAL WB**.
  - If possible, avoid extreme temperatures by working at night.

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.

## Technical Data

Property	Standard	EN 1504-2 Requirement	Typical Result
Compressive Strength Development	EN 12190		28 days 8-10 MPa
Adhesive Bond	EN 1542	≥ 0.8 MPa Crack bridging flexible systems without trafficking	0.9 MPa
Permeability to CO <sub>2</sub>	EN 1062-6	R≥50m	57m 2mm equivalent to 135mm of concrete
Water Vapour Permeability (Equivalent Air Layer Thickness)	EN ISO 7783-2	Class 1: S <sub>D</sub> ≤ 5m	S <sub>D</sub> = 1.55m
Thermal Compatibility	EN 13687-1	≥ 0.8 MPa Crack bridging flexible systems without trafficking	0.9 MPa
Water Permeability Coefficient Equivalent Concrete Thickness	DIN 1048	-	5.37 x 10 <sup>-16</sup> m/sec 2mm = 2270mm of typical concrete
Resistance to Water Pressure	DIN 1048-1	-	10 bar resistance (100m hydrostatic head)
Flexural Strength	EN 196-1	-	3.4-4.0 MPa
Tensile Strength	BS 903-A2	-	1 MPa
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 break	BS 903-A2		>180%
Liquid Water Transmission Rate (Capillary Absorption and Permeability to Liquid water)	EN 1062-3	Class III (low) w< 0.1 kg/(m <sup>2</sup> .h <sup>0.5</sup> )	w=0.0086 kg/(m <sup>2</sup> .h <sup>0.5</sup> )
Root Resistance	DD CENT/TS 14416		Barrier to Root Penetration (Lupin Test)
Mixed Density		-	1600kg/m <sup>3</sup>
Mixed Colour		-	Grey
Application Thickness		-	2 x 1mm vertical or overhead 1 x 2mm floors or decks
Min Application Temperature		-	≥3°C on a rising thermometer ≥5°C on a falling thermometer
Working Life (approx.)		-	45 minutes at 20°C
Touch Dry		-	4-24 hours depending on temperature
Reaction to Fire	EN 13501-1	-	B-s1, d0

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

