

# Expancote\* CM210



CONSTRUCTION CHEMISTRY

## Elastomeric cementitious waterproofing coating

### Uses

Expancote\* CM210 provides a cementitious, elastomeric coating with inherent crack-bridging ability. Typical applications include:

- Potable water retaining structures.
- Potable water excluding structures.
- Internal & external basement, bathrooms & kitchens.
- Drainage culverts and below ground structures.

### Advantages

- Withstands high positive and negative hydrostatic pressures
- Excellent crack accommodation before and after immersion
- Approved for use in contact with potable water
- Excellent bond to concrete and masonry
- Long working life, excellent UV resistant
- Easy application by brush, trowel or spray
- Bonds to green or damp concrete

### Standards compliance

#### Expancote\* CM210 complies with:

BS 6920: 1990 Effect on Water Quality.  
DIN 1048: Water Penetration Test, ASTM C-836.  
Fire Tested to BS 476: 1987 Parts 6 and 7.

### Description

Expancote\* CM210 two-component polymer modified cementitious coating is supplied in pre-packaged form. The product is designed to be easily mixed on site using a slow speed drill fitted with a mixing paddle and then applied to the substrate using either brush, trowel or spray. Roller application may also be used, however finishing the surface with a trowel is recommended for best results. Expancote\* CM210, available in grey and white, cures to form an elastomeric impermeable

### Design criteria

The coating should be applied in two coats to achieve a total dry film thickness of not less than 1mm. Areas subjected to light foot traffic should receive minimum 2mm thickness and an additional 2mm coating should be applied to areas of moderate to heavy pedestrian conditions. To achieve the correct protective properties, Expancote\* CM210 must be applied on to the substrate at the coverage rates recommended.

### Specification

The waterproofing coating shall be Expancote\* CM210, an elastomeric cementitious coating. The cured coating, after immersion, shall be capable of withstanding cracked substrate cyclic movement from 0 - 300 - 0 microns at 15°C for 6,000 cycles without failure. It shall have the capability to resist a positive water pressure of 5 bar and a negative water pressure of 3 bar when tested to European standard CEN/TC 67-67072:2003 part A-7.

### Properties

#### Typical properties of mixed material

<b>Pot life at 20°C</b>	: 2 hours
<b>Pot life at 35°C</b>	: 1 hour
<b>Colour</b>	: Grey or white
<b>Mixed density</b>	: 1850 kg/m <sup>3</sup>
<b>Min application temp.</b>	: 5°C
<b>Service temperature</b>	: upto 80 °C

Properties of cured coating (21 days cure at 23°C, followed by 28 days immersion at 23°C). The values obtained are for Expancote\* CM210 when applied in two coats each of 1 mm wet film thickness

<b>Resistance to positive water pressure</b>	: 5 bar (50 m head of water)
<b>Resistance to negative water pressure</b>	: 3 bar (30 m head of water)

**Static crack accommodation** : 0.9 mm

#### Dynamic crack accommodation

**capability 0 - 300 - 0 microns cycling after 28 days immersion**

**(University of Surrey method) –**

<b>15°C</b>	: 6,000 cycles (no failure)
<b>0°C</b>	: 6,000 cycles (no failure)
<b>-12°C</b>	: 6,000 cycles (no failure)

**Abrasion resistance (ASTM D4060)** : Wear Index 1  
(equivalent to 40 N conc.)

#### CO<sub>2</sub> diffusion resistance

**(Taywood method) after 5,000 hrs QUV** : > 50 m



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**NOTE 1 :** Expancote\* CM210 will bridge an existing crack of up to 0.5 mm in width.

**NOTE 2 :** UV test required coating to be exposed to 4 hrs. condensation at 50°C followed by 4 hrs. UV light at 50°C. Total exposure time was 5,000 hours.

## Instructions for use

### Preparation

All surfaces which are to receive the coating, must be free from oil, laitence, grease, wax, dirt or any other form of foreign matter which could affect adhesion. Typically, concrete surfaces can be cleaned using high pressure water jet or grit blasting. Spalled surfaces or those containing large blowholes, cracks and other such defects up to 10 mm depth, should be repaired using Expanmortar FC For further advice on suitable repair mortars for larger scale repairs, contact the local Expanchem office.

### Mixing

Expancote\* CM210 liquid should be poured from the plastic container into the metal drum provided. For brush application consistency mix with a slow speed drill (500 r.p.m.) fitted with a Expanchem Mixing Paddle.

The powder component should be added gradually to the liquid to avoid lump formation and mixed for 2 to 4 minutes.

Expancote\* CM210 should be immediately used after mixing. Do not mix more material than can be used within the pot life. Keep mixing Expancote\* CM210 during the application.

### Application

Application of Expancote\* CM210 on hot substrates (i.e. over 40°C surface temperature) will need the prior application of a primer coat. Mix Expancote\* CM210 and water in slurry like consistency and apply Expancote\* CM210 over the primer whilst it is still wet.

For best results, surfaces should be damp. In order to obtain the protective properties of Expancote\* CM210, it is important that the correct rates of application are observed.

Use a short stiff brush (preferably 120 - 200mm width) and apply in one or two coats as required.

Spray applications should use the correct mixing ratio to obtain satisfactory consistency. In hot climatic conditions, it is likely that spray application will be the best for exterior decorative finishes. Nozzle size should be 3-4mm and pressure of 6-8 bars should be used.

It is recommended that for general resurfacing each coat should be 1mm thick. Areas subjected to light foot traffic should receive at least 2mm thickness of Expancote\* CM210 and an additional 2mm should be applied if conditions are moderate to heavy pedestrian traffic.

If in doubt about the condition of the substrate, the local Expanchem office should be consulted.

### Cleaning

Expancote\* CM210 should be removed from tools and equipment with clean water immediately after use. Hardened material can be removed mechanically.

### Limitations

Where subsequent coatings or paints are required, trials should be conducted to ensure compatibility. For further advice, consult the local Expanchem office.

Expancote\* CM210 should not be applied if the air or substrate temperature is greater than 45°C. This may result in different colour shades.

Expancote\* CM210 should not be applied if the temperature of the substrate is below 5°C.

Expancote\* CM210 should not be applied where there is a likelihood of exposure to frost within 48 hours of the application.

Expancote\* CM210 should not be applied in windy conditions where early-age dust adhesion may occur, or where rain is likely within 2 hours at 20°C or 20 hours at 5°C (up to 80% RH).

### Technical support

Expanchem offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.



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## Estimating

### Supply

<b>Industrial kit</b>	: 16 kg pack consisting of:
<b>Powder</b>	: 11.50 kg bag
<b>Liquid</b>	: 4.50 kg can

### Coverage

**Expancote\* CM210** : Theoretical 1.85 Kg. / m<sup>2</sup> @ 1mm thickness - Coverage figures given are theoretical, due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced.

## Storage

### Shelf life

Combined products have a shelf life of 6 months if kept in a dry store in the original, unopened packs.

### Storage conditions

Store in cool, dry conditions, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures and/or high humidity conditions the shelf life will be reduced. Expancote\* CM210 liquid component should be protected from frost.

## Precautions

### Health and safety

Expancote\* CM210 contains cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately – do not

### Fire

Expancote\* CM210 components are non-flammable. For further information, refer to the product Material Safety Data Sheet.

\*Denotes the trademark registered.

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