

# Fosroc Nitocote CM210



constructive solutions

## Elastomeric cementitious waterproof coating

### Uses

Nitocote CM210 provides a cementitious, elastomeric waterproof coating with inherent crack-bridging ability. Typical applications include:

- Potable water retaining structures.
- Swimming Pools.
- Potable water excluding structures.
- Internal basement waterproofing.
- Drainage culverts.
- Wet areas: Kitchens, bathrooms, shower rooms
- Foundations in contact with ground water under saline conditions
- Vapour barrier.

### 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
- Easy application by brush, trowel or spray
- Bonds to green or damp concrete

### Standards compliance

Nitocote CM210 complies with:

BS 6920: 2000 Effect on Water Quality.

WRAS Ltd Approved

DIN 1048: Water Penetration Test.

ASTM E84 for Flame Spread Index(FSI) & Smoke Development Index(SDI) : Class A, and BS 476: 1987 Parts 6 and 7.

### UK potable water approvals

In the case of contracts requiring Water Byelaws Scheme certification, Nitocote CM210 should be applied as per the datasheet. Nitocote CM210 is WRAS approved when cured for 21 days at 23°C. Tanks with a surface area less than 250m<sup>2</sup> should be flushed with water prior to filling. The tank should be disinfected in accordance with local regulations before re-connection to the public water supply.

### Description

Nitocote 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.

Nitocote CM210, available in grey and white, cures to form an elastomeric impermeable membrane.



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## Specification

The waterproofing coating shall be Nitocote CM210, an elastomeric cementitious coating approved by WRAS Ltd. 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

Pot life at 20°C	: 2 hours
Pot life at 35°C	: 1 hour
Colour	: Grey or white
Mixed density	: 1850 kg/m <sup>3</sup>
Minimum application temperature:	5°C

Properties of cured coating (21 days cure at 23°C, followed by 28 days immersion at 23°C).

The values obtained are for Nitocote CM210 when applied in two coats each of 1 mm wet film thickness

Resistance to positive water pressure (DIN 1048)Pt 5(50 m head of water)	: 5 bar
Resistance to negative water pressure (CEN/TC 67-67072)	: 3 bar (30 m head of water)

Static crack accommodation	: 0.9 mm
Dynamic crack <sup>1</sup> accommodation capability 0 - 300 - 0 microns cycling after 28 days immersion (University of Surrey method) –15°C	: 6,000 cycles (no failure)
0°C	: 6,000 cycles (no failure)
12°C	: 6,000 cycles (no failure)

Abrasion resistance (ASTM D4060)	: Wear Index (equivalent to 40 N conc.)
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CO <sub>2</sub> diffusion resistance(Taywood method) after 5,000 hrs QUV <sup>2</sup>	: > 50 m
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Reaction to fire (ASTM E84)	: Class A
Flame Spread Index(FSI) and Smoke Development Index (SDI)	

**NOTE 1 :** Nitocote 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 Nitocote CM210. For further advice on suitable repair mortars for larger scale repairs, contact the local Fosroc office.

### Mixing

The liquid polymer (5 kg) is poured from the plastic container into a plastic or metal drum having a volume of at least 20 litres. To this, the powder is gradually added (18 kg) whilst mixing with an approved spiral paddle attachment on a slow speed drill. Mixing is continued until a lump free slurry is obtained. This should take a minimum of 3 minutes and a maximum of 5 minutes.

### Application

Pre-dampen the substrate surface with water. High porosity substrates will require more dampening than dense substrates. Any condensation should be removed using a sponge. Any running water should be stopped with Renderoc Plug. Contact the local Fosroc office for further advice on other suitable water stopping materials.

When the concrete surface is damp, apply the material using a soft bristled brush (120 mm-200 mm wide) or trowel. The first coat should be applied at a minimum thickness of 1 mm (approximate coverage is 1.9 kg/m<sup>2</sup>) and should be well brushed into the surface.

Finish in one direction for a neat appearance. If the brush begins to drag during application, do not add water to the material, but dampen the surface again. Application may also be made by roller, however it is recommended to finish the surface with a trowel for best results.

The first coat should be allowed to cure for a minimum of 5 hours at 20°C or 3 hours at 35°C and longer at lower temperatures. The material should not be applied at temperatures below 5°C. All the mixed material should be used within 2 hours at 20°C or 1 hour at 35°C.

The second coat should also be applied at a minimum thickness of 1 mm and finished in one direction. Pre-dampening of the surface is not necessary when applying the second coat.

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## Spray application

For spray application the substrate should be prepared in the same manner as for brush application and the material should again be applied in two coats. Each coat should be a minimum of 1 mm thickness. Allow a minimum of 5 hours cure at 20°C or 3 hours at 35°C between the first and second coats, or longer at lower temperatures. For further details on the selection of spraying machines and nozzles consult the local Fosroc office.

## Disposal

Waste mixed material should be allowed to harden overnight then disposed of as non-hazardous waste.

## Cleaning

Immediately after application is completed clean all tools and equipment with clean water. Hardened material can be removed by mechanical means and by use of Fosroc Solvent 102.

## Limitations

- Nitocote CM210 should not be applied if the air or substrate temperature is greater than 45°C. This may result in different colour shades.
- Do not proceed with application when rainfall is imminent unless in a sheltered or protected location. The product should not be exposed to moving water during application.
- Nitocote CM210 should not be used on external surfaces where aesthetic appearance is critical as differences in cure/drying rate may cause slight colour differences in the final surface.
- Nitocote CM210 should not be used for applications subject to direct contact of tidal marine conditions eg. sea wall defences, sea water inlet channels.
- In swimming pools and wet areas, Nitocote CM210 should be applied on concrete and then tiles to be fixed with a waterproof tile adhesive. Nitocote CM210 should be allowed to cure for 7 days at 23 deg. C before fixing tiles.
- If any doubts arise concerning temperature or substrate conditions, consult the local Fosroc Office.

## Technical support

Fosroc 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.

## Estimating

### Supply

#### Powder component

(grey or white) : 18 kg bags

Liquid polymer component : 5 kg container

### Coverage<sup>1</sup> (at nominal 1 mm thickness)

Brush, roller, trowel application: 10.8-11.7 m<sup>2</sup> per 23 kg

Spray application : 9.0-11.7 m<sup>2</sup> per 23 kg

**NOTE 1** : A minimum coverage of 3.8 kg/m<sup>2</sup> applied in not less than 2 coats is recommended.

## Storage

Shelf life is 12 months in unopened packs store between 35°C and 10°C in a shaded environment. Protect the powder component from the sources of moisture and humidity. The liquid and powder components must not be allowed to freeze.

## Precautions

### Health and safety

Nitocote CM210 powder is irritating to eyes, respiratory system and skin. Avoid inhalation of dust, wear suitable respiratory protective equipment.

Nitocote CM210 liquid is not classified as dangerous.

Nitocote CM210, when mixed, becomes highly alkaline, wear suitable protective clothing, gloves and eye protection.

For both components and mixed material avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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## Additional Information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Fosroc additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc office - as below.

\* Denotes the trademark of Fosroc International Limited

† See separate data sheet



## Al Gurg Fosroc LLC

Post Box 657, Dubai  
United Arab Emirates

[www.fosroc.com](http://www.fosroc.com)

## Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

### Head Office

telephone: (+9714) 2039699

fax: (+9714) 2859649

email: [agf@fosroc.com](mailto:agf@fosroc.com)

### Regional offices

Abu Dhabi, Al Gurg Fosroc  
Bahrain, YBA Kanoo  
Kuwait, Boodai  
Oman, Al Amana  
Qatar, Tadmur

telephone: 673 1779  
telephone: 17738200  
telephone: 4817618  
telephone: 24815080  
telephone: 4432365

fax: 673 1449  
fax: 17732828  
fax: 4832124  
fax: 24817554  
fax: 4419517

email: [abudhabi@fosroc.com](mailto:abudhabi@fosroc.com)  
email: [bahrain@fosroc.com](mailto:bahrain@fosroc.com)  
email: [kuwait@fosroc.com](mailto:kuwait@fosroc.com)  
email: [oman@fosroc.com](mailto:oman@fosroc.com)  
email: [qatar@fosroc.com](mailto:qatar@fosroc.com)

