

## High Performance moisture compatible corrosion resistant Protective Coating System for concrete and steel surfaces - CECRI Know How

### Uses

Fosroc Nitocote EM 300 protective coating system has been exclusively developed by CECRI - CSIR, Karikudi for protection of the internal concrete surface of the Cooling Towers - IDCT and NDCT of Thermal Power Plants as per the performance requirements of NTPC for both newly constructed and maintenance of the running plants during shut down. The other areas of applications includes the Internal surface protection of water treatment plants - STPs and ETPs

### Advantages

- Corrosion resistant
- Excellent adhesion
- Moisture compatibility
- Good flexibility and impact strength

### Description

Fosroc Nitocote EM 300 is a High performance, corrosion resistant, MIO based Epoxy - Polyamide coating system, licensed and approved by CECRI (Central Electrochemical Research Institute) specially formulated to provide a corrosion resistant coating for concrete surfaces with a total dry film thickness of about 300 microns.

### Technical Support

Fosroc provides a technical advisory service supported by a team of specialists in the field.

### Properties of coating

Pot life @ 27°C	2 hrs
Specific Gravity (ASTM-D1475)	1.25 ± 0.1
Volume of Solids	70%
Touch Dry	2 hrs
Dry Film Thickness (ASTM-D1186)	160 ± 10 microns/coat
Coverage	4.0 - 4.5 m <sup>2</sup> / litre
Recoating	24hrs
Salt Spray Test (ASTM-B117)	2000hrs
Resistance to sea water - for 6 months	Passes
Coating Resistance - for 6 months	10 <sup>9</sup> Ω .cm <sup>2</sup>
Adhesion (ASTM - D4541)	4.5 N/mm <sup>2</sup>
Flexibility test (ASTM - D3363)	1/8" passes
Elongation	33%
Impact test (ASTM G 14-04)	45cm passes

### Specification clauses

The protective coating shall be Fosroc Nitocote EM 300, CECRI know how, high performance moisture compatible corrosion resistant, protective coating system capable of resisting corrosion and compatible to moist/damp concrete surfaces. The cured film has a smooth surface with a DFT of 300 microns minimum.

### Preparation

Surface to be coated must be structurally sound and free from loose material. All surface contamination must be removed. Grease and oil should be grit blasted or water jetted. Deeper penetration must be removed by mechanical means. Any laitance must be removed from concrete surface by etching with Reebaklens then washed off and dried. New concrete should be allowed to cure for atleast 28 days prior to application.

The above surface preparation guidelines shall ensure good adhesive bond strength of Nitocote EM 300 with the substrate.

### Priming

No Primer coat is required for the substrate before application of Nitocote EM 300.

### Mixing

Before mixing, the contents of each container should thoroughly stirred to disperse any settlement which may have taken place during storage.

The entire contents of the hardener should be poured into the base container and the materials thoroughly mixed for atleast 3 minutes. Mechanical mixing using a slow speed 300-500rpm flameproof drill fitted with a mixing paddle is recommended.

### Coating

Apply the mixed Fosroc Nitocote EM 300 to the prepared substrate making sure a continuous film is achieved using a standard airless spray gun or good quality lambswool roller.

The first coat should be applied to achieve a uniform coating with a wet film thickness in the range of 210 to 220 microns. This coat should be allowed to dry for 24hrs.

The second coat of Fosroc Nitocote EM 300 should be applied at perpendicular to the first, to ensure a final unbroken coating to the substrate at a wet film thickness in the range of 210 to 220 microns. The final DFT of the cured coating should be a minimum of 300 microns. The applied coating system should be allowed to cure for minimum of 7days before putting to use.

### Cleaning

Tools and equipment should be cleaned with Nitoflor Sol immediately after use.

# Fosroc Nitocote EM300

## Limitations

Nitocote EM300 should not be applied over flexible coatings like Nitocote CM210

Minimum application temperature 15°C

At temperatures below 15°C and above 40°C, please contact your local Fosroc office for guidance.

## Estimating

### Packaging

Fosroc Nitocote EM 300	4.0 litre pack
Nitoflor Sol	5 and 20 litre cans

### Coverage

Fosroc Nitocote EM 300	4.6m <sup>2</sup> / liter /coat @ 210 to 220 microns WFT
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These above figures are for guidance only. Actual coverage depends on the porosity of the substrate.

## Storage

### Shelf life

12 months if stored below 35 °C in unopened containers.

## Precautions

### Health & Safety

Some people are sensitive to epoxy resin systems and may develop dermatitis on skin contact. Gloves, mask, goggles and barrier creams should be used when handling Fosroc Nitocote EM 300. If contact with the skin occurs, wash with soap and copious amounts of water. DO NOT USE SOLVENT. Direct contact with the eyes will cause irritation and may cause serious damage if left untreated. If any contact with eye, should be washed thoroughly with plenty of water and immediate medical treatment sought. Smoking strictly to be avoided.

### Fire

Fosroc Nitocote EM 300 and Nitoflor Sol are flammable. Ensure adequate ventilation when using primers and solvents and do not use near a naked flame.

### Flash Point

Nitoflor Sol	33 °C
Fosroc Nitocote EM 300	32 °C