

# Nitocote® NT550

## Flexible protecting coating, based on a hybrid resin system

### Uses

Provides chemical and abrasion resistance to prevent corrosion of concrete surfaces for applications such as :

- Wall and floor coating for concrete protection
- Manhole and pipe linings
- Secondary containments
- Lining for sewage and effluent plants
- Sea water tanks, channels and intakes
- Foundation waterproofing
- Reservoirs, water treatment plants

### Advantages

- **Flexible** - Can bridge 0.2mm cracks
- **Environment friendly** - Totally free of carcinogenic materials like coal tar, pitch and aromatic hydrocarbons.
- **Cost saving** - primerless system, easy brush roller or spray application.
- **Added value system** - acts as an impermeable waterproof coating and excellent resistance to underground environment

### Description

Nitocote NT550 is based on graft polymerisation of epoxy resins. It is supplied as a two pack material in pre-weighed quantities ready for on-site mixing and use.

Nitocote NT550 is applied as a two coat application. It is generally applied at a wet film thickness of 200 micron per coat.

Nitocote NT550 is available in a standard Grey colour, other colours are available subject to minimum order quantities.

### Specification

The corrosion resistant coating shall be Nitocote NT550, a tar-free, a flexible epoxy resin coating. It shall possess excellent bond to the concrete substrate. The coating shall be resistant to underground conditions, alkalis, salt solutions and acidic solutions.

### Properties

Solids content (ASTM D1644)	92%
Specific gravity (ASTM D1475)	1.35 g/cm <sup>3</sup> at 23°C
Pot life (ASTM D2471)	
at 23°C	4 hours
at 35°C	2 hours
Tack free time (ASTM D1640)	
6-8 hours @ 23°C	
2-4 hours @ 35°C	
1-2 hours @ 45°C	
Min.Overcoating time (ASTM D1640)	
8 hours @ 23°C	
4 hours @ 35°C	
2 hours @ 45°C	
Full cure (ASTM D1640)	
7 days at 23°C	
4 days @ 35°C	
Adhesion Strength (ASTM D4541)	1.5 N/mm <sup>2</sup>
Water Absorption (ASTM C570)	0.2%
Tensile Strength (BS2782)	5N/mm <sup>2</sup>
Elongation at break (BS2782)	30-35%

### Chemical resistance :

Tests were carried out in accordance with ASTM D1308, at room temperature of 23°C and specimens were soaked in the solution for a period of 7 days.

Acids (m/v)	
Hydrochloric acid 10%	: <b>Resistant</b>
Sulphuric acid 25%	: <b>Resistant</b>
Nitric acid 10%	: <b>Resistant</b>
Phosphoric acid 15%	: <b>Resistant</b>

### Aqueous solutions

Tap water	: <b>Resistant</b>
Sea water	: <b>Resistant</b>
Ground water	: <b>Resistant</b>
Sewage	: <b>Resistant</b>

Consult the local Fosroc office for specific recommendations to meet each operating condition.

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## Instructions for use

### Preparation

All surface to be treated with Nitocote NT550 must be clean and free from dust or loose material.

### Concrete surfaces

All laitance must be removed by grit blasting or other suitable removal methods.

Following the preparation of a concrete surface, care should be taken to ensure that any surface irregularities are filled with Nitomortar FC\* or Nitomortar FC(B)\*.

### Metal surfaces

All metal surfaces should be coated immediately after preparation. If this is not possible and to eliminate formation of rust, prime the metal surfaces using Nitoprime 25\*.

### Mixing

The contents of the resin can should be thoroughly stirred to disperse any possible settlement.

The entire contents of both the hardener and resin cans should be poured into a suitable sized mixing vessel.

It is recommended that the two components are mixed together mechanically using a slow speed electric drill fitted with a Fosroc Mixing Paddle (MR3). Mixing should be carried out continuously for 3 to 4 minutes, until a uniform consistency is achieved.

Although Nitocote NT550 is a non-solvented product, it is still recommended that mixing should take place in an open, well ventilated area.

### Application

A minimum 2 coat application is generally recommended to ensure a full, unbroken coating is achieved.

### Brush/Roller application

Once mixed, the material should be immediately applied, ensuring that a continuous coating is obtained. The first coat is applied to achieve a uniform coating with a wet film thickness not less than 200 microns, and should be allowed to dry for at least 2 hours at 35°C before the application of the second coat.

The second coat should be applied after 4 hours (at 35°C) from the application of the first coat. The second coat should be applied as above again achieving a wet film thickness not less than 200 microns.

### Spray application

Where large areas are to be coated, it is advisable to consider spray application. Consult the local Fosroc office for further details and recommendations.

### Cleaning

Tools and equipment should be cleaned with Fosroc Solvent 102\* immediately after use.

### Hot weather working practices

Whilst the performance properties of Nitocote NT550 at elevated temperatures are assured, application under such conditions can sometimes be difficult. It is therefore suggested that, for temperatures above 35°C, the following guidelines are adopted as a prudent working regime :

- (i) Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- (ii) Keep mixing and placing equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- (iii) Try to eliminate application in the middle of the day, and certainly avoid application in direct sunlight.
- (iv) For hand application, ensure that there are sufficient operatives available to complete application within the potlife of the material
- (v) Have a ready supply of Fosroc Solvent 102 available for immediate cleaning of tools after use.

### Repairing and overcoating

Any applications of Nitocote NT550 which have become damaged can be readily overcoated.

The existing surface should be well abraded, using a stiff wire brush, or similar, to ensure that a good mechanical bond will be achieved between the two layers.

Any loose material should be removed.

Overcoating works can then proceed as for new work, always ensuring that the prepared substrate is free from any moisture



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## Limitations

- Nitocote NT550 is formulated for application to clean sound substrates of steel or concrete; and where it can be protected from contact with water for the first 24 hours after application as discolouration could occur.
- Nitocote NT550 should not be applied over other existing coatings, but can be applied on top of itself (see above).
- For cold weather working (down to 5°C), it is recommended that materials are stored in a heated building and only removed immediately before use. Accelerated heating methods are not to be utilised under any circumstances.

## 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

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Nitocote NT550 : 10 litre packs

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Nitoprime 25 : 1 and 4 litre packs

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Fosroc Solvent 102 : 5 litre packs

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### Coverage

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Nitocote NT550 : 5.0 m<sup>2</sup>/litre @ 200 microns wft (per coat)

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Nitoprime 25 : 5.0 m<sup>2</sup>/litre

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**Note :** Coverage figures quoted are theoretical, and based upon application to a properly prepared substrate of nominal C30 concrete.

Since application conditions vary greatly due to substrate porosity, quality of surface preparation, application thickness and wastage factors, the on-site figures may vary from those shown above.

## Storage

Nitocote NT550 supplied in 10 litre packs have a shelf life of 12 months, when stored in warehouse conditions below 35°C

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## Fosroc Chemicals (India) Pvt. Ltd.

### Head Office

"Sapthagiri Palace", No.38,  
II & III Floor, 12th Cross,  
CBI Road, Ganganagar North,  
Bangalore 560 032

### Important note :

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### telephone

++91 80-23551500

### fax

++91 80-23551510

### e-mail

enquiryindia@fosroc.com

### Regional Offices

#### Bangalore

"Sapthagiri Palace", No. 38  
II & III Floor, 12th Cross,  
CBI Road, Ganganagar North,  
Bangalore 560 032.  
Ph:080-23551500  
Fax : 080-23551510

#### Mumbai

1401/1402, 14floor,  
A-Wing 'The Great Eastern Summit'  
Sector-15, CBD, Belapur  
Navi Mumbai 400 614  
Ph: 022 -43406800-04

#### Delhi

D-166 Sector 10  
Noida,  
UP 201 301  
Ph:0120-4270620  
Fax: 033-2499-0280

#### Kolkata

304, Jodhpur Park  
Kolkata 700 068  
Ph:033-65343188