Fosroc®
Nitocote® EP410

constructive solutions

Highly chemical resistant, solvent free, epoxy coating for concrete and steel in applications such as sewer and chemical bund areas

Uses

To provide protection to concrete and steel structures in aggressive chemical exposure or immersion conditions. The material is particularly suitable for applications in process plants and sewage works.

Advantages

- Excellent chemical resistance
- Excellent adhesion and film build to SSD concrete and steel
- Excellent abrasion resistance
- Easily applied by brush, roller or suitable airless spray equipment

Description

Nitocote EP410 is a high build, solvent free, two pack epoxy formulation. It is supplied in pre-measured quantities ready for site mixing and use.

Nitocote EP410 is available in Grey (N35 Light Grey AS Grade 2 match) and White (N11 White AS Grade 2 match).

Note: Care is taken to ensure that colours manufactured under our modern process are as close as possible to Australian Standards reference samples. However, it should be noted that no guarantee can be given of exact colour matching.

Design Criteria

Nitocote EP410 is designed to be applied in 2 coats to achieve a minimum total dry film thickness of 300 microns. When necessary, Nitocote EP410 can be used in conjunction with glass fibre reinforcement to bridge fine cracks. In particularly aggressive environments 3 coats at 150 microns to achieve a dft of 450 microns may be required.

Properties

Solids content:	100%
VOC content:	5g / litre (ASTM D3960)
Viscosity:	Pourable, spreadable liquid
Mix ratio:	200g base : 43g hardener (w:w)
Pot life:	40 minutes @ 20°C 25 minutes @ 35°C Usable pot life time on site will be greatly reduced if the product is mixed and left in the can - exothermic reaction will occur. (refer to Mixing section)
Tack free time:	4 - 8 hours @ 20°C
Initial hardness time:	24 hours @ 20°C
Full cure time:	7 days @ 20°C
Minimum application temperature:	10°C
Bond strength:	Dry concrete: 3 MPa SSD concrete: 3 MPa
Chemical resistance:	Phosphoric acid 25% Hydrochloric acid 25% Nitric acid 25% Sulphuric acid 25% Tartaric acid 15% Sodium Hydroxide 25% Saturated Citric acid Petrol Kerosene Saturated salt Fosroc should be consulted in respect of other chemicals, or at operating temperatures greater than 50°C.

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Application Instructions

Preparation

Concrete surfaces

All surfaces must be dry or surface saturated dry, smooth, sound and free from debris and loose material. Surfaces must be free from contamination such as oil, grease, dust, loose particles and organic growth. Concrete surfaces must be fully cured, laitance-free and free from any traces of shuttering release oils and curing compounds.

All surfaces should then be grit blasted to remove all foreign matter, open up blow holes and provide a suitable key for Nitocote EP410.

All blow holes and imperfections should be filled with Nitomortar AP allowed to harden and then sanded/ground back if required.

Alternatively, blow holes maybe repaired with a high strength cement based mortar such as Renderoc HB70, allowed to harden overnight, then ground back. The repair area then primed with Nitomortar 903 and allowed to harden before proceeding with application of the Nitocote EP410.

For application on very porous concrete a prime coat of Nitomortar 903 or an additional coat of Nitocote EP410 may be required.

Steel surfaces

All surfaces should be grit blasted to meet the requirements of AS1627.4 Class 2.5. The lining work should be programmed so that newly cleaned steel is coated before the reformation of rust or scale.

Mixing

The contents of the base can should be stirred thoroughly to disperse any settlement. The entire contents of the hardener can should be stirred and added to the base container and mixed thoroughly until a uniform colour and consistency are obtained, taking particular care to scrape the sides and bottom of the container.

It is recommended that mechanical mixing be employed using a suitable mixer on a heavy duty, slow speed electric drill for 3 to 5 minutes.

In cold weather, materials should be stored between 15°C to 20°C for 24 hours before use.

Mixing part packs

It is recommended that full packs be mixed, however for applications where smaller quantities of product are required, experienced applicators may elect to mix part packs using the mix ratio shown in the Properties section of this document. In doing so the contractor accepts the risk of any off-ratio mixing.

Reliable scales should be used to weigh out individual components.

IMPORTANT: Once mixed the product should be poured into flat, open paint trays to maximise pot life working time. Holding the product in the original mixing can will lead to an exothermic reaction which will significantly reduce the pot life.

Application

In order to obtain the protective properties of Nitocote EP410, it is important that the correct rates of application and overcoating times are observed.

Number of coats:	2
Theoretical application rate per coat:	0.15 litres per m²
Theoretical wet film thickness per coat:	150 microns
Overcoating times	
@ 10°C:	18 - 72 hours
@ 20°C:	8 - 48 hours
@ 30°C:	4 - 24 hours
Fully cured	
@ 10°C:	14 days
@ 20°C:	7 days
@ 30°C:	7 days

If the coating is exposed to moisture during it's cure period (e.g. condensation, dew) it should be mechanically roughened prior to overcoating (e.g. lightly sanded and cleaned). Failure to provide a suitable mechanical key under these conditions can result in delamination of the overcoat.

The minimum application temperature is 10°C.

All prepared surfaces should be treated with 2 coats of Nitocote EP410. The mixed material should be applied by roller or airless spray equipment to achieve a uniform coating with a wet film thickness not less than 150 microns per coat. Any movement joints in the structure should be expressed through the coating and sealed with an appropriate sealant.

Use of glass fibre reinforcement

Nitocote EP410 may be used in conjunction with glass fibre cloth where necessary, to bridge fine cracks in the substrate. The cloth should be laid directly on the first coat whilst wet and should be pressed in and smoothed out with a stiff nylon brush or split washer roller. A second coat should then be applied, allowing no more than 48 hours at 20°C and no more than 24 hours at 30°C between coats, and again achieving a wet film thickness not less than 150 microns.

Suitable cloth is open weave 110g/m² glass cloth.

Cleaning

Nitocote EP410 should be removed from tools and equipment with Fosroc Solvent 10 immediately after use. Cured material can only be removed mechanically.

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Limitations

Nitocote EP410 is formulated for application to clean, sound concrete and steel. It should not be applied over existing coatings. Application should not be undertaken if the temperature is below 10°C or is 10°C and falling, nor when the prevailing relative humidity (RH) exceeds 90%.

Nitocote EP410 is designed as an industrial coating product and is not colour fast therefore may change colour over time (exhibit a yellowing effect). Colour change depends on the UV light and heat levels present and hence the rate of change cannot be predicted. This colour drift does not compromise the product's perfomance or chemical resistance.

Supply

Nitocote EP410 is supplied in 8 litre 2 component packs

Nitocote EP410 Grey Base:	FC800000-6.1L
Nitocote EP410 White Base:	FC853050-6.1L
Nitocote EP410 Hardener:	FC800005-1.9L
Fosroc Solvent 10:	4 and 20 litre cans

Coverage

Nitocote EP410:	6.5m² / litre / coat (2 coats required)

The coverage figures are theoretical – due to wastage factors and the variety and nature of possible substrates, practical coverage figures may be substantially reduced.

Coverage figures obtained with the first coat will be heavily influenced by the nature of the substrate and its preparation.

When this product is applied at lower temperatures, coverage figures will be reduced. When estimating, substrate condition and application temperature need to be considered and material allowances made.

Storage

Nitocote EP410 should be kept in a dry store in the original, unopened containers between 5°C and 30°C .

If stored at high temperatures, the shelf life may be reduced.

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