

Solvent free, two component epoxy coating system for potable water retaining structures

Uses

For lining and waterproofing potable water retaining structures and surfaces. The cured film is corrosion, chemical and abrasion resistant and is suitable for application to reservoirs, water treatment works, water tanks, silos, breweries, meat and food processing plants. The cured film is non toxic and meets the requirements of AS 4020.

Advantages

- High build application
- Solvent free - suitable for use in confined areas
- Can be applied directly to prepared mild steel and concrete
- Smooth, satin, easy to clean surface
- Corrosion, chemical and abrasion resistant
- Can be applied to damp SSD surfaces
- Complies to AS 4020

Standards Compliance

Nitocote EP405 complies to AS 4020 - at an exposure level of 15,000 mm² per litre.

Description

Nitocote EP405, a coating for potable water retaining structures, is a two pack, solvent free, epoxy resin material. It is supplied in pre-measured quantities ready for site mixing and use. The material cures to provide a smooth, hygienic and tough finish which is suitable for contact with potable water and foodstuffs. It is available in blue and white.

Design Criteria

Nitocote EP405 is designed to be applied in 2 coats to achieve a minimum total dry film thickness of 400 microns. To achieve the correct protective properties, Nitocote EP405 must be applied on to the substrate at the coverage rates recommended.

Specification Clauses

Potable water/waterproofing lining

The tank/reservoir lining shall be Nitocote EP405, a two pack epoxy coating specifically designed for contact with potable water. The cured film shall comply in all respects with the requirements of AS 4020 at an exposure level not less than 10,000 mm² per litre and be listed in the Sydney Water directory of Authorised Products & Materials for contact with potable water.

Properties

Volume solids:	100%
Viscosity:	Pourable, spreadable liquid
Mix ratio (W:W):	200g base: 30g hardener
Pot life @ 20°C: @ 35°C:	Lab conditions 30 - 40 minutes 10 - 15 minutes
Pot life note:	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)

Contact Fosroc for advice on resistance to specific chemicals.

Application Instructions

Preparation

Concrete surfaces

All surfaces must be smooth, sound and free from debris, loose or flaking material and areas of standing water. 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, and provide a suitable key for Nitocote EP405.

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 EP405.

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 as soon as possible 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 added to the base container and mixed thoroughly until a uniform consistency is obtained, taking particular care to scrape the sides and bottom of the container. It is recommended that mechanical mixing be employed, using a helical mixer on a heavy duty, slow speed electric drill for 3 to 5 minutes.

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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 EP405, it is important that the correct rates of application and overcoating times are observed.

Number of coats:	2
Theoretical application rate per coat:	0.2 litres per m ² 5m ² / litre
Theoretical wet film thickness per coat:	200 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 its cure period (e.g. condensation, dew) it should be mechanically roughened prior to overcoating (e.g. lightly sanded). Failure to provide a suitable mechanical key under these conditions can result in delamination of the overcoat.

The minimum application temperature is 10°C. The maximum application temperature is 30°C.

All surfaces should be treated with 2 coats of Nitocote EP405.

The thoroughly mixed material should be applied with a suitable brush, roller or airless spray.

The first coat must be firmly applied, ensuring a uniform coating with a wet film thickness not less than 200 microns. The first coat should be allowed to dry for not less than 8 hours and not more than 48 hours at 20°C.

The second coat should be applied exactly as above, again achieving a wet film thickness not less than 200 microns.

Nitocote EP405 can be sprayed using an airless spray system such as a Graco 55:1 unit operating a 3000 psi pressure and fitted with a spray tip size of 25 "thou". Consult Graco for further advice on spray application.

For ease of overcoating and visual inspection, it is recommended that the first coat be white and the second coat blue, or vice-versa.

For cold weather working, it is recommended that Nitocote EP405 be stored in a heated building and removed immediately before use. At lower temperatures, workability of Nitocote EP405 will deteriorate, and the applied product will take longer to cure.

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.

Cleaning

Nitocote EP405 should be removed from tools and equipment with Fosroc Solvent 10 immediately after use. Cured material can only be removed mechanically.

Limitations

Nitocote EP405 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 exceeds 90%.

Although Nitocote EP405 may be applied to SSD damp concrete, there must be no standing or running water.

Nitocote EP405 is not colour stable when exposed to direct sunlight nor when in contact with some chemicals.

On curing Nitocote EP405, the final colour can vary with curing conditions, and in adverse conditions such as low temperature and/or high humidity, a white bloom may appear on the surface. However, this does not affect the protective performance of the coating.

Supply

Nitocote EP405 is supplied in 8 litre 2 component packs.

Nitocote EP405 White Base 6.5L	FC800010-6.5L
Nitocote EP405 Blue Base 6.5L	FC800020-6.5L
Nitocote EP405 White/Blue Hardener 1.5L	FC800015-1.5L

Fosroc Solvent 10: 4 and 20 litre cans

Coverage

Nitocote EP405: 5m² / litre / coat

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

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Storage

Nitocote EP405 should be kept in a dry store in the original, unopened packs between 5°C and 30°C.

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

Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.



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