Fosroc® Nitocote EP410

Technical Data Sheet

Highly chemical resistant, solvent free, epoxy coating system, for concrete and steel applications 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 roller or airless spray

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 grey in colour. White is also available.

Technical Support

Parchem offers a comprehensive range of high performance, high quality products. In addition, Parchem offers a technical support service to specifiers, end users and contractors, as well as on-site technical assistance.

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

Volume solids:	100%
Viscosity:	Pourable, spreadable liquid
Pot life @ 20°C: @ 35°C:	 40 minutes 25 minutes
Cure time @ 20°C	4 - 8 hours - tack free 24 hours - initial hardness 7 days - full cure
Minimum application temperature:	10°C
Typical bond strength:	Dry concrete: 3 MPa SSD concrete: 3 MPa
The fully cured coating is resistant to:	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

Your local Parchem sales office should be consulted in respect of other chemicals, or at operating temperatures greater than 50°C.

Specification Clauses

Chemical and abrasion resistant lining

The chemical and abrasion resistant coating shall be Nitocote EP410, a high build, two pack epoxy system specifically designed to provide a tough and impermeable film.

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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 BH.

Steel surfaces

All surfaces should be grit blasted to meet the requirements of AS1627.4 Calss 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. In cold weather, materials should be stored between 15°C - 20°C for 24 hours before use.

Application

In order to obtain the protective properties of the Nitocote EP410 system, 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). 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 a 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 110 g/m² glass cloth.

Cleaning

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

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 not colour stable when exposed to direct sunlight, nor when in contact with some chemicals.

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Estimating

Supply

Nitocote EP405: 8 litre pack

500000 Nitocote EP410 Grey Base 8L Pack
500005 Nitocote EP410 Hardener 8L Pack

Solvent 10: 4 and 20 litre cans

Coverage

Nitocote EP410: 6.5 m² / 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

Shelf life

All products have a shelf life of 12 months if kept in a dry store between 5°C and 30°C in the original, unopened containers.

Storage conditions

Storage in dry conditions at temperatures between 5°C and 30°C in the original, unopened containers. If stored at high temperatures, the shelf life may be reduced.

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