



constructive solutions

Nitocote EP403

Damp-tolerant, solvent free epoxy resin coating

Uses

As a protective coating for concrete and mild steel. The cured film is corrosion, chemical and abrasion resistant and is suitable for application to sewage works, marine environments, basements and tunnels. It is particularly useful where concrete surfaces are damp and cannot be dried out.

Advantages

- High build application
- Suitable for use in confined areas
- Can be applied directly to mild steel and concrete
- Smooth, glossy, easy to clean surface
- Corrosion, chemical and abrasion resistant
- Can be applied to damp surfaces

Description

Nitocote EP403 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, tough and resistant finish. It is available in light grey.

Technical support

Fosroc offers comprehensive technical support, including help at the design stage, application advice and on the site problem solving. Specifiers and contractors are encouraged to contact our trained staff for answers to their questions.

For further information please contact Fosroc.

Design criteria

Nitocote EP403 is designed to be applied in two coats to achieve a minimum total dry film thickness of 400 microns. To achieve the correct protective properties, Nitocote EP403 must be applied on to the substrate at the coverage rates recommended.

Typical Properties

Volume solids:	100%
Viscosity:	Pourable, spreadable liquid
Pot life –	
@ 20°C:	30-40 minutes
@ 35°C:	10-15 minutes

The fully cured film

is resistant to:	Distilled water
	Petrol
	Xylene
	50% sulphuric acid
	Saturated sodium chloride
	50% sodium hydroxide

The local Fosroc office should be consulted for resistance to specific chemicals.

Specification clauses

Corrosion, chemical and abrasion resistant lining

The chemical and abrasion resistant coating shall be Nitocote EP403, a solvent free epoxy, specifically designed for application to damp surfaces and to provide a tough, impermeable and resistant film.

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 EP403.

All blow holes and imperfections should be filled with Nitomortar FC. See separate data sheet for pot life and overcoating time.

Steel surfaces

Any steel surfaces should be grit blasted to meet the requirements of Swedish Standard SA2.5 or equal. The lining work should be programmed so that newly cleaned steel is coated as soon as possible before the formation of rust or scale.

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Mixing

The contents of the base should be stirred thoroughly to disperse any settlement. The entire contents of the hardener 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 Jiffy mixer on a heavy duty, slow speed electric drill.

Application

Number of coats:	2
Theoretical application rate per coat:	0.2 litres per m ²
Theoretical wet film thickness per coat:	200 microns
Overcoating times –	
@ 5°C:	18-48 hours
@ 20°C:	6-18 hours
@ 30°C:	3-9 hours
Time taken to fully cure –	
@ 5°C:	14 days
@ 20°C:	7 days
@ 30°C:	7 days

The minimum application temperature is 5°C.

All surfaces should be treated with two coats of Nitocote EP403.

The thoroughly mixed material should be applied with a suitable brush.

The first coat must be firmly applied and be well scrubbed into the surface, 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 6 hours and not more than 18 hours at 20°C.

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

For cold weather working, it is recommended that Nitocote EP403 be stored in a heated building and removed immediately before use, as workability deteriorates and curing times increase at lower temperatures.

A tropical grade version of Nitocote EP403 is available for working at elevated temperatures.

Cleaning

Nitocote EP403 should be removed from tools and equipment with suitable solvent immediately after use. Cured material can only be removed mechanically.

Limitations

Nitocote EP403 is formulated for application to clean, sound concrete and steel.

Nitocote EP403 should not be applied over existing coatings.

Application should not be undertaken if the temperature is below 5°C, or is 5°C and falling, nor when the prevailing relative humidity exceeds 90%.

Although Nitocote EP403 may be applied to damp concrete, there must be no standing or running water.

Nitocote EP403 is not colour stable when exposed to direct sunlight nor when in contact with some chemicals.

The final colour of cured Nitocote EP403 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 performance of the coating.

Estimating

Supply

Nitocote EP403: 4 litre packs

Coverage

Nitocote EP403: 5 m² per litre per coat

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

Note: In accordance with Commercial or Health & Safety requirements packaging detail may alter. Please contact your local Fosroc office for detail.

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

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



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Precautions

Health and safety

Nitocote EP403 should not come in contact with the skin and eyes, or be swallowed. When using solvent ensure adequate ventilation and avoid inhalation of vapour. Some people are sensitive to resins, hardeners and solvent. Wear suitable protective clothing, gloves and eye protection. The use of barrier creams provides additional skin protection. In case of contact with the skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately – do not induce vomiting.

Fire

Nitocote EP403 is non-flammable.

For further information see relevant Material Safety Data Sheet.

Additional information

Fosroc manufactures a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete. This includes hand-placed and spray grade mortars, fluid micro-concretes, chemical resistant epoxy mortars and a comprehensive package of protective coatings. In addition, a wide range of complementary products are available. This includes joint sealants, waterproofing membranes, grouts, anchors and specialised flooring materials.

Fosroc has produced several educational training videos which provide more detail about the mechanisms which cause corrosion within reinforced concrete structures and the solutions which are available to arrest or retard these destructive mechanisms.

For further information about products, training videos or publications please contact Fosroc.



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Nitocote is the trademark of Fosroc International Limited.



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