

Fosroc® Nitocote EP403



constructive solutions

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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
- 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
- Waterproof
- Provides protection against water vapour and ground gases such as radon, carbon dioxide and methane.


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.

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.

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Fosroc Ltd Drayton Manor Business Park, Coleshill Road, Tamworth, B78 3TL, UK 09 DoP: UK9-06 370-CPR-0845	
Nitocote EP403	
EN1504-2: Surface protection systems methods 1.3, 2.2, 5.1.6.1 and 8.2	
Abrasion resistance	< 3000 mg
Permeability to CO ₂	> 50 m
Permeability to water vapour	Class 1 < 5 m
Capillary absorption and permeability to water	< 0.1 kg/(m ² h ^{0.5})
Chemical resistance	Average decrease < 50% Shore Hardness
Impact resistance	Class III: ≥ 20 Nm
Adhesion strength by pull-off test	> 2.0 (rigid trafficked systems)
Fire Classification	A2
Dangerous substances	Complies with 5.3

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Properties

Volume solids:	100%
Viscosity:	Pourable, spreadable liquid
Pot life —	
@ 20°C:	30 to 40 minutes
@ 35°C:	10 to 15 minutes
The fully cured film is resistant to:	Distilled water Petrol Xylene 25% sulphuric acid Saturated sodium chloride 50% sodium hydroxide

The local Fosroc office should be consulted for resistance to specific chemicals, or operating temperatures greater than 20°C.

Application instructions

All coating work to be carried out in accordance with the relevant sections of BS6150:2006, Painting of Buildings - Code of Practice.

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.

Spalled surfaces, those containing large blow holes or surface imperfections should be repaired or rendered using a Fosroc approved repair mortar or render. Contact the local Fosroc office for further advice on suitable materials.

All surfaces should then be grit blasted to remove all foreign matter and open up all blow-holes, and provide a suitable key for Nitocote EP403.

All blow-holes and imperfections should be filled with Nitomortar FC. Consult the data sheet for pot life and overcoating time.

Steel surfaces

All surfaces should be grit blasted to meet the requirements of BS 7079 Sa2.5. The lining work should be programmed so that newly cleaned steel is coated as soon as possible before the formation 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 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 to 48 hours
@ 20°C:	6 to 18 hours
@ 30°C:	3 to 9 hours
Fully cured —	
@ 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.

Cleaning

Nitocote EP403 should be removed from tools and equipment with Fosroc Solvent 102 immediately after use. Cured material can only be removed mechanically.

Estimating

Supply

Nitocote EP403:	2.5 kg packs (1.5 litres)
Fosroc Solvent 102:	5 and 25 litre tins

Coverage

Nitocote EP403:	3 m ² per kg per coat (5 m ² per litre)
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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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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. On curing Nitocote EP403, 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 performance of the coating.

Storage

Store in dry conditions at temperatures between 5°C and 30°C in the original, unopened containers. Material from different batches shall be stored separately. Products have a shelf life of 12 months if kept in these conditions.

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

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet.

Fire

Nitocote EP403 is non-flammable.

Fosroc Solvent 102 is flammable. Keep away from sources of ignition. No Smoking. In the event of fire, extinguish with CO₂ or foam. Do not use a water jet.

Flash point

Fosroc Solvent 102:	33°C
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For further information, refer to the Product Safety Data Sheet.

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Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by it.

Fosroc Limited

Drayton Manor Business Park
Coleshill Road, Tamworth,
Staffordshire B78 3TL. UK

www.fosroc.com

telephone:
+44 0 (1827) 262222

fax:
+44 0 (1827) 262444

email:
enquiryuk@fosroc.com



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