

Fosroc® Nitocote® SN511



constructive solutions

(Previously known as Emer-Stop S100N)

Deeply impregnating, isobutyltriethoxysilane, water repellent and chloride ion protective treatment for concrete

Uses

A deeply penetrating treatment designed to protect concrete from both water and chloride ingress whilst still permitting water vapour transmission out of the structure. Nitocote SN511 is especially suitable for protecting concrete structures in marine and coastal environments.

Advantages

- Reduces water and chloride ingress
- Deep penetration into porous substrates
- Allows water vapour to escape from the structure
- Environmentally friendly - solvent free
- Exceptional alkali resistance
- Reduces the effects of Alkali-Silica reactive aggregates
- Increases freeze thaw resistance
- Minimises efflorescence
- Chemically resistant to ice melting compounds, fuels, oils and atmospheric contaminants

Description

Nitocote SN511 is a low viscosity colourless neutral liquid. It has a >98% active content of monomeric isobutyltriethoxy silane which, due to its low rate of hydrolysis, penetrates deeply into porous substrates, reacting to produce a bonded hydrophobic lining to the pores. In particular, being solvent free, the product is distributed with uniform high concentration practically throughout the entire penetrated area.

This treatment markedly reduces absorption of water and water-borne salts, but still permits passage of water vapour gas out of the structure.

The treatment is not affected by UV light and does not produce any discolouration of the substrate.

Design Criteria

Nitocote SN511 should be applied in a minimum of two flood coats. To achieve the correct penetration and protection Nitocote SN511 must be applied on the substrate at the coverage rates recommended.

Specification Clause

The penetrating water repellent treatment shall be Nitocote SN511 which has a >98% active content of monomeric isobutyltriethoxy silane, designed to produce a reduction in water uptake of >80% and a chloride resistance of >95%. In line with international standards the application of the IBTEO shall be tested using cores taken from site. Fosroc recommends testing to establish penetration depths.

Properties

The values obtained are for the Nitocote SN511 system applied at the minimum recommended application rate.

Specific gravity:	0.88 @ 20°C
Active component:	Isobutyltriethoxy silane
Purity:	>98%
Refractive index:	1.400
Viscosity:	<10.00 cSt @ 20°C
VOC content:	880 g / litre

Application Instructions

Pre-application testing

Prior to commencement of spraying, test areas should be marked out. Nitocote SN511 should be applied to these areas by the contractor. On completion of spraying these areas, core samples should be taken and the following test should be carried out.

Determination of depth of penetration of applied treatment by water uptake.

Preparation

Surfaces should be dry and free from contamination such as oil, grease, loose particles, decayed matter, moss, algal growth, laitance and all traces of mould oils and curing compounds.

Protect plants, glass, asphalt, bitumen, plastics and all painted surfaces prior to application.

Application

In order to obtain the penetrating properties of Nitocote SN511, it is important that the correct rates of application and overcoating times are observed

Number of coats:	Minimum 2 flood coats
Application rate per coat:	300 ml/m ² (3.33 m ² /litre)
Overcoating time:	6 hours

Nitocote SN511 is applied ready for use. Nitocote SN511 should be applied by saturation flooding working vertically from the bottom up. This is most easily achieved by high volume, low pressure spray (approx. 5-10 psi), using an outlet diameter of 5mm in such a way as to minimise atomisation.

For small areas, simple direct application by a watering can or back pack spray may be used.

Note: Nitocote SN511 must not be applied by brush.

When spray applied, some loss due to atomisation is unavoidable owing to the high wetting effect and low viscosity. This however is taken into account in the recommended application rate. Nitocote SN511 must remain in contact with the concrete surface to be treated as a liquid film for a few seconds.

Horizontal surfaces and soffit areas should have a mirror-like wet look for 5 seconds. On vertical surfaces a minimum run-down of 150mm must be visible with a mirror-like wet look for

Fosroc®

Nitocote® SN511

5 seconds. The interval between applications shall be 6 hours before continuing.

In tidal zones, application shall not commence until the tide has reached its lowest ebb. Application of the product shall slowly precede the rising tide allowing the longest possible drying period before application (see note * below).

Post application testing

During or on completion of the works the client will mark areas to be tested for depth of penetration by testing at a minimum rate of one core per 300m² of treated concrete.

Cleaning

Nitocote SN511 should be removed from tools, equipment and mixers with Fosroc Solvent 10 after use.

Limitations

Nitocote SN511 may hydrolyse with atmospheric moisture. Material from opened containers should be used within 48 hours or discarded.

* Hydrostatic pressure to concrete immersed at >300mm will force water molecules / dissolved chloride ions into the substrate through the silane.

Please note that the impregnation depth is influenced by several factors, e.g. formulation, humidity and porosity of the concrete as well as the level of surface preparation undertaken. In certain circumstances the penetration will not reach the levels that are expected due to one or more of the above factors.

Supply

Nitocote SN511 20 litre drum:	FC855155-20L
Nitocote SN511 200 litre drum:	FC855155-200L

Coverage

300 ml/m² per coat

3.33 m²/litre per coat

Note: these coverage figures are theoretical. Generally 2 coats are required, depending on the absorbency of the substrate.

Storage

Nitocote SN511 has a shelf life of 2 years if kept in a cool, dry conditions in the original, unopened packs. If stored at high temperatures and/or high humidity conditions 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.