

Fosroc® Nitocote® SN508 Creme



constructive solutions

(Previously known as Emer-Stop Creme)

Deeply impregnating, iso-octyltriethoxysilane, water dispersed, thixotropic creme, water repellent and chloride ion protective, clear treatment for concrete

Uses

A penetrating, thixotropic cream designed to protect concrete and masonry from both water and chloride ingress, while still permitting water vapour transmission. Nitocote SN508 Creme is particularly useful for impregnating the exposed surfaces of reinforced concrete used in bridges, wharves, roads, on all atmospherically exposed concrete buildings and structures.

Advantages

- Outstanding penetration
- Chemically bonds to concrete substrates
- Optimum resistance to alkalis
- Drastic reduction in capillary water absorption
- Low volatility, no application wastage
- Allows water vapour transmission
- Thixotropic, can be applied in windy / elevated temperature conditions, even to vertical and soffit applications
- Easy to supervise; clearly visible applied material, easily measured material thickness
- Water based, solvent free, environmentally friendly

Description

Nitocote SN508 Creme is a thixotropic, water dispersed emulsion of iso-octyltriethoxysilane for use as a penetrating water repellent treatment for concrete. Being a reactive silicone based product, it chemically bonds with concrete and masonry substrates and becomes invisible once dry. Its penetration and subsequent chemical reaction with the concrete allow it to provide long term protection for concrete by significantly reducing the ingress of liquid water and any dissolved salts that the water may carry. The high concentration of active ingredient (> 80%) is unique among other emulsion type silanes.

One of the most aggressive agents responsible for the breakdown of steel reinforced concrete in marine or coastal environments is chloride ions present in sea water and wind borne salt spray. Water soluble chlorides are able to penetrate the capillaries of unprotected concrete. When these chloride ions reach the reinforcing steel, corrosion will commence. Over time, the chloride-ion induced corrosion may affect the reinforcement steel's structural integrity.

Nitocote SN508 Creme works by penetrating the capillaries of the concrete, chemically reacting with the concrete to form a continuous hydrophobic coating over the surface. This hydrophobic (water repelling) coating prevents the ingress of liquid water carrying chloride ions.

The high concentration of active silane in Nitocote SN508 Creme combined with the low evaporation rate of the product, allows the maximum possible depth of penetration and protection to be achieved. Unlike other types of silane treatments, Nitocote SN508 Creme is highly visible at the time of application and can be easily applied to vertical or overhead soffit applications. The thixotropic nature of Nitocote SN508 Creme minimises waste and ensures that all of the silane applied to the substrate is available for penetration. This product application control is particularly important in ensuring the product is not lost into the environment, and can be used over waterways.

The highly visible nature of the product during application, allows an easy visual inspection to ensure that the entire surface has been covered. A single application of Nitocote SN508 Creme is usually sufficient. Application rates for Nitocote SN508 Creme may vary from 0.25 - 0.44 litres/m² depending on the porosity of the substrate. An application rate of 0.25 litres/m² will be sufficient for high quality off-form concrete with a high density and low absorption. An application rate of up to 0.44 litres/m² would be required for low quality porous concrete. On porous substrates a second application may be required.

After application, impregnated surfaces take on a whiteish appearance which clearly distinguishes them from untreated concrete providing a good visual indication of the uniformity of the application. The application thickness of the impregnant layer can be measured using a Wet Film Gauge. In response to the concrete quality and application rate, the active ingredient penetrates into the concrete within 30 minutes to several hours, and the milky white cream layer disappears completely.



Typical penetration depth of Nitocote SN508 Creme on porous concrete. 0.25 litres/m² gave 2 mm penetration. 0.44 litres/m² gave 4 mm penetration.

Penetration Depth

Nitocote SN508 Creme is formulated to provide the greatest penetration depth of the active ingredient into the concrete, and thus provide optimum protection against the absorption of water and harmful substances.

The tremendous penetration depth is a function of the thixotropic consistency of Nitocote SN508 Creme, which ensures a long contact time of the silane active ingredient with the concrete surface. It is also a function of the high concentration of active ingredient. The penetration depth naturally also depends on the quality of the concrete.

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Design Criteria

Nitocote SN508 Creme is best applied by airless-spray. A single application is usually sufficient. Depending on the absorbency of the substrate, up to 0.25 - 0.44 litres/ m² can usually be applied in a single operation - even to vertical surfaces and soffits - with minimal waste.

Properties

Specific gravity:	0.9 @ 25°C
Active component:	Iso-Octyltriethoxysilane
Concentration:	80%
pH value:	8
VOC content:	9 g / litre

Specification Clauses

Iso-Octyltriethoxysilane water repellent for concrete

The penetrating water repellent treatment shall be Nitocote SN508 Creme, which has a minimum 80% active silane content of Iso-Octyltriethoxysilane, designed to reduce capillary water absorption by more than 80%.

Parchem recommends independent concrete core testing to confirm the actual penetration depth.

Application Instructions

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.

It is best to wait at least two weeks for new concrete to cure and preferably four, before impregnating it with the application of Nitocote SN508 Creme

Cast-insitu and pre-cast concrete should be prepared using high pressure water cleaning to remove any concrete slurry covering the capillaries.

Remove coarse particles and dust from fresh, unsoiled surface with a brush or compressed air. Use superheated steam to clean weathered surfaces that are contaminated with oil or abraded rubber, etc, prior to treatment.

Only impregnate concrete that has a uniformly dry surface with no damp patches. Should it suddenly start to rain, stop treatment and cover the treated areas.

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

Application

Nitocote SN508 Creme is best applied to the concrete by the airless-spray technique, undiluted and at the required coverage rate. Brushes, lambskin rollers or a trowel may be used for smaller areas.

Up to 0.44 litres/m² may be applied in one operation to vertical surfaces and soffits. The exact amount depends on the absorbency of the substrate. If the concrete substrate is of a high strength and dense nature, hence not very absorbent, do not apply more than 0.25 litres/m² in one operation, as it may take several hours to penetrate completely. At higher application rates, the impregnating film may liquefy and there is a possibility that it may start to run. A second coat of Nitocote SN508 Creme may be applied, in order to achieve the desired coverage rate.

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 300 m² of treated concrete.



Nitocote SN508 Creme freshly applied



30 minutes after application



2 hours after application

Cleaning

Nitocote SN508 Creme should be removed from tools, equipment and mixers with clean water immediately after use.

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Limitations

Nitocote SN508 Creme may hydrolyse with atmospheric moisture. Material from opened containers should be used within 48 hours or discarded.

Note: Nitocote SN508 Creme is designed for application to atmospherically exposed concrete and is not suitable in submerged or semi-submerged applications.

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.

Estimating

Supply

Nitocote SN508 Creme 30 litre (25kg drum): FC855150-30L

Nitocote SN508 Creme 200 litre drum: FC855150-200L

Coverage and yield

0.25 - 0.44 litres/ m² per coat

4.00 - 2.25 m² / litre per coat

Note: these coverage figures are theoretical. Generally only one coat is required, depending on the absorbency of the substrate.

Shelf Life

Nitocote SN508 Creme has a shelf life of 24 months if kept in a dry store in the original, unopened pails.

Storage

Store in tightly closed original containers between 0°C and 30°C. The "Best use before" date on each lot is shown on the product label.

Important notice

A Safety Data Sheet (SDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. 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.

