



Fosroc Nitocote SR3000

High performance energy saving acrylic based roof and wall coating

Uses

Nitocote SR3000 is a high technology acrylic based roof coating formulated to provide solar reflectance i.e. to reflect back into the atmosphere most of the infrared and visible light striking the surface of the coating. It is ideal for structures in need of protection from intense heat build up from the sun.

Nitocote SR3000 is suitable for use on all types of structures, including those in coastal environments. It is also equally suitable as an insulating and light reflective coating for external and internal applications.

Advantages

- Save cooling energy – reduce heat build up in structures and improves light reflectivity
- Flexible, can accommodate thermal movements.
- Special formulation minimises dirt retention.
- UV resistant with high resistance to the effects of long term weathering.
- Friendly to the environment, Water based.

Technical support

Fosroc offers a comprehensive range of high performance, high quality products suitable for use within all aspects of the concrete repair and protection industry. In addition, the company offers a technical support package to specifiers, end users and contractors, as well as on-site assistance all over the world.

Standards compliance

Nitocote SR3000 has been tested in accordance with ASTM E-903, TNO report DMP-RPT-02-0219.

Description

Nitocote SR3000 is a high build, flexible coating based on pure aliphatic acrylic polymer and filled with micro-spheres. Surfaces that are coated with Nitocote SR3000 are able to re-radiate heat back into the atmosphere, preventing heat build-up that would need extra interior insulation to compensate. Nitocote SR3000 provides a surface with low dirt pick-up characteristics, resistance to aggressive UV radiation and rain.

Design criteria

Nitocote SR3000 should be applied in two coats to achieve a total dry film thickness of not less than 360 microns.

Properties

Volume solids	: 60%
Specific Gravity	: 1.15
Adhesion force (ASTM D-4541):	
Concrete	: >1MPa
Aluminium	: >1MPa
Galvanized steel	: >1MPa
Dust-free time (ASTM D-1640)	: 4 hours @ 23°C 2 hours @ 40°C
Full cure	: 7 days @ 23°C 5 days @ 40°C
Gouge hardness (ASTM D-3363)	
	: H
Solar Energy reflectance (ASTM E-903):	
Total Spectrum	: 83%
NIR Spectrum	: 86%
Solar Reflective Index (ASTM E1980)	
	: 107
Artificial Weathering (ASTM G-53, 3000 h)	: No Change
Tensile strength (ASTM D-412)	: 3.0 MPa
Elongation (ASTM D-412)	: 25%
Tear resistance (ASTM D-1004)	: 12.0 N/mm
Crack bridging capability (ASTM C-836, Modified)	: 1.0 mm

Specification clauses

Re-radiating Roof and Wall coating

The re-radiating roof and wall coating will be Nitocote SR3000, manufactured by Fosroc. It is a single component micro-spheres filled pure aliphatic acrylic coating suitable for application by brush or roller.

The total dry film thickness of the coating shall be not less than 360 microns for external applications and 240 microns for internal applications, and shall be capable of reflecting solar energy by 83% if tested in accordance with ASTM E-903.

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Application instructions

Preparation

All 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 release oils and curing compounds. For concrete substrates, this is best achieved by lightly grit blasting the surface. Where moss, algae or similar growths have occurred, treatment with a proprietary biocide should be carried out after the grit-blasting process.

Where application over existing sound coatings is required, trials should be conducted to ensure compatibility and retention of the bond between the under-laying coating and the substrate. For further advice, consult the local Fosroc office.

It is essential to produce an unbroken coating of Nitocote SR3000. To ensure this is achieved on concrete substrates, surfaces containing blow-holes or similar areas of pitting should first be filled using Renderoc FC*; a cementitious fairing coat (for further details, refer to separate data sheet).

Application

In order to obtain the reflective properties of Nitocote SR3000, it is important that the correct rates of application and over-coating times are observed.

Number of coats	: 2
Theoretical application rate per coat	: 0.30 litres/m ² - external : 0.20 litres/m ² - internal
Minimum wet film thickness per coat	: 300 microns - external : 200 microns - internal

Application of Nitocote SR3000 should not commence if the temperature of the substrate is below 5°C.

Any areas of glass should be masked. Plants, grass, joint sealants, asphalt and bitumen-painted areas should be protected during application.

All the substrates should be treated with two coats of Nitocote SR3000. It is important that no gaps or 'raw edges' appear in the finished coating. Special care should be taken to provide an unbroken coating at external corners and similar exposed protrusions. The first coat should be applied to all areas by the use of suitable brushes or rollers to achieve a uniform coating with a wet film thickness not less than 300 microns. This coat should be allowed to dry until firm to the touch. Typically, this will be after about 8 hours in dry weather at 23°C or 4 hours at 40°C.

The second coat of Nitocote SR3000 should be applied exactly as detailed above, again achieving a wet film thickness not less than 300 microns.

Cleaning

Renderoc FC and Nitocote SR3000 should be removed from tools and equipment with clean water immediately after use.

Limitations

Nitocote SR3000 is formulated for application to clean, sound concrete, aluminium or galvanized steel. Where application over existing sound coatings or paints is required, trials should be conducted to ensure compatibility and retention of the bond between the underlying coating and the substrate. For further advice, consult the local Fosroc office.

Nitocote SR3000 should not be applied where there is a likelihood of exposure to frost within 48 hours of the application. The product should not be applied in windy conditions where early-age dust adhesion may occur, or where rain is likely within 3 hours at 23°C or 5 hours at 40°C (up to 75% RH).

Estimating

Supply

Renderoc FC	: 25 kg bags
Nitocote SR3000	: 15 litre drums

Coverage

Renderoc FC	: 15 litres (5 m ² at 3 mm thickness)
Nitocote SR3000	: 1.66 m ² /l (total) - external 2.5m ² /l (total) - internal

The coverage figures given are theoretical – due to wastage factors and the variety and nature of possible substrates. Practical coverage figures will be reduced.



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Storage

Shelf life

All products have a shelf life of 12 months if kept in a dry store in the original, unopened containers.

Storage conditions

Store in cool, dry conditions, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced. Dekguard Elastic should be protected from frost.

Precautions

Health and Safety

Renderoc FC contains cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. 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.

Nitocote SR3000 should not come in contact with the skin and eyes, or be swallowed. Wear suitable protective clothing, gloves and eye protection. The use of barrier creams provide additional skin protection. In case of contact with 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

Renderoc FC and Nitocote SR3000 are non-flammable.

Nitocote SR3000*

Additional Information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Fosroc additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc office - as below.

* Denotes the trademark of Fosroc International Limited

† See separate data sheet



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 Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

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