Fosroc Nitoproof 600

constructive solutions

Liquid applied single component elastomeric waterproofing membrane

Uses

The high elasticity, excellent bond and low water permeability of Nitoproof 600 make it ideal for a wide range of water/vapour proofing applications such as foundations, basements, tunnels, ground floors, suspended floors, car decks, roof terraces, balconies, patios, bridges, precincts, inspection pits, water retaining structures (not potable water), sewage works, and inverted roofs. The excellent chemical resistance of Nitoproof 600 makes it particularly suitable for tanking applications in areas where aggressive ground water conditions prevail.

Advantages

- One component; ready to apply direct from the can
- Liquid application means details are simplified and there are no joints in the membrane
- Highly elastic, cures to give a permanently flexible resilient barrier over a wide range of temperatures
- Rapid installation; significantly reduces time spent on preparatory works and detailing
- Excellent adhesion, can be applied to a wide range of substrates. Continuous adhesion prevents lateral migration of water
- Impervious - outstanding barrier properties ensure protection against corrosive soil conditions
- Thermally stable - irreversible chemical cure eliminates melting and flow at high temperature
- Excellent resistance to oxidation and embrittlement
- Mechanical damage to the membrane can be easily repaired by spot application
- Ideal as a water/vapour barrier

Standard compliance

Nitoproof 600 meets the requirements of ASTM C836-84.

Description

Nitoproof 600 single component pitch modified polyurethane cures by reaction with atmospheric moisture to give a tough elastomeric waterproof membrane. It is supplied in a single grade to meet all site application methods and requirements.

Nitoproof 600 is a medium viscosity grade (approximately 600 poise) for roller, squeegee or spray application to horizontal and vertical surfaces.

Properties

Time to full cure @ 25°C	:	48 hours @ 1.3mm thickness

Typical cured membrane properties (at 28 days)

Elongation (ASTM D412)	:	620 %
Tensile strength (ASTM D412)	:	1.5 N/mm^2
Tear resistance (ASTM D624)	:	10 N/mm
Water vapour transmission (ASTM E96)	:	0.57 $g/h/m^2$
Shore A hardness (ASTM D2240)	:	15 ± 5
Artificial weathering	:	No loss of flexibility after 4000 hours exposure
Service temperature (continuous ambient)	:	-40°C to 70°C

* 1ng = 10^{-12}kg

Chemical properties

Nitoproof 600 is unaffected by a range of mild acids, alkalis and water borne salts and is resistant to bio-deterioration.

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Instructions for use

Preparation

All surfaces to be waterproofed should be sound, clean and dry.

Concrete surfaces should have a light steel-trowel followed by a fine hair-broom or equivalent finish which is dry and free of dust, oil and other contaminants. All high spots should be removed.

Moss and lichen must be removed physically followed by treatment with fungicidal wash to kill any spores and inhibit further growth. After treatment wash down thoroughly with clean water and allow to dry.

All metal surfaces should be made clean of paint, oils, rust and other contaminants. Abrade to expose bright metal then wipe clean with Fosroc Solvent 102 prior to priming.

Priming

Priming is not normally required on good quality concrete substrates. However, absorbent surfaces such as porous concrete, sand/cement and cement boards will require sealing to prevent absorption of Nitoproof 600. This should be done using a 1:1 mixture of Nitoproof 600 and Fosroc Solvent 102. Use Nitoprime 32* as a primer for bituminous surfaces. All metal and PVC surfaces should be cleaned and abraded before priming.

Movement joints

All expansion and movement joints should be sealed with Nitoseal 220*†. When cured, Nitoseal Debonding Tape*† should be applied to the top surface of the sealant and the joint then overcoated with a 1.3mm thick application of Nitoproof 600 extending 150mm each side of the tape. Embed a 100mm or 150mm wide strip of Nitoproof Scrim*†, then allow to cure before general application.

Cracks

All shrinkage and non-moving structural cracks should be pretreated with not less than a 1.3mm coating of Nitoproof 600 extending 75mm either side of the crack. Allow to cure overnight before general application.

Right angle bends

All right angle bends must have a cant strip or coving detail installed. This may be formed in either sand & cement or Plastijoint*† and it must be bedded into a layer of Nitoproof 600, then given a reinforcing pretreatment by application of a 1.3mm thick coat extending 150mm either side of the coving. Whilst still wet, a 150mm wide strip of Nitoproof Scrim is embedded into the Nitoproof 600 as reinforcement (ensure thorough wetting).

All other angles, joints, protrusions and stress points should be pretreated with a heavy application of Nitoproof 600 extending 50-100mm either side of the detail. Reinforcement with Nitoproof Scrim is recommended where movement is possible.

Allow pretreatments to cure overnight before general application.

Application

Nitoproof 600 should be applied by brush, trowel, squeegee or airless spray (two coat application for standard grade on vertical surfaces) at a minimum wet film thickness of 1.3mm (1.3 litre/m^2). This is in addition to the preparatory work.

The first coat should be allowed to cure for a minimum of 24 hours at 25°C or until it becomes tack free prior to the application of the second coat. However, please note that the material should not be applied at temperature below 5°C.

The minimum application life (after opening the pack) is up to 48 hours if stored in closed containers.

During summer season and prolong storage it is recommended to agitate the material using slow speed mechanical mixer prior to use.

On a vertical surface a film build of 1.3mm is achievable in two coats. In critical applications where surety of film thickness is paramount, two coats should be applied at right angles to one another. Quantities per coat should be gauged to give the specified final film thickness.

A short haired synthetic pile roller should be used if applying by roller. For spray application, use a Graco King type pump with 60:1 ratio at pressure 5.5 bar (80 psi), hose diameter 13mm with a 10mm wip end. Tip size: 0.58mm - 0.84 (23-33 thou).

If a water test is to be run, the membrane should be fully cured.

Note: It it the nature of the product per design (given the high purity of the used polymer) to remain sticky for a number of day in which is related to the ambient temperature and humidity.

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Flood test

The second coat should be allowed to cure for a minimum of 2 days prior to flood test

Prior to placement of protection, flood to a minimum depth of 50mm of water for 24 hours. Drains shall be plugged and barriers placed to contain the water.

Curing and Protection

Nitoproof 600 membrane must be cured for a minimum of 24 hours @ 25°C before placing protection. Where damage to the membrane is possible (by traffic, backfilling, etc) it should be protected by a cementitious screed or protection boards. A dust coat of cement should be used to prevent adhesion of the membrane to the boards. Where a bond with the topping is not required, a separator sheet should be used.

To prevent damage to the membrane it is recommended that Nitoproof 600 is laid in strips of 1 metre width to permit the application of a screed or Protection Board from the uncoated area.

All exposed areas of Nitoproof 600 should be coated with Dekguard PU*† to ensure maximum resistance to ultraviolet radiation.

Cleaning

Tools and equipment should be cleaned with Fosroc Solvent 102 immediately after use. Do not use the solvent for thinning except where a sealing coat is required.

Limitations

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

Technical support

Fosroc offers a comprehensive range of high performance, high quality repair, maintenance and construction products.

In addition, Fosroc offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance in locations all over the world.

Estimating

Supply

Nitoproof 600	:	20 litre drums
Nitoprime 32	:	4.5 litre packs
Dekguard PU	:	20 litre containers
Nitoproof Scrim	:	1000 mm wide x 50 m long
Fosroc Solvent 102	:	5 and 25 litre containers

Coverage

Nitoproof 600	:	0.76 m^2/litre @ 1.3 mm
Nitoprime 32	:	10 m^2/litre @ 100 microns

Storage

Nitoproof 600 will have a minimum shelf life of 12 months if stored in normal warehouse conditions between 15 and 40°C. Protect from temperatures below 10°C.

Nitoprime 32 has a shelf life of 12 months if kept in a dry store in the original, unopened packs.

Precautions

Health and safety

Some people are sensitive to resin systems. Gloves and a barrier cream such as Kerodex Antisolvent, Rozalex Antipaint or Debba-Wet-Work should be used when handling these products. If contact with the resin occurs it must be removed before it hardens with a resin removing cream such as kerocleanse Standard grade Skin cleanser or Rozaklens Industrial Skin cleanser. Follow by washing with soap and water. **Do not** use solvent. The use of goggles is recommended but should accidental eye contamination occur, wash thoroughly with plenty of water and seek medical advice. Ensure adequate ventilation when using resin and solvent containing materials.

Fire

Nitoproof 600, Dekguard PU and Fosroc Solvent 102 contain flammable solvents. Do not use near an open flame or smoke during use.

Flash points

Nitoproof 600	:	>100°C
Dekguard PU	:	34°C
Fosroc Solvent 102	:	33°C

For further information, refer to the Product Material Safety Data Sheet.

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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

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