

Nitoproof 600 Standard

(formerly known as Nitoproof 600)



constructive solutions

Liquid applied single component elastomeric waterproofing membrane

Uses

The high elasticity, excellent bond and low water permeability of Nitoproof 600 Standard 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 Standard 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

Standard compliance

Nitoproof 600 Standard meets the requirements of ASTM C836-84

Description

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

Properties

Tack free time @ 25°C	: 15 hrs
Time to full cure @ 25°C	: 48 hours @ 1.3mm thickness
Typical cured membrane properties (at 28 days)	
Elongation (ASTM D412)	: >600%
Crack bridging	: 2mm
Specific gravity	: 1.5 to 1.55 g/cc
Tensile strength (ASTM D412)	: 1.5 N/mm ²
Modulus @ 100% elongation (ASTM D412)	: 0.62 N/mm ²
Recovery from 200% elongation (ASTM D412)	: 95%
Tear resistance (ASTM D624)	: 15 N
Water vapour transmission for 1.3mm film (ASTM E96)	: 9.7 g/m ² /24 hrs
Permeability (ASTM E96)	: 0.063 ng/m/sec/Pa*
Shore A hardness (ASTM D2240)	: 50
Artificial weathering	: No loss of flexibility after 4000 hours exposure
Extensibility after heat aging (min.requirement - extended to 6.4mm without cracking)	: No cracking or tearing
Service temperature (continuous ambient)	: -40°C to 70°C

* 1ng = 10⁻¹²kg

Note: The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary, dependent on actual site conditions.

Chemical properties

Nitoproof 600 Standard 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 Nitoflor Sol prior to priming

Priming

Priming is not normally required on good quality concrete substrate. However, absorbent surfaces such as porous concrete, sand/cement and cement boards will require sealing with Nitoproof WB Primer to prevent absorption of Nitoproof 600 Standard.

Nitoproof WB Primer is a two component product and must be mixed & applied in order to perform as specified. Transfer base and the hardener to a suitable fresh container and mix thoroughly with a slow speed mixer for 2 -3 minutes which makes the mix as a milky white paste. Add double the quantity of clean water by volume (4ltr water to 2ltr pack size, 12 liter water to 6ltr pack size) to the mix gradually under mixing which makes the mix as low viscous milky white liquid. Apply using a roller or brush. Do not apply on running or standing water. The application to be completed within 3 hour of mixing at 27 degree C. The mixed material should be periodically hand stirred if is kept idle for more than 15 minutes. The diluted primer should be applied at a coverage of 8-10 m²/litre, preferably using roller. The applied primer should be allowed to reach tack free condition (4 to 5 hours) before applying Nitoproof 600 Standard

Movement joints

All expansion and movement joints should be sealed with appropriate sealant. When cured, a 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 Standard 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 Standard 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 Standard, 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 standard as reinforcement (ensure thorough wetting).

All other angles, joints, protrusions and stress points should be pretreated with a heavy application of Nitoproof 600 Standard 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 Standard 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/m²). This is in addition to the preparatory work.

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

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.

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.



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Curing and protection

Nitoproof 600 Standard 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 Standard 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 Standard should be coated with Nitoproof Reflectacoat to ensure maximum resistance to ultraviolet radiation.

Cleaning

Tools and equipment should be cleaned with Nitoflor Sol 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 WB Primer	: 2 & 6 Litre
Nitoproof 600 Standard	: 19 litre drums
Nitoproof Reflectacoat	: 19 litre containers
Nitoproof Scrim	: 1000 mm wide X 50 m long
Nitoflor Sol	: 5 and 25 litre containers

Coverage

Nitoproof 600 Standard	: 0.76 m ² /litre @1.3mm
Nitoproof WB Primer	: 8 to 10M ² /Litre (After dilution)

Storage

Shelf life

Nitoproof 600 Standard has a shelf life of 12 months if kept below 25°C 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 kero-cleanse 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 Standard, Nitoproof Reflectacoat and Nitoflor Sol contain flammable solvents. Do not use near an open flame or smoke during use.

Flash points

Nitoproof 600 Standard	: 45°C
Nitoflor Reflectacoat	: 23°C
Nitoflor Sol	: 33°C

For further information, refer to the Product Material Safety Data

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

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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.



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Important note :

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification or 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 or information given by it.

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