

Nitoproof 600 PF

Pitch Free PU based Liquid applied single component elastomeric waterproofing membrane.

Uses

Nitoproof 600PF is used to provide a continuous, seamless, water and vapour proof membrane for concrete. Typical applications will include roofs, podiums, balconies, floor slabs, suspended floors, patios, bathrooms, inspection pits, swimming pools, bridge decks.

Advantages

- Non-toxic formulation
- Pitch free Polyurethane
- Cures to form a permanently flexible, resilient barrier over a wide range of temperatures
- Root Resistance*
- Excellent continuous adhesion to concrete prevents lateral water migration
- Irreversible chemical cure does not permit melting or flow of film at elevated ambient temperatures
- Capable of bridging substrate cracks up to 2mm
- Easy to apply, requires no special equipment

* Protection screed required

Description

Nitoproof 600PF is a single component pitch free PU based liquid polyurethane. It cures by reaction with atmospheric moisture to form a tough, elastomeric, waterproof membrane. Nitoproof 600PF is designed for use on horizontal and vertical surfaces, covered by a protective screed or render.

Technical support

Fosroc offers comprehensive technical support, including help at the design stage, application advice and on site problem solving. Specifiers and contractors are encouraged to contact our trained staff for answers to their questions.

For further information please contact Fosroc

Typical Properties

Colour	: Dark Green 25 kg pack : Black 20 kg pack
Application temperature range	: 5°C to 50°C
Service temperature range	: -40°C to +70°C
Tack free time @ 25°C	: 5 hours
Specific gravity	: 1.50 ± 0.1
Viscosity	: 50 to 100 P
Solids content(%)	: 85 Minimum

Typical results from membrane cured for 28 days:

Elongation (%) (ASTM D412)	500 to 700
Tensile Strength (N/mm ²) (ASTM D412)	2
Adhesion in-peel test (N) (ASTM C836)	>50N
Recovery from elongation (%) (ASTM D412)	95
Tear resistance (kN/m) (ASTM D624-00)	15
Water vapour transmission 2.3mm film (g/m ² /hr)	0.6
Initial hardness (Shore A) (ASTM D2240)	60
Water permeability@ 5 bar, mm (BSEN 12390)	Nil
Chemical resistance	Unaffected by mild acids, alkalis and water borne salts. Does not biodegrade.
Crack bridging (ASTM C836 / ASTM C1305 modified)	2mm

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

Specification clauses

Supplier Specification

Where shown on the drawings, the liquid applied, elastomeric polyurethane waterproof membrane shall be Nitoproof 600PF obtained from Fosroc. It shall be used in accordance with the manufacturer's current application instructions.

Performance Specification

The liquid applied, elastomeric waterproofing membrane, where shown on the drawings, shall be made of hydrocarbon free polyurethane. The membrane when cured shall be capable of an extension of not less than 500%. Its tensile strength shall be 2N/mm² and the water vapour transmissions shall be less 0.6g/m²/hour. It shall be used in accordance with the methods given in the manufacturer's data sheet.

Application instructions

Surface preparation and Priming

All surfaces to be waterproofed should be clean, sound 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 treat-

Nitoproof 600PF

ment 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 prior to priming.

Priming

Nitoproof WB Primer must be applied on prepared surface before application of Nitoproof 600PF.

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 (2:1) (4ltr water to 2ltr Nitoproof WB Primer, 12 liter water to 6 liter Nitoproof WB Primer 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 it 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 600PF. The application of Nitoproof 600PF should be completed before 16 hours @ 27degC from the time of application of Nitoproof WB primer

Movement Joints

All expansion and movement joints should be sealed with Nitoseal series. When cured, Nitoseal Debond Tape should be applied to the top surface of the sealant and the joint then overcoated with a 1.5mm thick application of Nitoproof 600 PF 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 pre-treated with not less than 1.5 mm coating of Nitoproof 600PF extending 75mm either side of the crack. Allow to cure before general application.

Right Angle Bends

All right angle bends must have a minimum 25 x 25mm angle fillet installed prior to application of Nitoproof 600PF. All angle joints, protrusions and stress points should be pretreated with

heavy application of Nitoproof 600PF extending 50 -100mm either side of the detail. Any pretreated areas must be cured overnight before general application of the membrane.

Application Methods

Nitoproof 600PF can be applied by brush, squeegee, roller/suitable spray applied machine. It is applied at a minimum wet film thickness of 1.5mm in 2 coats. The first coat of Nitoproof 600PF should be allowed to reach tack free condition before applying the second coat. Nitoproof 600PF generally reaches tack free condition in 8 to 10 hours at 27deg C. The second coat should be applied in perpendicular direction to the first coat.

Where required, Nitoproof 600PF may be reinforced using a suitable fabric reinforcement. This should be applied to a 1.5mm application of Nitoproof 600PF whilst it is still wet and be overcoated with another 1.5mm thick application 24 hours later. Please contact your local Fosroc office for details.

Flood Test

The second coat should be allowed to cure for a minimum of 3 days prior to flood test. After 72 hours of curing, flood test can be carried out 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 PF membrane must be cured for a minimum of 24 hrs @ 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 PF 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 PF should be coated with Dekguard PU to ensure maximum resistance to ultraviolet radiation.

Cleaning

Tools and equipment should be cleaned with a suitable solvent immediately after use. Do not use the solvent for thinning.

Limitations

Nitoproof 600PF should not be exposed to UV light for more than 14 days after application. This can normally be achieved by use of a protective screed.



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Application

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

Estimating

Supply

Nitoproof 600PF	: 25kg - Dark green & 20kg pails - Black
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Coverage	: 2.25 kg/m ² (2 coats) 1.5mm wet film thickness 1.2mm Dry film thickness
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Nitoproof WB Primer	: 2 & 6Litre
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Coverage	: 8 to 10m ² / Litre(After dilution)
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Storage

Shelf life

Nitoproof 600PF will have minimum 9 months in original unopened containers if stored in normal ware house condition between 15 to 40°C.

Nitoproof WB primer has a shelf life of 6 months if stored in the original, unopened packs below 25°C.

Note : In accordance with Commercial or Health & Safety requirements packaging detail may alter. Please contact your local Fosroc office for detail.

Precautions

Health and safety

Some people are sensitive to resin systems. Impervious gloves and barrier cream should be used when handling these products. Eye protection should be worn. If accidental eye contamination occurs, wash thoroughly with plenty of water and seek medical advice. If contact with skin occurs, it must be removed before curing takes place. Wash off with an industrial skin cleaner followed by plenty of soap and water. Do not use solvent. Ensure adequate ventilation when using these products

Fire

Nitoproof 600PF & Nitoprime WB is non-flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO² or foam. Do not use a water jet.

Flash point:	66°C Closed cup
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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 specially 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, refer to the Product Material Safety Datasheet.

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