Fosroc®
Nitoproof® 910

High performance, UV resistant, polyurethane waterproofing membrane, suitable for foot traffic

Uses

The high elasticity, excellent bond and low water permeability of Nitoproof 910 make it ideal for a wide range of water/vapour proofing applications such as roof terraces, balconies, patios, podium decks and under tiles in wet areas.

Advantages

- Class III membrane - High elongation (>300%)
- UV resistant
- Readily applied direct from can (no mixing required)
- Cures to give permanently flexible resilient barrier over a wide range of temperatures
- Excellent build properties to horizontal surfaces
- Irreversible chemical cure eliminates melting and flow at high temperature
- Excellent resistance to embrittlement

Standards Compliance

Nitoproof 910 has been tested by CSIRO to the requirements of AS/NZS 4654.1:2012 Waterproofing membranes for external above-ground use Part1:Materials; CSIRO test report SW8638-02.

Nitoproof 910 has been tested by CSIRO to the requirements of AS/NZS 4858 Waterproofing membranes for external above-ground use Part1:Materials; CSIRO test report SW8638-01.

Copies of the test reports are available from the Fosroc website.

Description

Nitoproof 910 is a single-component polyurethane liquid which cures by reaction with atmospheric moisture to give a tough elastomeric waterproof membrane which is easily applied at the recommended thickness to horizontal surfaces.

Design Criteria

Nitoproof 910 is designed to be applied by roller, brush or squeegee to achieve a wet film thickness of not less than 1.5 mm (approx. 1.2 mm dry film thickness).

Properties

Form:	Single-component polyurethane liquid
Colour:	Grey
Solids content:	81% (+/- 2%)
Specific Gravity:	1.25 -1.35 g/cm³
Viscosity @ 30RPM*	10,000 to 18,000 cPs
VOC content:	250g / litre
Physical or chemical change:	Moisture cure polyurethane
Elongation at break:	>300% (AS1683.11)
Tensile Strength:	6 MPa (AS1683.11)
Adhesion in peel (concrete):	>100N (ASTM C794)
Moisture transmission rate:	7.79g/m²/24hrs (ASTM E 96)
Hardness:	70 Shore A (AS1683.15.2)
Angle tear strength:	20kN
Full cure time at 20°C 50% RH:	24 hours at 1.2 mm DFT
Application temperature:	5°C to 35°C
Service temperature (ambient):	Minus 20°C to +80°C
UV resistance:	2000 hours accelerated testing: no visible cracks or blistering, no reduction in elongation. Chalking evident.
Re-coating interval:	Maximum 2 days after application

*Viscosity measured using a Brookfield LVDV-II+P; #4 spindle @ 25°C.

Chemical Resistance

Nitoproof 910 is unaffected by a range of mild acids, alkalis, water borne salts, and is resistant to bio-degradation. Highly resistant to detergents and bleach based cleaning products. Contact Fosroc for specific chemical data.

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Application Instructions

Surface preparation

All surfaces to be waterproofed must be clean, sound, dry and free of all surface contamination such as form release agents, laitance and curing compounds.

Moss and lichen must be removed physically, followed by treatment with a solution of household bleach (1 part bleach to 2 parts water) to kill any spores and inhibit further growth. Bleach must be thoroughly washed off with clean water and the substrate allowed to dry.

Concrete and masonry substrates should have a moisture content reading not exceeding 5% when tested using a Tramex CMEX5 moisture meter.

Concrete surfaces should be smooth and any imperfections repaired with a suitable cementitious repair mortar. Small blow holes must be filled with a prime coat of Nitoproof 910 or Nitoproof 510 as described below.

All metal surfaces should be clean and free of paint, oils, rust and other contaminants. Abrade the surface to expose bright metal then wipe clean with Fosroc Solvent 10. Prime with Primer 4 and allow to dry prior to coating with Nitoproof 910.

Priming

All surfaces must be primed prior to application of Nitoproof 910. Highly absorbent, pitted surfaces or surfaces containing small blow holes are best sealed using a heavy coat of Nitoproof 510. The primer must be scrubbed into absorbent surfaces such as porous concrete or sand/cement screeds to seal pin holes and reduce excess absorption of Nitoproof 910. Inadequate priming will be indicated by pin holes reflecting through the waterproofing membrane. Allow the prime coat of Nitoproof 510 to dry for a minimum of 3 hours for ambient temperatures above 20°C or 6 hours below 20°C. Nitoproof 510 should not be applied below 10°C.

Another alternative, faster drying primer for use on relatively smooth concrete substrates is using a single coat of Nitoprime 320PU applied at 150g per m² (6.5m²/litre). Nitoprime 320PU has a drying time of 30 minutes @ 23°C, thus reducing the overall application time on site (refer to the Nitoprime 320PU TDS).

Use Primer 4 for metal surfaces (4 to 5m² / 250ml can). All metal surfaces should be cleaned and abraded prior to priming. After application, Primer 4 should be allowed to dry for a minimum of 15 minutes before the application of Nitoproof 910.

Movement joints

All expansion and movement joints should be sealed with a suitable polyurethane sealant, such as Nitoseal PU250 or Nitoseal PU400 and subsequently covered with polyethylene bond breaker tape.

Cracks

Before application of Nitoproof 910 across a crack, a 50 mm wide polyethylene bond breaker tape should be applied over the crack.

All shrinkage and non-moving structural cracks should be pre-treated with not less than a 1.5 mm thick coating of Nitoproof 910 extending 100 mm either side of the crack.

Allow all pre-treatment areas to cure before general application of the membrane.

Right angle bends

A coving detail can be formed by the application of a bead of Nitoseal PU250 or Nitoseal PU400 which has been allowed to skin and subsequently covered with 12mm polyethene bond breaker tape before general application of the membrane.

Membrane application

Nitoproof 910 should be applied by roller, brush or squeegee directly onto the surface to achieve a total wet film thickness (WFT) of not less than 1.5 mm. This 1.5 mm is in addition to the preparatory work. Depending on the circumstances, the total 1.5 mm WFT is preferably achieved in two coats to minimise the possibility of areas being thinly coated.

If being applied in two coats, the membrane must be protected from rain in between coats and the second coat must be applied within 48 hours of the first coat application.

Curing and protection

Nitoproof 910 is UV stable however increased UV resistance can be achieved with application of Nitoflor PA polyaspartic finish.

Where damage to the membrane is possible (by traffic backfilling, etc.), it should be protected by a cementitious screed or protection board such as Proofex Protection Board PP or Proofex Sheetdrain 81.

Flood test

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

Screed

Where a screed is installed, the normal range of suitable tile adhesives may be used.

On large decks where the membrane is to be covered with a self supporting concrete screed which may be exposed to thermal or shrinkage movement, two layers of plastic sheeting must be layed over the entire membrane surface to act as a slip sheet system.

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Tiling

Tiling should commence within 5 days.

In applications where ceramic tiles are to be laid over Nitoproof 910, a cement based screed may be laid over the membrane to create the required falls, or tiles may be bonded directly to the membrane using polymer modified cement based tile adhesive following the guidelines provided below.

The selection of a suitable tile adhesive will depend on a range of factors including the type of tile, the rigidity of the substrate, the likelihood of future structural movement, and whether tiles are to be directly bonded to the membrane.

Direct tiling onto Nitoproof 910

For direct tiling onto Nitoproof 910, there are 4 important steps, that must be strictly followed to ensure a successful application:

- Apply a third coat at 3 m²/L within 2 days after the application of the second coat.
- Blind with a coarse sand (#30/#60) into the final wet coat of membrane.
- Vacuum away the excess sand once the final coat is cured.
- Apply polymer modified cement based tiles adhesive (such as Nitotile Plus) and tiles within 5 days.

Care must be taken to ensure that the tile adhesive offers long term compatibility with and adhesion to, both the membrane and the tile. The tiler must take care to ensure the compatibility of the selected materials.

Cleaning

Tools and equipment should be cleaned with Fosroc Solvent 10 immediately after use.

Limitations

Nitoproof 910 is suitable for light foot traffic however care must be taken to protect the exposed membrane from physical damage such as placing and moving furniture on balconies where the membrane is not covered with tiles or similar protection.

Nitoproof 910 must not come in contact with bitumen surfaces. In applications where trace quantities of bitumen are present, a prime coat of Nitoproof 510 may be used to help isolate the bitumen. Contact Fosroc for specific advice in these circumstances.

Supply

Nitoproof 910: 15 litre	FC000630-15L
Nitoproof 510 Part A: 10 litre	FC000625-10L
Nitoproof 510 Part B: 10 litre	FC000626-10L
Nitoprime 320PU: 20 kg	FC007092-20KG
Primer 4: 250ml	FC965207-250ML

Coverage

Nitoproof 910:	1.5 litres/m² (Total 2 coats) 10 m² / 15 litre drum
Nitoproof 510:	5m²/litre (as a primer)
Nitoprime 320PU:	150g per m² (6.5m²/litre)
Primer 4:	4 to 5m² / 250ml can

Note: Coverage rate for Nitoproof 910 is based on two coats to give a total WFT of 1.5mm. These are theoretical yields. No allowance has been made for wastage.

Storage

Nitoproof 910 has a shelf life of 9 months from date of manufacture if kept in a dry store in the original, unopened packaging.

Store in cool, dry conditions i.e. not exceeding 25°C. Storage above this temperature may reduce storage life.

Note: surface skin may occur even in unopened containers. This skin should be completely removed before using the product.

Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. 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.

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