Fosroc®
Nitoproof® 410

Fast drying flexible two component polymer modified cementitious waterproofing membrane

Uses

Nitoproof 410 is suitable for a wide range of waterproofing applications such as:

- Podiums, terraces, balconies, and deck areas – undertoppings, tiles and other protected environments
- Wet areas and showers – Class II Membrane System
- Foot trafficable exposed roof top membrane, exposed balcony decks and walkways subject to regular foot traffic when overcoated with Nitoproof Top Coat UV.
- Water tanks, water storage areas (sand / cement slurry priming with Nitobond SBR is essential when applying in submerged applications)
- Tiled pools & water features (sand / cement slurry priming with Nitobond SBR is essential when applying in submerged applications)
- Foundation waterproofing applications
- Suitable for subterranean areas such as retaining walls and in planter boxes when used in conjunction with suitable protection and drainage systems.

Advantages

- Low VOC
- Solvent free, non hazardous
- Handles ponding and permanently wet conditions
- Tough and flexible with excellent elongation properties
- Suitable for internal and external applications
- Exhibits a high Shore A hardness
- Australian made
- It is compatible with polymer modified cement based tiles adhesives, screeds and renders.

Standards Compliance

Nitoproof 410 has been independently tested to the requirements of AS/NZS 4858:2004 Wet Area Membrane as a Class II membrane against AS 3740:2021 Waterproofing of Wet Areas Within Residential Buildings.

Nitoproof 410 has been independently tested to the requirements of AS/NZS 4654.1:2012 Waterproofing membranes for external above-ground use Part 1:Materials.

Nitoproof 410 has been tested to AS 4586-2013 for slip resistance when overcoated with Nitoproof Top Coat UV and Nitoproof Top Coat EW. Refer to the relevant data sheets on those products for results.

Copies of these reports are available from the Fosroc website.

Description

Nitoproof 410 is a water based, fast drying, flexible two component, polymer modified cementitious waterproofing membrane designed for podiums, terraces, balconies, and deck areas – under toppings, tiles and other protected environments.

It may also be used for foot trafficable exposed roof top membranes and foot trafficable exposed balcony decks when overcoated with Nitoproof Top Coat UV.

Nitoproof 410 offers excellent adhesion properties over many primed building surfaces once correctly primed and prepared.

Design Criteria

Nitoproof 410 is designed to be applied by thick brush or roller to achieve a total Dry Film Thickness of 1.3mm. Nitoproof 410 should be applied as two (2) coats with a minimum Wet Film Thickness of 1.6mm (coverage of 1.6 litres/m²) resulting in a minimum Dry Film Thickness of 1.3mm.

For permanently wet or submersed conditions Nitoproof 410 is to be applied as three (3) coats with a minimum with a minimum WFT of 2.0mm (coverage of 2.0 litres/ m²) resulting in a minimum DFT of 1.6mm.

Properties

Wet form

Specific Gravity of mixed product:	1.3kg / litre
VOC content:	9g / litre
Appearance: **Liquid** **Powder** **Mixed**	 White liquid Grey powder Grey slurry
Mixing ratio:	1:1 by weight

Cured membrane

Elongation:	93% (AS1145.3) Class II
Tensile strength:	1.24MPa (AS1145.3)
Bond strength:	23.93N (AS4654.1)
Shore A hardness:	65
Colour:	Grey
Moisture transmission rate:	3.80g/m²/24hrs (ASTM E 96) Permeance 48.44ng/Pa.s.m²
Water absorption:	Max. mass 1.88% (AS3558.1)
Cyclic movement:	Class II (AS/NZS 4858)
Durability:	Class II (AS/NZS 4858)

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Drying times @ 23°C / 50%RH

Recoat:	2 to 4 hours
Dry film:	5 to 7 hours
Immersion:	7 days
Flood testing:	36 hours

Application Instructions

Nitoproof 410 must be installed in accordance with AS3740.

Surface preparation

Surfaces must be clean, sound, stable and free of: loose foreign material; existing coatings; laitance; release agents; curing compounds and oil/grease residues.

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

Rendered surfaces must be allowed to cure for at least 16 hours in normal ambient conditions prior to commencing waterproofing. Ensure all rendered surfaces have a wood float finish.

All screw / nail heads must be sealed with Nitoseal SC100 (neutral cure silicone) and allowed to cure, then all sheet joints covered with Nitoband or Nitoband SA (self adhesive) Tape. Refer to the relevant Nitoband technical data sheet.

Ensure all surfaces are sound, dry and free from excessive movement, oil, dust, grease, wax, curing compounds, release agents, paint and any other loose contaminants. Also remove any protrusions from the surface that may pierce the membrane.

Priming

Substrates must be primed, prior to the application of Nitoproof 410 membrane:

For porous masonry surfaces, Nitoprime 120 should be applied at approx. 7m²/L or for a more robust primer, apply one coat of Nitoproof 510 at 5m²/L (see TDS for further details on each).

For non-porous substrates, such as CFC*, wet area timber, ceramic tile, metals and plastics, Nitoprime 115 should be applied at approx. 12m²/L (see TDS for further details).

*When applying over CFC, it is advisable to conduct a water droplet test to determine the porosity of the particular grade of CFC which can vary. If the water is absorbed quickly into the CFC then it should be considered “porous” and primed with Nitoprime 120.

For submerged applications such as ponds, pools and water retaining structures, a slurry primer made of sand, cement and Nitobond SBR must be used

Please refer to Nitobond SBR technical datasheet for use, application and mixing ratios. When applying Nitoproof 410 over this slurry, optimum adhesion results are achieved as a “wet on wet” application.

Damp surfaces - entrapped moisture

Seek technical advice from Fosroc.

Cracks

Cracks larger than 2 mm or structural shrinkage cracks must be firstly cleaned and any loose material removed then filled with Nitoseal SC100 or covered with Nitoband or Nitoband SA Tape. Refer to the relevant Nitoband technical data sheet.

Nitoband Tape, Corners and Detailing Accessories (Option 1)

The Nitoband products has been specifically developed as a superior bond breaker system to traditional sealants and bond breaker tapes.

The Nitoband systems includes tape (for change of direction – such as wall/wall and wall/floor joints etc.), both 270° external and 90° internal corners, an adjustable internal Corner as well as three (3) size variations on pipe detailing squares (suitable from 6mm > 150mm pipe diameters).

If being used in tanking and waterproofing applications, the Nitoproof 410 requires a suitable bond breaker at all substrate junctions. Fosroc nominates the Nitoband or Nitoband SA system or equivalent bond breaking methods compliant with local waterproofing standards and building recommendations.

Right angle bends (Option 2)

A coving detail can be formed by the application of a bead of Nitoseal SC100 (neutral cure silicone) which has been allowed to cure before general application of the membrane.

Right angle bends (Option 3)

A coving detail can be formed by the application of a bead of Nitoseal PU250/PU400 or Nitoseal MS250/MS400 which has been allowed to skin and subsequently covered with 35mm polyethene bond breaker tape before general application of the membrane.

Mixing

Nitoproof 410 should thoroughly be mixed in equal parts by weight or the ratio of 1L Part A liquid to 0.8 L Part B dry powder.

Add approximately half of the powder while mixing and wet out well, then add the remaining powder and wet out well.

Scrape the sides of the pail and mixing paddle.

Mix at higher speed, avoiding aeration, for 3 minutes.

Cease mixing and ‘allow the mixed material to stand for 3 minutes, and then lightly re-mix’. The Nitoproof 410 is then ready to apply.

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Membrane Application

Ensure the surface has been appropriately prepared in accordance with this TDS.

When using the **Nitoband SA** system, apply the tape to the primed substrate when dry as detailed in the Nitoband SA TDS. The Nitoproof 410 membrane is then applied to the installed tape.

When using the **Nitoband** System (non-self adhesive) the should be installed first using Nitoproof 410 as detailed in the Nitoband System TDS. Mix an appropriate amount of the Nitoproof 410 waterproofing membrane that can be used within its working life as per the instructions in this TDS.

Apply the mixed Nitoproof 410 across the substrate joins extending approximately 70mm either side of the join. Whilst the Nitoproof 410 is still in a wet state install the Nitoband tape, corners and accessories ensuring that all air voids are expelled. Nitoband Corners should be placed in first followed by the Nitoband tape.

The Nitoband tape, corners and pipe detailing squares can be joined via a 50mm overlap, sandwiching a small amount of Nitoproof 410 liquid membrane between the overlapping faces.

Nitoproof 410 is designed to be applied by brush, roller or suitable airless spray equipment.

In general waterproofing applications Nitoproof 410 is applied as two (2) coats with a minimum total coverage of 1.6 litres/ m².

For permanently immersed conditions, Nitoproof 410 is applied as three (3) coats with a minimum total coverage of 2.0 litres/ m². This system will need to be applied to a 'slurry' prime coat of Nitobond SBR mixed with sand and cement – see Nitobond SBR Technical Datasheet

Each successive coat should be applied at 90 degrees to the previous coat. Allowing a drying time of 1-3 hours between coats.

General non immersed applications	
Approximate total coverage:	1.6L/m²
Wet Film Thickness:	1.6mm
Dry Film Thickness:	1.3mm
Immersed / below ground applications	
Approximate total coverage:	2L/m²
Wet Film Thickness:	2mm
Dry Film Thickness:	1.7mm

Conduct a final inspection on the surface of the membrane prior to commencing tiling to ensure no pin holes exist. A further coat may be required if imperfections or pinholes are present in the membrane.

Once the waterproofing is completed, do not disturb the area for at least 24 hours. Based on normal ambient conditions of 23°C @ 50% RH, tiling can commence approximately 24 hours after final Nitoproof 410 coat. Allow a further 24 hours of drying time @ 10°C.

Use polymer modified cement based tile adhesive such as Fosroc Nitotile Plus for tiling application.

Nitobond SBR used as a bonding agent is recommended for applications of cement based screeds or renders – as per TDS.

Curing and protection

Nitoproof 410 is not UV stable and must be cured for a minimum of 24 hours at 25°C before placing protection. Tiling should commence within 5 days.

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 .

Where the membrane is used in environments where potential risk of root attack from plant or tree root systems apply, the membrane should be protected by Proofex Sheetdrain 81 or a suitable root resistant barrier. Consideration should be given to plant slection in planter boxes. Aggressive root systems should be avoided.

Nitoproof 410 can be over-coated with Nitoproof Top Coat UV to make the membrane foot trafficable and UV stable.

Cleaning

Prior to hardening Nitoproof 410 can be cleaned from tools and equipment using water. Hardened material will need to be removed via mechanical means.

Splashes of Nitoproof 410 on paintwork etc. should be wiped off immediately using a cloth dampened with a strong detergent solution. Brushes and brooms etc. should be soaked in a strong detergent solution immediately after application has finished. Hands and skin may be cleaned using a proprietary waterless hand cleaner, but prevention of soiling is better practice by wearing gloves and overalls.

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Limitations

Do not apply Nitoproof 410 in temperatures above 35°C or below 5°C.

Nitoproof 410 cannot be used in areas where negative hydrostatic pressure is evident.

Please Note:

Application of all liquid applied membranes and primers should always refer to the surface temperature conditions before commencing and not just ambient temperatures.

For example: ambient temperatures may be 10°C but the substrate could be 0°C and have frost issues. The same applies with higher temperatures: ambient temperature may be 26°C but have a substrate temperature of 36°C

Use polymer modified cement based tile adhesives for direct adhesion to the membrane.

Nitobond SBR is recommended within screeds and renders directly over the membrane as a waterproof and adhesion enhancer.

Storage

Nitoproof 410 Part A has a shelf life of 24 months from date of manufacture if kept in the original, unopened packaging.

Nitoproof 410 Part B has a shelf life of 36 months from date of manufacture if kept in the original, unopened packaging.

Do not use if there are lumps in the product.

Supply

Nitoproof 410 is supplied in 25kg (19.2 litre) 2 component packs.

Nitoproof 410 Part A: 12.5L	FC000603-12.5L
Nitoproof 410 Part B: 12.5kg	FC000604-12.5KG
Nitoprime 115 – 4L Pail Coverage: 10m²/ litre	FC000600-4L
Nitoprime 120 - 15 L Pail Coverage: 6-8m²/ litre	FC000601-15L
Nitoproof 510 Part A: 10 litre	FC000625-10L
Nitoproof 510 Part B: 10 litre	FC000626-10L

Ancillaries	
Nitoband SA 80mm wide x 10m roll	FC000669-UNIT
Nitoband Tape 120mm wide x 10m Roll	FC000612-UNIT
Nitoband Corner Internal 90° 135mm x 135mm – Each	FC000614-UNIT
Nitoband Corner External 270° 135mm x 135mm – Each	FC000615-UNIT
Nitoband Corner Adjustable Internal 135mm x 135mm – Each	FC000613-UNIT
Nitoband Pipe Detailing Square Small <50mm - Each	FC000616-UNIT
Nitoband Pipe Detailing Square Medium < 110mm - Each	FC000617-UNIT
Nitoband Pipe Detailing Square Large < 150mm - Each	FC000618-UNIT

Coverage/yield

Each 25kg kit of Nitoproof 410 will yield approximately 19.2 litres of mixed product.

In general waterproofing applications Nitoproof 410 is applied as two (2) coats with a minimum total coverage of 1.6 litres/m². (approx. 12.m² / 19.2 litres).

For permanently immersed conditions/applications, Nitoproof 410 is applied as three (3) coats with a minimum total coverage of 2.0 litres/m² (approx. 9.6m² / 19.2 litres).

Nitoprime 115:	10 - 12m²/litre
Nitoprime 120:	6 - 8m²/litre
Nitoproof 510:	5m²/litre (as a primer)

The coverage figures are theoretical – due to wastage factors and the variety and nature of possible substrates, practical coverage figures may be substantially reduced.

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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