

## Liquid applied waterproofing system

### Description

Fosroc Nitoproof 800 is a polyurethane based, liquid applied waterproofing and crack-bridging protection system for new and existing structures.

When used in exposed situations, Fosroc Nitoproof 800 system comprises Fosroc Nitoprime UR FS, Fosroc Nitoproof 800 Membrane and Fosroc Nitoproof UVR Topcoat, and provides a protective, durable, elastic, impervious, attractive surface which is easy to clean and maintain.

For below-ground situations, Nitoproof 800 Membrane can be used as a stand-alone waterproofing membrane.

### Uses

- Balconies
- Walkways
- Flat roofs
- Podium decks
- Green roofs
- Wind turbine plinth bases
- Below-ground basements

### Advantages

- Seamless
- Fast application – minimises downtime
- Easy to clean and maintain
- Chemical resistant – good resistance to a range of chemicals
- Durable – good abrasion and wear resistance
- Slip-resistant finish available
- Colour stable, UV and weather resistant
- Aesthetically attractive – available in a wide range of colours \*
- Fire-resistant \*
- Root barrier

\* When used in exposed situation with Nitoproof UVR Topcoat

### Specification Clause

The waterproofing system shall be Fosroc Nitoproof 800, a nominal two layer 1.4mm thick flexible polyurethane system.

### Standards compliance

The Fosroc Nitoproof 800 system is certified to BS 476-3: 2004 Class EXT.F.AA - Fire tests on building materials and structures - Part 3 Classification and method of test for external fire exposure to roofs.

Fosroc Nitoproof 800 Membrane is certified to CEN/TS 14416 – Determination of resistance to root penetration.

### Application Instructions

#### Surface preparation

All surfaces must be clean, dry and free from contamination.

#### Concrete Surfaces

New concrete surfaces should have reached 80% of their intended physical properties – generally only achieved after a minimum curing period of 28 days.

Surfaces should be clean, dry and free of laitance, oil, grease, etc. and with a moisture content of <75% RH.

Dry abrasive blasting, vacuum-assisted abrasive blasting, and centrifugal shot blasting, as described in ASTM D4259, may be used to remove contaminants, laitance, and weak concrete, to expose blow holes and produce a sound concrete surface with adequate profile and surface porosity. All blow holes and minor surface imperfections should be filled with Fosroc Nitomortar FC, see datasheet for instructions.

For further information refer to your local Fosroc office.

Existing concrete surfaces should be structurally sound and any concrete repairs carried out using Fosroc repair products. The surface should be clean and oil-free with any previous coatings removed. Dry abrasive blasting, vacuum-assisted abrasive blasting, and centrifugal shot blasting are suitable methods of preparation.

#### Cracks/joints/upstands

Consult Fosroc for details of treatment of covers, cracks, upstands and any joints.

#### Steel Surfaces

The steel must be of first class quality and must not have been allowed to rust more than corresponding to grade B of ISO 8501-1:2007. Any laminations must be removed. Blast cleaning to Sa 2½. (ISO 8501-1:2007). Roughness: using abrasives suitable to achieve a coarse surface of Grade Medium G (50-85µm, Ry5) (ISO 8503-2).

#### Other substrates

Nitoproof 800 is suitable for application to other substrates including timber, asphalt, roof tiles, slate, stone and felt. These substrates should be lightly abraded with a mechanical wire brush and wiped with Fosroc Solvent 102 prior to priming. Pull-off adhesion tests must be carried out prior to undertaking application and results should be referred to Fosroc before proceeding.

# Fosroc® Nitoproof 800 System

## Application Temperature

Application temperature range is +5 to +40°C. Materials must be stored at 15 to 25°C for a minimum of 48 hours immediately prior to use.

## Priming

### Dry substrates

Apply Fosroc Nitoprime UR FS at the required coverage rate depending on the texture and porosity of the substrate. See Coverage.

Pour and drain the full contents of the hardener container into the base container and mix thoroughly with a slow speed electric stirrer fitted with an appropriate paddle, for a minimum of 3 minutes until homogeneous. Spread immediately onto the substrate and apply by squeegee then over-roll with a short-haired roller to ensure even coverage, until the surface is completely wetted out. Immediately apply dried sand (0.1 - 0.3 mm, 100 mesh) by scatter (broadcast) at a consistent coverage of 2 - 3 m<sup>2</sup>/kg. Allow to cure for 4 hours at 20°C. Remove any loose sand by brushing, vacuum or positive air pressure. If the primer has been left to cure for >48 hours then the primer should be removed and the area reprimed.

Priming may be omitted under certain circumstances, but in these cases Fosroc must be contacted for specific advice.

### Damp substrates

Priming onto damp substrates is possible using Fosroc Nitoflor DPM. See Coverage. Please refer to separate Fosroc datasheet for full application instructions for Fosroc Nitoflor DPM.

Pour and drain the full contents of the hardener container into the base container and mix thoroughly with a slow speed electric stirrer fitted with an appropriate paddle, for a minimum of 3 minutes until homogeneous.

Spread immediately onto the substrate and extend 100mm beyond the application area. Apply evenly using a notched trowel (1.5 mm x 5 mm V shaped) and flatten out the ridges with a short pile roller whilst still wet. Allow to cure for 12 hours at 20°C. Remove any loose sand by brushing, vacuum or positive air pressure. If the primer has been left to cure for >48 hours then the primer should be removed and the area reprimed.

## Application of Fosroc Nitoproof 800 Membrane

Pour and drain the full contents of the hardener container into the base container and mix thoroughly with a slow speed electric stirrer fitted with an appropriate paddle, for a minimum of 3 minutes until homogeneous.

Spread immediately onto the substrate at the required coverage rate. For best results, apply with a notched trowel or squeegee. Back-rolling with a short haired or spiked roller is advisable.

An optional mesh can also be incorporated by laying a glass fibre mesh (between 100 and 180 g/m<sup>2</sup>) on top of the wet layer of Nitoproof 800 Membrane.

For a light slip resistant finish on an exposed application, immediately apply dried sand (0.1 - 0.3 mm, 100 mesh) by scatter (broadcast) at a consistent coverage of 1 m<sup>2</sup>/kg.

Allow to cure for 4 hours at 20°C. Remove excess sand by brush, vacuum or positive air pressure. If the Nitoproof 800 Membrane is to be overcoated with Nitoproof UVR Topcoat and has been left to cure for >48 hours before overcoating then contact your local Fosroc office for advice.

## Application of Fosroc Nitoproof UVR Topcoat

Pour and drain the full contents of the hardener container into the base container and mix thoroughly with a slow speed electric stirrer fitted with an appropriate paddle, for a minimum of 3 minutes until homogeneous. Apply to the surface at the required coverage rate using a medium-hard rubber squeegee, then lightly backroll with a roller to remove the squeegee lines, leaving a uniform finish. See Coverage .

<b>Working Life, 20°C *</b>	
Nitoprime UR FS	20 mins
Nitoflor DPM	25 mins
Nitoproof 800 Membrane	20 mins
Nitoproof UVR Topcoat	20 mins
<b>Tack-Free Time, 20°C</b>	
Nitoprime UR FS	4 hours
Nitoflor DPM	4 hours
Nitoproof 800 Membrane	4 hours
Nitoproof UVR Topcoat	8 hours
<b>Overcoating Time, 20°C</b>	
Nitoprime UR FS	4 - 48 hours
Nitoflor DPM	12 - 48 hours
Nitoproof 800 Membrane	4 - 48 hours
Nitoproof UVR Topcoat	8 - 48 hours
<b>Trafficable, 20°C</b>	
Foot traffic	12 hours
Medium duty traffic	2 days

\* Usable working life of material following mixing and immediate spreading as per the application instructions.

# Fosroc® Nitoproof 800 System

## Colours

For a list of standard colours please consult your local Fosroc office. See Limitations.

## Typical Properties

### Moisture Vapour Transmission Rate ASTM E96 wet method, 25°C/55%RH

Nitoproof 800 system (without sand scatter for slip resistance)	0.46 g/m <sup>2</sup> /hour
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Nitoproof 800 system (with sand scatter for slip resistance)	0.13 g/m <sup>2</sup> /hour
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Nitoproof 800 Membrane 2 coats	0.08 g/m <sup>2</sup> /hour
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### Adhesion, ASTM D4541, 25°C

Nitoproof 800 system, dry concrete	≥ 2.5 MPa
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Nitoflor DPM, damp concrete	≥ 2.5 MPa
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### Crack Bridging Capacity, BS EN 1062-7, 23°C

Nitoproof 800 Membrane/ Nitoproof UVR Topcoat , 2.0 mm thickness	2.75 mm
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Nitoproof 800 Membrane, 2.0 mm thickness	2.35 mm
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### Tensile Properties, ASTM D412, 25°C

Nitoproof 800 Membrane/ Nitoproof UVR Topcoat	
Tensile Strength	3.2 MPa
Elongation	105 %

Nitoproof 800 Membrane	
Tensile Strength	3.0 MPa
Elongation	90 %

## Chemical Resistance

Nitoproof 800 System	: Resistant to occasional spillage of various chemicals including Motor oil, Kerosene, Diesel and Petrol. See Limitations. Consult your local Fosroc office for specific details.
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Service Temperature	: -30°C to +70°C
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## Estimating

### Supply

Nitoprime UR FS	2 kg packs
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Nitoflor DPM	5 kg, 10 kg packs
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Nitoproof 800 Membrane	10 kg packs
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Nitoproof UVR Topcoat	5 kg, 10 kg packs
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Dried sand (0.1 - 0.3 mm, 100 mesh)	Refer to Fosroc office
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Nitoprime 150	1 kg packs
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Fosroc Solvent 102	Refer to Fosroc office
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### Coverage

Nitoprime UR FS	10 m <sup>2</sup> per 2 kg pack (6 m <sup>2</sup> - 16 m <sup>2</sup> per 2 kg pack dependent on substrate profile and porosity)
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Dried sand (0.1 - 0.3mm, 100 mesh)	2 - 3 m <sup>2</sup> per kg onto Nitoprime UR FS
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Nitoflor DPM	20 m <sup>2</sup> per 5 kg pack 40 m <sup>2</sup> per 10 kg pack
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Nitoproof 800 Membrane	9 m <sup>2</sup> per 10 kg pack per coat*
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Dried sand (0.1 - 0.3mm, 100 mesh)	16 m <sup>2</sup> per 25 kg onto Nitoproof 800 Membrane
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Nitoproof UVR Topcoat	11 m <sup>2</sup> per 5 kg pack 22 m <sup>2</sup> per 10 kg pack
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\* Nitoproof 800 system requires one coat of Nitoproof 800 Membrane.

\* Below-ground waterproofing requires two coats of Nitoproof 800 Membrane

Note: Coverage rates above are a guide only and are in practice dependent on substrate profile and porosity

## Cleaning

Tools and equipment can be cleaned immediately after use with Fosroc Solvent 102. Hardened material must be removed mechanically.

## Maintenance

The service life of balconies/walkways and flat roofs can be considerably extended by good housekeeping. Cleaning may be carried out by use of a rotary scrubbing machine with a water miscible cleaning agent at temperatures of up to 50°C, or by use of an appropriate high pressure water jet, e.g. one suitable for cleaning a motor vehicle.





# Fosroc® Nitoproof 800 System

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## Technical support

Fosroc offers a comprehensive technical support service to specifiers, end users and contractors. Fosroc is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.

## Additional Information

Fosroc manufactures a wide range of complementary products which include:

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring products

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.

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### Important note

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