

Fosroc® Nitoproof 800 System



constructive solutions

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Flexible, skid-resistant liquid waterproofing system

Uses

Waterproofing system for new and existing structures. Particularly suitable for waterproofing exposed concrete elements such as balconies, walkways, flat roofs, podium decks, green roofs and wind turbine plinth bases.

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

Properties

Test Method	Test Standard	BS EN 1504-2: 2004 Requirement	Result
Fosroc Nitoproof 800 System			
UV Resistance	BS EN 1062-11, 1000 hrs	No blistering, cracking, or flaking	Pass
Chemical Resistance	ASTM D3912 3 day immersion	No swelling or blistering	Resistant to motor oil, kerosene, diesel, petrol, brake fluid, hydraulic oil
Abrasion Resistance	ASTM D4060 1000 cycles /1kg / CS10 wheels	-	0.4g
Bond strength, concrete	BS EN 1542	≥1.5 MPa	2.3 MPa
Reaction To Fire	BS 476-3:2004	-	Class EXT.F AA
Fosroc Nitoproof 800 Membrane*			
Hardness, Shore "D"		-	20
Colour			Black
Elongation at break	ASTM D412	-	100%
Fosroc Nitoproof UVR Topcoat *			
Elongation at Break	ASTM D412	-	50%
Hardness, Shore "D"		-	40
Colours			Mouse grey, Signal grey, Beige, May green, Signal yellow, Traffic blue

*Tested as stand-alone component

Clarification of property values: The typical properties given above are derived from laboratory testing at 20°C unless otherwise noted. Results derived from testing field applied samples may differ.

Description

Fosroc's Nitoproof 800 system is a polyurethane based waterproofing and crack bridging protection system for the exposed decks of new and existing balconies/walkways and flat roofs. It provides a protective, durable, elastic, impervious, attractive surface which is easy to clean and maintain. The Fosroc Nitoproof 800 system is nominally 1.4mm thick and comprises one coat of Nitoprime UR FS, one coat of Fosroc Nitoproof 800 Membrane and one coat of Fosroc Nitoproof UVR Topcoat. Priming is recommended, but can be omitted in certain circumstances; contact Fosroc Technical for further information. Where an anti-skid finish is required Nitoflor FC anti-slip grains are recommended. See Limitations.

Specification Clause

The waterproofing decking 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.

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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. 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.

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 rate depending on the texture and porosity of the substrate.

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 Nitoflor FC anti-slip grains by scatter (broadcast) at a consistent coverage of 0.3 to 0.5 kg/m².

Allow to cure for 4 hours at 20°C. If the primer has been left to cure for >48 hours then the primer should be removed and the area reprimed.

Damp substrates

Priming onto damp substrates is possible using one coat of Fosroc Nitoflor DPM in lieu of Fosroc Nitoprime UR FS. Please refer to separate Fosroc datasheet for full application instructions on this alternative primer.

Priming may be omitted under certain circumstances: but Fosroc must be contacted for further information.

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. Allow to cure for 4 hours at 20°C. If the membrane has been left to cure for >48 hours then contact your local Fosroc office for advice.

An optional mesh can also be incorporated by laying a glass fibre mesh (between 100 and 180g/m²) on top of the wet layer of Nitoproof 800 membrane. For a light skid resistant finish, immediately apply Nitoflor FC anti-slip grains by scatter (broadcast) at a consistent coverage of 1 kg/m². Allow to cure for 4 hours at 20°C. Remove excess sand prior to overcoating with Fosroc Nitoproof UVR Topcoat. If the membrane has been left to cure for >48 hours then contact your local Fosroc office for advice. Remove any loose Nitoflor FC anti-slip grains by brushing or by vacuum.

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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 (see Coverage) using a medium-hard rubber squeegee, then lightly backroll with a roller to remove the squeegee lines, leaving a uniform finish. Fosroc Nitoproof UVR Topcoat may fade slightly over time depending on UV levels and heat.

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

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

Supply

Nitoprime UR FS	2kg packs
Nitoproof 800 Membrane	10kg packs
Nitoproof UVR Topcoat	10kg, 5kg packs
Nitoflor FC Anti-slip grains	25kg pack
Fosroc Solvent 102	refer to Fosroc office

Coverage

Nitoprime UR FS	10m ² per 2kg pack (6m ² - 16m ² per 2kg pack dependent on substrate profile and porosity)
Nitoproof 800 Membrane	9m ² per 10kg pack
Nitoflor FC anti-slip grains	16m ² per 25kg pack
Nitoproof UVR Topcoat	11m ² per 5kg pack 22m ² per 10kg pack

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

Storage

When stored in original packaging in dry warehouse conditions at 10°C to 35°C, Fosroc Nitoprime UR FS, Fosroc Nitoproof 800 Membrane and Fosroc Nitoproof UVR Topcoat have a shelf life of 12 months. Storage outside these conditions may reduce shelf life.

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.

Limitations

Do not use on substrates where rising damp or a potential osmosis problem may exist; consult Fosroc.

Do not proceed with application if atmospheric relative humidity is >90% or if the surface temperature is <3°C above the dew point.

Application should not commence when the substrate temperature or the ambient temperature is, or is anticipated to be, <5°C during the application or within the tack-free period.

For work in exposed areas, do not proceed with application if precipitation is imminent. Keep applied areas protected from precipitation within the tack-free period.

The design strength of concrete surfaces must be a minimum of 25MPa compressive strength at 28 days.

The manufacture of Fosroc Nitoproof 800 system is a batch process and despite close manufacturing tolerances, colour variation may occur between batches. Fosroc recommends using Nitoproof UVR Topcoat from a single batch as the final finish in one area section.

For applications onto substrates not listed refer to your local Fosroc office for specific advice.

For car park decking systems use the Nitodek range of products from Fosroc.

Where repeated contact with chemicals is a possibility, including but not limited to secondary containment, consult Fosroc.

All cracks, joints and upstands must be treated appropriately. Consult fosroc for advice.

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Precautions

Health & Safety

For further information refer to the appropriate Safety Data Sheets available at www.fosroc.com.

Fire

Fosroc Nitoprime UR FS, Fosroc Nitoproof 800 Membrane and Fosroc Nitoproof UVR Topcoat are non-flammable.

Fosroc Solvent 102 is 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

Fosroc Solvent 102	+33°C
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Important note

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