



constructive solutions

Fosroc Nitoproof 800HT System

Liquid applied waterproofing system

Description

Fosroc Nitoproof 800HT 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 HT system comprises Fosroc Nitoprime UR, Fosroc Nitoproof 800HT 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 HT 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 HT, a nominal two layer 1.4mm thick flexible polyurethane system.

Standards compliance

The Fosroc Nitoproof 800 HT 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 HT 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 HT 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 800HT 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 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 m²/kg. Allow to cure for 2 hours at 35°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 6 hours at 35°C. Remove any loose sand by brushing, vacuum or positive air pressure. If the primer has been left to cure for >24 hours then the primer should be removed and the area reprimed.

Application of Fosroc Nitoproof 800 HT 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/m²) on top of the wet layer of Nitoproof 800 HT 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 m²/kg.

Allow to cure for 2 hours at 35°C. Remove excess sand by brush, vacuum or positive air pressure. If the Nitoproof 800 HT Membrane is to be overcoated with Nitoproof UVR Topcoat and has been left to cure for >24 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

Working Life, 35°C *	
Nitoprime UR	25 mins
Nitoflor DPM	20 mins
Nitoproof 800 HT	30 mins
Nitoproof UVR Topcoat	50 mins
Tack-Free Time, 35°C	
Nitoprime UR	2 hours
Nitoflor DPM	2 hours
Nitoproof 800 HT	2 hours
Nitoproof UVR Topcoat	5 hours
Overcoating Time, 35°C	
Nitoprime UR	2 - 24 hours
Nitoflor DPM	4 - 24 hours
Nitoproof 800 HT Membrane	2 - 24 hours
Nitoproof UVR Topcoat	4 - 24 hours
Trafficable, 35°C	
Foot traffic	8 hours
Medium duty traffic	1-2 days

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



Fosroc Nitoproof 800HT 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 HT system (without sand scatter for slip resistance)	0.46 g/m ² /hour
Nitoproof 800 HT system (with sand scatter for slip resistance)	0.13 g/m ² /hour
Nitoproof 800 HT Membrane 2 coats	0.08 g/m ² /hour

Adhesion, ASTM D4541, 25°C

Nitoproof 800 HT system, dry concrete	≥ 2.5 MPa
Nitoflor DPM, damp concrete	≥ 2.5 MPa

Crack Bridging Capacity, BS EN 1062-7, 23°C

Nitoproof 800 HT Membrane/ Nitoproof UVR Topcoat, 2.0 mm thickness	2.75 mm
Nitoproof 800 Membrane, 2.0 mm thickness	2.35 mm

Tensile Properties, ASTM D412, 25°C

Nitoproof 800 HT Membrane/ Nitoproof UVR Topcoat	Tensile Strength 3.2 MPa Elongation 105 %
Nitoproof 800 HT Membrane	Tensile Strength 3.0 MPa Elongation 90 %

Chemical Resistance

Nitoproof 800 HT 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

Estimating Supply

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

Coverage

Nitoprime UR	10 m ² per 2 kg pack (6 m ² - 16 m ² per 2 kg pack dependent on substrate profile and porosity)
Dried sand (0.1 - 0.3mm, 100 mesh)	2 - 3 m ² per kg onto Nitoprime UR
Nitoflor DPM	20 m ² per 5 kg pack 40 m ² per 10 kg pack
Nitoproof 800 HT Membrane	9 m ² per 10 kg pack per coat *
Dried sand (0.1 - 0.3mm, 100 mesh)	16 m ² per 25 kg onto Nitoproof 800 Membrane
Nitoproof UVR Topcoat	11 m ² per 5 kg pack 22 m ² per 10 kg pack

* Nitoproof 800 HT system requires one coat of Nitoproof 800 Membrane. Below-ground waterproofing requires two coats of Nitoproof 800 HT 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



constructive solutions

Fosroc Nitoproof 800HT System

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.

Recoating

For recoating applications of Nitoproof UVR Topcoat, a surface reactivation should be carried out using Fosroc Nitoprime 150 wipe, and allowed to become touch-dry before applying the coating. Refer to Fosroc for specific advice.

Storage

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

Precautions

Safety handling

Avoid contact with eyes and skin. Wear suitable protective clothing, gloves and eye/face protection at all times. Ensure adequate ventilation.

Fosroc Nitoprime UR, Fosroc Nitoflor DPM, Fosroc Nitoproof 800 HT Membrane hardener, Fosroc Nitoproof UVR Topcoat hardener may cause sensitisation by skin contact.

In case of eye contact, first aid must be administered immediately. The eyes should be held open while flushing with a continuous low pressure stream of water for at least 15 minutes. Seek medical advice immediately. If swallowed, seek medical attention immediately - do not induce vomiting.

The use of barrier creams provides additional skin protection.

Refer to safety data sheets available at www.fosroc.com for detailed information.

Fire

Fosroc Nitoprime UR, Fosroc Nitoflor DPM, Fosroc Nitoproof 800 HT Membrane, Fosroc Nitoproof UVR Topcoat and Fosroc Nitoprime 150 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

Disposal Considerations

Cured Nitoprime UR, cured Fosroc Nitoflor DPM, cured Fosroc Nitoproof 800 HT Membrane and cured Fosroc Nitoproof UVR Topcoat can be disposed of without restriction. The uncured base and hardener components should be disposed of according to local environmental laws and ordinances.

"Drip free" containers should be disposed of according to local environmental laws and ordinances.

Refer to safety data sheets for all relevant information.

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 HT 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.

As with all exterior coatings, some fading of colour can be expected over time, depending on UV levels, temperature and chemicals spillage.

For applications onto substrates not listed in this datasheet, 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.



constructive solutions

Fosroc Nitoproof 800HT System

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

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation or information given by it.

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