

One-component cold-applied water based modified polyurethane hybrid elastomeric waterproof membrane

Description

Fosroc Nitoproof 725 is a roller, brush, squeegee or spray-applied, one-component waterproof membrane based on modified polyurethane hybrid technology. It is water based, easy to use, flexible and UV resistant. It is especially suited for exposed roof applications where fire rating and UV colour stability is desired.

Uses

For exposed roof waterproofing applications in both new construction and refurbishment projects.

Typical applications include:

- Serviced roofs
- Flat or sloping roofs
- Cool roofs
- Refurbished roofs

Advantages

- One-component, ready to use
- Can be applied as single coat
- UV resistant and colour stable
- Seamless
- High solar reflectance, SRI 106 for white
- Excellent flexibility and crack bridging
- Fire rated to ASTM E108 Class A
- Environment friendly - low VOC
- Water vapour permeable
- Resistant to mould growth
- Resistant to roots

Specification

Where mentioned in the contract drawings, the protective and waterproofing coating shall be Fosroc Nitoproof 725, one-component, flexible, ASTM E108 Class A fire rated, UV resistant colour stable water based modified polyurethane hybrid coating system. Fosroc Nitoproof 725 should be applied to achieve a minimum 0.8mm dft.

Properties

Typical Physical properties at 23°C

Solids by Volume	: 62%
Density	: 1.3g/ml
Tensile strength ASTM D412	: 1.75MPa
Elongation, ASTM D412	: >350%
Hardness, ASTM D2240	: 75 Shore A
Adhesion to substrate	: 1.9MPa concrete
ASTM D4541 / D7234	: 1.5MPa steel/aluminium
Crack bridging, static/dynamic	: 2mm
ASTM C836	
UV resistance/colour stability	
2000 hrs qUVA, ASTM D4587	: Pass
Resistance to water	: 10m
pressure	
Water vapour transmission	: 3.1g/m ² /day
rate, ASTM E96, 32°C/50%RH	(47.8gr/m ² /day)
Surface touch dry time	: ~1 hr at 50°C/<20%RH
	: ~2.5 hrs at 25°C/55%RH
	: ~5 hrs at 5°C/70%RH
Walkable time	: <24 hrs
Service temperature	: -10°C to +90°C
Resistance to Fire	: ASTM E108 Class A
Resistance to dynamic indentation	
ETAG 005 Part 1	: Pass, P3 at +90°C
Resistance to mould growth	
ASTM D3273	: Pass, rating 10
Resistance to roots	
CEN/TS 14416	: Pass
Solar Reflectance Index	
ASTM E1980, White	: 106
LEED compliance	: Pass
(v4.1 Heat island reduction SRI)	
LEED EQc4.2	: Pass (VOC)
BAAQMD Reg 8 Rule 3	: Pass (VOC)

Clarification of property values

The typical physical properties given above are derived from results derived from laboratory testing in controlled conditions. Field-applied samples may vary dependent on circumstances beyond our control such as the application temperatures and weather conditions, film thickness, test and curing conditions and age of samples tested.

Certification

Fire Rated as roof waterproofing to ASTM E108 Class A.
Root resistance to CEN/TS 14416.
Resistance to mould growth to ASTM D3273.
Solar Reflectance Index 106 to ASTM E1980 for white.



FEWS Technology: Nitoproof 725 fuses together the benefits of both synthetic and PU polymer resins resulting in a modified polyurethane Fire rated, Environmental friendly LEED compliant, Waterproof, Solar reflective, one component liquid-applied membrane solution for roof waterproofing

Fosroc® Nitoproof 725

Instructions for use

Surface preparation

All surfaces must be clean and free from debris, loose or flaking material, standing water, paint, oil, rust, grease, organic growth and other contaminants

Concrete surfaces must be free from laitance and any traces of formwork release oils and curing compounds. Blasting is highly recommended as an effective method of surface preparation and to provide a suitable key for the Nitoproof 725 coating. Any surface irregularities must be filled with Fosroc Nitomortar FC / FCB or other appropriate product from the Fosroc Renderoc or Nitomortar range prior to coating. Contact Fosroc for advice.

Metal surfaces should be abraded or blasted to SA1.0 to expose bright metal and achieve a suitably profiled surface, then wiped clean with Fosroc Solvent 102 and allowed to dry prior to coating.

Movement joints

All expansion and movement joints should be primed and sealed with a suitable joint sealant e.g Nitoseal MS600. When sealant is dry, Nitoseal Debonding Tape should be applied over the joint. One primer coat of Nitoproof 725 should be applied to the substrate to a distance 150mm either side of the tape, and allowed to dry. A 0.65 - 0.7mm thick wet coat of Nitoproof 725 should be applied over the joint area, extending 150mm beyond each side of the tape, and while wet, reinforced using Nitoproof Scrim and allowed to dry. A second 0.65 - 0.7mm thick wet coat should then be applied.

Treatment of Cracks

All shrinkage and non-moving structural cracks should be pretreated with a minimum 1.3mm thick wet coat of Nitoproof 725, extending 75mm either side of the crack.

Coving and bends

All angles / bends must have a cant strip or coving detail installed. This may be formed using a sand/ cement mix. One primer coat of Nitoproof 725 should be applied and allowed to dry, then a 0.65 – 0.7mm thick wet coat applied, extending 150mm either side of the coving, and while still wet, reinforced using Nitoproof Scrim and allowed to dry. A second 0.65 – 0.7mm wet coat should be applied.

All other angles, joints, protrusions and stress points should be pretreated with a 1.3mm thick coat of Nitoproof 725 extending 100mm either side of the detail. Reinforcement using Nitoproof Scrim is recommended where movement is possible, using the same technique as above.

All pretreatment coats must be allowed to dry before the main application of Nitoproof 725.

Pre-Application Mixing

Nitoproof 725 is a single component material. Stir using

slow speed drill for 1-2 minutes to achieve a homogenous consistency prior to application. Avoid air entrapment whilst stirring, do not over-stir. Allow to settle for 1-2 minutes before use.

Priming

Priming is mandatory for porous and absorbent substrates such as concrete. Priming is recommended but not mandatory for prepared metal substrates.

Prepare a 1:1 by volume Nitoproof 725 / clean water mixture. Apply primer and allow to wet/ soak in to the substrate and dry to a tacky state before coating.

Application brush / roller / squeegee / spray

Nitoproof 725 can be applied in one coat by roller or brush or squeegee or by airless spray at a wet film thickness of 1.3 - 1.4 mm. If necessary contact Fosroc for further advice on spray equipment.

Nitoproof 725 can also be applied in two coats by roller or brush or squeegee or by airless spray at a wet film thickness of 0.65 – 0.7 mm per coat. This is the recommended technique for applications onto vertical surfaces.

Allow the first coat to dry (normally 1-5 hours depending on the climatic conditions), then proceed with the application of the second coat. The second coat of Nitoproof 725 should be applied at 90° to the first, ensuring that a final continuous coating with a minimum total applied wet film thickness of 1.3 – 1.4 mm is achieved, resulting in a total dry film thickness of 0.8 – 0.9 mm.

Spray equipment

Examples of suitable airless spray equipment models are the Keiser KP330 and KP230 or the Graco Mark V.

Flood Test

The Nitoproof 725 membrane must be cured for at least 48 hours prior to a flood test. Flood to a minimum of 50mm depth of water for 24 hours. Drains must be plugged and barriers put in place to contain the water.

Curing and protection

Nitoproof 725 must be completely dry (e.g up to 24 hours at 25°C) prior to the placement of any protection layer.

In order to protect Nitoproof 725 against any damage caused by e.g backfilling or traffic, it must be protected using either a cementitious screed or protection boards. A separation sheet can be laid under the protection layer if necessary, to avoid any bonding to the membrane.

Nitoproof 725 Method Statement

The Nitoproof 725 Method Statement should be consulted for all issues relating to the application and use of the product. Contact Fosroc for advice if necessary.



Fosroc® Nitoproof 725

Estimating Supply and coverage

Nitoproof 725 :20 litre pail
Coverage at 1.3mm wft :15m² per 20 litre pail
(0.8mm dft)

Prime 1:1 Nitoproof 725 / clean water by volume
: 7m² per litre of primer

Limitations

Do not apply Nitoproof 725 if the substrate temperature is <3°C above dew point.

Do not apply Nitoproof 725 if the concrete moisture content is >6% or if rising moisture (negative pressure) is evident by polyethylene sheet test, or anticipated during service.

Do not apply Nitoproof 725 if the ambient or substrate temperature is <5°C, or when ambient relative humidity is >85%.

Do not apply Nitoproof 725 if precipitation is anticipated within the walkable time of the product. This can be up to 24 hours depending on actual conditions.

Nitoproof 725 is not suitable for permanent pedestrian traffic.

Nitoproof 725 should not be subjected to permanent static point loading. In this case protection must be in place, see Curing and Protection section.

Nitoproof 725 should not be subject to permanent immersion or permanent ponding water.

Nitoproof 725 should not be subject to chemicals or oils spillage, any such contamination should be removed immediately and repairs carried out if necessary.

When used to waterproof a ballasted roof, the Nitoproof 725 must be covered by a min 140g/m² non-woven geotextile prior to placing of ballast.

Storage

Nitoproof 725 has a shelf life of 12 months if kept in a dry, air conditioned store between +5°C and +30°C in its original unopened containers. A reduction in shelf life can be expected if stored above +30°C. Product is water based and must be protected from freezing conditions.

Precautions Health and Safety

For all Fosroc products, consult the appropriate Health and Safety Datasheet.

Additional information

Fosroc manufactures a wide range of complementary products which include :

- Waterproofing membranes & waterstops
- Joint sealants & filler boards
- Cementitious & epoxy grouts
- Specialised flooring materials
- Concrete repair mortars
- Protective coatings
- Surface treatments
- Concrete Admixtures
- Cement Grinding Aids



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 of information given by it.

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