Nitoflor EPU100

Formerly known as Nitoflor EU100

constructive solutions

Flexible protective floor coating, based on epoxy polyurethane resins

Uses

Provides chemical and abrasion resistance to prevent corrosion of concrete surfaces for applications such as:

- Wall and floor coating for concrete protection.
- Car parks and as a traffic deck protection system.
- Warehouses, factory floors and walls, workshops, clean rooms.
- Foundations and sub-structures waterproofing.

Advantages

- Flexible coating.
- Environment friendly - Totally free of carcinogenic materials like coal tar, pitch and aromatic hydrocarbons.
- Cost saving - primerless system, easy brush roller or spray application.
- Added value system - acts as an impermeable waterproof
- coating and excellent resistance to underground environment..
- Excellent chemical resistance, UV resistance, and
- resistance to bacterial growth.

Description

Nitoflor EPU100 is based on hybrid combination of epoxy polyurethane resins. It is supplied as a two pack material in pre-weighed quantities ready for on-site mixing and use. Nitoflor EPU100 is applied as a two coat application. It is generally applied at a wet film thickness of 200 micron per coat. Nitoflor EPU100 is available in a standard Grey color, other colors are available subject to minimum order quantities.

Specification

The corrosion resistant coating shall be Nitoflor EPU100, a tar free, a flexible epoxy-polyurethane coating. It shall posses excellent bond to the concrete substrate. The coating shall be resistant to underground conditions, alkalis, salt solutions and acidic solutions.

Technical support

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

Properties

Specific gravity (ASTM D1475)	1.48 g/cm³ at 23°C	
Pot life (ASTM D2471)	3 hours 1.5 hours	@ 23°C @ 35°C
Tack free time : (ASTM D1640)	6 hours 3 hours 1-2 hours	@ 23°C @ 35°C @ 45°C
Min. Over coating time (ASTM D1640)	8 hours 4 hours 2 hours	@ 23°C @ 35°C @ 45°C
Full cure (ASTM D1640)	7 days 4 days	@ 23°C @ 35°C
Adhesion Strength (ASTM D4541)	1.5 - 2.5 N/mm²*	
Water Absorption (ASTM C570)	0.2%	
Tensile Strength (BS2782)	10N/mm²	
Elongation at break (BS2782)	Approx 25%	

* Depending on the type of concrete substrate

Chemical resistance

Tests were carried out in accordance with ASTM D1308, at room temperature of 23°C and specimens were soaked in the solution for a period of 7 days.

Acids (m/v)		
Hydrochloric acid 10%	:	Resistant
Sulphuric acid 25%	:	Resistant
Nitric acid 10%	:	Resistant
Phosphoric acid 15%	:	Resistant

Aqueous solutions		
Tap water	:	Resistant
Sea water	:	Resistant
Ground water	:	Resistant
Sewage	:	Resistant

Consult the local Fosroc office for specific recommendations to meet each operating condition.

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Instructions for use

Preparation

All surfaces to be treated with Nitoflor EPU100 must be clean and free from dust or loose material.

Metal surfaces

Any metal surfaces should be grit blasted to a bright finish, meeting the requirements of Swedish Standard SA 2½ or equal.

Concrete surfaces

All laitance must be removed by grit blasting, or other suitable removal methods. Following the preparation of a concrete surface, care should be taken to ensure that any surface irregularities are filled with Nitomortar FC*† or Nitomortar FCB*†.

Priming

Concrete surfaces

Priming is not required on properly prepared concrete surfaces - see Preparation section.

Metal surfaces

All metal surfaces should be coated immediately after preparation. If this is not possible and to eliminate formation of rust, prime the metal surfaces using Nitoprime 25.

Mixing

The contents of the resin can should be thoroughly stirred to disperse any possible settlement. The entire contents of both the hardener and resin cans should be poured into a suitable sized mixing vessel.

It is recommended that the two components are mixed together mechanically using a slow speed electric drill fitted with a Fosroc Mixing Paddle (MR3). Mixing should be carried out continuously for 3 to 5 minutes, until a uniform consistency is achieved.

Application

A minimum 2 coat application is generally recommended to ensure a full, unbroken coating is achieved.

Brush/Roller application

Once mixed, the material should be immediately applied, ensuring that a continuous coating is obtained. The first coat is applied to achieve a uniform coating with a wet film thickness not less than 200 microns, and should be allowed to dry for at least 2 hours at 35°C before the application of the second coat.

The second coat should be applied after 2 to 4hours (at 35°C) from the application of the first coat. The second coat should be applied as above again achieving a wet film thickness not less than 200 microns.

Spray application

Where large areas are to be coated, it is advisable to consider spray application. Consult the local Fosroc office for further details and recommendations.

Antislip application

If a slip resistant texture is required, the base coat shall be applied as per the standard application, but at a minimum film thickness of 200 microns. The base coat should then be, dressed with the chosen Nitoflor Antislip Grain. This should be done as soon as possible after laying. The recommended procedure is to completely blind the base coat i.e. apply excess dressing aggregate to completely obliterate the base coating. Alternatively, the Nitoflor Antislip Grains can be broadcast in a light random dressing to provide a less dense finish. When the base coat has reached initial cure (12 hours @ 20°C,or 5 hours at 35°C), the excess aggregate should be vacuum cleaned from the surface. The top coat can now be applied by medium haired roller, at a rate of 5.0m²/litre. Care should be taken to ensure that a continuous film is achieved and the rough surface, caused by the aggregate, is completely sealed. This top coat must be applied within 36 hours @ 20°C (15 hours @ 35°C) of the application of the first coat.

Cleaning

Tools and equipment should be cleaned with Fosroc Solvent 102* immediately after use.

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Hot weather working practices

Whilst the performance properties of Nitoflor EPU100 at elevated temperatures are assured, application under such conditions can sometimes be difficult. It is therefore suggested that, for temperatures above 35°C, the following guidelines are adopted as a prudent working regime:

i. Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.

ii. Keep mixing and placing equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.

iii. Try to eliminate application in the middle of the day, and certainly avoid application in direct sunlight.

iv. For hand application, ensure that there are sufficient operatives available to complete application within the pot life of the material.

v. Have a ready supply of Fosroc Solvent 102 available for immediate cleaning of tools after use.

Repairing and over-coating

Any applications of Nitoflor EPU100 which have become damaged can be readily over-coated.

The existing surface should be well abraded, using a stiff wire brush, or similar, to ensure that a good mechanical bond will be achieved between the two layers.

Any loose material should be removed. Over-coating works can then proceed as for new work, always ensuring that the prepared substrate is free from any moisture.

Limitations

- Nitoflor EPU100 is formulated for application to clean sound substrates of steel or concrete; and where it can be protected from contact with water for the first 24 hours after application as discolouration could occur.
- For cold weather working (down to 5°C), it is recommended that materials are stored in a heated building and only removed immediately before use. Accelerated heating methods are not to be utilized under any circumstances.

Estimating

Supply

Nitoflor EPU100	**:**	10 litre packs
Nitoprime 25	**:**	1 and 4 litre packs
Fosroc Solvent 102	**:**	4 litre packs

Coverage

Nitoflor EPU100	**:**	5.0 m^2/litre @ 200 microns wft (per coat)
Nitoprime 25	**:**	5.0 m^2/litre

Coverage Antislip - medium texture

Nitoflor EPU100 (base coat)	:	5.0m^2/litre @200 microns WFT
Antislip Grain No 2*	:	1.25-3m2/kg
Nitoflor EPU100 (top coat)	:	5.0m^2/litre @200 microns WFT
Estimated system thickness	:	1.25 - 2.0mm

Coverage Antislip - fine texture

Nitoflor EPU100 (base coat)	:	5.0m^2/litre @200 microns WFT
Antislip Grain No 3*	:	1.25 - 3.5m2/kg
Nitoflor EPU100 (top coat)	:	5.0m^2/litre @200 microns WFT
Estimated system thickness	:	0.75 - 1.25mm

* Depending on the type of texture required.

Note: Coverage figures given are theoretical - due to wastage factors and the variety and nature of substrates, practical coverage figures may be reduced, this will vary with site and application conditions.

Storage

Nitoflor EPU100 supplied in 10 litre packs have a shelf life of 12 months, when stored in warehouse conditions below 35°C.

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Precautions

Health and safety

Nitoflor EPU100, Nitoprime 25 and Fosroc Solvent 102 should not come in contact with skin or eyes, nor should they be swallowed. Avoid inhalation of vapours and ensure adequate ventilation. Some people are sensitive to resins, hardeners and solvents.

Wear suitable protective clothing, gloves and eye/face protection. Barrier creams such as Kerodex Antisolvent or Rozalex Antipaint provide additional skin protection. Should accidental skin contact occur, remove immediately with a resin removing cream such as Kerocleanse Standard Grade Skin Cleanser or Rozaklens Industrial Skin Cleanser, followed by washing with soap and water - do not use solvent. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
If swallowed seek medical attention immediately - do not induce vomiting.

For further information, please consult the Material Safety Data Sheet for Nitoflor EPU100.

Fire

Nitoflor EPU100 and Nitomortar FC are non-flammable.

Nitoprime 25 and Fosroc Solvent 102 are flammable. Do not use near a naked flame.

Flash points

Nitoprime 25:	55°C
Fosroc Solvent 102:	33°C

For further information on any of the above, please consult your local Fosroc office

Additional Information

Fosroc manufactures a wide range of complementary products which include:

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialized flooring materials

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 – as below.

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 Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the recent version.**

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