

Nitoflor EPU

Epoxy polyurethane based, flexible, floor and wall coating

Uses

Nitoflor EPU provides flexible, wall and floor coating on the concrete surfaces, high in chemical and abrasion resistance, in the areas mentioned below.

- All concrete surfaces horizontally and vertically
- Parking lots
- Warehouses, workshops, clean rooms
- Factories
- Underground applications

Advantages

- Flexible
- Environment friendly - free of carcinogenic materials such as coal tar, tar and aromatic hydrocarbons
- Cost saving - primerless system, brush roller or spray application
- Provide a versatile, non-absorbent surface
- Excellent resistance to underground environment
- Resistance to bacterial growth

Description

Nitoflor EPU is based on hybrid combination of epoxy polyurethane resins. It is supplied as a two component material in pre-weighed quantities ready for on-site mixing and use.

Nitoflor EPU is applied as a two coat application. It is generally applied at a wet film thickness of 200 microns per coat.

Specification

The chemical and abrasion resistant coating shall be Nitoflor EPU, a tar free, a flexible epoxy-polyurethane coating. 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

Typical properties	
Density(ASTM D1475)	1.43 g/cm ³ at 23°C
Pot life (ASTM D1475)	3 hours at 23°C
	1.5 hours at 35°C
Tack free time (ASTM D1640)	6 hours at 23°C
	3 hours at 35°C
	1-2 hours at 45°C
Min. Over-coating time (ASTM D1640)	8 hours at 23°C
	4 hours at 35°C
	2 hours at 45°C
Tensile Strength	
ASTM D4541	>3.5 N/mm ²
Flexural Strength	
BS 2782	5.0 N/mm ²
Elongation at Break	
BS 2782	Approx %60
Water Absorption	
ASTM D570	%0.2

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	
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.

Instruction for use

Preparation

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

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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 repair mortars.

Priming

Concrete surfaces

Priming is not required on smooth and non-absorbent concrete surfaces with a tensile strength over 1.5 N/mm². If it is a concrete absorbent, it is recommended to use Nitoprime 31 solvent free epoxy primer.

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 28.

Mixing

The contents of the resin 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 (approx 300 gr/m²), and should be allowed to dry for at least 4 hours at 35°C before the application of the second 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 250 microns (approx. 350 gr/m²). Then silica / quartz sand should be sprinkled in the appropriate gradation according to the desired non-slip need. This should be done as soon as possible after laying. 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 350 gr/m². 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 at 20°C (15 hours at 35°C) of the application of the first coat.

Cleaning

Tools and equipment should be cleaned immediately after use.

Hot weather working practices

Whilst the performance properties of Nitoflor EPU 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:

- Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- 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.
- Try to eliminate application in the middle of the day, and certainly avoid application in direct sunlight.
- For hand application, ensure that there are sufficient operatives available to complete application within the pot life of the material.
- Immediately after application, clean the equipment with suitable methods.



constructive solutions

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Repairing and over-coating

Any applications of Nitoflor EPU 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 EPU 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.

Supply	
Nitoflor EPU	12,5 kg packs
Nitoprime 31	14 kg packs
Nitoprime 28	1,5 kg packs
Coverage	
Nitoflor EPU	0,300 kg/m ² /kat 200 µ WFT
Nitoprime 31	0,200 – 0,500 kg/m ²
Nitoprime 28	0,150 – 0,250kg/m ²

Not : Coverage figures quoted are theoretical, and based upon application to a properly prepared substrate.

Precautions

Health and safety

Nitoflor EPU, Nitoprime 31 and Nitoprime 28 should not come in contact with skin or eyes, nor should they be swallowed. Avoid inhalation of vapors' 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 EPU.

Fire

Nitoflor EPU and Nitoprime31 are non-flammable.

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

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

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