

Nitoflor EU5

High strength self-smoothing epoxy underlay

Uses

Provides an economical method of levelling floors prior to laying epoxy screed, toppings or coatings such as Nitoflor FC140, Nitoflor FC150 and Nitoflor SL2000 and all other resin topping of Fosroc.

Advantages

- Cost effective
- High strength
- Quick and easy to lay
- Seamless
- Durable

Description

Nitoflor EU5 consists of special resins and graded aggregates formulated to withstand chemical attack and impact shock. The product is supplied as a 3 component system comprising resin base, resin hardener and fillers. When correctly laid Nitoflor EU5 will provide a surface ready to receive applications of other Fosroc flooring systems.

Standards compliance

Nitoflor EU5 complies to IS 4631:2001.

Technical Support

Fosroc offers a comprehensive range of high performance, high quality flooring, jointing and repair products for both new and existing floor surfaces. In addition, the company offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance in locations all over the world.

Design Criteria

Nitoflor EU5 is designed for application upto 5mm thickness. Greater thicknesses can be achieved by the use of other products in the Nitoflor EU range - consult the local Fosroc office for more details.

Substrates should be surface dry and not suffer, or be likely to suffer, from rising dampness. If necessary, suitable damp-proof membranes should be installed to prevent this. Substrates should not have a moisture content greater than 5% at any time during the installation.

Specification Clause

The epoxy underlay shall achieve a minimum compressive

strength of 61 N/mm² as per ASTM C579. Flexural strength of 22 N/mm² and Tensile strength of >10N/mm² @ 7 days as per BS 6319. The underlay shall have nil water absorption when tested as per BS1881 Part 122. The adhesion strength of the epoxy underlay shall be greater than the tensile strength of concrete.

Properties

The values given below are typical figures achieved in laboratory tests. Actual values obtained on-site may show minor variations from those quoted.

Physical properties @ 27°C

Pot life	:	>115 minutes
Mixed density	:	1.80 - 1.85 g/cc
Compressive strength (ASTM C579)	:	>60 N/mm ² @ 7 days
Tensile strength (BS 6319 part 7)	:	>11 N/mm ² @ 7 days
Tensile Modulus (BS 6319 part 7)	:	>880 N/mm ²
Flexural strength (BS 6319 part 3)	:	22 N/mm ² @ 7 days
Water absorption (BS 1881 Part 122)	:	Nil

Curing characteristics @ 35°C

Initial hardness	:	16 hours
Full cure	:	7 days
Pull of Adhesion Strength	:	>2.2 N/mm ²
Crushing Resistance (BS 8204 part 1)	:	>2.2 N/mm ²

Note: The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary, dependent on actual site conditions. The slip resistance figures given above are affected by application techniques and prevailing site conditions. Slip resistance can reduce over time due to poor maintenance, general wear or surface contaminants.

Instructions for use

Surface Preparation

It is essential that Nitoflor EU5 is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product.

New concrete floors

Should be at least 21 days old with a maximum moisture content not exceeding 5%. Laitance deposits on new concrete floors are best removed by light grit blasting, mechanical scabbling or grinding.

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Old concrete floors

Mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contamination by oil and grease has occurred or existing coatings are present. These may well have been absorbed several millimetres into the concrete. To ensure adhesion, all contamination should be removed by the use of a proprietary chemical degreaser.

Priming

If surfaces treated with Nitoflor SL3000 should be primed with Nitoprime 25, a solvent based epoxy resin primer designed for maximum absorption and adhesion to concrete substrates.

Add the entire contents of the hardener tin to the base tin and mix the two primer components thoroughly for at least 2 minutes - under no circumstances should part mixing be considered.

Once mixed, the primer should be applied immediately to the prepared substrate using stiff brushes and/or rollers. The primer should be well 'scrubbed' into the substrate to ensure full coverage, but care should be taken to avoid over unsightly application or 'ponding'.

Allow the primer to dry (see table below) before proceeding to the next stage. Do not proceed whilst the primer is 'tacky' as this will lead to unsightly marks in the finished surface.

Porous substrates may require a second primer coat - when the first coat is directly absorbed into the substrate - but minimum overcoating times must still be observed (see table below).

The minimum overcoating times will vary slightly according to the porosity of the substrate. However, they should be in accordance with the following ambient application temperatures.

20°C	:	8-12 hours
30°C	:	6-8 hours
40°C	:	4-6 hours

Mixing

It is important that Nitoflor EU5 is mixed correctly.

Suitable mixing equipment must be used, such equipment being defined as either a heavy duty variable speed drill and Mixing Paddle, or forced action mixers such as Creteangle or similar.

Empty the entire contents of the resin hardener component into the can containing the resin base component and mix until homogeneous. Place the mixed resin components into the mixing vessel and while mixing slowly add the fillers. Mixing of all components shall continue for a further 3-5 minutes, until such time that a homogenous mix is achieved.

Application

The mixed Nitoflor EU5 should be spread to uniform thickness on the prepared surface using either a squeegee or a notched trowel. The subsequent use of a spiked roller, eliminates air entrainment.

The material must be applied within the pot life after mixing (see "Properties"). After this time unused material should be discarded.

Overcoating

Overcoating of the Nitoflor EU5 with any other Fosroc floor system should not start until the Nitoflor EU5 is at least 18 hours old, but not later than 48 hours.

Expansion joints

Expansion joints in the existing substrate should be continued through the Nitoflor EU5 and any subsequent topping, and filled to the required level with a suitable sealant - contact the local Fosroc office for further details

Cleaning

All tools and equipment should be cleaned immediately after use with Nitoflor Sol.

Estimating

Supply

Nitoflor EU5	:	15 litre packs
Nitoflor Sol	:	5 & 20 litre packs
Nitoprime 25	:	1 & 4 litre packs

Coverage

Nitoflor EU5	:	7.5 m ² /pack @ 2mm thickness
Nitoprime 25	:	5.5 - 6.5 m ² /litre

Precautions

Health and safety

Nitoflor EU5 and Nitoflor Sol should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of solvent vapours.

Some people are sensitive to epoxy resins, hardeners and solvents. Gloves, goggles and a barrier cream should be used. Ensure adequate ventilation and if working in enclosed areas use suitable breathing apparatus.

If mixed resin comes into contact with the skin, it must be removed before it hardens with a resin removing cream followed by washing with soap and water. Do not use solvent.



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Nitoflor Sol should be washed from the skin immediately with soap and water.

Should accidental eye contamination occur with any of the above products, wash well with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately. Do not induce vomiting.

Fire

Nitoflor Sol, is flammable. Do not expose to naked flames or other sources of ignition. No smoking during use. Containers should be tightly sealed when not in use. In the event of a fire, extinguish with a CO₂ or foam type extinguisher.

Flash points

Nitoflor Sol : 33°C

Also refer to the Material Safety Data Sheet.

Storage

Shelf life

Nitoflor EU5 has a shelf life of 12 months when stored in a dry place below 35°C in its original, unopened packs. If stored at high temperature, the shelf will be reduced.

* Away from the sources of heat & naked flames.

Disposal

All cementitious products and Inert epoxy fillers can be used for landfilling. Any left out of epoxy base and hardener (expired or small bottom quantity) before disposing to empty cans/tins/pail buckets, take out the material and mix both base and hardener, make it solid and then dispose through authorized PCB vendor. Used empty epoxy Base & Hardener pail buckets/Tins, (Ensure completely drained out the material) dispose through approved vendor only.

Do's and Don'ts

Do's

- Cleaning regularly with Mop and Soft washing agent or with soft mopping device.
- Trolley and Forklift movement with rubber or Teflon wheel
- All normal activity without any mechanical damage of the floor.
- Consult with manufacturer if any cut to be made over the floor

- Clean the floor immediately, if any strong chemical or hot liquid fall on the floor.

Don'ts

- Use any Harsh chemicals, acid base or any cleaning solution without confirming the manufacturer
- Dragging of sharp, heavy object and trolley with metal wheel
- Allow any Impact with heavy object on the floor
- Carry out any hot activity like welding or with any activity which create fire
- Drill or core cutting without confirmation from manufacturer
- Make it expose to high temperature > 60°C

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

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

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



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- Don't drag heavy objects on the floor as that will lead to surface scratching
- Don't drop sharp and pointed load on the surface as that will create dents or marks on the surface
- Don't allow molten rubber/glue/ green paint to fall on the surface to avoid sticking with the existing epoxy flooring
- Don't allow sparks of fire in contact with the floor



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Important note :

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification or 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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