

Nitoflor FC145

High build, solvent based epoxy resin floor coating

Uses

To provide a durable, easily cleaned, high build floor finish in areas where a hard wearing, high resistance to chemical attack is required. It is particularly suitable in areas where a thicker coating is required, such as:

- Production assembly areas
- Workshops
- Dairies
- Soft drinks production and bottling plants
- Kitchens
- Showrooms

Advantages

- Very hard wearing - durable, low maintenance costs.
- High resistance of a wide range of industrial chemicals.
- Hygienic - impervious finish provides easily cleaned surface.
- Attractive - available in a range of colours to improve the working environment.

Standards compliance

Nitoflor FC145 complies to IS 4631:2001.

Description

Nitoflor FC145 is a three-component high solids, epoxy resin coating system supplied in pre-weighed packs ready for on-site mixing and use.

The cured film forms a hard, durable, coating with excellent adhesion to clean concrete, sand/cement and granolithic screeds, and certain metal surfaces. It cures to semi-gloss impervious finish which is easily cleaned.

The product is available in a wide range of colours and is also available in a clear grade.

Properties

The values given below are average figures achieved in laboratory tests at 27°C. Actual values obtained on site may show variations from those quoted.

@27°C

Pot Life	:1.5 hrs
Tack free time	:6-8 hrs
Time between coats	:12-24 hrs

Initial hardness	:30 hrs
Abrasion resistance (ASTM D4060 by CS17 wheel)	: 0.12 gm/1000 cycle
Pull off adhesion strength (ASTM D4541)	: 2.70 MPa
Full cure	:10 days
Wet film thickness (per single coat)	:250 microns
Dry film thickness (2 coats)	:300 microns
Mixed gravity	: 1.362 g/cc
Abrasion Resistance (ASTM D 4060)	: 0.13 mg/cycle loss of weight (with CS 17 wheel of 1000g weight)
Adhesion Strength (ASTM D 4541)	: 2.76 N/mm ²

Note 1 After the pot life has expired, the material, although not hardened, increases in viscosity and the characteristics of the product change. Excess material should be discarded after this point.

2 Final applied thickness of the material can be varied according to service conditions.

Chemical properties

Nitoflor FC145 is resistant to a wide range of chemicals.

Citric Acid (10%)	: Resistant
Hydrochloric Acid (10%)	: Resistant
Lactic Acid (10%)	: Resistant
Sulphuric Acid (10%)	: Resistant

Good housekeeping is essential in areas where chemical spillage is likely to occur. It is especially important that such spillage should not be allowed to dry since much higher concentrations of chemicals will then result. Nitoflor FC145 is a high solids version of Nitoflor FC140. For further data on properties, please refer Nitoflor FC140 data sheet.

Specification

The designated floor area should be coated with Nitoflor FC145, 300 micron roller applied coating having abrasion resistance of 12mg weight loss by CS17 wheel 1000 cycle when tested as per ASTM D4060. The coating should have pull off adhesion strength of 2.7 MPa as per ASTM D4541.

Instructions for use

Preparation

It is essential that Nitoflor FC145 is applied to sound, clean and dry substrates in order to achieve maximum adhesion.

Because Nitoflor FC145 is a relatively thin coating, the substrate must be fine textured. Any surface irregularities may show through causing excessive wear on high spots and changing the perceived colour of coating.

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New concrete floors

Unless otherwise agreed by the engineer, the floor should have been placed for at least 28 days and have a moisture content of less than 5%. Floors should be sound and free from contamination such as oil and grease, mortar and paint splashes or curing compound residues. Excessive laitance can be removed by the use of mechanical methods. Dust and other debris should then be removed by vacuum cleaning.

Old concrete floors

A sound, clean substrate is essential to achieve maximum adhesion. Oil and grease penetration should be removed by the use of a proprietary chemical degreaser or by hot compressed air treatment.

Any damaged areas or surface irregularities should be repaired using Nitomortar 30 or Nitoflor EU5.

Epoxy screeds

Nitoflor FC145 can be applied to Fosroc epoxy resin screeds. High spots or trowel marks should be rubbed down and dust and other debris removed by vacuum cleaning.

Priming

All 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

The base and hardener components of Nitoflor FC145 should be thoroughly stirred before the two are mixed together. The entire contents of the hardener container should be poured into the base container and the two materials mixed thoroughly, then add the colour pot and mix for at least 3 minutes. The use of a heavy-duty slow speed, flameproof or air driven drill fitted with a Mixing Paddle is desirable. Mix these components in the quantities supplied taking care to ensure all containers are scraped clean. Do not add solvent thinners at any time.

Application

The mixed Nitoflor FC145 should be applied to the prepared surface using a brush or lambswool roller. Ensure that the area is completely coated and that 'ponding' of the material does not occur.

The second coat may be applied as soon as the first coat has initially dried (typically 12 to 18 hours). The time will be dependent on the type of surface and the ambient conditions.

Maintenance

The service life of a floor can be considerably extended by good housekeeping practices. Regular cleaning of Nitoflor FC145 may be carried out using a rotary scrubbing machine with a water miscible cleaning agent or by hot water washing at temperatures up to 50°C.

Cleaning

Nitoflor FC145 and Nitoprime 25 should be removed from tools and equipment with Nitoflor Sol immediately after use. Hardened material can only be removed mechanically.

Limitations

- Nitoflor FC145 should not be applied onto surfaces known to or are likely to suffer from rising dampness or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A or by Protimeter Thermohygrometer.
- Fosroc does not recommend acid etching as a method of floor preparation. If used, the method should be approved by the project consultant.
- Nitoflor FC145 should not be applied to asphalt floors or PVC tiles or sheets.



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- In common with all epoxy materials some slight shade changes may be experienced over the long term when placed in adverse exposure conditions. Any such change in shade is not regarded as being detrimental to performance.

Technical support

Fosroc offers a comprehensive technical support service to specifiers, end users and contractors.

Estimating

Supply

Nitoflor FC145	:	4.5 litre packs (Including colour pack)
Nitoflor Sol	:	5 litre pack
Nitoprime 25	:	1 and 4 litre packs

Coverage

Nitoflor FC145	:	4.0 m ² /litre @ 250 microns wft/coat (2 coats application recommended)
Nitoprime 25	:	5.5 - 6.5 m ² /litre

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

Shelf life

Nitoflor FC145 and Nitoflor Sol have a shelf life of 12 months if kept in a dry store between 5°C and 30°C in the original, unopened packs.

Storage conditions

The product should be stored in accordance with local regulations.

Precautions

Health and safety

Nitoflor FC145, Nitoprime 25 and Nitoflor Sol should not come into contact with skin and eyes or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves, and eye protection. If working in confined areas, suitable respiratory protective equipment must be used. The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water.

Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting.

Fire

Nitoflor FC145 and Nitoflor Sol are flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with Carbon Dioxide or foam. Do not use a water jet.

Flash points

Nitoflor FC145	:	23°C
Nitoflor Sol	:	33°C

Cleaning and disposal

Spillages of component products should be absorbed onto earth, sand or other inert material and transferred to a suitable vessel. Disposal of such spillages or empty packaging should be in accordance with local 'waste disposal authority regulations'.

For further information, refer to the Product Material Safety data sheet.

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 - as below.



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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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