

Fosroc® Nitoflor FC150

Solvent free, low odour, high build epoxy resin Resin floor and wall coating

Uses

Nitoflor FC150 provides a slip resistant, hard wearing, chemical and abrasion resistant coating for floors and walls. It also provides a high build top coating to the Nitoflor SL slip resistant range of products.

It is suitable for use on floors and walls in food and beverage production areas, hygienic clean rooms, high density traffic warehouses, workshops, car production facilities, showrooms, pharmaceutical industries, and as a traffic deck protection system.

It is ideally suited for use in wet areas where a high degree of chemical resistance is required e.g. dairies, soft drinks production, chemical manufacture etc.

Advantages

- **Hard wearing:** Durable, low maintenance costs.
- **Chemical resistant:** Proven against a wide range of industrial chemicals.
- **Solvent free:** Low odour during application.
- **Slip resistant:** Different textures available to suit conditions.
- **Seamless:** Liquid applied providing complete protection.
- **Attractive:** Available in wide range of colours to improve the working environment and identify slip hazard areas.
- **Locally produced:** Specially formulated for use in Middle East conditions.

Description

Nitoflor FC150 is a solvent free system based on epoxy resins and curing agents specially selected for their ability to withstand chemical attack. The system consists of pre-weighed base, hardener, and colour pack components.

The optional slip resistant texture is provided by the use of one of a range of Nitoflor Anti-Slip Grains which have been carefully graded to ensure an even surface.

Technical Support

Fosroc offers a comprehensive range of high performance, high quality construction products. Fosroc offers a technical support package to specifiers and contractors as well as technical advice from staff with unrivalled experience in the industry.

Colours

Nitoflor FC150 is available in the following standard colours; Brick-red, White, Sage Green, Off White, Buff, Silver Grey, Dark Grey.

Properties

Ambient Temperature	:	@20°C	@30°C
Pot life	:	40 min	20 min
Cure time	:	24 hrs	18 hrs
Maximum time between coats	:	36 hrs	15 hrs
Light traffic use after	:	24 hrs	18 hrs
Full traffic use after	:	48 hrs	24 hrs
Resistant to chemical spillage	:	7 days	5 days
Mixed specific gravity	:	1.42 ± 0.05	
Compressive strength	:	*70 N/mm ²	
Flexural strength	:	*40 N/mm ²	
Tensile strength (ASTM D638-99)	:	*20 N/mm ²	
Volume of Solids	:	100%	
Impact Resistance (ASTM D 2794 : 1996)	:	9.85 Joules	
Surface Hardness (ASTM D 2240 :1996)	:	77-85 Shore D	
Abrasion Resistance (ASTM D 4060 : 1996)	:	100 mg /1000 cycles (CS-10)	150 mg/1000 cycles (CS-17)
Bond strength to concrete	:	*Greater than the cohesive strength of concrete	
Water absorption (ASTM D570-98)	:	0.06%	
Reaction to fire (for Flame Spread Index(FSI) and Smoke Development Index(SDI))	:	Class A	
Volatile Organic Compound	:	6.4 g/L	
Dry Slip Resistance @ 23° C (UK SRG classification)	:	Extremely low	

*Obtained on resin system only.

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Chemical resistance

Nitoflor FC150 has been tested for resistance to a comprehensive range of industrial chemicals. The results below were obtained after constant immersion for 3 months at 20°C and 35°C. Samples were visually inspected and tested in accordance with ASTM D543

Acids	Concentration	Resistance
Hydrochloric	: 32%	Excellent
Nitric	: 25%	Good
Sulphuric	: 50%	Excellent
Phosphoric	: 50%	Good
Acetic	: 10%	Excellent
Lactic	: 10%	Excellent
Citric	: 10%	Excellent

Alkali

Sodium hydroxide	: 32%	Excellent
Ammonia (0.88)	: 25%	Good

Solvents

Petrol	: Excellent
Oil	: Excellent
Kerosene	: Excellent
Acetone	: Not resistant
Butanol	: Good
Skydrol	: Good

Industrial Methylated Spirits

	: Good
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Others

Bleach (5%)	: Excellent
Bleach (Concentrated)	: Poor
Saturated sugar solution	: Excellent
Urea (saturated)	: Excellent

At elevated temperatures or where mixtures of chemicals are involved, please contact your local Fosroc technical services department.

Specification clause

Epoxy floor coating

The epoxy resin floor coating shall be Nitoflor FC150 from Fosroc. The total dry film thickness of the coating shall be 400 microns and shall have a compressive strength of 70 N/mm², flexural strength of 40 N/mm² and a tensile strength of 20 N/mm². The floor shall be prepared and the coating mixed and applied in accordance with the manufacturer's current data sheet.

Application instructions

Surface preparation

The long term durability of any resin floor/wall system is determined by the adhesive bond achieved between the flooring material and the substrate. It is most important therefore that substrates are correctly prepared prior to application.

New concrete floors/walls

These should normally have been placed for at least 28 days and have a moisture content of less than 5%. They 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 light mechanical scabbling, diamond grinding or grit blasting. Light laitance can be removed by acid etching followed by thorough washing with clean water, vacuum cleaning and then allowing the surface to dry.

Old concrete floors/walls

Where deep seated contamination has occurred mechanical methods such as grit blasting, diamond grinding or scabbling should be used to provide a suitable clean surface. Any necessary repairs should be carried out using Nitomortar S, Nitomortar FC or Nitomortar TC2000 (see separate data sheets).

Priming

Priming is not normally required provided the substrate is sound, untreated (no curing compound) and good quality non porous concrete. However, if concrete surface is porous, or w/c ratio is >0.5 it is recommended to use Nitoprime 31.

Nitoprime 31 should be mixed in the proportions supplied. Add the entire contents of the hardener can to the base can. When thoroughly mixed, preferably using a slow speed drill and paddle, the primer should be applied in a thin, continuous film using rollers or stiff brushes. Work the primer well into the surface of the concrete taking care to avoid ponding or over application. The primer should be left to achieve a tack-free condition before applying the top coat.

Mixing the topcoat

In a separate mixing vessel, use a slow speed drill and paddle to mix the base, hardener, and one color pack for 3 minutes. Mix these components in the quantities supplied taking care to ensure all containers are scraped clean. **Do not add Solvent Thinners at any time.**

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Laying

The first coat of Nitoflor FC150 should be laid using a medium haired 3/8" pile roller, or squeegee to achieve a continuous coating. Ensure that loose hairs on the roller are removed before use. A minimum film thickness of 200 microns per coat should be applied for flooring system (this can be increased when required by project specifications). For walls, a maximum film thickness of 150 microns per coat should be applied. The top coat can be applied in the same manner within 8 to 15 hours of the application of the top coat.

Anti-slip Grains (for floors)

If the option of using Anti-slip Grains has been chosen, the base coat should be dressed with the chosen Nitoflor Anti-slip Grains as soon as possible after laying of the base coat. 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 Anti-slip Grains can be broadcast in a light random dressing to provide a less dense finish, or the product can be used to obtain a smooth finish by omitting the Anti-slip Grains.

When the base coat has reached initial cure (after 12 hours at 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. Care should be taken to ensure that a continuous film is achieved and the rough surface caused by the aggregate is completely sealed. This topcoat must be applied within 36 hours at 20°C (15 hours at 35°C) of the application of the resin base coat.

Expansion Joints

Expansion joints in the existing substrate must be retained and continued through the Nitoflor FC150 topping. Fosroc have a range of joint sealants specifically designed for flooring (see Nitoseal 280, Thioflex 600 and Nitoseal MS300 product data sheets).

Cleaning

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

Estimating

Supply

Nitoprime 31	: 5kg packs
Nitoflor FC150	: 4.8 litre Packs (0,1L Colour Pot) 14.1 litre Packs (0,3L Colour Pot)
Nitoflor Anti-slip Grains	: 20Kg bags
Fosroc Solvent 102	: 5 litre Packs

Coverage

Nitoprime 31	: 5 m ² / kg
Nitoflor FC150	: 5 m ² /Ltr @ 200 microns
Nitoflor Anti-slip Grains No.3	: 1.25 - 3.5m ² /kg

Optional use of Anti-slip Grains, top coat coverage of Nitoflor FC150 becomes:

On Anti-slip Grain No. 2	: 4 m ² / Litre
On Anti-slip Grain No. 3	: 4 m ² / Litre

Nitoflor Anti-Slip Grains

(m²/20 kg bag on 250-micron base coat)

On Anti-slip Grain No. 2	: 1.25 - 3 m ² / kg
On Anti-slip Grain No. 3	: 1.25 - 3.5 m ² / kg

Over all system thickness with Nitoflor Anti-slip Grains

Nitoflor FC150 system - final thickness	Texture	Estimated Thickness
On Anti-slip Grain No. 2	: Medium	1.50-2.0mm
On Anti-slip Grain No. 3	: Fine	0.75-1.5mm

The above coverage rates are given for guidance only. Actual coverage rates will depend upon substrate conditions.

Technical service

The company provides a technical advisory service supported by a team of specialists in the field.

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Precautions

Health and safety

Nitoflor FC150 Base and Hardener, Nitoprime 25/31 and Fosroc Solvent 102 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 barrier creams, such as Kerodex Anti-solvent and Rozalex Anti-paint, 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 such as Kerocleanse Standard Grade Skin Cleanser or Rozaklens Industrial Skin Cleanser, followed by washing with soap.

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

Fire

Fosroc Solvent 102 is flammable. Do not expose to naked flames or other sources of ignition. No Smoking. Containers should be tightly sealed when not in use. In the event of fire extinguish with CO2 or foam.

Nitoflor FC150 and Nitoprime 31 are non-flammable

Flash Points

Nitoprime 31 is not flammable.



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(Abel closed cup method IP33)

Fosroc Nitoflor FC150 : Above 50°C

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Fosroc Solvent 102 : 33°C

Shelf life

Nitoflor FC150 has a shelf life of 12 months when stored in warehouse conditions below 35°C in unopened packs.

Additional information

Nitoflor FC150 is only one of the Nitoflor FC range of floor coatings which also includes polyurethane sealers as well as water and solvent based epoxy coatings (see Nitoflor FC110, Nitoflor FC130, Nitoflor FC140 and Nitoflor FC145 data sheets).

In addition, the Nitoflor range includes concrete hardeners, self-levelling resin floors and heavy duty resin screeds to meet the requirements of most industrial environments.

Ancillary products include repair products, surface dressings and joint sealants. For information on any of these products please contact your local Fosroc representative.

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.