

High performance epoxy resin floor coatings

Uses

Nitoflor FC150 is used to provide a hard wearing, easily cleaned, attractive floor coating in industrial areas where high resistance to chemical attack and an abrasion resistant floor finish is required. It is suitable for use in production assembly areas, workshops, dairies, soft drinks production and bottling plants, breweries, kitchens, showrooms and internal car parks. It is particularly suitable in wet working areas and where chemical spillage is likely, e.g. plating shops, processing plants and dye works.

Advantages

- Hard wearing — durable, low maintenance costs
- High resistance to a wide range of industrial chemicals
- Hygienic — impervious finish provides easily cleaned surface
- Solvent free — no odour during application
- Attractive — available in a range of colours to improve the working environment
- Slip resistant - different textures available to suit conditions

Description


Nitoflor FC150 is a solvent free, epoxy resin coating system supplied in pre-weighed packs ready for onsite mixing and use. The system consists of a Nitoflor FC150 base, hardener and colour pot. A slip resistant finish can be obtained by use of one of our range of Nitoflor Antislip Grains which have been carefully graded to ensure an even texture.

For large application areas the system can be purchased as a two component pack, where the colour paste has been pre-dispersed in the base component

Standards compliance

Nitoflor FC150 has been tested according to BS EN 13813:2002.

Chemical resistance tests have been conducted according to EN1504 standards (Class I).

	
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EN 13813 SR-B2,0-AR1-IR4 Synthetic resin screed material for use internally in buildings	
Reaction to fire:	NPD
Compressive strength:	C80
Flexural strength:	F50
Wear resistance:	AR0,5
Bond strength:	B2,0
Impact resistance:	IR10
Chemical resistance:	CR1-14 (class I)

Properties

The values given below are average figures achieved in laboratory tests at 20°C. Actual values obtained on site may show minor variations from those quoted.

Physical properties

Pot life*:	50 minutes
Tack-free time:	1.5 - 2 hours
Time between coats:	6 - 18 hours
Full cure:	7 days
Dry film thickness - each coat:	250 microns (approximate)
2 coats:	500 microns (approximate)
Light traffic use after:	24 hours
Full traffic use after:	48 hours
Colour:	silver grey, dark grey, light grey, buff, sage green, brick red, powder blue

* Note that 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.

Chemical properties

Fully cured Nitoflor FC150 samples have been tested in a wide range of aggressive chemicals commonly found in industrial environments. Tests were performed in accordance to EN 1504 standards over 168 hours (7 days at 23°C).

Acids

Acetic acid 10%	Resistant
Lactic acid 20%	Resistant
Sulphuric acid 20%	Resistant
Nitric acid 20%	Resistant
Ascorbic acid 20%	Resistant

Alkalis

Sodium hydroxide 20%	Resistant
Sodium Chloride 20%	Resistant

Solvents

Petrol	Resistant
Aviation Fuel	Resistant
Skydrol	Resistant
Butanol	Resistant
Industrial Methylated Spirits	Resistant

Amines

Triethanolamine 35%	Resistant
N-butylamine 30%	Resistant
Dimethylalanine 35%	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 higher concentrations of chemicals will then result.

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Application instructions

All coating work to be carried out in accordance with the relevant sections of BS6150:2006, Painting of Buildings - Code of Practice.

Surface preparation

It is essential that Nitoflor FC150 is applied to sound, clean, dry substrates in order to achieve maximum adhesion between the floor coating and substrate.

New concrete floors

Unless specially water-reduced, the floor must be at least 28 days old and have a moisture content of less than 5%. Where these conditions are not met it may be possible to use Nitoflor DPM as a primer. Refer to the Nitoflor DPM data sheet or consult your local Fosroc office for advice. Dry removal of laitance by light grit-blasting is preferable. Dust and other debris should then be removed by vacuum brush.

Old concrete floors

A sound, clean substrate is essential to achieve maximum adhesion. Light grit-blasting or acid etching should be carried out as for new concrete floors. Oil and grease penetration should be removed using a water miscible chemical cleaner.

Priming

Priming is not normally required provided the concrete substrate is sound, untreated, good quality and non-porous. If the concrete is damp or has a high moisture content Nitoflor DPM can be considered. Refer to the Nitoflor DPM data sheet. If the concrete is porous it should be primed with Nitoprime 25. Contact your local Fosroc office for advice.

Nitoprime 25 should be mixed in the proportions supplied. Add the entire contents of the hardener can to the base can and mix thoroughly, preferably with 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. A second coat of primer may be required if the substrate is excessively porous.

Mixing

Nitoflor FC150 three component system: Scrape the entire contents of the colour pot into the neutral base and mix the two materials using a heavy duty slow speed drill and paddle* until a uniform colour is obtained. Stop mixing and scrape the sides and bottom of the base can. Empty the entire contents of the hardener tin into the base and machine mix the two materials thoroughly for 2 minutes. Stop mixing and re-scrape the sides and bottom of the base can. Continue mixing for at least a further 1 minute.

*use Thioflex mixing paddle

Coating

The mixed Nitoflor FC150 coating should be applied to the prepared surface using a trowel or rubber squeegee then back rolled using a short pile roller to achieve an even thickness of 250 microns. An acrylic woven roller is recommended. 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 6 to 18 hours). The time will be dependent on the type of surface and the ambient conditions.

Anti-slip application

If a slip resistant texture is required, the base coat shall be applied as per the standard application with a minimum film thickness of 250 microns. The base coat should then be dressed with the chosen Nitoflor Anti-slip 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 Anti-slip Grains can be broadcast in a light random dressing to provide a less dense finish.

When the base coat has reached initial cure, 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 4.5m²/litre. Care should be taken to ensure that a continuous film is achieved. This top coat must be applied within 36 hours @ 20°C of the application of the first 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; contact your local Fosroc office for advice.

Cleaning

Nitoflor FC150 should be removed from tools and equipment with Fosroc Solvent 102 immediately after use. Hardened material can only be removed mechanically.

Maintenance

The service life of a floor can be considerably extended by good housekeeping practices. Regular cleaning of Nitoflor FC150 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.

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Estimating

Supply

Nitoflor FC150:	4.5 litre packs
Nitoprime 25:	5 kg packs
Fosroc Solvent 102:	5 and 25 litre tins
Nitoflor anti-slip grains:	25 kg

Coverage

Nitoflor FC150:	18 m ² /pack (per coat)
Nitoprime 25:	26 m ² /pack

The coverage figures given are theoretical — due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced.

Limitations

Nitoflor coatings should not be applied onto surfaces known to or are likely to suffer from rising damp, potential osmosis problems or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A or by a Vaisala thermohygrometer type HMI 31.

Fosroc does not recommend acid etching as a method of floor preparation. If used, the method should be approved by the project consultant.

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.

The manufacture of Nitoflor FC150 coatings is a batch process and despite close manufacturing tolerances variation may occur between batches. Fosroc recommends using material from one batch only as the finish topcoat.

Storage

Nitoflor FC150 should be stored in dry conditions between 10°C and 30°C, in the original unopened packs. Material from different batches shall be stored separately.

Nitoflor FC150 has a shelf life of 18 months if kept in the above conditions. If stored at high temperatures the shelf life may be reduced.

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet.

Fire

Nitoflor FC150 is not flammable.

Flash points

Fosroc Solvent 102	33°C
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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 Safety Data Sheet.

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Important note

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