



Nitoflor FC50

(Formerly: Techfloor 50)

Solvent free, high performance epoxy floor coating

Uses

Nitoflor FC50, provides a hard wearing, chemical and abrasion resistant floor finish. Use as a smooth finish, or a multi-layer system with anti-slip aggregate in wet areas. Typically, application such as:

- Factories & manufacturing facilities.
- Warehouses and storage areas.
- Car parks & walkways.
- Demonstration areas & workshops.
- Laboratories & clean rooms.
- Exhibition halls and showrooms.
- Aircraft hangers.
- Suitable to be used in different industries such as Food & Beverage, Pharmaceuticals, Hospitals, Power Stations and Water Plants.

Advantages

- Provides abrasion and chemical resistant floor coating.
- Durable, low maintenance costs.
- Solvent free- no odour during application.
- Slip resistant – if required, different textures available to suit conditions.
- Liquid applied providing complete protection.
- Easy to use and can be applied by brush or roller.
- Semi-Glossy finish.
- Does not support the bacterial growth.
- Easy to clean.

Description

Nitoflor FC50 is a solvent-free, high-build, epoxy floor protection system. It can be used as a multi-layer system, depending on usage requirements. The system consists of pre-weighed base & hardener components, all of which contain reactive elements that are essential to the installation of the system.

A slip resistant texture can be provided by the use of one of a range of Nitoflor Anti-slip Grains which have been carefully graded to ensure an even texture.

Specification

The epoxy resin floor system shall be Nitoflor FC50. The total dry film thickness shall be a minimum of 300 microns and be solvent free. To provide a slip resistant texture, the first coat can be dressed with anti-slip grains, then over coated. The floor shall be prepared and the coating mixed and applied in accordance with the manufacture's current data sheet.

Typical properties

The following values were obtained when tested at 20°C and 30°C.

Touch dry @ 23°C	:	3 - 5 Hours
Hard dry of light service @ 23°C	:	24 Hours
Full Cure @ 23°C	:	7 days
Pot life @ 23°C	:	60 minutes
Solid content by weight	:	100 %
Compressive strength (7 Days ASTM C579)	:	55 - 60 N/mm ²
Compressive strength (7 Days ASTM D695)	:	60 - 65 N/mm ²
Flexural strength (7 Days ASTM C580)	:	35 - 43 N/mm ²
Flexural strength (7 Days ASTM D790)	:	40 - 45 N/mm ²
Tensile strength (7 Days ASTM D638)	:	23 - 28 N/mm ²
Bond strength (7 Days ASTM D4541)	:	> 1.5 N/mm ² *Failure in concrete
Shore D Hardness (7 Days ASTM D2240)	:	70 N/mm ²
Water absorption (ASTM D570)	:	0.1%
Minimum Time Between Coats at	:	@ 20°C @ 30°C 3-4 Hrs 2-3 Hrs
Maximum Time Between Coats at	:	@ 20°C @ 30°C 36 Hrs 24 Hrs

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



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Design criteria

System 1: - Heavy duty, abrasion and chemical resistant smooth coating system

Nitoprime SF	100 gm/m ²
Nitoflor FC50	Two coats, 400 – 600 gm/m ²

System 2: - Anti-slip, High abrasion resistant heavy-duty coating system

Nitoprime SF	100 gm/m ²
Nitoflor FC50	One coat, 200-300 gm/m ²
Nitoflor Anti-slip Grains	Anti-slip grains as the required texture
Nitoflor FC50	Two coats, 400- 600 gm/m ²

Chemicals resistant (Exposure Time 7 days)

Lactic Acid 10%	: No Effect
Sodium Hydroxide 50%	: No Effect
Ammonia 10%	: No Effect
Skydrol	: No Effect
Sugar Solution	: No Effect
Citric Acid 10%	: No Effect
Acetic Acid 10%	: No Effect
Kerosene	: No Effect
Fuel Oil	: No Effect
Sulphuric Acid 30%	: Color Change
Hydrochloric Acid 30%	: Color Change

Instruction for use

Surface preparation

The long-term durability of any resin floor 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.

All surfaces should be clean, dry and free from contamination dry grinding is recommended to remove laitance and weak surface.

New concrete floors

These should normally 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. Excess laitance deposits are best removed by light mechanical scrubbing, grinding or grit/captive blasting followed by vacuum cleaning to remove dust debris.

Old concrete floors

A sound, clean substrate is essential to achieve maximum adhesion. As for new concrete floors dry removal of laitance deposits are best removed by light mechanical scrubbing, grinding or grit/captive blasting. Oil and grease penetration should be removed by the use of a proprietary chemical degreaser or by hot compressed air treatment.

Priming

- Stir Nitoprime SF cans of base and hardener separately.
- Mix Nitoprime SF by adding the hardener to the base and then mix them by mechanical mixer with slow speed (300 - 400 rpm) for 2 – 4 min until you get homogeneous form.
- Apply the mixture to the surface by a good quality brushes or short pile rollers.
- Nitoflor FC50 can be diluted from 7 – 10% to be used as a primer coat.

Mixing

- Stir Nitoflor FC50 cans of base and hardener separately.
- Mix Nitoflor FC50 by adding the hardener to the base and then mix them by mechanical mixer with speed (300 - 400 rpm) for 2 – 4 min until you get homogeneous form.

Installing

The first coat of Nitoflor FC50 should be applied using a good quality medium haired pile roller, suitable for epoxy application, or squeegee to achieve a continuous coating. Ensure that loose hairs on the roller are removed before use. A minimum film thickness of (150 – 200) microns should be applied. This can be increased where specifications demand. When the base coat has reached initial cure (24 hours @ 30°C).

The topcoat can be applied by medium haired roller, at minimum film thickness of (150 – 200) microns. Care should be taken to ensure that a continuous film is achieved.

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constructive solutions

Anti-slip 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 200 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 (24 hours @ 30°C), the excess aggregate should be vacuum removed from the surface.

The two coats of topcoat can now be applied by medium haired roller, at a rate of 400 - 600 gm/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 topcoat must be applied within 36 hours @ 20°C (24 hours @ 30°C) of the application of the first coat.

Limitation

The surface Moisture content should not exceed 4%.

In the case of smooth surfaces, pores should lighten using sandpaper or sand blast.

Nitoflor FC50 should not be installed at temperatures below 10°C or above 45°C. If in doubt, or for application outside these temperature limits, please consult your nearest Fosroc office. In case of smooth surfaces, pores should lightened using sandpaper or sand blast.

In common with all epoxy materials some light 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.

Please note that when using a textured surface, the cleaning regime may need to be modified. Good cleaning is best achieved using a rotary brush system.

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.

Estimating

Supply

Nitoflor FC50 : 4 Kg & 20 Kg

Storage

Shelf life

Nitoflor FC50 has a shelf life of 12 months when stored in warehouse conditions below 35°C in the original, unopened packs.

Storage conditions

Store under warehouse conditions, below 35°C in the original, unopened packs.

For further information, refer to the Product Material Safety Data Sheet.

Cleaning and disposal

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



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 recent version.**

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