



Nitoflor FC500

High build solvent free epoxy resin coating system

Uses

For use on industrial and commercial concrete floors where a smooth easy cleaned surface is required. Typical areas of use include food processing areas, clean rooms, laboratories, hospitals and light duty manufacturing areas.

Advantages

- Hygienic: provides an easy to clean dust free surface.
- Range of colours: enhances working environment.
- Chemically resistant: protects the concrete floor surface.
- Food grade: Solvent free and taint free formulation.
- Hard wearing: good abrasion resistance. Will withstand foot and light vehicular traffic.

Description

Nitoflor FC500 is a self-smoothing epoxy floor coating capable of being laid between 0.25 mm and 1 mm in a single application. A bag of filler is supplied and it may or may not be necessary to add this into the epoxy depending on the thickness applied. Application is by trowel, squeegee or roller. The full system comprises:-

- Nitoprime 25 or 31
- Nitoflor FC500 Binder
- Nitoflor FC500 Aggregate
- Nitoflor Colour Pack

The product utilises a unique colour pack system and is available in a wide range of standard colours. A slip resistant texture can be provided by the use of one of a range of Nitoflor Antislip Grains which have been carefully graded to ensure an even texture.

Technical support

Fosroc offers comprehensive technical support, including help during design stage, application advice and on the site problem solving. Specifiers and contractors are encouraged to contact our trained staff for answers to their questions.

Properties

The following values are typical of those achieved in laboratory tests at 20°C. As such, actual values obtained on site may show minor variations from those quoted.

Physical Properties

Pot life @25 °C :	40-45 mins
Cure time at 25°C -	
Initial cure (foot traffic) :	24 hrs.
Full cure:	7 days
Thickness :	0.25 mm - 0.5 mm (No filler)
(in one application)	0.5 mm - 1mm (with filler)

Chemical properties

Nitoflor FC500 has excellent resistance to a wide range of industrial chemicals. For details of specific chemical resistance please consult Fosroc.

Maintenance

The service life of a floor can be considerably extended by good housekeeping. Regular cleaning of Nitoflor FC500 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.

Deep staining chemicals such as iodine should be removed as soon as possible to prevent floor discolouration.

Specification clauses

Floor areas so designated should be surfaced with Nitoflor FC500 as manufactured by Fosroc. The product should be applied at 0.25 - 1 mm thick in accordance with the manufacturer's instruction.

Application Instructions

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.

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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.

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. As for new concrete floors dry removal of laitance by use of mechanical methods is preferable. Oil and grease penetration should be removed by the use of a proprietary chemical degreaser or by hot compressed air treatment.

Priming

Priming is not normally required provided the substrate is sound, untreated and good quality nonporous concrete. If any doubts exist of the quality of the concrete, or if it is porous it should be primed with Nitoprime 25 or 31. Contact the local Fosroc office for advice.

Nitoprime 25 or 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. A second coat of primer may be required if the substrate is excessively porous. Mixing the coating The base and hardener components of Nitoflor FC500 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 Fosroc Mixing Paddle (MR3) 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.

Standard application

Nitoflor FC500 should be applied using a good quality medium haired pile roller, suitable for epoxy application, squeegee, trowel and roller to achieve a continuous coating. Ensure that loose hairs on the roller are removed before use. A minimum film thickness of 250 microns should be applied. This can be increased where specifications demand.

When the base coat has reached initial cure (24 hours @ 20°C or using a spiked roller thoroughly roll the Nitoflor FC500 to remove entrained air and aid curing.)

Antislip 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 250 microns. The base coat should then be dressed with the chosen Nitoflor Antislip 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 Antislip 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 at 20°C), 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 4.0m²/litre. Care should be taken to ensure that a continuous film is achieved and the rough surface, caused by the aggregate, is completely sealed. This top coat must be applied within 36 hours at 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 FC500 topping. Fosroc have a range of joint sealants specifically designed for flooring, contact local Fosroc office for advice.

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Cleaning

Tools and equipment should be cleaned with Fosroc Solvent 102 immediately after use. Spillages should be absorbed with sand or sawdust and disposed of in accordance with local regulations.

Limitations

- Nitoflor FC500 should not be applied on to surfaces known to, or likely to suffer from, rising dampness, potential osmosis problems or have a relative humidity greater than 75% as measured in accordance with BS 203 Appendix A, or by a Hammond concrete/mortar moisture tester type COCO.
- 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. If movement or cracking of the substrate takes place after application then reflective cracking of the topping may occur.
- Note that all known expansion joints should be maintained in the topping using Fosroc Nitoseal 280, Thioflex 600 or Colpor 200.
- In areas of significant thermal shock please consult Fosroc. Nitoflor FC500 should not be applied to the following substrates:-
- *Asphalt Unmodified sand cement screeds P. V. C. tiles or sheet.*
- Nitoflor FC500 products should not be installed at temperatures below 10°C.

For information on the suitability of other substrates consult us at your nearest Fosroc office.

Estimating

Supply

Nitoflor FC500: 8.5 kg pack

Nitoprime 25: 5 kg packs

Nitoprime 31: 5 kg pack

Coverage

Nitoflor FC 500 : 9m² / pack @ 500 micron wft

Nitoprime 25, 30 and 30: 5 m²/kg

Note: In accordance with Commercial or Health & Safety requirements packaging detail may alter. Please contact your local Fosroc office for detail.

Precautions

Health and safety

Nitoflor FC500, Nitoprime 25 or 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 Antisolvent or Rozalex Antipaint should therefore be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus must be used.

If mixed resin comes in contact with skin, it must be removed before it hardens with a resin removing cream such as Kerocleanse Standard Grade Skin Cleanser or Rozakiens Industrial Skin Cleanser, followed by washing with soap and water - do not use solvent. Should accidental eye contamination occur with any of the above product, wash well with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting.

For detailed information please consult the Health and Safety Datasheet.

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Fire

Nitoprime 25 or 31 and Fosroc Solvent 102 are 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.

Flash points

Nitoprime 25	:	59°C
Fosroc Solvent 102	:	33°C

Storage

Nitoflor FC500 and Nitoprime 25 or 31 have a shelf life of 12 months when stored in unopened containers below 35°C.

Additional information

A technical note relating to the survey and preparation guidelines for resin floor installation is available. Please request from the local Fosroc office.

Fosroc manufactures a wide range of products specifically designed for the specialist flooring industry. These include liquid-applied, chemically-resistant coatings, self-levelling epoxy toppings and trowel-applied, highly abrasion resistant screeds.



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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.

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