Nitoflor FC140

constructive solutions

High performance epoxy resin floor coating

Uses

To provide a hard wearing, easily cleaned, attractive floor coating in areas where high resistance to chemical attack is required. It is suitable for use in production assembly areas, workshops, dairies, soft drinks production and bottling plants, kitchens, showrooms etc. It is particularly suitable in wet working areas and where chemical spillage is likely, e.g. plating shops, processing plants, dye works etc.

It can also be used as a final coating and sealer for epoxy floor screeds to provide a more durable and easily cleaned surface where high impact is desirable.

Advantages

- Hard wearing - durable, low maintenance costs
- High resistance to 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 FC140 complies with BS 476, Part 7: 1971 - Class 1 spread of flame and to IS 4631:2001.

Description

Nitoflor FC140 is a three component solvent based, epoxy resin coating system supplied in pre-weighed packs ready for on-site mixing and use.

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

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

Technical support

Fosroc offers a comprehensive range of high performance, high quality flooring, jointing and repair products for both new and existing floor surfaces. In addition, the company offers a technical support service to specifiers, end users and contractors.

Specification

Epoxy floor coating

The floor coating shall be Nitoflor FC140, a three component solvent based epoxy, suitable for application by spray, brush or lambswool roller. The coating shall be applied in two coats to achieve a total dry film thickness of 90 microns (WFT 100 microns/coat). The coating shall have the abrasion resistance of 0.108 gm weight loss by CS17 wheel 1000 cycle when tested as per ASTM D4060. Pull off adhesion strength will be > 3 MPa when tested as per ASTM D4541

Design criteria

Nitoflor FC140 is designed for application in two coats to achieve a total dry film thickness of 90 microns.

Substrates should be dry and not suffer, or be likely to suffer, from rising damp. If necessary, suitable damp-proof membranes should be installed to prevent this. Substrates should not have a relative humidity greater than 75% at the time of installation.

Properties

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

		@ 27°C
Pot life*	:	2 hrs
Tack free time	:	4-6 hrs
Time between coats	:	6-24 hrs
Initial hardness	:	24 hrs
Pull off adhesion strength (ASTM D4541)	:	> 3MPa
Full cure	:	7 days
Wet film thickness (per single coat)	:	100 microns
Total dry film thickness (2 coats)	:	90 microns
Mixed density	:	1.273 g/cc

Abrasion Resistance (ASTM D 4060) : 0.1 mg/cycle loss of weight (with CS 17 wheel of 1000g weight)

Adhesion Strength (ASTM D 4541)	:>2.5N/mm2
Tensile Strength (ASTM D 2370)	: >15 N/mm2
Tensile Modulus (ASTM D 2370)	: >2500 N/mm2
Elongation (ASTM D 2370)	: >0.8%

Note: 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

Nitoflor FC140 is resistant to a wide range of chemicals. Few of them are listed below. Specific data will be available upon request.

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 very much higher concentrations of chemicals will then result.

Instructions for use

Surface preparation

It is essential that Nitoflor FC140 is applied to sound, clean, dry substrates in order to achieve maximum adhesion between the floor coating and substrate.

Because Nitoflor FC140 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 the coating.

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. 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 FC140 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 FC140 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 FC140 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 FC140 should be applied to the prepared surface using airless spray, 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 FC140 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 FC140 should be removed from tools and equipment with Nitoflor Sol immediately after use. Hardened material can only be removed mechanically.

Limitations

- Nitoflor FC140 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.
- The durability of Nitoflor FC140 in foot traffic areas is reduced in areas of very heavy traffic such as around work benches, drinks machines etc. It is advisable to either:-
  - a specify additional coats in such areas or,
  - b specify a higher build system such as Nitoflor FC150 in such areas.
- Nitoflor FC140 should not be applied to asphalt floors or PVC tiles or sheet.
- 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.
- Nitoflor FC140 should not be installed at temperatures below 5°C.

Estimating

Supply

Nitoflor FC140 (Including colour pack)	:	4.5 litre packs
Nitoprime 25	:	1 and 4 litre packs
Nitoflor Sol	:	5 litre tins

Coverage

Nitoflor FC140	:	10 m^2/litre @ 100 microns WFT per coat (2 coat 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 FC140 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

All products should be stored in accordance with local regulations.

Precautions

Health and safety

Nitoflor FC140, 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 FC140 and Nitoflor Sol are flammable. Keep away from sources of ignition. No smoking. In the event of fire, extinguish with CO_2 or foam. Do not use a water jet.

Flash points

Nitoflor FC140	:	23°C
Nitoflor Sol	:	33°C

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.

MATT INDIA CO
G-25, SECTOR -63,
GAUTAM BUDDH NAGAR,
UP-201307 INDIA

Phone No:
09555666476
09555655544
Emaiil:mattindia1@gmail.com

www.fosroc.com

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.