



Nitoflor® TF5050

Water miscible, damp-tolerant, epoxy flooring screed, applied at 5-10mm thick

Uses

- Engineering plants.
- Cold Storage areas.
- Freezer rooms.
- Commercial Kitchens.
- Floors in warehouses.
- Garages.
- Pharmaceutical industries and medical laboratories.
- Light industrial and food processing areas.
- Food & Beverage Industries.
- Paper & Pulp industry.
- Textile Production areas.

Advantages

- **Durable** - good resistance to abrasion and impact.
- **Fast** - Can be applied on green concrete.
- **Damp tolerant** - no application delays.
- **Water miscible** - safe in use, no odour.
- **Longevity** - Good abrasion and corrosion resistance.
- **Attractive** - available in a range of colours.
- **Environment friendly** - No V.O.C.
- **Cleanliness** - Can be steam cleaned.
- **Resistant** to thermal shocks.
- **Water vapour** permeable.
- **Good resistance** to a wide range of chemicals.
- **Resistance** to high temperature working conditions.
- **Non tainting.**

Description

Nitoflor TF5050 is a four-component water miscible epoxy screed system, based on new generation epoxy resin technology, supplied in pre-weighed packs ready for on-site mixing and use.

The cured screed forms a hard, matt and water vapour permeable seal to concrete. This permeability allows it to be applied on damp substrates and green concrete.

The product is available in a wide range of colours.

Properties

The value given below are average figures achieved in laboratory tests. Actual values obtained on site may show variations from those quoted.

Physical properties

	@ 23°C	@ 35°C
Pot life*	: 1 hour	30 mins
Traffic time	: 24 hours	15 hours
Full cure	: 21 days	10 days

Mechanical Properties

Shore D Hardness		
(ASTM D2240)	:	70-75
Compressive strength		
(ASTM C579)	:	40N/mm ² @ 23°C 45N/mm ² @ 35°C
Flexural strength		
(ASTM C580)	:	16N/mm ²
Tensile strength		
(ASTM C307)	:	10N/mm ²
Bond strength		
(BS1881:Pt207)	:	2.5N/mm ² concrete failure
Abrasion resistance		
(ASTM D4060)	:	172mg wt loss (CS22/1kg/1000cycles)
Impact resistance		
(ISO 6272, 23°C)	:	No failure
Service Temperature		
60°C Specular gloss	:	-45°C to +120°C
(ASTM D523)	:	2-4 (Matt)
Watervapour transmission**		
(ASTM E96)	:	0.784g/hr/m ²
Specific permeability**		
(ASTM E96)	:	10
Permeance**		
(ASTM E96)	:	1.11x10 ⁻⁷ g/pa.s.m ²
Thermal Shock Resistance		
(ASTM C884)	:	Passes
Resistance to bacterial growth (BS6920, Pt. 2.4)		
	:	Resistant
Resistant to Fungal growth*		
(ASTM D3273)	:	Resistant
Effect of high temperature (120°C, 30 days)	:	No cracking, softening, colour change or debonding.

* Sample was overcoated with 500micron top coat of Nitoflor FC550*† .

** @ 2.34mm thick

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Design criteria

Nitoflor TF5050 is designed for application on horizontal substrates to achieve an approximate total minimum thickness of 5mm.

Nitoflor TF5050 is designed for fast curing (24 hours) and can be applied on green concrete (1day old).

Specification

Epoxy floor screed

The flooring screed shall be Nitoflor TF5050, a four-component water miscible epoxy resin, suitable for application by trowel. The screed shall be 5mm thick with a comprehensive strength of 35N/mm² on full cure.

Chemical Resistance

Nitoflor TF5050 is resistant to a wide range of chemicals. Specific data is available on request. A few general categories are listed below.

- Water, Sea water
- Alkali Solutions
- Aqueous solutions of salts
- Soft drinks
- Fruit juices
- Carbonated beverages
- Motor oils and lubricants
- Cosmetics and toiletries.
- Pharmaceutical products
- Dairy products
- Edible oils
- Medicated oils etc.

Note : 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 TF5050 is applied to sound, clean substrates in order to achieve maximum adhesion between the floor screed and substrate.

New concrete floors

The floor should be typically at least 28 hours old @ 23°C.

Old concrete floors

A sound, clean substrate is essential to achieve maximum adhesion. Light grit blasting should be carried out as for new concrete floors. Oil and grease penetration should be removed by hot compressed air treatment followed by cleaning with a proprietary degreaser.

Priming

The substrate should be primed using Nitoprime WB.

Nitoprime WB 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.

Whilst the primer is wet, dress the surface with Antislip Grain No. 3* at a rate of 0.5kg/m². This will provide a key for the application of Nitoflor TF5050. A second coat of primer may be required if the substrate is excessively porous. Make sure that the primer is applied within its open time:

4 hours @ 23°C

2 hours @ 35°C

1 hour @ 45°C

Mixing

The individual components of Nitoflor TF5050 should be thoroughly stirred before the two are mixed together. The entire contents of the colour pack and base should be poured into a suitably sized mixing vessel and mixed with a slow speed heavy duty drill for 1 to 2 minutes. Add the hardener and mix for another 2minutes, until a homogeneous dispersion is achieved. The homogeneity is assessed when there are no colour streaks visible in the mix. Add the filler and mix well for five minutes.

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Application

The Nitoflor TF5050 should be applied to the primed substrate whilst the primer is touch dry.

The mixed Nitoflor TF5050 should be spread to uniform thickness on the primed surface using either a garden rake or the edge of a plastic trowel. The material should be tamped with a wooden float to ensure complete compaction and finally finished to a closed even texture using a steel trowel. Screeding rods are useful to maintain a minimum compacted thickness of 5mm.

Once mixed, the material must be used within the specified pot life (see under "**Properties**"). After this time, any unused material will have stiffened and should be discarded.

Expansion joints

Expansion joints in the existing substrate should be continued through the Nitoflor TF5050 topping, and filled to the required level with a suitable sealant from the Fosroc range incorporating the appropriate movement accommodation factor (MAF).

Coving

Nitoflor TF5050 can be used to form a perimeter edge coving. Skilled applicators can also form stairs and nosings.

Sealing

Although Nitoflor TF5050 is impervious at 5mm thick, in constantly wet operation areas or where a high degree of cleanliness is required, the Nitoflor TF5050 may be sealed with Nitoflor FC550*†.

Cleaning

Nitoflor TF5050 should be removed from tools and equipment with clean water 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 TF5050 may be carried out using a rotary scrubbing machine with a water miscible, alkaline, cleaning agent or by hot water washing at temperatures up to 50°C.

Limitations

- Nitoflor TF5050 should not be applied at temperatures below 5°C or where ambient relative humidity exceeds 95%.

- Stains on exposure to higher concentrations of mineral acids, organic acids and strong oxidising agents.
- If movement or cracking of the substrate takes place after application, then reflective cracking of the topping may occur. All known expansion joints should be maintained in the topping.

High Temperature Working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

- (i) Store unmixed materials in a cool preferably airconditioned environment, avoiding exposure to direct sunlight.
- (ii) Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- (iii) Try to avoid application during the hottest times of the day. If necessary provide a shade over the area where application will take place.
- (iv) Make sufficient material, plant and labour available to ensure that application is a continuous process.

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 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 TF5050	: 12 litre packs
Nitoprime WB	: 1 litre packs

Coverage

Nitoflor TF5050	: 5litre/m ² @ 5mm thick
Nitoprime WB	: 6-7m ² /litre

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



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Storage

Shelf life

All products have a shelf life of 12 months if kept in a dry store in the original, unopened packs. In tropical climates it is essential to store in air-conditioned warehouse.

Storage conditions

Store in dry conditions between 10°C and 30°C, away from sources of heat and naked flames in the original, unopened packs. If stored at high temperatures the shelf life may be reduced.

Precautions

Health and safety

Nitoflor TF5050 should not come in contact with the 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 eyes, rinse immediately with plenty of clean water and seek medical attention immediately - if swallowed seek medical attention immediately - **do not** induce vomiting.

Fire

Nitoflor TF5050 is non-flammable.

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 packaging should be in accordance with local waste disposal regulation.

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

Additional Information

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.

Among them are products suitable for use in:

- the food and drinks industry
- the pharmaceutical industry and
- in areas subjected to heavy industrial use.

For Further information about product or publications, contact the local Fosroc Office.

Separate datasheets are available for these products.

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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.



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