



Nitoflor® TF30

Medium - Heavy duty (3 -6 mm) Chemical and abrasion resistant epoxy resin floor screed.

Uses

Nitoflor TF30 provides a high strength floor topping with exceptional resistance to mechanical wear and chemical spillage attacks, produces a safe non-slip finish for personnel and vehicular traffic.

Ideally suited for heavy engineering plants, chemical handling and process areas, steelworks, dairies, breweries, oil refineries, paint workshops, battery rooms, plating factories and food processing plants.

In areas where high degrees of cleanliness are required the surface of Nitoflor TF30 can be sealed with Nitoflor FC140 epoxy resin floor coating.

Advantages

- **Abrasion resistance** - Exceptional resistance to abrasion and to a wide range of chemicals
- **Non-slip** -Good gripping surface to both vehicular and pedestrian traffic
- **Easily laid** - Designed for easy laying to a fair finish
- **Seamless** - Eliminates potential sources of failure
- **Proven performance** - Successfully used for a wide variety of aggressive applications

Description

Nitoflor TF30, is a three part solvent-free combination of epoxy resin, modified amine hardeners filled with specially graded and selected high crushing strength, chemically inert aggregates.

It is laid by trowel at approximately 3-6 mm thickness depending on the requirement. It is highly chemical and abrasion resistant. The system includes Nitoprime 25 a two pack epoxy resin primer. Nitoflor TF30 and Nitoprime 25 supplied in pre-weighed units ready for on site mixing and application. The finished, cured floor has a slightly granular texture of uniform self colour.

However, as the natural grade takes its colour from the aggregate which is subject to variation, colour matching is not practicable with this grade. A three part epoxy sealing coat of Nitoflor FC140 is recommended as a topcoat for Nitoflor TF30 epoxy screed. Nitoflor FC140 is available in a range of attractive colours.

Before application on a steel substrate, shot blasting must first be done to SA 2 ½ finish and then primed with Nitoprime 28.

Technical Support

Fosroc provides a technical advisory service supported by a team of specialists in the field.

Properties

Curing characteristics at 30°C

Nitoflor TF30

Pot life	30 min
Initial hardness	16 hrs
Full cure	7 days

Mechanical characteristics

Compressive strength	60 N/mm ²
Flexural strength	10 N/mm ²
Tensile strength	6.0 N/mm ²
Abrasion resistance	3.0 mg/cycle
Bond strength to concrete	3.0 N/mm ²

Primer for steel substrates

Nitoprime 28

Pot life	1 hr. at 30°C
Maximum overlay time	1 hr. at 30°C

Primer for concrete substrates

Nitoprime 25

Pot life	30 min @ 30°C
Maximum overlay time	30 min @ 30°C

Chemical resistance

Fully cured blocks of Nitoflor TF30 have been tested in a wide range of aggressive chemicals commonly found in industrial environments. Tests were performed by constant immersion at 30°C.

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Chemical resistance

Hydrochloride Acid 10%	Excellent
Sulphuric acid 10%	Excellent
Phosphoric acid 30%	Excellent
Nitric acid 10%	Good
Lactic 10%	Excellent
Citric 10%	Excellent

Alkalis

Sodium Hydroxide 30%	Excellent
Ammonia	Excellent

Solvents

Butanol	Good
White spirit	Excellent
Oil/Grease/Petrol	Excellent
Xylene	Good
Acetone	Not resistant
Skydrol	Good

Aqueous Solutions

Conc. Bleach	Excellent
Sat Urea	Excellent
Sat. Sugar	Excellent

Those materials marked 'Good' are suitable for areas for occasional spillage where good house keeping is in force.

All the above properties have been determined by laboratory controlled testes and are typical of those expected in practice.

Specification clauses

Abrasion resistant epoxy resin floor screed.

The epoxy resin screed shall be Nitoflor TF30 which shall be applied on epoxy primer whilst it is still tacky. It shall offer a minimum compressive strength of 50N/mm², flexural strength not less than 10N/mm² and a minimum tensile strength of 4.5N/mm², when tested as per BS6319. It shall not register a loss of more than 3.0 mg/cycle of the abraded wheels, as per ASTM D 1044, for abrasion resistance. When tested as per ASTM D256 for impact resistance, it shall give a minimum result of 1.3 kg.cm/cm². When tested for flame retardation as per UL-94 HB, it shall be self extinguishing. It shall also give a minimum hardness of 98 as per ASTM D785 Rockwell hardness test. It shall have a minimum bond strength of 3 N/mm² to concrete.

Application Instructions

Surface preparation

It is essential that Nitoflor TF30 is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system.

New Concrete floors

Should be at least 28 days old (moisture content should be less than 5%). Laitence deposits on new concrete floors are best removed by light grit-blasting, mechanical scabbling or grinding. On smaller areas through acid etching using Reebaklens may be considered. After etching the floor should be thoroughly washed with clean water and then allowed to dry.

Old Concrete Floors

Again mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contaminations by oil and grease has occurred or existing coatings are present. This may well have been absorbed several mm. into the concrete. To ensure adhesion, all contamination should be removed.

All dust and debris should be removed prior to laying Nitoflor TF30. Moisture content should be less than 5%.

Steel Surfaces

Should be degreased and sand blasted immediately prior to application.

Priming

All surfaces to be treated with Nitoflor TF30 should be primed with Nitoprime 25, and all steel surfaces should be primed with Nitoprime 28 designed for maximum adhesion to the substrates. Add the entire contents of the hardener tin to the base and mix thoroughly. Once mixed, immediately apply the primer in a thin continuous film to the clean prepared surfaces. Work the primer into the surface using stiff brushes, avoid

Nitoflor® TF30

over application and puddling. On porous floors Nitoprime 25 will be absorbed very quickly leaving characteristic light coloured dry patches. It is recommended that a second priming coat be applied. This not only helps to ensure adhesion but prevents air release from the porous substrate which may cause bubbles in the final applied screed.

Allow the solvent in the Nitoprime 25 / Nitoprime 28 to evaporate, to become tacky. This time is dependent on climatic conditions.

Mixing

It is important that Nitoflor TF30 is mixed correctly.

A suitable forced action mixer such as a paddle fitted into a heavy duty, slow speed, electric hand drill or a similar equipment, is recommended for mixing.

The entire contents of hardener tin should be poured into the base container and mixed thoroughly until homogeneous.

It is recommended that the aggregates in the bag be blended well manually before adding to the mixed resin and hardener. Add the aggregate slowly to the mixed resin and hardener, continue mechanical mixing for a further 2-3 minutes, until all the components are thoroughly blended. Once mixed, the materials must be used within the specified pot life (see under 'Properties'). After this time, unused materials would have stiffened and should be discarded.

Application

The mixed Nitoflor TF30 should be spread to uniform thickness on the primed surface using a steel 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 during application.

Expansion joints

Expansion joints in the existing substrate should be continued through the Nitoflor TF30 topping.

Coving

Nitoflor TF30 can be used to form the perimeter edge coving upto a height of 225mm.

Sealing

Although Nitoflor Tf30 impervious at 5mm thickness, in constantly wet operation areas, or where a high degree of cleanliness is required, Nitoflor TF30 may be sealed with Nitoflor FC140. Nitoflor TF30 must be atleast 1 day old and high spots such as trowel marks rubbed down.

Cleaning

All tools and equipment should be cleaned immediately after use with Nitoflor Sol or xylene.

Limitations

- For applications below 15°C, the mixed material will be difficult to apply. The cured Nitoflor TF30 will become brittle at subzero temperatures and hence not recommended.
- It can withstand a maximum temperature of 65°C.

Estimating

Packing and coverage

	Pack size	Approximate coverage rate
Nitoprime 25	1 and 4 L	5.5 - 6.5m ² /L
Nitoprime 28	5 Kg	30 - 40 m ²
Nitoflor TF30	12 L	4.0m ² /pack at 3mm thickness

The coverage rates are given for guidance only as actual quantities used will vary with nature of substrate and conditions on site.



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Storage

Nitoprime 25, Nitoprime 28 and Nitoflor TF30 have a shelf life of 12 months when stored in a dry place below 35°C.

Precautions

Health & Safety

Some people are sensitive to epoxy resins and solvents. So, gloves, barrier creams, protective clothing and eye goggles should be worn when handling these products. If accidental contact occurs, it should be removed before it hardens with resin removal cream followed by washing with soap and water. Do not use solvent. Should eye contamination occur then wash with plenty of clean water and seek immediate medical attention. Ensure good ventilation and do not smoke during use.

Fire

Nitoprime 25, Nitoprime 28 and Nitoflor Sol are flammable. Ensure adequate ventilation. Do not smoke or use near a naked flame.

Flash Point

Nitoprime 28	30°C
Nitoprime 25	25°C
Nitoflor Sol	33°C

Additional information

The Fosroc range of associated products includes admixtures, curing compounds, release agents, grouts and anchors, repair & protective coatings, sealants and waterproofing.

Separate datasheets are available on these products.

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