



Nitoflor TS5000

3 - 6mm thick high strength, abrasion and impact resistant epoxy resin tough screed

Uses

Nitoflor TS5000 provides an extremely high strength floor topping with exceptional resistance to surface mechanical wear and attack from chemical spillage. The trowelled screed has a safe nonslip finish.

Nitoflor TS5000 is ideally suited for heavy engineering industry, paper and pulp industry, steelworks, breweries, automobile industry, tyre manufacturing industry, warehouses, trucking lanes, loading bays etc.

In areas where a high degree of cleanliness is required, the surface of Nitoflor TS5000 can be sealed with Nitoflor FC range of floor coatings.

Advantages

- **Durable** - Exceptional resistance to heavy duty traffic.
- **Nonslip** - 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
- **Colour range** - Available in different colour combinations.

Description

The Nitoflor TS5000, is a three part solvent free combination of epoxy resin, modified amine hardeners filled with specially graded and selected high crushing strength, heavy density aggregates.

Nitoflor TS5000 durable abrasion resistant screed is laid by 5mm thickness (minimum thickness to be recommended should be 5mm).

The system includes Nitoprime 25, two part primer. Nitoflor TS5000 screed and Nitoprime 25 primer are supplied in preweighed units ready for on site mixing and application. The finished, cured floor has a slightly granular texture of uniform colour. A two part epoxy sealing coat from Nitoflor FC range is recommended as a topcoat for Nitoflor TS5000.

Before application on a steel substrate, shot blasting must first be done to SA 2½ finish and then priming should be done with Nitoprime 28 primer.

Technical support

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

Properties

Curing characteristics @ 30°C

Colour	Grey
Pot life	30-50 minutes
Initial hardness	10 - 12 hours
Full cure	5 - 7 days
Specific gravity	2.7 g/cc

Mechanical characteristics

Property	Test method	Nitoflor TS5000
Compressive strength	BS 6319 Pt 2	@ 1d - 90 N/mm² @ 7d - 110 N/mm²
Flexural strength	BS6319 Pt 3	40 N/mm²
Tensile strength	BS6319 Pt 7	20 N/mm²
Abrasion resistance (Average loss in thickness)	IS :9162-1979	0.24mm
Notched Izod impact strength	ASTM D256	34 J/m
Nitoprime 25		
Pot life		30 min @ 30°C
Maximum overlay time		30 min @ 30°C

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

Specification clause

The high strength, abrasion and impact resistant epoxy resin tough screed shall be Nitoflor TS5000, solvent free, three component system consisting of epoxy resin, modified amine hardeners filled with specially graded and selected high crushing strength, heavy density aggregates. The tough screed shall be laid by trowel as a durable abrasion resistant screed at 3 to 6 mm thickness which on curing @ 30°C should achieve a compressive strength of 90N/mm² @ 1 day, 110 N/mm² @ 7days when tested as per BS6319 Pt 2, flexural strength of 40 N/mm² when tested as per BS6319 Pt 3, Tensile strength of 20 N/mm² when tested as per BS6319 Pt 7. The maximum wear on the screed when tested

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as per IS 9162-1979 shall not exceed 0.24mm and the minimum value of Notched Izod impact strength shall be 34J/m when tested as per ASTM D256.

Application instructions

Surface preparation

It is essential that Nitoflor TS5000 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

Moisture barriers between the RCC floor and the PCC are recommended.

The moisture content of concrete floors should be less than 5%. Laitance, deposits on new concrete floors are best removed by light grit-blasting, mechanical scrubbing or grinding. On smaller areas thorough acid etching using Reebaklens, a multipurpose cleaning agent, may be considered. After etching, the floor should be thoroughly washed with clean water and shall then be allowed to dry.

Old Concrete Floors

Mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contamination by oil and grease have 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 Nitoprime 25 priming.

Steel Surfaces

Steel surfaces should be degreased and sand blasted to expose original metal surface prior to application.

Priming

All concrete surfaces to be treated with Nitoflor TS5000 shall be primed with Nitoprime 25 primer, designed for maximum absorption and adhesion to substrates. All steel surfaces shall be primed with solvent based Nitoprime 28 primer. The entire contents of the hardener tin shall be emptied to the base tin and shall be mixed thoroughly using a slow speed heavy duty drill fitted with a paddle. Once mixed, the primer shall be applied immediately in a thin continuous film to the clean prepared surfaces using stiff brushes. Over application and puddling shall be avoided. On porous floors the Nitoprime 25 primer, will be absorbed very quickly leaving characteristic light coloured dry patches. It is recommended that a second priming coat be then applied.

The solvent in the Nitoprime 25 / Nitoprime 28 primer shall be allowed to evaporate, till the primer has become tacky. This time is dependent on climatic conditions. For maximum overlay times, please refer under subheading - 'Properties'.

Mixing

A suitable forced action mixer such as a paddle fitted into a heavy duty, slow speed, electric hand drill and 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 are blended well before adding to the mixed resin and hardener. The aggregates shall be added slowly to the mixed resin and hardener and mechanical mixing shall be continued 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 will have stiffened and should be discarded.

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Application

The mixed Nitoflor TS5000 should be spread to uniform thickness on the primed surface using a steel trowel. Screeding rods are useful to maintain a minimum compacted thickness. The material should be tamped with a steel float to ensure complete compaction. The use of a power float for final finishing/ completion will ensure that smooth even textured surface is obtained.

Expansion joints

Nitoflor TS5000 should not be taken across expansion joints.

Sealing

Although Nitoflor TS5000 is impervious, in constantly wet operation areas, or where a high degree of cleanliness is required, Nitoflor TS5000 may be sealed with Nitoflor FC range of coatings. For this, Nitoflor TS5000 must be at least 1 day old and high spots such as cold joints and trowel marks rubbed down.

Cleaning

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

Estimating

Packing and coverage

	Pack size	Approximate coverage rate/pack
Nitoprime 25	1 & 4 ltr	5.5 - 6.5 m² per L
Nitoflor TS5000	8 ltr	1.6m²/pack at 5mm thickness

The above coverage rates are given for guidance only as actual quantities used will vary with surface conditions of the substrate.

Storage

Nitoprime 25 primer and Nitoflor TS5000 have a shelf life of 12 months when stored in a dry place below 35°C in unopened containers.

Precautions

Health & Safety instructions

Some people are sensitive to epoxy resins and solvents. So, gloves, barrier creams, protective clothing and eye goggles should be worn when handling the resin products. If accidental contact occurs, the resin should be removed before it hardens with resin removal cream followed by washing with soap and water. Solvent should not be used. Should eye contamination occur washing with plenty of clean water should be commenced and medical attention should be sought immediately. Good ventilation should be ensured. Smoking while handling/application is prohibited.

Fire

Nitoprime 25 primer and Nitoflor Sol solvent are flammable. Adequate ventilation should be ensured. Smoking or use near a naked flame is prohibited.

Flash Point

Nitoprime 25	25°C
Nitoflor Sol	33°C
Nitoflor TS5000 Hardener	50°C

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Additional information

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

Separate datasheets on these products are available on request.



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