



Nitoflor[®] Metaltop

Metallic based, monolithic floor hardener

Uses

Nitoflor Metaltop provides an extremely hardwearing, abrasion and impact resistant surface to new concrete floors. Applied monolithically by the shake on method, it is ideally suited to all areas of heavy industrial use, e.g. loading bays, trucking lanes, warehouses, repair workshops, machine shops, etc.

Advantages

- Provides an extremely strong, hardwearing, abrasion and impact resistant surface.
- Forms monolithic bond with base concrete.
- Easy and economical to apply

Description

Nitoflor Metaltop is a quality controlled, factory blended powder which is ready to use on site. It consists of specially selected and graded metallic aggregates, Portland cement and special additives to improve workability.

The formulation provides a flooring compound which is easy to trowel into the surface of a fresh wet concrete slab. When applied at the recommended application rate (3 - 7 kg/m² depending upon traffic), Nitoflor Metaltop provides a hardwearing, abrasion and impact resistant surface.

Technical support

Fosroc offers technical support service to specifiers, end users and contractors, as well as on-site technical assistance in locations all over the country.

Properties

Abrasion resistance

Independent tests on abrasion resistance indicate that concrete floors treated with Nitoflor Metaltop show at least three times less wear than untreated floors.

Compressive strength (to BS 1881 pt 4 1970 clause 2): At water contents equivalent to those obtained in practice the typical 28 days compressive strength of Nitoflor Metaltop cubes is 60N/mm².

Specification clauses

Metallic surface floor hardener

All concrete floors shall be surfaced or broadcast with Nitoflor Metaltop, a metallic monolithic surface floor hardening compound containing hardwearing aggregates, which shall improve the abrasion resistance of the concrete surface by 300% when measured against control concrete.

Nitoflor Metaltop shall possess a minimum compressive strength of 60N/mm² when tested as per BS 1881 Part 4 1970 clause 2. It shall be broadcast at 7kg/m² for heavy traffic, 5kg/m² for medium traffic and 3 kg/m² for light traffic.

Application instructions

Base concrete

The base concrete should have a minimum cement content of 300 kg/m³. The concrete mix should be designed to minimise segregation and bleeding. Free water cement ratios of less than 0.55 are required.

Use of Fosroc's water reducing admixtures is recommended.

The base concrete should be laid and compacted in accordance with good concrete practice. Accurate finished profile and minimum laitence buildup should be ensured. Particular attention should be paid to bay edges and corners to ensure full compaction.

Application

Nitoflor Metaltop is applied at different rates per m² to provide floor surfaces suitable for different types of industrial use.

Application rate kg/m ²	Intended traffic use
7.0	Heavy
5.0	Medium
3.0	Light

It is recommended that the floor be marked off into bays of known area. Sufficient material should then be laid out to meet the required spread rates.

Application of Nitoflor Metaltop can begin when the base concrete has stiffened to the point when light foot traffic leaves an imprint of about 3 - 6mm. Any bleed water should now have evaporated.

Nitoflor Metaltop is applied in two stages.

- a. The first application is made using 50% to 70% of the total material. Nitoflor Metaltop is evenly broadcast onto the concrete surface. When the material becomes uniformly dark by the absorption of moisture from the concrete this first application can be floated. Wooden floats or, on large areas, disc of a power float may be used. It is important, however, that the surface is not overworked.

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- b. Immediately after floating, the remaining Nitoflor Metaltop is sprinkled evenly over the surface and can be floated in the same way as before.

Final finishing of the floor using a power trowel can be carried out when the floor has stiffened sufficiently, so that damage will not be caused.

Timing of application

The timing of Nitoflor Metaltop is important. If too early, the excess water will be absorbed and the resultant floor surface will be of lower strength and subjected to dusting. Also the dense metallic aggregate of Nitoflor Metaltop could sink and be lost from the surface. If too late, insufficient moisture will be available to completely hydrate the Nitoflor Metaltop particles. Debonding / crazing and pitting of the surface are likely to result later.

Bay edges

Where bay edges are likely to suffer from particularly heavy impact or wear, these shall be given additional protection. Immediately after the base concrete is levelled, sprinkle Nitoflor Metaltop on a strip 100 - 150mm wide along the bay edges. Steel trowel into the surface.

Areas where saw cut transverse control joints are located, can also be pretreated in this manner.

Curing

The most efficient method of curing is to use Concure WB, curing membrane which conforms to ASTM and DOE specifications. However, in indoor applications where curing conditions are less arduous and breakdown of the membrane is slower, alternative approved methods of curing such as polythene sheeting or waterponding are acceptable. Ready to use

Nitoflor Metaltop is supplied ready to use on site. Never add cement or aggregate to Nitoflor Metaltop.

Limitations

For concretes with optimised water cement ratios, Nitoflor Metaltop shall not be broadcast over 3 -4 kg/m². For such applications, consult Fosroc.

Estimating

Packaging

Nitoflor Metaltop is supplied in sealed 25kg polythene sacks.

Storage

If kept in original, undamaged packaging, the shelf life of Nitoflor Metaltop should be at least 12 months. It should be stored on a raised wooden platform upto 5/6 bags height, away from moisture.

Precautions

Health and Safety

Nitoflor Metaltop contains portland cement and is therefore alkaline when in contact with water. Avoid prolonged contact with the skin. Any eye contaminations should be washed immediately with plenty of clean water and medical advice sought.

Fire

Nitoflor Metaltop is non flammable.

Additional information

The Fosroc range of associated products includes high strength cementitious grouts, epoxy grout, polyester resin based mortar for rapid presetting of steel shims to level or for direct bedding of small base plates; Resin anchoring systems for same day anchoring of bolts in drilled holes in concrete or rock. Also available a range of products for use in construction; viz, admixtures, curing compounds, release agents, flooring systems and repair mortars.

Separate data sheets are available on these products



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INDIA/2005/0617/A