

# Nitoflor Metaltop NF

## Non-oxidising metallic floor hardener

### Uses

Nitoflor Metaltop provides a monolithic concrete surface which is hard wearing, abrasion and impact resistant. Recommended for industrial areas subject to heavy traffic, including loading bays, repair workshop, machine shops, ramps, warehouse floors and factories.

### Advantages

- Provides a hard wearing, abrasion and impact resistant floor
- High impact resistance
- Metallic - non-oxidising (non-rusting)
- Reduces dusting
- Easy and economical to apply
- Reduces maintenance costs

### 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 (4 - 6 kg/m<sup>2</sup> depending upon traffic) Nitoflor Metaltop provides a hard wearing, abrasion and impact resistant surface. Nitoflor Metaltop is available in natural colour as standard.

### Technical support

Fosroc offers a comprehensive range of high performance, high quality, construction products. In addition to the wide range of quality products, Fosroc offers a technical support package to specifiers and contractors which includes assistance with product selection and technical advice from staff with unrivalled experience in the industry.

### Properties

Test for wear resistance by comparative loss using a standard abrasive wheel show Nitoflor Metaltop to be several times more abrasion resistant than an ordinary concrete surface.

### Specification clauses

Floor areas so designated should be surfaced with 4 - 6 kg/m<sup>2</sup> of Nitoflor Metaltop as manufactured by Fosroc, and applied in accordance with manufacturer instructions.

### Application Instructions

#### Base concrete

The base concrete should have a minimum cement content of 300 kg/m<sup>3</sup>. The concrete mix should be designed to minimise segregation and bleeding. Free water : cement ratios of less than 0.55 are required. The concrete should have a slump of 75 - 100 mm. Outside that range is possible with site trial. Use of Fosroc water reducing admixtures is recommended.

The base concrete base should be laid and compacted in accordance with good concrete practice. Accurate finished profile and minimum laitance build up should be ensured. Particular attention should be paid to bay edges and corners to ensure full compaction. Vacuum dewatering is not recommended when w/c ratios of less than 0.55 have been used.

#### Application

Nitoflor Metaltop is applied at different rates per m<sup>2</sup> to provide floor surfaces suitable for different grades of industrial use.

Application rate kg/m <sup>2</sup>	Intended traffic use
6.0	Heavy
5.0	Moderate
4.0	Light



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It is recommended that the floor is marked off into bays of known area. Sufficient material should be laid out to meet the required spread rates. Application of Nitoflor Metaltop can only begin when the base concrete has stiffened to the point when light foot traffic leaves an imprint of about 3 mm. Any bleed water should now have evaporated.

Nitoflor Metaltop is applied in two application stages.

- The first application is made using 1/2 to 2/3 of the material required for the eventual end use. 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 the disc of a power float may be used. It is important, however, that the surface is not over-worked.
- Immediately after floating, the remaining Nitoflor Metaltop is thrown evenly over the surface. Again moisture is absorbed and the surface can be floated in the same way as before. Final finishing of the floor using the blades of a power float can be carried out when the floor has stiffened sufficiently so that damage will not be caused.

## Timing of application

Timing of application of the Nitoflor Metaltop is important. Too early and excess water will be absorbed and the resultant floor surface will be of lower strength and subject to dusting. Also the dense metallic aggregates of Nitoflor Metaltop could sink and be lost from the surface. Too late and insufficient moisture will be available to completely hydrate the Nitoflor Metaltop. Cracking and pitting of the surface are likely to result.

## Bay edges

Where bay edges are likely to suffer particularly heavy impact or wear, these can be given additional protection. Immediately after the base concrete is levelled, sprinkle Nitoflor Metaltop on a strip 100 - 150 mm wide along the bay edges. Steel trowel into the surface. Areas where saw-cut transverse control joints are located can also be pre-treated in this manner.

## Curing

Independent tests have shown that correct curing procedures must be followed to ensure the properties of the Nitoflor Metaltop floor. Immediately after finishing apply Concure Curing Membranes at 5 - 9 m<sup>2</sup>/litre. Due to the property of static dissemination relies on surface contact onto the highly conductive Metallic floor, residual traces of Concure Curing Membranes should be removed by light abrasion prior to the floor being commissioned. Alternative methods such as polythene sheeting can be used but the need for efficient curing is stressed.

## Limitations

- Do not use Nitoflor Metaltop in areas exposed to acids and their salts, or other materials known to rapidly attack or deteriorate concrete containing Ordinary Portland Cement.
- Do not apply to concrete containing calcium chloride or concrete having greater than 3% air entrainment.
- Where a coloured floor is required, it is strongly recommended that a site trial is undertaken to assess possible local variations caused by aggregates and sands used in the base concrete.

## Estimating

### Pack sizes

Nitoflor Metaltop	25 kg
Concure Membranes	20 & 210 litre drums

### Coverage

Nitoflor Metaltop	4 - 6 m <sup>2</sup> /kg
Concure Membranes	6 - 9 m <sup>2</sup> /litre

## Product Pack Theoretical

Applications should comply with the recommended rate to obtain the published performance characteristics. Any reduction may have a detrimental effect on the finish floor's electrical abrasion properties and in the case of pigmented floors, the quality and consistency of the finish. The average figures for liquid products are theoretical. Due to the variety and nature of possible substrates, and wastage factors, practical coverage figures will be reduced.



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## Storage

### Shelf life

If protected from the environment in original undamaged packaging, the shelf life of Nitoflor Metaltop and Concure Curing Membranes is 6 months provided the temperature is kept within the range of 20 - 35°C in its original packaging.

## Precautions

### Health and safety

Nitoflor Metaltop contains cement powders which during normal use have harmful effects on dry skin. However, when Nitoflor Metaltop is mixed or becomes damp, alkali is released which can be harmful to the skin.

- (i) Irritation to eyes, respiratory system and skin.
- (ii) Avoid inhalation of dust
- (iii) Avoid contact with skin and eyes.
- (iv) Wear suitable gloves and eye protection In case of contact with skin, wash with water.
- (v) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Refer to the relevant products Material Safety Data Sheet for additional information.

### Fire

Nitoflor Metaltop is non-flammable.

## Additional information

### Job references

Nitoflor Metaltop has been used as a non-oxidising metallic floor hardener in a wide variety of industries. A data base of international and Far Eastern job references are available from Fosroc

### Further information

More details on selected references are given in case histories available from Fosroc. A series of independent reports have been commissioned and are available on request. Nitoflor Metaltop is one of the comprehensive range of Nitoflor flooring products.

The Nitoflor range includes other concrete hardeners, resin coatings, flow applied resin floors and heavy resin/ cement based screed to meet the requirements of most environments.

A special range of conductive and decorative floor toppings are available. Fosroc also supply a range of other concrete repair and protection products. In addition an exclusive range grouts, coatings, admixtures, waterproofing, sealants, surface treatments and anchoring products are available.

For further information contact Fosroc.

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#### Important note

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