



# Nitoflor Metaltop

**Metallic based, monolithic floor hardener**

## Uses

NITOFLOL METALTOP provides an extremely hard wearing, 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 such as

- loading bays,
- trucking lanes,
- warehouses
- repair workshops
- machine shops.

## Advantages

- Provides an extremely strong hard wearing abrasion and impact resistant surface
- Forms monolithic bond with base concrete
- Effectiveness proven by almost 50 years experience
- Available in a range of colours to improve working environment
- Easy and economical to apply

## Standards Compliance

Independent tests on abrasion resistance have been performed by The Australian Mineral Development Laboratories. These tests, described in Report No. MT 2802/72, indicate that concrete floors treated with NITOFLOL METALTOP show at least three times less wear than untreated floors.

## Description

NITOFLOL 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 improved 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) NITOFLOL METALTOP provides a hard wearing, abrasion and impact resistant surface.

NITOFLOL METALTOP is available in natural colour as standard. Special colours including Brick Red and Green will be produced on request for large orders.

## 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

### Abrasion Resistance

Concrete floors treated with NITOFLOL 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 day compressive strength of NITOFLOL METALTOP cubes is 70N/mm<sup>2</sup>.

## Specification Clauses

*"Floor areas so designated should be surfaced with 3-7 kg/m<sup>2</sup> of NITOFLOL METALTOP as manufactured by FOSROC, and applied in accordance with manufacturers instructions."*

## Application Instructions

### Base Concrete

The base concrete should have a minimum cement content of 300kg/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 75–100mm.

Use of FOSROC 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 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

NITOFLOOR 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
7.0	Heavy
5.0	Moderate
3.0	Light

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 NITOFLOOR METALTOP can only begin when the base concrete has stiffened to the point when light foot traffic leaves an imprint of about 3mm. Any bleed water should now have evaporated.

NITOFLOOR METALTOP is applied in two application stages.

- The first application is made using  $\frac{1}{2}$  to  $\frac{2}{3}$  of the material required for the eventual end use. NITOFLOOR 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 NITOFLOOR 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 the application of the NITOFLOOR 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 NITOFLOOR METALTOP could sink and be lost from the surface. Too late and insufficient moisture will be available to completely hydrate the NITOFLOOR 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 NITOFLOOR 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

Independent tests have shown that correct curing procedures must be followed to ensure the properties of the NITOFLOOR METALTOP floor.

Immediately after finishing apply CONCURE CURING MEMBRANES at 5–9m<sup>2</sup>/l.

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 NITOFLOOR 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.

NITOFLOOR METALTOP is supplied ready-to-use on site. Never add cement or aggregates to NITOFLOOR METALTOP.

## Estimating

### Pack Sizes and Coverage

Product	Pack	Theoretical Coverage
NITOFLOOR METALTOP	25 kg	3–7 kg/m <sup>2</sup>
CONCURE MEMBRANES	210 litre 20 litre	5–9m <sup>2</sup> /litre

Application 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.

---

### **Storage**

If protected from the environment in original undamaged packaging, the shelf life of NITOFLOR METALTOP and CONCURE CURING MEMBRANES is 6 months.

### **Precautions**

#### **Health and Safety**

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

Irritation to eyes, respiratory system and skin.

Avoid inhalation of dust.

Avoid contact with skin and eyes.

Wear suitable gloves and eye protection.

In case of contact with skin, wash with water.

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 metallic floor hardener in a wide variety of industries. A detailed data base of international and Far Eastern job references are available from your local FOSROC office.

#### **Further Information**

More details on selected references are given in case histories available from FOSROC. A series of independent test 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 screeds to meet the requirements of most environments. A special range of conductive and decorative floor toppings are also available.

FOSROC also supply a range of other concrete repair and protection products. In addition an exclusive range of grouts, coatings, admixtures, waterproofing, sealants, surface treatments and anchoring products are available. For further information contact your local FOSROC office.





**PT. Fosroc Indonesia**

Factory/Head Office  
Jl. Akasia II Blok A-8 No. 1  
Delta Silicon Industrial Park  
Lippo City Bekasi - 17550  
Tel : 021-8972103 (Hunting)  
Fax : 021-8972107

Surabaya  
Jl. Kalibokor Selatan  
Komp. Pertokoan Ngagel Jaya Indah  
Kav. 28/3B  
Surabaya - 60284  
Tel : 031 - 5029142 (Hunting)  
Fax : 031 - 5022711

Bandung  
Jl. Sriwijaya 70  
Bandung 40253  
Tel : 022-5201308 (Hunting)  
Fax : 022-5222713

**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.