

## Dry shake on, ready to use surface hardener

### Uses

Nitoflor Hardwear provides a highly hardwearing surface for concrete floors. It bonds monolithically to the substrate concrete. It is ideally suited for industrial flooring situations subjected to traffic movements.

### Advantages

- Non metallic - does not rust
- Durable - Hardwearing forms monolithic bond with concrete
- User friendly - Broadcast and finish on the green concrete
- Economical

### Description

Nitoflor Hardwear is a factory blended powder, ready to use at site. It is designed to provide a hardwearing surface which has selected materials to provide a high abrasion resistance and smooth finish when trowelled on the surface of fresh concrete.

### Technical support

Fosroc offers a 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 ( IS 1237 - 1980)

Nitoflor Hardwear improves the abrasion resistance of concrete by 150% when tested as per guidelines of IS:1237 - 1980.

### 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 between 50 and 75mm.

Use of Fosroc's water reducing admixture 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 paid to bay edges and corners to ensure full compaction.

To achieve the desired wear resistance, the recommended rate of application shall be between 4 and 7.5 kg/m<sup>2</sup>.

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 Hardwear can 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.

Nitoflor Hardwear is applied in two stages.

- The first application is made using 50% to 70% of the total material. Nitoflor Hardwear 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 power trowel with disc may be used. It is important, however, that the surface is not over worked.
- Immediately after floating, the remaining Nitoflor Hardwear is sprinkled 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 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 Hardwear is important and critical. If applied too early, bleed or excess water will wash away the cementitious content of the product, thereby making it ineffective. Also denser aggregates sink into the concrete.

If the application of Nitoflor Hardwear is done too late, there will not be sufficient water/moisture to absorb the material into the concrete. Material forcibly applied and trowelled thus, will cause cracks on the surface later, as there is no water / moisture to hydrate the product.

#### Bay edges

While applying Nitoflor Hardwear at the edges of the concrete floor or, at the end of bays, extra precaution should be taken by way of sprinkling more material and finishing it smoothly with a steel trowel. This is an additional protection particularly to bay edges where the reaction due to heavy wear or impact is felt more.

#### Curing

Tests have shown that proper curing of concrete floors treated with products such as Nitoflor Hardwear is essential to ensure the physical properties of the floor. The most efficient method of curing by using Concure WB, curing membrane

# Nitoflor® Hardwear

which conforms to ASTM and DOE specifications. However, in indoor applications where curing conditions are less arduous and breakdown of the membrane slower, alternative approved methods of curing such as polythene sheeting or water ponding are acceptable.

## Limitations

For concretes with optimised water cement ratios, Nitoflor Hardwear shall not be broadcast over 3 -4 kg /m<sup>2</sup>. For such applications, consult Fosroc.

## Estimating

## Packaging

Nitoflor Hardwear is supplied in sealed 25 kg polythene sacks.

## Storage

If kept in original undamaged packing, the shelf life of Nitoflor Hardwear /Hardwear Standard should be atleast 12 months under normal warehouse conditions.

## Precautions

### Health & Safety

Nitoflor Hardwear contains portland cement and is therefore alkaline when in contact with water. Prolonged contact with the skin should be avoided. Any eye contamination should be washed immediately with plenty of clean water and medical advice sought.

### Fire

Nitoflor Hardwear is not 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 datasheets are available on these products.

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### 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.

telephone	fax	e-mail
+91 80-22240018/120	+91 80-22233474	india@fosroc.com

### Regional Offices



## Fosroc Chemicals (India) Pvt. Ltd.

### Head Office

111/3, Hafeeza Chamber II Floor,  
K H Road, P.No. 2744, Bangalore 560027

[www.fosroc.com](http://www.fosroc.com)

### Bangalore

Shankar House, IV Floor  
1 & 18, RMV Extension  
Bangalore 560 080  
Ph:080-2361 3161/2361 2004  
Fax : 080-2361 7454  
email: Bangalore@fosroc.com

### Mumbai

208/209, Persepolis  
Sector 17, Vashi  
Navi Mumbai 400 703  
Ph:022-2789 6412/14  
Fax: 022 - 2789 6413  
email:Mumbai@fosroc.com

### Delhi

First floor,1/2 East Patel Nagar  
Opp: Vivek Cinema, Main Patel Rd  
New Delhi 110 008  
Ph:011-25884903/4  
Fax: 011- 25884422  
email:Delhi@fosroc.com

### Kolkata

P-569, Lake Terrace Extn.  
First Floor  
Kolkata 700 029  
Ph: 033 24650917 / 55343188  
Fax: 033-24650891  
email:Kolkata@fosroc.com

- Ahmedabad : (079) 26762799 ● Ankleshwar : (02646) 220704/224687 ● Bhubaneshwar : (0674) 2546415 ● Chennai (044) 24899949/24853383
- Chandigarh : (0172) 2639360 ● Cochin : (0484) 2356668 ● Coimbatore : (0422) 2472966 ● Goa : (0832) 2542465 ● Guwahati (0361) 2548793
- Hyderabad : (040) 27662324/27662425 ● Hubli (0836) 09343402597 ● Indore : (0731) 504339/5061477 ● Jaipur : (0141) 2235349
- Jamshedpur: (0657) 2223848 ● Lucknow : (0522) 2239044 ● Nagercoil 09842134873 ● Visakhapatnam : (0891) 2564850 / 2707607

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