

## HIGH PERFORMANCE, DRY SHAKE, NON-METALLIC, FLOOR HARDENER

### Description

NIROFLOORTOP NM is quality controlled, factory blended powder which are ready to use on site. It contains special non-metallic hardwearing aggregates which have been selected for abrasion and wear resistant properties as well as shape and size. These latter considerations, together with the use of high-performance workability admixtures, produces a material which is easy to trowel into the surface of fresh, wet concrete. NIROFLOORTOP NM cure monolithically to provide a dense, non-porous surface which is extremely hardwearing and abrasion resistant. Monolithic cure ensures that problems normally associated with thin 'granolithic' screeds, viz., shrinkage, cracking, etc., are completely overcome. Being non-metallic, NIROFLOORTOP NM provide a non-slip surface which will never rust and disintegrate.

### Uses

NIROFLOORTOP NM is recommended for treating floor areas, where superior abrasion resistance is desired to minimise dusting and maintenance, but not exposed to serious chemical attack. Application areas include;

- ✓ Aircraft hangars
- ✓ Basements and cellars
- ✓ Mechanical workshops
- ✓ Garage for light vehicles
- ✓ Storage rooms
- ✓ Corridors and halls
- ✓ Parking areas
- ✓ Loading platforms

### Advantages

NIROFLOORTOP NM provides a hard-wearing surface on concrete floors. This reduces the rate of abrasion from the pedestrian and vehicular movement and increases the service life of the concrete floor.

- ✓ Nonmetallic - does not rust or stain.
- ✓ Provides a hard, abrasion resistant surface
- ✓ Forms monolithic bond with base concrete
- ✓ Economical and Easy to apply

### Typical Properties

Aspect	: Free flowing powder
W/P Ratio, by weight	: 0.10
Fresh wet density	: 2100 - 2,200 Kg/m <sup>3</sup>
Compressive strength (BS 6319, Part 2 )	: > 50 MPa at 28 days

Hardness on Moh's scale : 7 - 8

Abrasion resistance of concrete: Improves by 150% when tested as per guidelines in IS:1237 - 1980.

### Directions for use

The design and construction of the floor should be adequate to withstand the traffic, impact and such other loads the floor is likely to be exposed.

The concrete used for flooring should be > M25 grade and should be free of bleed & segregation and should not contain more than 3% air.

### Surface preparation

After the concrete has been placed, screed immediately; then bull-float/ straightedge the surface. Allow bleed water to rise to surface. Early moisture loss and rapid setting around the perimeter of the slab are typical. Monitor them closely for proper timing of the floating operations. Do not apply the dry shake in to the bleed water. If excessive bleed water is present, remove standing bleed water by dragging a hose across the surface or using a squeegee or other approved method.

### Placing

Apply and float 50% to 70% of the total amount of NIROFLOORTOP NM on the first application. Apply the remaining amount on the succeeding application. Applying more than 4 kg/m<sup>2</sup> in one pass often results in limited success. In most cases, it shocks the base slab by demanding more water than is available for incorporation of the shake. Drier area tends to crack or delaminate, leaving less water available for subsequent shake passes.

Mark the floor areas into bays of convenient size and keep the required quantity of NIROFLOORTOP NM ready for each bay.

**First shake on application:** After the evaporation of bleed-water from the surface of freshly laid concrete, broadcast the powder evenly by hand to obtain a uniformly thick application. Do not throw or broadcast with a shovel. When the applied NIROFLOORTOP NM darkens in colour indicating absorption of moisture and when the concrete has stiffened enough to prevent disk float from digging into the surface, float the treated surface using wooden hand float or mechanical float fitted with float blades. Float just enough to bring the excess moisture to the surface.

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**Second shake on application:** Follow with the second application of NIROFLOORTOP NM exactly as the first application, but while broadcasting, compensate with extra material over areas under-applied during the first shake on application.

If a coarse non-slip surface is desired, start curing without any more finishing operations.

### Finishing

The extent of further floating or troweling depends upon the finish desired on the surface. Different levels of smoothness can be achieved by repeated troweling using power trowel and gradually increasing the blade angle in each repeat troweling. Consult our local representative for advice.

### Precautions:

- ✓ During hot, dry or windy conditions troweling should be kept to the minimum to obtain the required finish.
- ✓ All moisture used to incorporate dry-shake material must come from within the slab. Under no circumstances should water be applied to aid in the incorporation of dry shake.
- ✓ Saw the joints as soon as possible, without damaging the concrete.
- ✓ If coloured floor hardener is warranted, it is strongly advised to carry out a sample area before finalisation of supply order.
- ✓ Clean the tools and equipment with water before the paste sticking to them hardens

### Curing

Start curing immediately after final finishing and cover the floor surface to protect it from staining, discoloration, or physical damage.

### Technical support

NIRMAN CHEMICALS provides technical advisory services for on-site assistance and guidance on mix design and applications.

### Coverage

The rate of application of NIROFLOORTOP NM depends on the service conditions, which the floor will be exposed to. The recommended rates of application are as below:

For heavy-duty traffic : 6-8 kg/m<sup>2</sup>  
 For medium duty traffic : 5-6 kg/m<sup>2</sup>  
 For light duty traffic : 3-5 kg/m<sup>2</sup>  
 Maximum recommended rate for vacuum dewatered floors is 5 kg/m<sup>2</sup>

### Packaging

NIROFLOORTOP NM is available in 25 kg, moisture resistant bags.



COMPLETE CONSTRUCTION CARE<sup>3[3]</sup>

#### CORPORATE ADDRESS:

Flat: B4, House: 28/B, Road: 3, Banani DOHS, Dhaka - 1213.

#### FACTORY ADDRESS:

Narsinghar Chor (Amtola Bazar), Noakanda, Polash, Narsingdi.

HOTLINE: +88 02 983 2929

W: [www.nirmanchemicals.com](http://www.nirmanchemicals.com)

E: [contact@nirmanchemicals.com](mailto:contact@nirmanchemicals.com)

FB: [fb.com/nirmanchemicals](https://fb.com/nirmanchemicals)

### Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life is 12 months when stored as above. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult our local NIRMAN CHEMICALS representative.

### Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet.

### Fire

NIROFLOORTOP NM is non-flammable.

### Note

All Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue. Field services where provided, does not constitute supervisory responsibility, for additional information contact our local NIRMAN CHEMICALS representative.

### Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labor involved in the application are beyond our control.



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