

## Heavy Duty Non-Metallic Dry-Shake Floor Hardener

### DESCRIPTION

**DANOFLOOR FHE** is a quality controlled and graded, factory processed blended powder for ready to use on site consisting of non-metallic, non-oxidizing 100% pure emery as special hardwearing aggregates known for its high abrasion and wear resistant properties with cement and other special additives.

Use of **DANOFLOOR FHE** overcomes problems associated with thin granolithic screeds, such as shrinkage, cracking, slipping etc.

### USES

DANOFLOOR FHE is use to provide a high abrasion resistant hardwearing monolithic surface to concrete floors and pavements by the dry shake application system in areas such as:

- All types of industrial floors.
- Loading, unloading bays and gangways.
- Ramps and vehicular traffic areas.
- Heavy engineering factories and workshops.
- Machine shops and garage floors.
- Hangers, shipyards, abattoirs and armouries.
- Warehouse and power plant floors.
- Other concrete floors requiring high resistance to abrasion, wear and tear and impact.

### ADVANTAGES

- Provides harder, denser & high abrasion resistance.
- Becomes monolithic with the base concrete.
- Improves impact resistance of conventional floors by 2 to 3 times.
- Non-Metallic, Non-Oxidizing & Non-Corrosive - does not rust or stain or disintegrate the floors.
- Suitable for use with VDF flooring system.
- Densifies the concrete surface reducing the surface pores - imparts high resistance to penetration by oil, grease, fuels, hydraulic fluids and other industrial chemicals enhancing the concrete floor durability.

### PROPERTIES

|                                |                              |
|--------------------------------|------------------------------|
| Colour*                        | Grey                         |
| Appearance                     | Free flowing granular powder |
| Solids                         | 100%                         |
| Compressive Strength (28 Days) | ≥50 mPa                      |
| Abrasion Resistance**          | ≥300%                        |
| Mohs Sale Hardness (Aggregate) | 8 to 9                       |

\*Standard colours available on request. Variations in water content and cement quality in concrete may lead to slight colour variation in finished floor.

\*\*Increase in abrasion resistance over the conventional concrete floor without floor hardener, when tested as per IS:1237:1980.

### APPLICATION METHODOLOGY

#### BASE CONCRETE

The base concrete mix should have minimum 300 kg/m<sup>3</sup> cement per cubic metre and a maximum w/c ratio 0.55 and shall have air content below 3%.

The concrete mix should be designed to minimize segregation and bleeding.

The concrete mix should be cohesive with slump ranging between 75 to 100 mm.

Use of water reducing admixture in concrete mix would be an added advantage.

In accordance with good concrete practice the base concrete should be laid and compacted. Accurate finished profile and minimum laitance build up should be ensured.

Bay edges and corners should be paid special attention to ensure full compaction.

**DANOFLOOR FHE** is applied at different application rates to provide floor surfaces suitable for different types of use.

### APPLICATION RATE

| Intended Use | Application Rate, Kg. /m <sup>2</sup> |
|--------------|---------------------------------------|
| Heavy Duty   | 7.0                                   |
| Medium Duty  | 5.0                                   |
| Light Duty   | 3.0                                   |

It is recommended that the floor be marked-off into bays of known area.

**DANOFLOOR FHE** is broadcasted in two equal stages evenly over the surface of freshly laid concrete as soon as the surface water has evaporated or when the depth of the light footprint is about 3mm to 5mm.

The first application is made by broadcasting 50% - 70% of the material evenly over the fresh concrete surface. When the surface darkens by the absorption of moisture from the concrete, it is floated with wooden trowel or power float.

Avoid over working / over trowelling the surface.

Immediately after floating, the balance quantity of **DANOFLOOR FHE** is broadcasted evenly over the surface and when the surface darkens due to absorption of moisture from concrete, the surface is floated in same way as before.

For concrete with optimized w/c ratio, such as in VDF flooring system, it is recommended to broadcast **DANOFLOOR FHE** @3 to 4 Kg. /m<sup>2</sup> in 2 stages.

Final finishing of the floor using a power trowel can be carried out when the floor has stiffened sufficiently to close any pores and undulation on the surface. Final hand trowelling is recommended to remove any disc marks.

At edges of the concrete floor or at end of bay areas, it is recommended to broadcast more floor hardener and finish with trowel

### CURING

Curing should commence as soon as final set has occurred but before the treated surface begins to dry.

Wet curing of applied system as per basic curing procedure would be beneficial.

After final finishing, rapid drying of applied system should be prevented by covering it with polyethylene sheet / wet hessian cloth / pond curing for at least 7 days.

### PRECAUTIONS & LIMITATIONS

One should never add cement or aggregate to the supplied **DANOFLOOR FHE**.

Use of **DANOFLOOR FHE** is not recommended for floors subjected to sub-zero temperatures, such as in cold storages.

Use over freshly placed concrete with gap grading or concrete consisting of fly ash / slag, air-entraining admixtures should be avoided.

Try to avoid application during strong wind / draughts.

Care should be taken to ensure that **DANOFLOOR FHE** is not broadcasted on too wet or too dry concrete surface or concrete surface having bleed water.

If use on too wet concrete surfaces, the heavy filler particles may sink in to the fresh concrete affecting the performance.

If use on too dry concrete surface, bond development with fresh concrete will be weak and over trowelling would result in surface cracking / de-lamination.

## STORAGE

**DANOFLOOR FHE** must be stored above 5°C. Store under the shed & protect from extremes of temperature, heat, direct sunlight. The shelf life is 6 months in sealed unopened packing.

## CLEANING

Immediately after application, use water for cleaning application tools.

## SUPPLY

**DANOFLOOR FHE** is supplied in 30 Kg. pack size.

## SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage. Avoid contact with skin, eyes, mouth and food. For further detail, refer to Material Safety Data Sheet.

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