

# Triflor Diamond hard

**Non metallic, monolithic surface hardening compound.**

## Uses

Triflor Diamond hard provide a highly abrasion resistant surface to concrete floors by the dry shakeon method which ensures that the hardwearing surface bonds monolithically to the base concrete. They are ideally suited for all industrial areas subject to the heaviest traffic, e.g. loading bays, trucking lanes, car parks, workshops, machine shops, ramps and spillways.

## Advantages

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

## Description

Triflor Diamond hard are quality controlled, factory blended powder which are ready to use on site. They contain special 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, produce a material which is easy to trowel into the surface of fresh, wet concrete. Triflor Diamond hard 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, Triflor Diamond hard provide a non-slip surface which will never rust and disintegrate.

## Properties

### **Abrasion resistance**

Triflor Diamond hard have been tested against control concrete for abrasion resistance. Test results showed that improves the Triflor Diamond hard abrasion resistance of concrete by 225% and by 150% when tested as per guidelines in IS:1237 - 1980.

Specification clause



**Non metallic surface floor hardener**

All concrete floors shall be Triflor Diamond hard surfaced or broadcast with Triflor Diamond hard, a non-metallic monolithic surface floor hardening compounds containing rust free, hardwearing aggregates. The aggregates shall have a Moh's hardness of not less than 9 for and not less than 8 for Triflor Diamond hard.

## Specification clause

### **Non metallic surface floor hardener**

All concrete floors shall be surfaced or broadcast with Triflor Diamond hard, a non-metallic monolithic surface floor hardening compounds containing rust free, hardwearing aggregates. The aggregates shall have a Moh's hardness of not less than 9 for Triflor Diamond hard.

## **Compressive strength**

Triflor Diamond hard shall possess a minimum compressive strength of 60N/mm<sup>2</sup> & 50N/mm<sup>2</sup>.

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 minimize segregation and bleeding. Free water cement ratios of less than 0.55 (in case of Triflor Diamond hard) are required. The concrete should have a slump of between 75 and 100 mm ( ) and 50 and 75mm (incase o Triflor Diamond) .The base concrete 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. Triflor Diamond hard are applied for different types of industrial use.

# Triflor Diamond hard

## **Application Intended Avg. Wear rate (kg/m<sup>2</sup>) traffic use (IS:1237-1980)**

7.0 Heavy <2mm  
5.0 Medium >2 <3.5mm  
3.0 Light >3.5 <4mm

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 Triflor Diamond hard 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 by now have evaporated.

Triflor Diamond hard are applied in two stages.

(a) The first application is made using 50% to 70% of the total material. Triflor Diamond hard 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.

(b) Immediately after floating, the remaining Triflor Diamond hard 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 application Triflor Diamond hard is important and critical. If applied too early, bleed or excess water will wash away the cementitious content of the products, thereby making them ineffective. Also denser aggregates sink into the concrete. If the application of Triflor Diamond hard 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 Triflor diamond hard 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 or impact is felt more.

## **Curing**

Tests have shown that proper curing of concrete floors treated with product 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.

## **Ready to use**

Triflor Diamond hard is supplied ready to use on site. Cement or aggregates should never be added to Triflor Diamond hard.

## **Coloured floors**

When a coloured floor is required, it is strongly recommended that a job site trial area is laid.

## **Surface treatments**

Penetration type surface treatments are recommended to give low porosity and dust proof property.

## **Estimating**

## **Packaging**

Triflor Diamond hard are supplied in sealed 25 kg HDPE bags.

## **Storage**

If kept in original undamaged packing, the shelf life of should be at least 6 months under normal warehouse conditions.

## **Precautions**

## **Health & Safety instructions**

Triflor Diamond hard contains Portland cement and are 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**

Triflor Diamond hard are not flammable.

# Mfg by:

## **TRI POLARCON PVT. LTD.**

**Mfg of epoxy floor coatings, Sealants, Waterproofing chemicals & Construction Chemicals.**

Survey No. 38/1, Rajlaxmi Industrial Estate, Narhe, Pune-411041.

Contact No.9970633366/9822167282/9049800090.  
[www.tripolarcon.com](http://www.tripolarcon.com)/Email:tripolarcon@gmail.com