

# Polyhard

## Mineral based dry shake floor hardener

Forms a monolithic bond when applied over freshly poured concrete surface

### CHARACTERISTICS

- ▶ Provides a hard and durable surface topping on concrete
- ▶ Reduces dusting and resists oil and grease penetration which makes it easy to clean
- ▶ Premixed and ready to use powder
- ▶ Ideal for interior and exterior use
- ▶ Available in a range of colours
- ▶ Forms a monolithic bond with concrete



indoor & outdoor



abrasion resistant



high impact resistant

### DESCRIPTION

Polyhard is a ready to use factory blended cementitious powder, which has been formulated to provide hard wearing surface when applied as a dry shake powder over freshly floated concrete surface. Polyhard contains specially selected aggregates with excellent abrasion and wear resistance along with cementitious binders, plasticizers and admixtures to provide a tough & durable floor.

### FIELDS OF APPLICATION

Used for providing a high wear resistant and antiskid surface to newly laid concrete surface by the dry shake method. It finds its best use in indoor and outdoor applications such as :

- industrial warehouses & factories
- garages
- ramps and loading bays
- power stations
- aircraft hangers

### SPECIFICATION CLAUSE

Floors should be treated with Polyhard - a cementitious dry shake floor hardener containing non metallic, rust free aggregates spread @ 3 – 5 kg/m<sup>2</sup> applied in accordance with manufacturer's instructions.

### APPLICATION INSTRUCTIONS

#### Surface preparation

Calculate the total quantity of Polyhard to be used, divide and mark the area into suitable bays and set out the bags



evenly around the perimeter of the application area. Make sure that the required wooden hand floats and power floats are on site and ready to use.

#### Placing concrete

With the least possible handling, deposit concrete between previously placed screed points. Move concrete into place with square tipped shovel or other solid bladed tools. Vibrators when used should be inserted vertically and should not be used to move concrete. The concrete once placed is further leveled and consolidated with wooden or hand floats. Remove any bleed water, which is present on the surface.

#### Applying the first shake

Transfer Polyhard powder from the bags to pails of a size convenient for handling by the person walking on the freshly floated surface. When the concrete has set enough to leave a 3 – 6 mm footprint on the surface, start broadcasting 2/3rd of the quantity evenly over the surface. As soon as the material darkens, start working on the surface with wooden float. Make sure that the surface is not overworked which results in excessive moisture surfacing.

#### Applying the second shake

As the floating proceeds, immediately follow the process by broadcasting, at right angles to the initial broadcast, the

balance 1/3rd of the quantity set apart. Once the material darkens, float the surface with a power float bringing the moisture completely through the surface. In case of heavy duty application the first broadcast will be done only with the half the quantity. This is followed by two separate broadcasts each with ¼ the quantity and at right angles to each other.

### Bay edges

Extreme care and attention should be given at the bay edges and corners as they endure heavy wear and tear. Bay edges are usually reinforced with one of the following ways: Immediately after the leveling of the fresh concrete, sprinkle by hand @5 kg/m<sup>2</sup> in strips of 10cm width along the bay edges ( i.e., 0.5 kg/lm).

Immediately after the leveling of the fresh concrete, remove a wedge of concrete 10mm deep at the edges. Then apply a stiff mass of Polyhard mixed with clean water. This must be fully compacted to the base concrete. These reinforced areas will be further strengthened when subsequent full application is completed.

### CAUTION

Timing of the broadcast is very important in the application of Polyhard. Care should be taken that adequate labor, material and machinery is available to complete the whole area while the moisture is still available for the material to fully react and form the required finish. Conversely, full benefit will not be achieved if the material is applied too early when bleed water is still present. NEVER APPLY ADDITIONAL WATER TO AID FINISHING as this could prove detrimental to the whole system and also result in a patchy surface while using colored Polyhard.

### Curing

Proper curing of the surface is very important for the achievement of the required physical properties of the finished floor. It is recommended to use Polycure AC\* for curing. Saline or brackish water should not be used. Please refer to the detailed method statements for more details on application.

### STORAGE & SHELF LIFE

Store all material in a cool, covered dry place. Do not expose the pails to direct sunlight and keep away from all sources of heat. In tropical climatic conditions, the product has to be stored in an airconditioned environment and protected from high humidity. Polyhard has a shelf life of 12 months when stored in cool and dry conditions. Extreme temperature, excessive humidity and over exposure to UV will result in the reduction of shelf life.

### HEALTH & SAFETY

Avoid contact with skin and eyes. Avoid inhaling the product as it could result in irritations in the respiratory system. Wear suitable gloves and eye protection. Please refer to our Material safety data sheet for further details.

### COVERAGE

Light traffic	3kg/m <sup>2</sup>
Medium traffic	5kg/m <sup>2</sup>
Heavy traffic	7kg/m <sup>2</sup>

### BASE CONCRETE REQUIREMENT

Minimum compressive strength, [N/mm <sup>2</sup> ]	30
Minimum cement content, [kg /m <sup>3</sup> ]	300
Minimum slump, [mm]	75 to 90
Maximum air content, [%]	3

*Completely devoid of chloride admixtures and salt contaminated aggregates*

### TECHNICAL SPECIFICATION

PROPERTIES	VALUES
Color	Grey (other colours available on request)
Density, [g/cc]	1.8±0.05
Compressive strength, @ 28 days, [N/mm <sup>2</sup> ]	70
Moh hardness	7
Abrasion resistance, [%]	220 of normal concrete
Standards	BS 1881 Part 116, ASTM C 779 – 89

*All values given are subject to 5-10% tolerance*

### SUPPLY

Polyhard	25kg bags
Polycure AC	20L & 200L drum

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50 % relative air humidity at laboratory conditions unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.

