

# Shield Quartztop

Quartz-based, Dry Shake Floor Hardener



## Description

**Shield Quartztop** is a single-component, quartz-based, dry shake floor hardener, that consists of a blend of special cement, aggregates, pigments, and additives and is designed to be used as a topping layer over newly placed concrete floors by hand application or using an automatic spreader and troweled to give a monolithic, wear and abrasion resistant floor surface.

## Uses

- Provides a non-metallic, hard wearing smooth surface topping for monolithic floors.
- Stamped concrete floors.
- For superficial reinforcing of fresh floor slabs and screeds where good abrasion resistance and reduced dusting are required.
- Suitable for floors subject to mechanical wear, such as warehouses, parking areas, power stations, workshops, and industrial areas such as factory floors and so on.

## Characteristics / Advantages

- Ready to use.
- Forms monolithic bond with base concrete.
- Long-term durability.
- Dust proof.
- Excellent resistance to wear, abrasion, and impact.

## Standard Compliance

EN 13813: CT-C25-F5

## Packaging

**Shield Quartztop** is supplied in 25 kg bags.

## Shelf Life and Storage

**Shield Quartztop** has a shelf life of 12 months when stored in original unopened packaging in cool and dry conditions, protected from direct sunlight, heat, and moisture. Shelf life may be reduced if the recommended conditions are not followed.

## Typical Properties

|                                                                  |                               |
|------------------------------------------------------------------|-------------------------------|
| Color / Appearance                                               | Grey, Green, Brick Red Powder |
| Maximum Aggregate Size                                           | 1.2 mm                        |
| Full Cure                                                        | 28 days                       |
| Compressive Strength (EN 13892-2) @ 28 days (Mortar Consistency) | ≥ 25 MPa                      |
| Flexural Strength (EN 13892-2) @ 28 days (Mortar Consistency)    | ≥ 5 MPa                       |
| Hardness (Mohs Scale)                                            | ≥ 7                           |

## Application Instructions

### 1. Base Concrete

The base concrete should be designed to minimize bleeding and segregation. The concrete should have sufficient workability to enable efficient placing, leveling, and compaction.

The base concrete (sub-grade) should be laid, leveled, and compacted in accordance with good concreting practice to give an accurate finished profile with a minimum laitance, paying attention to bay edges and corners.

The following concrete limitations should be considered to get a hard concrete surface with abrasion resistance:

Water-to-cement ratio should be less than 0.5, to achieve compacted concrete.

Concrete slump should be between 75 and 110 mm.

Cement content should be more than 300 kg/m<sup>3</sup>

## 2. Application

The application should begin after bleed water evaporates from the slab surface. Timing of application and finishing of **Shield Quartztop** is very critical. Too early application will leave the floor surface having lower strength due to laitance formation, while too late application will lead to insufficient moisture content and therefore won't ensure complete hydration, causing shrinkage and cracks. The application should start when light foot traffic leaves an imprint of about 3 mm on the surface. It is recommended to apply **Shield Quartztop** in two stages.

### First Broadcasting:

Flatten out the surface of fresh concrete using a power trowel with float blades, or a pan attached. Evenly distribute/broadcast approximately two-thirds of the required amount of **Shield Quartztop** onto the wet slab. Distribution by mechanical spreader is preferred, but hand application is possible. As soon as the hardener becomes uniformly dark due to moisture absorption from concrete, a long float with rounded edges should be used to work and embed the hardener into the surface as well as to remove any imperfections. Wait until the initial set of concrete surfaces in order to support the weight of the power trowel. Float **Shield Quartztop** onto the concrete until it becomes an integral part of the surface.

### Second Broadcasting:

Once the first broadcasting of **Shield Quartztop** is successfully completed, immediately apply the remaining one-third quantity evenly over the surface. Similarly, wait until the hardener darkens by moisture absorption and then embed the material into the surface using a power trowel. Final finishing is necessary using the power trowel in order to create a smooth, regular, dense, and wear-resistant surface.

## 3. Cleaning

All mixing and application equipment should be cleaned immediately with clean water. Hardened material should be mechanically removed.

## 4. Curing

Immediately after finishing and final troweling operation, treat exposed surfaces with a curing compound or use other approved curing methods such as polyethylene sheeting.

## Consumption

The consumption rate depends on the grade of the industrial floor surface required:

**Heavy Duty:** 5.5 – 6.5 kg/m<sup>2</sup>

**Moderate Duty:** 4.5 – 5.5 kg/m<sup>2</sup>

**Low Duty:** 3.5 – 4.5 kg/m<sup>2</sup>

## Safety Instructions

**Shield Quartztop** may cause irritation to the skin or eyes. Refer to the most recent Material Safety Data Sheet for information and advice on the safe handling, storage, and disposal of the product.

## Limitations

- **Shield Quartztop** is supplied as ready-to-use at site, never add cement or aggregates.
- Do not apply the product if the ambient temperature is less than 5°C.
- Do not add water to the surface whilst finishing as this will affect surface performance and durability.

## Technical Support

Refer to technical information, method statement, or contact technical support team for any inquiry.

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