



# DURAFIX 9

## CORUNDUM AGGREGATED INDUSTRIAL FLOORING SYSTEM

- Non-dusting and non-slip final coat
- Excellent resistance to impact and abrasion
- Excellent performance under heavy traffic

### DESCRIPTION

**DURAFIX 9**, dry shake floor hardeners are a blend of non-metallic high quality corundum aggregates, specific cement mixtures and performance enhancing chemicals, applied monolithically on fresh concrete. **DURAFIX 9** is suitable to use at floors subject to heavy loads and traffic, offering excellent abrasion resistance.

### TYPICAL APPLICATIONS

- Suitable for internal and external use,
- Airplane Hangars, helipads,
- Power stations,
- Shipyards,
- Industrial buildings,
- Malls,
- Garages and parking lots,
- Workshops,
- Gas stations,
- Warehouses and loading areas,
- Residences,
- Restaurants and museums,
- Walkways,
- Underground passages and other pedestrian ways,
- Parks and gardens.

### ADVANTAGES

- Specially designed corundum aggregate mix.
- Provides excellent resistance against wearing, abrasion, and impacts.
- Becomes an integral part of the application surface, will not delaminate, peel or wear away.
- Excellent performance.
- Resistant against industrial grade chemical cleaners, oils, detergents, and etc.
- Provides resistance against freeze/thaw cycle.
- Coated substrate offers a higher rate of impermeability when compared to uncoated concrete substrate.
- Easy cleaning and maintenance.
- Fast to apply, provides considerable time savings.
- Non-oxidizing.
- Non-dusting and non-slip final coat.

### TECHNICAL PROPERTIES

**Color:** Red, Green, Natural

**Physical State:** Powder

**Powder Density:** 2,00 ± 0,05 g/cm<sup>3</sup>

**Application Temperature Range:** +5 °C - 35 °C

**Time Required For Open Traffic:** min. 2 days

**Service Temperature Range:** -30 °C - +80 °C

**Aggregate Type:** 9 MOHs scale

**Abrasive Resistance (TS 699):** <1,8 cm<sup>3</sup>/50 cm<sup>2</sup>

Above given data is applicable under 23 °C and 50% relative humidity.

**Reference Standards**

TS EN 1504-2

### DIRECTIONS FOR USE

#### APPLICATION ON OLD CONCRETE SURFACES

- For application on existing concrete slabs, a C25 screed with a minimum thickness of 7 cm should be laid prior to application.
- Layers thinner than 7 cm is not recommend as the amount of water will not be enough for hydration process of **DURAFIX 9**.
- Existing concrete should be clean, free of dirt, dust, oil residues, and any laitance before screed is poured.
- In order to achieve the required bonding strength between the existing concrete and screed, use **REBOND SOLID** as a bonding agent.

#### PREPARATION OF JOINT STRIPS

- The strips should be placed every 4-4.5 m considering the construction joints of the sub base and it is advised that the contraction joints follow the dimensions of the strips.
- In order to avoid shrinkage stresses at the junctions of the screed layer and the other elements of the concrete structure it is recommended to form expansion joints with 0.5 to 1 cm thick XPS or EPS boards.
- Fill the joints with **DURADERZ**.
- To minimize the formation of cracks, steel bars or steel meshes are placed in to strips.
- In order to evenly spread **DURAFIX 9**, it is recommended to distribute the material from both sides of joint strips.
- Side strips are advised to be 2-2.5 m for the ease of application.

#### CONCRETE CASTING

- Avoid using admixtures such as accelerators or retarders. Concrete slump values should also be the same to ensure that hydration process of consecutive strips will be following one another. Using synthetic fibers in concrete mixture is encouraged in order to increase structural resistance and thus minimize the amount of shrinkage and tensile cracks.
- For slab on soil applications, the soil surface should be saturated with water thoroughly and a polyethylene barrier should be laid to avoid absorption of concrete water by the soil.
- When casting concrete on existing concrete, use **REBOND SOLID** at a rate of 0.25 - 0.30 kg/m<sup>2</sup> in order to improve bonding.
- The concrete must be cast in accordance with common practices, should be leveled properly vibratory trowel, and necessary areas should be corrected using a wooden trowel. Do not use a steel trowel. The initial process should be carried out before bleed-water surfaces. If there is excess bleed water on the surface it must be removed using a wooden trowel or allowed to dissipate.

#### APPLICATION OF INDUSTRIAL SURFACE HARDENERS

- When the concrete has lost its surface sheen and is hard enough to stand making only a 3 mm foot trace, apply 2/3 of **DURAFIX 9** to the concrete ensuring uniform distribution.
- Allow applied material to absorb moisture from the concrete surface; a uniform darker color will be apparent. Trowel into the surface using a power trowel with pan.
- Apply the remaining 1/3 of the material. Again wait until the material absorbs moisture from the concrete surface and a darker color becomes apparent. The material is again fed into the concrete using power trowel with pan.
- Complete the trowelling process using a power trowel with blades. (The surface should not be overworked).

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- If manual finishing with steel trowels is to be undertaken this should take place before concrete becomes firm enough to take foot traffic.
- During the finishing process, do not spread water onto the surface.

### JOINTS

- Allow for the concrete to set properly to cut the contraction joints. Depending on the weather conditions, this period of time should not exceed 48 hours. The blade should not deform the concrete joint edges. Contraction joints should be aligned with the construction joints of the sub base.
- Since the cracks in the concrete body will initially form deep in the concrete, failure to cut the joints with proper timing will cause cracks to reach the surface.
- Contraction joints are recommended to divide the application area into squares when possible. (max. length/width ratio=3/2). The distance between consecutive strips should be 2 to 4 m.
- The depth of the joints should one fourth of the thickness of the concrete slab and in any case should be no less than 2.5 cm. (for a slab of 15 cm thickness, 3-4 cm).
- The width of the joints should be approx. 3-5mm allowing use of proper joint sealant.
- The contraction joints should be aligned with the construction joints beneath to provide simultaneous movement of the concrete elements.
- For the cold joints formed along the strip junctions, the joint cutting should be performed approx. 7 days later when cracking along the junction trail is observed. These joints could be deemed as expansion joints allowing the slab movement.
- The joints should be cut with joint cutting blade.
- In order to resist the expansion, shrinkage and shear movements, the joints should be filled with **DURADERZ** elastic joint sealant.

### CURING and SURFACE PROTECTION

- Curing process should commence as soon as surface finishing is completed and as the concrete starts to lose its sheen. The exact application timing should be decided on site taking in regard the weather condition, humidity rate and temperature.
- For curing and surface protection purposes, **INTERCURE FL** (semi-glossy), **DURAFLEX** (matte) or **INTERCURE** should be applied. Consumption rate is approximately 0.15 to 0.20 kg/m<sup>2</sup> depending on the surface absorption.

### WATCHPOINTS

- Float with a unpainted, stainless steel pan and polyamide blades for best color results.
- Application should not be carried on under direct sunlight or wind as such effects may cause drying on the surface and thus result in cracking.
- Excessive floating should be avoided as it will cause defects on colored surfaces.
- Application temperature (surface and environment) should not be under +5 °C or above 35 °C.
- Industrial Surface Hardening Applications should be carried out by professionals.
- Clean the surface with water after the joints are cut and remove the remaining slurry (consisting of water and cement) from the surface.

### CONSUMPTION

- 5-6 kg/m<sup>2</sup> Mild to moderate loads
- 6-8 kg/m<sup>2</sup> Heavy loads

### PACKAGING

- 25 kg craft bag

### STORAGE and SHELF LIFE

Store in dry and cool locations. Shelf life is 12 months under suitable storage conditions.

### HEALTH and SAFETY

As with all chemical products care should be taken during use and storage. Avoid contact with food, skin, clothes, eyes and mouth. If accidentally ingested seek immediate medical attention. In case of contact with skin or eyes, wash with a plenty of water and soap. Should be kept away from children. Reseal containers after use. Please consult Material Safety Data Sheet (MSDS) for further information.

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