



# DURAFIX SUPEREX

DRY-SHAKE INDUSTRIAL FLOORING SYSTEM WITH SPECIFICALLY DESIGNED CORUNDUM, CARBORUNDUM AGGREGATE MIX

- Special formulation
- Excellent abrasion strength with relatively low consumption rates
- Excellent performance-economy efficiency

## DESCRIPTION

**DURAFIX SUPEREX** dry shake floor hardeners are a blend of non-metallic high quality corundum and carborundum aggregate mix, specific cement mixtures and performance enhancing chemicals, applied monolithically on fresh concrete. **DURAFIX SUPEREX** system is specially formulated for 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 and carborundum aggregate mix.
- Provides excellent resistance against wearing, abrasion, and impacts with lower consumption rates.
- Becomes an integral part of the application surface, will not delaminate, peel or wear away.
- Excellent performance-economy efficiency.
- 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.

## PROPERTIES

**Color:** Red, Green, Natural

**Physical Appearance:** Powder

**Powder Density:** 2,05 ± 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

**Abrasive Resistance (TS 699):** <2,6 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 5 cm should be laid prior to application.
- 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.
- The water content of the concrete mix should be designed according to the water requirements of **DURAFIX SUPEREX**. In case of low water contents, **DURAFIX SUPEREX** will not be able to absorb required levels of water, and thus hydration process will be hampered. High contents of water in the concrete mix is also not wanted as it will both impair the concrete strength and, and cause the material to embed too deep into the concrete slab.

Below given properties are required for concrete surfaces subject to **DURAFIX SUPEREX** application;

- **Concrete grade:** C25 (min)
- **Water/cement ratio:** Max. 0.45
- **Slump:** Pouring directly from transit-mixer drum : 75 mm; Concrete pump pouring: 120mm

### APPLICATION

- 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.
- 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 SUPEREX**, 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 step on leaving only a 3 mm foot trace, apply **DURAFIX SUPEREX A** with minimum 1.5 kg/m<sup>2</sup> consumption onto the concrete ensuring uniform distribution.

# DURAFIX SUPEREX

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- Work the material into the surface using a wood trowel. Do not overwork the surface with the trowel as it will cause excessive bleed water to surface.
- For this application using wood trowel is encouraged (especially for light colored materials) since it will help acquiring the recommended levels of strength and color shade in a shorter period of time.
- An adequate amount of material should be applied along the edges of the joints at 10 cm wide strips and should be worked with a wood trowel.
- Allow applied material to absorb moisture from the concrete surface; a uniform darker color will be apparent. Trowel into the surface with a wooden/ open trowel.
- Once the application surface has grown a darker shade and has set enough to bear the weight of the power trowel, work the surface using a power trowel with a pan. Do not sprinkle extra water or work on surface with water accumulations as such will cause segregation, dusting and crusting.
- Spread the remaining **DURAFIX SUPEREX B** with 1.5 kg/m<sup>2</sup> consumption onto the surface uniformly and work with wood trowel into the surface.
- When the surface has set enough to avail foot-traffic, work it with power trowel with a pan. Finally work with blade trowel to achieve desired surface polish. It is extremely important to arrange the right timing for the power troweling as extra use will drive **DURAFIX SUPEREX** particles too deep into the surface; while driving hydration water, cement and sand up towards the surface. On the other hand excessive or late trowelling will cause tensile and friction forces on the surface which will result in scratching, and (due to the heat increase because of frictional forces) plastic shrinkage cracks.
- Do not spread water onto the surface, during the finishing process.
- During the process power trowel may drive excess material onto the adjacent strip. This material should be cleaned regularly (with a spatula) in order to avoid level differences and inappropriate visual.

## JOINTS

- Allow 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 while cutting through. 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 more 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.
- The joint should be cut through down to the load bearing slab joint. The width of the joint should be wider or the same with the old one.
- For the cold joints formed along the strip junctions, the joint cut 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.
- Expansion joints should also be filled with elastic joint filling

material, **DURADERZ**.

## 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 an 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 below +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

**DURAFIX SUPEREX Component A** : 1.5-2.0 kg/m<sup>2</sup>

**DURAFIX SUPEREX Component B** : 1.5-2.0 kg/m<sup>2</sup>

**TOTAL CONSUMPTION** : 3.0 kg/m<sup>2</sup> (grey color)  
4.0 kg/m<sup>2</sup> (colored)

## 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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