TIBMIX® 700

Corundum based dry shake floor hardener for industrial concrete floors

DESCRIPTION

TIBMIX 700 is a ready to use dry shake floor hardener for heavy duty industrial concrete floors. TIBMIX 700 is formulated from Corundum, graded mineral and special aggregates, and Portland cement.

TIBMIX 700 is designed to be applied onto freshly laid concrete floors, producing a very dense, tough, abrasion and impact resistant monolithic surface that significantly extends the service life of industrial concrete floor.

APPLICATIONS

- Heavy industries.
- Power stations.
- Workshops.
- Aircraft hangars.
- Warehouses.
- Loading bays.

ADVANTAGES

- Easy to apply.
- High resistance to wear and abrasion.
- Dense surface resistant to oil and grease.
- Reduces surface dust.
- Extends the service life of the floor.

STANDARDS

TIBMIX 700 complies with EN 13813, Class CT-C80-F7-AR0.5 and BS EN 13892-4 AR0.5 (Special Class).

METHOD OF USE

APPLICATION

Recommended compressive strength of the concrete floor mix should be at least 25 N/mm² (cube), with a workability (slump) of S3 (100 - 150 mm) or S4 (160 - 210 mm). Use of super-plasticizers is highly recommended – this adds to the workability of the mix and reduces shrinkage-related early stresses and crack development. The required properties of a concrete mix should be agreed in advance with the concrete plant.

A “foot print method” is preferred to determine the proper time to start dry shake application. Careful walking should leave a 3 - 4 mm foot print into the concrete surface. Before dry shake hardener is spread, any bleed water should be removed and surface trowelled with pans to open the pores and to prepare for maximum dry shake bonding.

TECHNICAL PROPERTIES:

Colour:	Light grey, natural (concrete grey), dark grey & other colours on request
Compressive strength: BS EN 13892-2	80 - 85 N/mm² @ 28 days
Aggregate hardness:	9 Mohs
Böhme reading: EN 13892-3	4.7 cm³/50 cm²

Compressive strength class (EN 13892-2): C80
Flexural strength class (EN 13892-2): F7
EU Abrasion classification: A6
Abrasion resistance (BS EN 13892-4): AR0.5 (Special Class)

Dry shake floor hardener should be spread in two layers (60 - 65% and 35 - 40%), trowelling each layer with pans after the material has picked up moisture from below (dry shake will darken). Application rate of 3 kg/m² per layer is not recommended to be exceeded, unless large spreader machinery is used. While 2 - 3 kg/m² can be applied to suppress steel fibers, 3 - 5 kg/m² is required to increase wear and abrasion resistance of the surface. Coloured dry shakes may require higher application rate to produce a smooth shade (6 - 8 kg/m²).

When the surface has set enough, final power trowelling with blades will give the concrete floor the required finish. Stainless steel blades are recommended for the trowelling of light coloured dry shakes. Avoid “burning” the surface which may lead to flaking or even delamination of the dry shake.

The concrete floor surface should be sealed and cured immediately after final trowelling with the curing aid Setseal 6. Keep the application rate at 0.08 - 0.1 litre/m² and avoid slops. Setseal 6 protects the concrete surface from rapid evaporation, thus DCP Technical Department making it less prone to cracking and surface flaking, and also increases surface abrasion and resistance to dirt, water, oils and other chemicals.

Joints should be cut 24 - 48 hours after final trowelling and filled with joint filler after 1 - 3 months (when joints have fully expanded).

APPLICATION RATE

General recommended dry shake floor hardener application rate for concrete floors is 3 - 5 kg/m².

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REMARKS

- Timing of the dry shake hardener application (both spreading and trowelling) is critical, however early application will do less harm, as opposed to being late. When concrete surface has not set enough, the dry shakes have a tendency to clot and trowelling will produce mounds and uneven surfaces, which can later be smoothed out. Late trowelling may lead to poor finishing and later dusting of the concrete floor. Dry shake floor hardeners are not recommended when chlorides are used in the concrete mix or entrained air exceeds 3%.
- Worksite conditions are equally important for the success. Direct sunshine, draught and any air channelling are to be avoided. Protection from the elements must be considered before concrete casting, it is vital to avoid water/rain damage to the surface from the beginning of concrete casting through trowelling and until curing aid has dried tack free (4 hours). Any vents and openings should be closed to reduce draught and all mechanical blowers directed away from the surface to aid with slow and even evaporation of moisture.
- Concrete surface will harden quicker at joints, near walls, pillars, doorways, passages, and areas subject to draught.
- Watering the dry shake is not allowed – the dry shake must absorb all required water and moisture from the surface below!
- When ambient temperatures fall below 5°C the dry shake should be protected from such cold 12 hours before application (by storing inside, etc). Reactions of cement are slow and insufficient in low temperatures. Temperature differences in concrete layers may lead to thermal shock, which reduces bonding of the dry shake and may lead to flaking and scaling of the finished surface.
- Thermal shock may also develop when the ambient temperatures exceed 25°C during casting.
- The shade or colour of the dry shake floor hardener surface (incl. natural) may rarely turn blotchy after trowelling. This is related to the characteristics of the concrete mix and irregularities will disappear after 28 days during which the concrete construction continues to dry out.
- Concrete floor is generally allowed to be fully loaded only after 28 days.

CLEANING

All tools and equipment should be cleaned immediately after finishing by water and dried.

PACKAGING

TIBMIX 700 is available in 25 kg and 1000 kg bags.

STORAGE

TIBMIX 700 has a shelf life of 9 months from date of manufacture if stored at good conditions in its original unopened sacks. Keep away from freezing temperatures and moisture. The material does not lose any of its designed properties for at least 24 months if stored properly at temperatures between 5°C and 30°C.

If these conditions are exceeded, contact DCP Technical Department for advice.

CAUTIONS

HEALTH AND SAFETY

TIBMIX 700 contains cement that powderers into very fine dust when thrown or blown in the air. In contact with moisture or water, cement undergoes an alkali reaction which irritates eyes, mucous membranes and skin. Avoid material contact with eyes, mouth, skin and food.

In case of accidental contact with skin or eyes, rinse with plenty of water and seek immediate medical advice. In case of ingestion, seek immediate medical advice. Exposure to cement could produce allergic reactions and long-term effects. Proper safety measures must be maintained working with materials containing cement – use gloves, respirators, protective goggles or masks.

For further information refer to the Material Safety Data Sheet.

MORE FROM DON CONSTRUCTION PRODUCTS

A wide range of construction chemical products are manufactured by DCP which include:

- Concrete admixtures.
- Surface treatments
- Grouts and anchors.
- Concrete repair.
- Flooring systems.
- Protective coatings.
- Sealants.
- Waterproofing.
- Adhesives.
- Tile adhesives and grouts.
- Building products.
- Structural strengthening.

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