

# MasterTop<sup>®</sup> 100

## Pre-mixed dry shake surface floor hardener

### DESCRIPTION OF PRODUCT

**MasterTop 100** is a ready-to-use blend of a synthetic mineral aggregate and cement, which is applied as a dry shake to the surface of fresh concrete or screeds.

**MasterTop 100** will provide continuous protection to concrete floors against wear, impact and abrasion. It will also improve resistance to various industrial chemicals, oils, greases, detergents and hydraulic fluids found in the aviation industry.

### PRIMARY USES

**MasterTop 100** is designed to ensure improved durability in applications where the floor is subjected to medium and heavy traffic and where a non-dusting surface is required. It will improve and enhance performance of all concrete floors.

### TYPICAL APPLICATIONS

- Workshops
- Power stations
- Garages
- Car parks
- Warehouses
- Loading bays
- Factories
- Shipyards
- Aircraft hangars
- Traffic decking
- Car washes
- Helicopter pads

### COMPOSITION

**MasterTop 100** consists of non-metallic, inert high quality synthetic mineral aggregates, proprietary chemicals, pigments and cement.

### ADVANTAGES

- Pre-mixed, offering factory controlled quality assurance
- Applied monolithically to fresh concrete
- Quick application and finishing results in considerable timesaving
- Ease of application

- Joints can be provided with better protection by addition of extra material at edges of bays.
- Wear, abrasion and impact resistance are superior to normal concrete
- Non-oxidising
- Slip-resistant finish can be obtained
- High impermeability compared to concrete under the same conditions
- **MasterTop 100** forms an integral part of the floor surface and will not delaminate or peel
- Non-dusting
- For internal and external use
- Easy to clean
- Economic installation
- Maintenance-free, long life performance

### PACKAGING

**MasterTop 100** is available in 30kg bags.

### TYPICAL PROPERTIES

Compressive strength	70 N/mm <sup>2</sup>
BS 6319 (Part 2):	
Chemical resistance:	Will resist motor oils, mineral oils, mild acids, salt solutions 10%, seawater and soda solution 25%, when cured as recommended
Abrasion resistance:	When tested in accordance with the principles of ASTM C944 MasterTop 100 exhibited approx. 82% greater abrasion resistance than control concrete containing 370kg OPC and a w/c ratio of 0.50

### STANDARDS

ASTM C944 (Abrasion resistance)

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## APPLICATION

In accordance with ACI 201 - 2R77 & ACI 302-1 R-89, a well-proportioned Concrete Mix Design is essential.

The concrete supplier should ensure that cement contents, w/c ratio and slump are generally in accordance with the following minimum standard:

Cement (SRC or OPC): Min. 320kg/m<sup>3</sup>

W/C ratio: Max. 0.50

Min. 0.40

Slump: Ideally 75mm

Strength: Min. 31N/mm<sup>2</sup>

Concrete should not segregate and bleed or contain more than 3% air. Do not use micro silica in the concrete, as this can lead to problems with crusting when the dry shake is applied. **MasterRheobuild** or **MasterPozzolith** water-reducing admixtures are recommended for concrete placement and optimum performance. Screeds, to which **MasterTop 100** is to be applied, should have a minimum thickness of 75mm. Following placement, concrete should be levelled off with a straightedge and then vibrated. The surface is then floated with a wooden float, ensuring that the surface is not closed. Any bleed water should be removed. (Avoid sponge type absorbents). Thereafter sprinkle **MasterTop 100** along edges of bays (approximately 80mm strips) where expansion and contraction joints will be located. Float into surface using a wooden float.

**MasterTop 100** is ideally applied to a surface which is neither too wet nor too dry. Ambient temperatures will dictate when the material is to be applied. Generally, in temperatures of 35-45°C, a waiting period of 30-40 minutes is recommended. This may need to be extended in temperatures of less than 35°C.

Using a raised trestle, which spans the slab, the material is broadcast by hand onto the wet concrete surface.

The application is carried out in two stages.

1. Apply two thirds of the required material to the concrete, ensuring uniform distribution.
2. Allow applied material to absorb moisture from the concrete surface; a uniform darker colour will be apparent.
3. Using a wooden float, float **MasterTop 100** into the concrete, ensuring material becomes an integral part of the surface.
4. Apply the balance of material. Again wait until material has obtained a darker colour before floating with a wooden float.
5. When surface is firm enough to take the weight of a man leaving only minor indentations, **MasterTop 100** should be finished off by means of a power trowel. A smooth slip-resistant finish can be obtained, but the surface should not be overworked.
6. If manual finishing with steel trowels is to be undertaken, this should take place before concrete becomes firm enough to take foot traffic.

## CURING

Curing should be carried out immediately after the final trowelling operation has been completed. This can be done by either covering with polyethylene sheets or by the application of curing compound. The use of **MasterKure 101** or **MasterKure 102** at a rate of 1ltr/5m<sup>2</sup>

is recommended. Further advice on the correct selection of curing compounds will be provided by Master Builders Solutions's Technical Services Department, as these may differ depending on the type of subsequent treatment to be applied.

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## WATCH POINTS

1. Dry shake applications should not take place in direct sunlight or when hot winds are blowing. This will avoid "bread crusting" occurring, i.e. top 5-10mm of surface dries whilst concrete beneath is still wet. This often results in tearing of the surface when trowelling.
2. As with any concrete slab or bay, curing is of paramount importance and should take place immediately upon completion of finishing.
3. Subsequent coatings and finishes may be applied, but will depend on the curing compound, surface texture, etc. (refer to Master Builders Solutions's Technical Services Department for advice).

Light and medium duty: 3-6kg/m<sup>2</sup>  
Heavy duty: 7-9kg/m<sup>2</sup>  
Joints (expansion): 1.5kg/lm in 8cm strips  
For coloured applications, a minimum of 7kg/m<sup>2</sup> is recommended.

## STORAGE

Store out of direct sunlight, clear of the ground, on pallets protected from rainfall. Avoid excessive compaction.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice, consult Master Builders Solutions's Technical Services Department.

## SHELF LIFE

Up to 12 months if stored in unopened containers according to manufacturer's instructions.

## SAFETY PRECAUTIONS

This product contains cement, which may cause irritation. Avoid contact with eyes and prolonged contact with skin. If contact occurs, wash thoroughly with water and call a doctor. Keep product out of reach of children.

## NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information, contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

## QUALITY STATEMENT

All products manufactured by Master Builders Solutions Egypt, or imported from Master Builders Solutions affiliate companies world-wide, are manufactured to procedures certified to conform to the quality, environment, health & safety management systems described in the ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 standards.

\* Properties listed are based on laboratory controlled tests.

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