



The Chemical Company

# MASTERTOP<sup>®</sup> 103

Emery based concrete surface hardener

## DESCRIPTION

**MASTERTOP 103** is a premixed, ready to use powder, designed for application as a dry shake over a freshly floated concrete floor or floor screed, to obtain an monolithic floor with substantial improvement in its abrasion resistance.

The product is based on selected hard wearing emery aggregates and hydraulic binders.

## FIELDS OF APPLICATION

**MASTERTOP 103** is recommended for treating floor areas not exposed to serious chemical attack and where increased abrasion resistance is desired. Applications include:

- factories and workshops
- basements and cellars
- stores, warehouses and loading platforms
- corridors, halls
- ramps, stairs and parking areas

## FEATURES AND BENEFITS

<b>Excellent abrasion resistance</b>	Durable floor. Saves frequent maintenance expenditure.
<b>Dense surface</b>	Increased resistance to ingress of oil and grease. Easy to clean.
<b>Non metallic</b>	No rusting or discolouration of surface.

## TYPICAL PERFORMANCE DATA

### Abrasion resistance (ASTM C779, procedure A)

30 mins:	0.25 mm
60 mins:	0.40 mm
90 mins:	0.65 mm

Note: For untreated concrete (30 N/mm<sup>2</sup>) the value is 1.50mm at 90mins, which means that the treated floor surface is 120% more abrasion resistant than the untreated.

## PROPERTIES

Supply form	: Powder
Colours	: Natural (Concrete Grey)

## APPLICATION

### Preparation

Use a concrete mix of a minimum of 20 N/mm<sup>2</sup> (30 N/mm<sup>2</sup> for heavy duty traffic), with a slump of 75mm or less and maximum 3% entrained air. The design and construction of the floor should be adequate to withstand the traffic, impact and such other loads the floor is likely to be exposed to.

Place concrete and consolidate with vibrators if necessary. Strike off concrete level. Further level and consolidate using a wooden bull float or wooden darby. Complete this operation before any bleed water appears. Remove any bleed water on the surface just prior to floating by dragging a rubber hose over the surface.

First float the concrete surface adjacent to forms, columns, pits, doorways and walls, where the concrete is likely to lose moisture rapidly, using a hard wood or a mechanical float. Float the overall area as soon as concrete can bear the weight of a finisher and a light trowelling machine equipped with float blades without digging in.

### Placing

**MASTERTOP 103** should be applied in two layers by broadcasting by hand. Approximately two-thirds of the total quantity should be applied in the first broadcast and the remaining balance in the second.

### First shake-on application

Mark the floor area into bays of convenient size and keep the required number of bags of **MASTERTOP 103** ready for each bay, depending on the rate of application specified. If applying manually, transfer the powder to pails of a size convenient for handling.

Broadcast the powder evenly by hand, allowing it to sift through gloved fingers to obtain a uniformly thick application, after the evaporation of bleed water. Do not throw or broadcast with a shovel.

After the applied **MASTERTOP 103** darkens in colour indicating absorption of moisture from the concrete and when the concrete has stiffened enough to prevent the float blades from digging into the surface, float the applied surface using wooden hand floats or power floats. Float just enough to bring the excess moisture to the surface.

### Second shake-on application

Follow with the second application of **MASTERTOP 103** as the first application proceeds to next bay.

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Broadcast the remaining third of **MASTERTOP 103** evenly by hand, compensating with extra material over areas under-applied during the first broadcast. As soon as the second layer has darkened by moisture absorption, float the surface with a power trowel equipped with float blades or disc floats.

If a coarse non slip surface is desired, start curing without any more finishing operations.

## Finishing

The extent of further floating or trowelling depends upon the finish desired on the surface.

For obtaining a medium, non slip finish, power float the surface for the third or fourth time depending on the setting characteristics of concrete.

For obtaining a fine non slip finish, trowel the surface after it stiffens further using a hand or power trowel keeping the blades as flat as possible without digging in the surface.

For a superior smooth finish, trowel again after further stiffening of the surface with slightly raised blades, but avoid raising them to an angle that creates chatter marks or blisters on the surface. If either start to appear, remove them by reducing the angle of trowel.

When only a little paste starts clinging to the trowel blade, finish with a final trowelling with raised blades. Remove any pinholes and trowel marks by hand trowel.

Note: During hot, dry or windy conditions, trowelling should be kept to the minimum to obtain the required finish. Start early curing to prevent damage to the floor from rapid drying.

## CURING

Start curing immediately after final finishing using a liquid membrane curing compound such as **MASTERKURE 181** or **MASTERKURE 128**.

## Protection

Barricade the area after the application of curing compound. Immediately after the curing compound dries, cover the floor surface to protect it from staining, discolouration, or physical damage.

## CLEANING

Clean the tools and equipment with water before the paste sticking to them hardens.

## ESTIMATING DATA

The rate of application will depend on the service conditions to which the floor will be exposed. The recommended rates of application are as below:

For light traffic to medium traffic:	2 - 3 kg/m <sup>2</sup>
For medium traffic to heavy traffic:	3 - 4 kg/m <sup>2</sup>

## PACKAGING

**MASTERTOP 103** is available in 25kg bags.

## SHELF LIFE

**MASTERTOP 103** can be stored for 12 months from date of manufacture if stored in tightly sealed original packaging, in a dry and enclosed place.

## PRECAUTIONS

**MASTERTOP 103** is non toxic but alkaline like normal cement and can cause irritation to persons with sensitive skin. Wear gloves and masks while handling the product. Take all precautions normally taken while handling cement.

Fire: **MASTERTOP 103** is not flammable.

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet

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## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

## NOTE

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