BASF
The Chemical Company

MASTERTOP® 300

Emery based premixed dry shake surface floor hardener

DESCRIPTION

Mastertop 300 is a ready to use blend of size graded emery aggregate and cement premixed which is applied as a dry shake to the surface of green concrete or screeds.

Mastertop 300 will improve the concrete surface necessary with added protection against wear, impact and chemicals, oils, grease, detergents and hydraulics fluid found in the aviation industry.

REOMMENDED FOR

Mastertop 300 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 the in-use performance of all concrete floors.

TYPICAL APLICATIONS

Mastertop 300 is suitable for use in a wide range of industrial, commercial and institutional applications:

Workshops	Power Stations
Garages	Car Parks
Warehouses	Loading Bays
Factories	Shipyards
Aircraft hangars	Traffic Decking
Car Washes	Helicopter Pads

FEATURES / BENEFITS

- Premixed offering factory controlled quality assurance.
- Applied monolithically to fresh concrete, Quick application and finishing results in considerable timesavings.
- Ease of application.
- Joints can be afforded better protection by addition of extra material at edge of bays.
- Wear, abrasion and impact resistance superior to concrete.
- Size graded hardwearing emery aggregates.
- Slip resistance finish can be obtained.
- High impermeability compared to concrete under the same conditions.
- **MASTERTOP 300** forms an integral part of the Floor Surface and will not delaminate, peel or wear away.
- Non-dusting.
- For internal and external uses.
- Easy to clean.
- Economic installation.
- Maintenance free, long life performance.

PACKAGING

MASTERTOP 300 surface hardener is packaged, ready-to-apply in 25 kg moisture resistance bags.

RATE OF USE

The standard application rate of MASTERTOP 300M surface hardener are as followings:

Light and medium duty	:	4 – 5 kg/m²
Heavy duty	:	6 – 9 kg/m²
Joints (expansion)	:	1.5kg/linear meter in 8cm strips.

For coloured application, a minimum of 5 - 7 kg/m² is recommended.

PROPERTIES AND PERFORMANCE DATA

Colours	Natural, Light Grey, Terra Cotta, Nile Green.
Compressive Strength BS 6319 (Part 2)	70 N/mm²
Chemical Resistance	Will resist motor oils, mineral oils, mild acids, salt solutions 10%, sea water, soda solution 25% when cured with **Mastertop 300**
Abrasion Resistance ASTM C944	**Mastertop 300** exhibited approx 82% greater abrasion resistance than control Concrete containing 370 kg OPC and W/C ratio of 0.50

APPLICATION

In accordance to ACI 201-2R77 & ACI 302-1R89 a well-proportioned concrete mix design is essential. The concrete supplier should ensure that cement content, W/C ratio and slump are generally in accordance with the following:

Cement (SRC or OPC)	:	Min 320 kg/m^3
W/C ratio	:	Max 0.50
Slump	:	Ideally 75mm
Strength	:	Min 31 N/mm²

Concrete should not segregate and bleed or contain more than 3% air. If **Mastertop 300** is to be applied to a screed, this should have a minimum thickness of 7.5cm. The following placement of concrete should be leveled off with a straight edge and then vibrated. The surface is then floated with a wooden float ensuring that it is not closed. Any bleed water should be removed. (Avoid sponge type absorbents).

Thereafter sprinkle **Mastertop 300** along edges of bay (approx 8 cm strips) where expansion and contraction joints will be located. Float into surface using a wooden float. **Mastertop 300** is ideally applied to a surface which is neither too wet nor dry. Ambient temperatures will dictate

when the materials to be applied. Generally in temperatures of 35 – 45 °C a waiting period of 30 – 40 min is recommended. This may need to be extended in temps of less than 35²C.

Using a raised trestle, which spans the slab, the material is broadcasted by hand onto the wet concrete surface. The application is carried out in two stages.

1. Apply 2/3 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 300** into the concrete ensuring material becomes an integral part of the concrete.
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 sufficiently firm enough to take the weight of foot traffic, **Mastertop 300** should be finished off by means of a power float. 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 has been completed. This can be done by either covering with polyethylene sheets or by the application of liquid membrane curing compound such as **MASTERKURE® 181** or **MASTERKURE® 128**. Further advice of the correct selection of curing compounds will be provided by **BASF Technical Department** as these may differ depending on the type of subsequent treatment to be applied.

WATCHPOINTS

- Dry shake application 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 dried whilst concrete beneath is still wet. This often results in tearing of the surface whilst trowelling arc is in motion.
- As with any concrete slab or bay, curing is of paramount importance and should take place immediately upon completion of finishing.
- Subsequent coatings and finishes may be applied but will depend on curing compound, surface texture etc. (refer to **BASF Technical Department** for assistance).

SHELF LIFE

Mastertop 300 can be stored for 12 months from date of manufacture if stored in tightly sealed original packaging and placed in a dry and enclosed place.

PRECAUTIONS

Mastertop 300 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.
For detailed Health, Safety and Environmental Recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

Fire: **Mastertop 300** is not flammable.