BASF

The Chemical Company

BASF AUSTRALIA LTD

APPLICATION GUIDE
for
MASTERTOP 200
Dry-shake metallic-aggregate surface hardener

IMPORTANT: READ THIS FIRST

BASF Construction Chemicals does not warrant the performance of this product unless the instructions of this document and other related BASF Construction Chemicals documents are adhered to in all respects.

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1. APPLICATION OF DRY SHAKE SURFACE HARDENER MASTERTOP 200

MASTERTOP 200 is a pre-mixed, ready to use product designed to be applied as a dry shake over freshly placed concrete to provide an iron armoured floor surface.

2. THE CONCRETE

- Minimum Concrete Compressive strength – 32MPa.
- Maximum Air Content – 3%.
- No PCE or Chloride Based Admixtures.
- Maximum Slump – 80mm.
- Minimum Water Cement Ratio 0.50.
- The Concrete Must Not Display Excessive Bleeding.
- Use BASF Construction Chemicals Pozzolith Admixtures.
- Do not use salt water or salt contaminated aggregates.

3. IMPORTANT

These suggestions may be followed, modified or rejected by the owner, engineer, contractor or their representatives since they, and not BASF Construction Chemicals Australia are responsible for the planning and executing procedures appropriate to a specific installation. However, when the planned procedure differs from that discussed herein, the prospective user of MASTERTOP 200 is urged to contact the local BASF Construction Chemicals representative.

4. APPLICATION METHOD

i) **Placing, Vibrating and Screeding**:

With the least possible handling, deposit concrete between previously placed screed points. Move concrete into place with square tipped shovels or other solid bladed tools. Do not use rakes. Vibrators when used should be inserted vertically and should not be used to move concrete. A small pencil vibrator helps to consolidate concrete at corners, sides of forms and bulkheads, particularly where keyed joints are involved. Screed off concrete with a true wooden or metal screed bar.

ii) **Applying the First Shake:**

Transfer the MASTERTOP 200 Powder from the bags to pails of a size convenient for handling. Screed back concrete to approximately one Arm's length. Apply the MASTERTOP 200 to this freshly screeded area. Once applied screed back another Arm's length and so on. Apply by hand, allow the MASTERTOP powder to sft through the gloved fingers while moving the hand to obtain a uniformly thick application over the surface. It is important not to allow heavy handfuls to drop onto the surface, these will sink into the surface and cause finishing problems. A light

even spread first before the main shake will hep to support the MASTERTOP more. Do not throw the powder or broadcast it with a shovel. Apply the shake as the concrete placement proceeds to areas adjacent to walls, forms, columns, and doorways. Apply 2/3 of the total amount specified with the first shake. Apply as evenly as possible.

iii) **Bullfloating the First Shake:**

As soon as the shake has absorbed moisture from the concrete beneath it, as indicated by darkening of the surface (the surface must be totally dark with no dry patches showing) it can be bullfloated. Use a wooden bullfloat or wooden hand float for limited areas. Bullfloating can be done from the edge so as not to slow down the concrete placement. With proper concret slump and application only one or two passes of the bullfloat will be required. Do not float and bring concrete paste through the MASTERTOP to the surface, sinking the iron aggregate. This operation must be completed before any free moisture (Bleed Water) rises to the surface. Most contractors use magnesium bull floats today with these, care must be taken not to close the surface too much. A wooden bullfloat is recommended.

Iron armoured joints should be started now – see last paragraph for method.

iv) **Edges:**

The edges should be worked as soon as possible since they generally set up first. After placement of the concrete and removal of bleed water, float the edges of the slab open with wood hand floats. The working area at this time should be limited to an arm's length, to prevent disturbing the overall slab. After the surface has been opened by the floating procedure, shake 2/3 of the dry shake specified per m² evenly over the opened areas. With wooden float, float in the application by bringing enough moisture through the shake to completely incorporate the shake into the slab surface.

v) **Application of Evaporation Retardant – MASTERKURE 111:**

When the first shake and bullfloating are finished and no other working of the surface is required until the finishing process, it might be necessary to protect the freshly placed surface from rapid evaporation of the moisture of the concrete. If the slab is exposed to direct sunlight, wind, low humidity or any other condition that will cause rapid surface drying, a fine spray of MASTERKURE 111CF should be applied onto the slab surface after bullfloating. The MASTERKURE 111CF should not be worked into the surface, but must be left untouched on the bullfloated surface, where it will have disappeared by the time of the first floating.

vi) **Floating the First Shake:**

If there is free bleed water on the surface remove it just prior to floating. A rubber hose dragged slowly over the surface is the best method for removal of bleed water. Concrete adjacent to forms, columns, pits, doorways and walls must be hard wood or machine floated first because it stiffens faster than the concrete in the open areas. Float the open areas as soon as the concrete will bear the weight of a finisher and trowel machine, equipped with float shoes, without digging in or disturbing the level.

Machine trowel slowly, with float shoes almost flat. The floating operation must be timed so that it will **not** be necessary to sprinkle water on the surface.

vii) **Applying the Second Shake:**

Immediately after the first floating, while the surface is still moist apply the last 1/3 of the application. This has to be done very quickly and normally requires a second person following behind the trowel machine to apply the product. As soon as the surface has darkened trowel back over. Trowel just enough to bring the moisture through. Apply the second shake at right angles to the first, for a more even application.

viii) **Finishing:**

When the slab surface loses some of its “Sheen” finishing operations should begin. Once the edges and areas around columns, walls and doorways are trowelled, trowel the slab either by hand or with power finishing machines with finishing blades, not float shoes. Keep all blades as flat as possible. Do **not** add water to aid finishing because adding water will result in a weakened surface and possible delamination of finished surface. It should not be necessary if the timing is correct. Adding water will also result in patchy areas in coloured applications.

ix) **Curing:**

As soon as the surface will not be marred by the application, apply MASTERKURE 404 curing compound by spray or roller in accordance with the application directions. Do not cure with water, plastic sheeting or water based curing compounds.

5. MASTERTOP IRON ARMORED JOINTS

Remove any bleed water at edges before proceeding with joints. The concrete at the joints to be armoured should be cut down and removed to a depth of 12mm at the joint line or form, tapering back to surface level at 100mm from the joint line. This area should them be floated with a wooden hand float working up sufficient paste at the surface to assure an integral bond of the mortar to the fresh slab. Mix MASTERTOP 200 with enough water to obtain a stiff mortar consistency. Place, level off and wood float the mortar while keeping the float perpendicular to the joint at all times. Do not pack the joint, use only enough material to fill the void.

When armouring control joints, it is imperative that the placement of the mortar be on the centre line of the designed joint location. Once the exact location of the joint centre line is determined and can be visually followed across the slabs (either by string or chalk line), bridge the slab approximately 150mm to the side. Working from the bridge platform the joint is treated as previously described.

The application rate is 3.3kgs per lineal metre per one side of joint. Two sides are 6.6kgs per lineal metre.