



The Chemical Company

BASF AUSTRALIA LTD

**APPLICATION GUIDE
for
MASTERTOP 105
Dry-shake 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 100

MASTERTOP 105 is a pre-mixed, ready to use product designed to be applied as a dry shake over freshly placed concrete to provide a durable slip and wear resistant floor surface.

2. THE CONCRETE

- Minimum Concrete Compressive strength – 30MPa.
- Maximum Air Content – 3%.
- No Chloride Admixtures.
- Maximum Slump – 80mm.
- 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 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 105 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 105 Powder from the bags to pails of a size convenient for handling. Screed back concrete to approximately one Arm's length. Apply the MASTERTOP 105 to this freshly screeded area. Once applied screed back another Arm's length and so on. Apply by hand, allow the MASTERTOP powder to sift through the gloved fingers while moving the hand to obtain a uniformly thick application over the surface.



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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 help 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 concrete slump and application only one or two passes of the bullfloat will be required. Do not over float and bring concrete paste through the MASTERTOP to the surface. 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.

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 from 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 111 should be applied onto the slab surface after bullfloating. The MASTERKURE 111 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.



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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.



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BASF CONSTRUCTION CHEMICALS SUMMARY

MASTERTOP 105

- Set out bags the day before (use 3 bag piles) to calculated grid.
- Concrete delivered at nominal 80mm slump.
- Place and compact concrete (do not use rakes).
- Screed concrete to levels.
- Guarantee no bleed water.
- Apply first shake of MASTERTOP 105 by transferring shake into buckets and applying evenly over the concrete generally in the same direction by allowing the powder to sift through fingers
- Apply first around doors, forms etc. and wood float where moisture has been absorbed (between 30 seconds & 3 minutes).
- Bull float after shake has been applied and has absorbed moisture (observed by darkening).
- If required immediately after floating spray surface with MASTERKURE 111 (diluted 1:9 with water at 50/100 m²/litre). This can be done up to 3 times in extreme conditions.
- When concrete will take weight of finisher trowel the surface with blades set flat (use float shoes).
- Immediately behind trowel apply final a of dry shake at right angles to original application.
- Trowel again after shake has darkened due to absorption of moisture (do not spray on water or MASTERKURE 111).
- Finish trowel
- Cure
- Protect