BASF

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Technical Data Guide

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Concrete Finishing

MasterTop® 200

Metallic-aggregate colored and natural dry-shake surface hardener

FORMERLY MASTERPLATE® 200

YIELD
Primarily for wear resistance:
1.0 – 3.0 lbs/ft² (4.9 – 14.7 kg/m²)
Primarily for color: 1.8 – 3.0 lbs/ft² (8.8 – 14.7 kg/m²)
If more than 15 lb/ft² (73 kg/m²) will be applied, apply in 2 or more applications. Consult your BASF representative for specific recommendations.

PACKAGING
55 lb (25 kg) multi-wall bags

COLOR
Available in colors, including energy-efficient light-reflective formulations

SHELF LIFE
18 months when properly stored

STORAGE
Store in unopened packaging in a clean, dry environment protected from sunlight at 50 to 90° F (10 to 32° C).

VOC CONTENT
0 g/L less water and exempt solvents

DESCRIPTION
MasterTop 200 surface hardener is an iron-armored, ready-to-use cementitious dry-shake floor hardener. It utilizes specially treated, sized, and graded metallic aggregate. When evenly distributed and finished over freshly leveled and floated concrete, the aggregate improves wear and impact resistance for industrial concrete floors.

PRODUCT HIGHLIGHTS
- Light-reflective formulations reduce energy costs and lighting requirements
- Provides 4 times greater abrasion resistance than mineral aggregates and 8 times greater abrasion resistance than standard concrete
- Can be applied to a newly placed concrete slab for a flat or superflat floor (Ff 25+)
- Smooth to textured finishes provide versatility
- Protects slab surfaces and joint edges by providing greater impact resistance than plain concrete or mineral aggregates
- Strictly controlled, graded and specially treated iron aggregate provides uniformity and consistent finishing characteristics for ease of application
- Creates a high-density surface that is easy to clean and maintain; resists liquid penetration; and reduces wear on the wheels of material-handling equipment
- Color options available including energy-saving light-reflective formulations

APPLICATIONS
- Where hard composition or steel wheels on equipment are commonly used
- Airplane hangars (light-reflective formulation)
- Electronic assembly plants (light-reflective formulation)
- Manufacturing plants
- Warehouses and distribution centers
- Warehouses AGV aisles
- Shipping and receiving areas
- Maintenance facilities

SUBSTRATE
- Over freshly leveled and floated concrete

HOW TO APPLY

SURFACE PREPARATION

1. Pump, place, or otherwise convey the base concrete at a slump not in excess of 5" (127 mm) for a slab on grade. (Please contact your local BASF representative for special information on suspended- slab application.) After the concrete has been placed, immediately screed, then bullfloat or highway straightedge the surface.
2. Do not apply the dry shake into the bleed water. If excessive bleed water is present, remove standing water by dragging a hose across the surface, using a squeegee or other approved method.
3. Early moisture loss and rapid setting around the perimeter of the slab are typical; monitor the slab closely for proper timing of the floating.

APPLICATION

1. Apply and integrate one-half to two-thirds of the total amount on the first application and the remaining portion(s) on the subsequent application(s). Do not apply more than 1.0 lb/ft^2 (4.9 kg/m^2) in 1 pass. An automatic spreader is the most efficient, economical, and precise method of applying a dry shake.
2. Allow the first application to absorb moisture, then reprofile the surface of the slab using an 8 – 10 ft wooden bullfloat or wood-laminate modified highway straightedge perpendicular to the direction on the screeding. A wooden bullfloat is preferable because it tends to open the slab rather than close it off. Closing off the slab can possibly trap water under the dry-shake layer. To maintain flatness, avoid shaking the bullfloat handle.
3. Near initial set when the slab can support the weight of a person leaving a 1/8 – 1/4" depression, float the surface with a floating machine equipped with clip-on float blades. Hand float the edges with wood floats or darbies. Reprofile in both directions using the modified highway straightedge to achieve desired flatness.
4. Without delay, evenly apply the remaining portion of the product. Float the surface again with clip-on float shoes. Reprofile, if needed. If desired, pan float, followed by finish troweling.

Note: Do not use pan floats to incorporate the dry shake into the base concrete. They may be used only for final floating to achieve flatter floors. Hand float edges with wood or laminated canvas-resin floats or darbies. Do not use magnesium floats, as this can lead to discoloration.

TROWELING

1. When the concrete allows, conduct 2 – 3 mechanical trowelings. Leave the prepared slab untouched until the surface has lost its sheen and can support the weight of a finisher and a finishing machine. At this point conduct the first troweling of the surface.
2. On the first application keep trowel blades as flat as possible without digging into the surface.
3. As the surface tightens further, the trowel blades may be gradually raised to produce the desired surface. Remove all marks and pinholes in the final slightly raised trowel application. Do not burnish colored dry-shake floors.
   Note: All moisture used to incorporate dry-shake material must come from within the slab. UNDER NO CIRCUMSTANCES SHOULD WATER BE APPLIED TO AID IN THE INCORPORATION OF THE DRY SHAKE.
   Under severe or rapid drying conditions (hot and/or windy), MasterKure ER 50 evaporation reducer or other approved materials may be mist sprayed onto the dry shake to prevent rapid-moisture loss. MISUSE OF THESE MATERIALS CAN COMPROMISE COLOR AND PERFORMANCE OF THE DRY SHAKE.

CURING

1. At the completion of final troweling and when the surface will not be marred, apply an approved membrane curing compound.
2. After drying, protect hardened surface by covering it with a scuff-proof, non-staining builder paper.
3. Keep floors covered and free of traffic and loads for a minimum of 10 days after completion.
4. Maintain ambient temperature at 50° F (10° C) or above during the curing period.
5. Do not moist cure or cure with polyethylene.
6. For VOC-compliance on colored floors, contact your local BASF representative for curing recommendations.

JOINTS

OPTION 1: SEMI-RIGID EPOXY JOINT FILLER

After a minimum of 90 days*, apply a semi-rigid epoxy joint filler, such as MasterSeal CR 190 or MasterSeal CR 100 in all non-dynamic control and saw-cut construction joints. Place the joint filler in compliance with manufacturer's instructions.

* Please refer to ACI 302R-96, Chapter 9.10. Delay the installation of the joint filler as long as possible to allow the slab(s) to adequately cure. Proper curing will reduce the amount of separation between the slab and the joint filler.

OPTION 2: IRON-ARMORED JOINTS

1. Remove the concrete at the joints while it is still fresh. Remove it to a depth of 1/2" (13 mm) at the joint line and taper it back to the surface level over a width of 4" (102 mm).
2. Mix the MasterTop 200 surface hardener with enough water to produce a stiff mortar. Hand float the area where the concrete has been removed, working up sufficient paste at the surface to ensure an integral bond.
3. Immediately place the MasterTop 200 mortar into the prepared joint, then rescreed the area to level. Use 4.50 lbs (2.0 kg) per lineal foot, which is 2.25 lbs (1.0 kg) per foot for each side of the joint.

FOR BEST PERFORMANCE

- MasterTop 200 colored floors require extra care during construction. The newly constructed floor must be protected from staining and damage until the structure goes into service. Many factors, including jobsite conditions and applicator methods, can affect the final shade, color, and appearance of a colored concrete floor.
- Consult appropriate sections of ACI Committee Report 302 "Guide for Concrete Floor and Slab Construction" for monolithic colored dry-shake finishes.
- Store materials in a dry place; do not use material if the packaging is damaged.

- Do not install over concrete containing calcium chloride or concrete containing aggregate that has been saturated with salt water.
- Do not install over concrete containing more than 3% air content as measured by ASTM C 138, ASTM C 173, or ASTM C 231.
- If any blistering occurs during the finishing operation, flatten trowel blades immediately. Refloat to "open" the floor and rework blistered areas with hand floats. Delay raised troweling until no blisters occur.
- Wood or composition-fiber hand floats are recommended for MasterTop 200 installations.
- Use only high-pH solutions to clean MasterTop 200 floors.
- Do not use in areas where floor surfaces will be routinely exposed to standing water.
- Not recommended for fire-station applications.
- Arrange to have a pre-job conference with your local BASF representative to discuss all aspects of the dry-shake application. Give a copy of the proposed mix design to your BASF representative. Cement, aggregate size, aggregate gradation, admixtures, and other factors can all affect set time and the ability of the slab to incorporate the dry shake.
- Before starting the application, contractors should install a 100 ft^2 (9.3 m^2)test application using actual jobsite products and methods for the approval of the owner and architect.
- This product data sheet describes how to effectively apply MasterTop 200 dry-shake surface hardener. However, ideal results of these, or any construction product, are highly dependent upon applicator experience, ambient conditions, proper equipment, labor and installation procedures, proper curing, and other factors.
- Protect this product from weather during installation. Place concrete floors under a roof, if at all possible. Job conditions that influence surface drying and setting time of the concrete also affect the timing of the hardener application, the finishing procedures, and the reflectivity of the slab.
- Proper ventilation must be provided. Unvented flue and exhaust gasses from heaters and equipment can cause a carbonated floor surface. This results in a weak and potentially dusting surface.
- Proper timing is essential for successful installation of this product. Follow the given procedures at the recommended time.
- To ensure consistent, proper coverage throughout the installation, position bags of material around the perimeter of the slab.
- Make certain the most current versions of product data sheet and SDS are being used; visit www.master-builders-solutions.BASF.us to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Health, Safety and Environmental Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.basf.us, e-mailing your request to basfbscst@basf.com or calling 1(800)433-9517. Use only as directed. **For medical emergencies only, call ChemTrec 1(800)424-9300.**

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