BASF

The Chemical Company

PRODUCT DATA

3 03 35 00 **Concrete Finishing**

MASTERPLATE® FF

Metallic-aggregate dry-shake surface hardener and flatness enhancer

Description

Masterplate® F_F is used on floors designed to conform to a specific flatness designation. (Refer to ACI 117, ASTM E 1155M-96, and CSA #A23.1-00 for specifics regarding the F-Numbering System.)

Yield

1.0 - 3.0 lbs/ft² (4.9 - 14.7 kg/m²)

If more than 1.0 lb/ft² will be applied, apply in 2 or more applications. Consult your local BASF representative for specific recommendations.

Packaging

55 lb (25 kg) multi-wall bags

No further measuring or mixing of the ingredients is required at the jobsite.

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).

Features	Benefits
• Unique gradation	Enhances flatness
• Broadcast aggregate	Can be applied to a newly placed slab for a flat or superflat floor (F_F 25+)
• Early application process	Applied after screeding or bullfloating
• Size-graded aggregate and proprietary admixtures	Improved finishing
• Impact resistance twice that of plain concrete	Ideal for industrial areas
• Increased abrasion resistance	Resistance 4 times greater than mineral-aggregate hardeners and toppings and 8 times greater than plain concrete
• Versatile nondusting finish	Ranges from smooth to textured
• Creates a dense surface	Increased resistance to penetration by oil and grease

Where to Use

APPLICATION

- Floors with flatness requirements
- High-stack vehicular traffic routes
- Where hard composition or steel wheels on equipment are commonly used
- Slabs containing steel fibers
- Manufacturing plants
- Warehouses
- Distribution centers
- Aisles and turnarounds
- AGV aisles
- Shipping and receiving areas
- Repair facilities

How to Apply

1. If applying a total shake of more than 1.0 – 1.5 lbs/ft² (4.9 – 7.3 kg/m²), conduct in 2 or more applications. Apply one-half to two-thirds of the total amount on the first application and the remaining portion(s) on the subsequent application(s). Apply no more than 1.0 – 1.5 lbs/ft² (4.9 – 7.3 kg/m²) in 1 pass. Consult a BASF representative for recommendations. Use an automatic spreader for 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 with an 8 – 10 ft wooden bullfloat or wood modified highway straightedge perpendicular to the direction of the screeding. (A wooden bullfloat is preferable, as it tends to open the slab rather than close it off, potentially trapping water under the dry-shake layer. To maintain flatness, avoid shaking the bullfloat handle.)

Protection and Repair

3. When the slab can support the weight of a person without footprints leaving more than 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 blades. Reprofile, if needed. If desired, pan float, followed by finish troweling.

NOTE: Do not us pan floats to incorporate the dry shake into the base concrete, however, they may be used for final floating to achieve flatter floors. Hand float edges with wood or laminated canvas-resin floats or darbies; magnesium floats can lead to discoloration.

5. FINAL TROWELING: When appropriate, conduct 2 – 3 mechanical trowelings. On the first troweling, keep the trowel blades as flat as possible without digging into the surface. As the surface "tightens" further, the trowel blades may be gradually raised to produce the desired surface finish. Follow with a final burnished troweling, if desired.

CAUTION: A burnished troweled finish may be slippery when wet.

Curing

At the completion of final troweling and when the surface will not be marred, apply an approved membrane curing compound, strictly following the label directions. Do not use water, burlap, or polyethylene covering for curing. Consult BASF for recommendations on proper ACI 308 curing methods.

Joints

OPTION 1: SEMI-RIGID EPOXY JOINT FILLER

1. After a minimum of 90 days*, apply a semi-rigid epoxy joint filler (e.g., Masterfill® 300i) 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 Masterplate® F_F 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 Masterplate® F_F 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

- DO NOT use on areas where floor surfaces will be exposed to acids, their salts, or corrosive materials that seriously or rapidly attack cement or iron.
- DO NOT use over concrete containing added calcium chloride or concrete containing aggregate that has been saturated with salt water.
- Do not apply over concrete with more than 3% air content, as measured by ASTM C 138, ASTM C 173, or ASTM C 231.
- Do not apply Masterplate® F_F into standing bleed water or concrete that is bleeding excessively.
- Wood hand floats are preferred over magnesium hand floats.
- If any blistering occurs during the finishing operation, flatten trowel blades immediately. Refloat to "open" the floor and remove blisters. Delay raised troweling until no blisters occur.
- Do not use in areas where the floor surface will be routinely exposed to standing water.
- Place concrete floors under roofs, if at all possible. Job conditions that influence surface drying and setting time of the concrete also affect the timing of the hardener application and the finishing procedures.
- Use only high-pH solutions to clean Masterplate® floors.
- Unvented flue and exhaust gasses from heaters and equipment can cause a carbonated floor surface. This results in a weak and potentially dusting surface. Provide proper ventilation.
- 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, the contractor should install a 10 by 10 ft (3 by 3 m) test application using actual jobsite products and methods for the approval of the owner and architect.
- This data sheet describes how to effectively apply Masterplate® F_F 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.
- Proper timing is essential for the successful installation of this product. Follow the given procedures at the recommended time.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) 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 and Safety

MASTERPLATE® FF

Caution

Masterplate® FF contains portland cement; limestone; gypsum; activated carbon; magnesium oxide.

Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Waste Disposal Method

This product when discarded or disposed of, is not listed as a hazardous waste in federal regulations. Dispose of in a landfill in accordance with local regulations.

For additional information on personal protective equipment, first aid, and emergency procedures, refer to the product Material Safety Data Sheet (MSDS) on the job site or contact the company at the address or phone numbers given below.

Proposition 65

This product does not contain materials listed by the state of California as known to cause cancer, birth defects, or reproductive harm.

VOC Content

This product contains 0 lbs/gal or 0 g/L.

For medical emergencies only,
call ChemTrec (1-800-424-9300).

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