

EMERYPLATE FF™

Emery Aggregate, Dry Shake Surface Hardener with Flatness Enhancer

MANUFACTURER

L&M Construction Chemicals, Inc.
14851 Calhoun Road
Omaha, NE 68152
Phone: 402-453-6600
FAX: 402-453-0244
Website: www.lmcc.com

PRODUCT DESCRIPTION

EMERYPLATE FF is the industry's high strength dry shake for industrial concrete floors requiring additional abrasion resistance. It is the first emery aggregate dry shake surface hardener designed specifically for early application to concrete floors that must conform to a specific flatness designation as outlined in ACI-117 and ASTM E-1155.

EMERYPLATE FF consists of 100% pure, scientifically graded polyhedral shaped isostructures of emery/corundum, aluminum oxide for hardness and iron oxide for toughness. These unique aggregates contain covalent bonds in their crystalline structure to produce the (Mohs) hardness approaching that of diamonds. Advanced material and production technology provided the ability to integrate up to 1.5 lbs/ft² (7kg/m²) of **EMERYPLATE FF** soon after the screeding operation. **EMERYPLATE FF** has been engineered to allow earlier placement and finishing procedures for *maximum floor flatness*.

Basic Use: Use for industrial floors in key areas subject to heavy traffic, such as: warehouse and distribution centers, AGV aisles, high stack vehicular traffic routes, shipping and receiving areas, tractor and truck repair facilities; interior and exterior loading and unloading docks, where increased impact and abrasion protection are required.

FEATURES & BENEFITS

- Contains 100% natural, pure emery/corundum aggregates, containing a minimum of 55% aluminum oxide and 24% ferric oxide.
- Ability to be broadcast or spread onto newly placed, highly plastic concrete slabs to achieve a flat or superflat floor.
- Engineer-designed graded emery aggregate and proprietary ingredients allow **EMERYPLATE FF** to be finished more easily.
- "Rust-free" service for use on interior or exterior floors.
EMERYPLATE FF outperforms the wear resistance of iron aggregate dry shakes.
- Produces a denser surface to resist penetration by grease, oil, and contaminants to reduce

maintenance costs.

ESTIMATING

EMERYPLATE FF is available in 55-pound (25-kilogram) multi-walled polyethylene reinforced bags. The standard application rate of **EMERYPLATE FF** is 1 to 1.5 lbs/ft² (5-7kg/m²). Consult your local L&M representative for a specific recommendation to meet your individual needs.

INSTALLATION

EMERYPLATE FF may be placed by one of two methods: The standard ACI 302 method or the method for flat and super flat floors. For specific instructions, see the *L&M Dry Shake Surface Hardener Installation Guide*.

The Standard ACI 302 Installation Guidelines

- This method can be used if the **EMERYPLATE FF** is to be placed by hand or using a material spreader.
- Screeding and fill floating (bull floating) shall take place before the emergence of bleed water. Bull floating should be kept to a minimum and used only to cut and fill.
- After *excess* bleed water has evaporated or been removed, leaving *sufficient* moisture at the surface to hydrate cement binders in the **EMERYPLATE FF**, evenly distribute approximately 2/3 of the hardener specified for the area. If the hardener breaks through the surface when being applied, the concrete is too plastic for product application.
- When the material darkens slightly from absorbed moisture, it should be floated, using hand wooden floats or finishing machines with detachable float shoes (*do not use combination float and trowel blades*). Care should be taken not to tear through the surface of the hardener to the underlying concrete. *Do not apply more hardener until moisture from the underlying concrete has been worked completely through the hardener.*
- Immediately apply the remaining 1/3 of the specified amount of hardener at right angles to the first application. *The moisture from the underlying concrete must be completely worked through the hardener. If this does not occur, the floor surface will delaminate.*
- Allow to darken from moisture and float as before.
After the concrete has further stiffened, it should be machine or hand troweled to a blemish free finish. Care should be taken not to trowel-burn the surface.



EMERYPLATE FF



CURING

Apply **DRESS & SEAL WB 30**, protective membrane cure, in strict accordance with the label directions after final troweling and surface water glaze has disappeared. In areas where subsequent treatments, such as **SEAL HARD**, are scheduled, consult your local L&M representative for specific curing recommendations. **Do not wet cure EMERYPLATE FF by ponding water for the first 24 hours.**

FOR BEST RESULTS:

ACI Manual of Concrete Practices is to be followed.

- Do not use on areas exposed to acids or other materials known to attack portland cement.
- Do not place concrete over dry subgrade. Water sheen should be visible.
- The concrete used in the floor should have a slump of 4 to 5 inches and the total air content must not exceed 3 percent. The minimum ssd water content of the concrete mix should not be below 33 gallons per cubic yard (163 L per cubic meter).
- Air entraining agents shall not be used. Admixtures, aggregates, and mixing water that contain chlorides shall not be used in concrete that is to receive **EMERYPLATE FF**. If admixtures are used in the concrete caution should be exercised.
- If blisters form during the finishing operation they must be immediately ruptured before continuing the finishing operation. The formation of blisters is caused by premature closing of the concrete slab. If blisters occur, the blades of the finishing equipment must be set at a flatter angle with respect to the surface of the concrete slab.
- The primary cause of delamination is premature closing of the concrete slab. Premature closing is caused by the float or trowel blades being set at too great an angle with respect to the surface of the concrete slab. This can be prevented by holding the slab open and by delaying the final troweling as long as possible. Keep the angle of the blades of the finishing equipment as flat as possible during all stages of the finishing operation.
- Wood hand floats are preferred over magnesium hand floats.
- L&M is not responsible for diluted or mottled color resulting from careless or improper shake application, finishing, curing or failure to protect finished floor from damage by construction trades.
- Unvented flue and exhaust gasses from heaters and equipment will cause carbonation of freshly placed floor surface. This results in weak and potentially dusting surfaces. Proper venting must be provided.
- Job conditions that influence surface drying and setting times of concrete may affect the timing of the hardener application and finishing procedures.
- Do not add cement, sand, aggregate or admixtures to **EMERYPLATE FF**.

PRECAUTIONS

EMERYPLATE FF contains portland cement. Avoid creating and inhaling dust. Wear skin and eye protection. Dust mask recommended. Please refer to Product Material Safety Data Sheet (MSDS) before using.

STORAGE/SHELF LIFE

EMERYPLATE FF bags are to be kept in dry storage to prevent water contamination. Shelf life is 18 months in unopened bags.

TECHNICAL SERVICES

L&M recommends that the user request the service of the local representative for a pre-job conference to carefully plan each step of the installation. However, proper application is the responsibility of the user. Field visits by L&M personnel are for the purpose of making technical recommendations only and will not include supervision or provide quality control of application procedures or engineering details.

WEBSITE

L&M's convenient internet website offers instant access to Tech Data Sheets, Material Safety Data Sheets, product updates, and other useful information. Visit www.lmcc.com and follow the easy steps. L&M is ready to respond to your concrete information needs - anytime - anywhere!

SHORT SPEC

033000: Emery Aggregate Reinforced Concrete Floor. Class 5 and 6 floors. 100% natural emery aggregates, minimum 58% aluminum oxide and 24% ferric oxide. Ready-mixed with portland cement. Application 1.5 lbs/sq.ft. (7 kg/m²). Natural (or color selected by designer). "**EMERYPLATE FF**" by L&M Construction Chemicals, Inc.

LIMITED WARRANTY

This product is warranted to be free of defects in material and workmanship, and conform to L&M Construction Chemicals ("L&M") quality control standards. All recommendations, statements and technical data herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty or guaranty of any kind, expressed or implied including but not limited to, an implied warranty of merchantability or an implied warranty of fitness for a particular purpose. Satisfactory results depend upon many factors beyond L&M's control. User shall rely on his or her own information and tests to determine suitability of the product for the intended use and user assumes all risk, loss, damage, expense and liability resulting from his or her direct use, indirect use or consequential to their use of the product. L&M shall not be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use or inability to use the product. L&M's sole responsibility shall be to replace that portion of the product which proves to be defective. Any warranty claim must be made within six (6) months from the date of the claimed breach. This limited warranty applies only if the product was properly installed and used according to all instructions and was properly stored prior to use.

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#706124-3
May 2, 2008