

FERROPLATE FF™

Iron Aggregate, Dry Shake Surface Hardener with Flatness Enhancer

MANUFACTURER

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PRODUCT DESCRIPTION

FERROPLATE FF is a factory prepared, ready mixed, ferrous metallic aggregate, dry shake, floor hardener. It has been engineered for application on concrete floors that are designed to conform to a specific flatness designation. FERROPLATE FF is composed of uncontaminated, flat, angular iron aggregate, selected portland cement, and plasticizing agents which allow dispersion and placement required to achieve normal, flat or superflat floors.

FERROPLATE FF has been specifically developed to be applied at heavy application rates, up to 7kg/m² (1.5 lbs/sq.ft.), in a single application step soon after screeding. This maintains a "window of finishability" wide enough for the concrete contractor to perform the reflattening and finishing operations necessary for super flat floors. FERROPLATE FF allows higher application rates to achieve greater iron floor thickness for increased wear resistance in severe wear areas without additional effort and little difference in cost.

Basic Use: For extra, heavy duty industrial floors subject to severe traffic, continuous abrasion, wear, and impact. Primary applications include AGV aisles, industrial floors, narrow high-stack vehicular traffic routes, tractor and automotive plants and maintenance areas. Also, loading, shipping, and receiving areas where a designated flatness is specified.

FEATURES & BENEFITS

- 100% clean ferrous metal aggregates for trouble free performance.
- *Early Application:* Can be broadcast onto a highly plastic slab to achieve a flat or superflat concrete floor.
- Optimum consistency and gradation for reflattening and for easy finishing.
- Up to 1.5 pounds per square foot can be spread in one pass, reducing application labor costs.
- Up to eight times longer floor life than quality high strength concrete floors.
- Dense FERROPLATE FF floors resist the attacks and penetration of contaminants and oils.

- Low cost maintenance.
- Colors are available upon request.

ESTIMATING

FERROPLATE FF is available in 55-pound (25-kg) poly-reinforced bags. The standard application rate of FERROPLATE FF is 1 to 2.5 lbs/ft² (5 to 12 kg/m²). If more than 1.0 lb/ft² will be applied, apply in 2 or more applications. Consult your local L&M Representative for specific application.

INSTALLATION

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

The Standard ACI302 Method

- This method can be used if the FERROPLATE 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 FERROPLATE FF, evenly distribute approximately 2/3 of the hardener amount 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.

CURING

Apply DRESS & SEAL WB 30, protective membrane cure, in strict accordance with the label directions after



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. If a high range water reducer is used the minimum ssd (total) water content of the concrete mix should not be below 163 L per cubic meter (33 gallons per cubic yard).
- 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 FERROPLATE 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 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 a carbonated floor surface. This results in weak and potentially dusting surfaces. Proper ventilation 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.

ACI Manual of Concrete Practices is to be followed. Do not use where floor surfaces will be exposed to acids, salts, or other materials which seriously attack cement and/or iron. It is not recommended for floors exposed to highly humid atmospheres, standing water or outside applications. Use L&M EMERYPLATE FF to avoid iron oxidation.

PRECAUTIONS

FERROPLATE FF contains portland cement. Do not add cement, sand, aggregate or admixtures to FERROPLATE FF. Avoid creating and inhaling dust. Dust mask recommended. Wear skin and eye protection.

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.

FAX ON DEMAND/WEBSITE

L&M's exclusive Fax On Demand and its convenient Internet website offer instant access to Tech Data Sheets, Material Safety Data Sheets, product updates, and other useful information. Simply dial 800-839-9887 or visit www.lmcc.com and follow the easy steps.

SHORT SPEC

03350 - Iron Aggregate, Heavy Duty Concrete Floor. Factory mixed iron aggregate with portland cement and flatness enhancer. Application rate of 1.5 lbs/sq.ft (7 kg/m²). Natural color (or color selected by designer). "FERROPLATE 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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February 11, 2005