



# L&M™ FGS HARDENER PLUS™

DS-174.9-0624

**Globally Proven  
Construction Solutions**



## 1. PRODUCT NAME

L&M™ FGS HARDENER PLUS™

## 2. MANUFACTURER

LATICRETE International, Inc.

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Bethany, CT 06524-3423 USA

Telephone: +1.203.393.0010, ext. 1235

Toll Free: 1.800.243.4788, ext. 1235

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Website: [laticrete.com](http://laticrete.com)

## 3. PRODUCT DESCRIPTION

FGS HARDENER PLUS is a proprietary, chemical hardening solution that is formulated to increase the wear resistance and surface strength of concrete floors that have been mechanically ground, smoothed, and polished. When used in conjunction with the patented FGS PERMASHINE™ FLOOR POLISHING PROCESS, FGS HARDENER PLUS penetrates diamond ground and polished concrete wear surfaces to harden, seal, densify, and waterproof them. Polished concrete floors treated with FGS HARDENER PLUS last longer than conventional concrete floors, cost less to maintain, reflect light better, hold a shine longer, are safe to use, and are guaranteed to resist dusting for a minimum of ten years. FGS HARDENER PLUS is a water-based, Low VOC, odorless and environmentally safe component of this process.

### Specification Description

033510 Concrete Finishes, or 030130 Concrete Rehabilitation. For complete guide specifications, see the

Master-Spec Guide Section 033510 at [www.fgspermashine.com](http://www.fgspermashine.com). Note: Upon completion of the floor polishing steps, install a two-coat application of L&M FGS HARDENER PLUS, a water-based, odorless proprietary solution by LATICRETE International, Inc., to harden, seal, and densify the exposed concrete surface. Install system using an FGS PermaShine approved installer/contractor. A ten-year non-dusting warranty shall be issued to the owner upon satisfactory completion of the process.

### Uses

- FGS HARDENER PLUS is required for use on floors that have been diamond ground and polished in accordance with the patented FGS PERMASHINE Process. Typical areas that would benefit from this process include floors subjected to medium or heavy fork lift and tow motor traffic: including those found in warehouses, distribution centers, automotive assembly plants, manufacturing plants, textile mills, coolers and freezers, food processing plants, canning factories, breweries, bakeries, meat and poultry processing plants, service garages, grocery stores, discount retail stores, hub transfer facilities, commercial buildings, and most concrete floors needing rehabilitation.
- Other uses include concrete floors subjected to frequent or heavy pedestrian traffic, such as: civic centers, retail sales outlets, discount stores, restaurants, food preparation areas, sports arenas, stadiums, hospitals, airports, museums, schools and grocery stores.
- The FGS PERMASHINE DRY CONCRETE POLISHING SYSTEM is patented and is available exclusively through L&M Construction Chemicals, Inc. and only through its dealers and its certified, trained and approved installers.

### Advantages

- Dramatic long-term maintenance cost reduction
- Safe, non-slip, certified high traction
- Odorless/Low VOC
- Formulated to help resist dusting
- Creates a protective hardened and sealed surface

## Suitable Substrates

- Concrete

## Packaging

5 Gal (18.9 L)

55 Gal (208 L)

## Approximate Coverage

Two coats required:

First coat: 250 ft<sup>2</sup>/gal (6.1m<sup>2</sup>/L)

Second coat: 350 ft<sup>2</sup>/gal (8.6m<sup>2</sup>/L)

Apply second coat after first coat has completely dried.

Additional coats may be necessary under certain porous conditions.

## Shelf Life

Containers are to be stored in a clean, dry area between 40-100°F (4-38°C). Shelf life of unopened containers is two years if properly stored. Do not allow to freeze.

## Limitations

- Do not allow to freeze. Apply when temperatures are above 40°F (4°C).
- Not recommended for long term exposure to strong acid or severe chemical attack
- Variations in concrete finishing and concrete mixes may cause variances in appearance of the FGS PERMASHINE finish
- Cautions
- Please refer to product Safety Data Sheet before using
- Any floor can be slippery when wet or contaminated with foreign material. Promptly clean up spills and foreign materials
- Immediately wash off over-spray from glass, aluminum, or highly polished metal surfaces with water to avoid etching of the surfaces
- Keep from freezing
- Wear protective gloves and goggles
- Avoid prolonged skin contact and absolutely no contact with all food stuffs

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- Mock-ups and field test areas are required in order to validate performance and appearance related characteristics (including but not limited to color,

inherent surface variations, wear, anti-dusting, abrasion resistance, chemical resistance, stain resistance, coefficient of friction, etc.) to ensure system performance as specified for the intended use, and to determine approval of the decorative flooring system.

## 4. TECHNICAL DATA

### Applicable Standard

- Fed. Spec. CECS 03300 4-79
- National Floor Safety Institute
- LEED-Green Building Rating System
- GreenSpec listed
- Canadian Food Inspection Agency
- OSHA & ADA non-slip requirements

### Physical Properties

Property	Observed
Abrasion Resistance ASTM C 779, 0.08 inch	30 min
Skid Resistance (NFSI Standard 101.A)	High Traction
Static Coefficient of Friction Wet or Dry	>0.6
Light Reflectivity	Up to 35%
Moisture Absorbption, (Rilem Standard) reduction in 24 hours	70%
Surface Breathable	Yes
UV Stable	Excellent
Color	Clear
VOC g/L	0.0

Specifications subject to change without notification. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions.

## 5. INSTALLATION

- **Preparation of Existing Floors:** All sealers, paints, wax, coatings, floor coverings and their mastics, as well as any surface contaminants such as oil or food spills must be removed. Non-moving cracks and saw cut, control joints are to be routed, and cleaned. They will be filled later with rapid curing JOINT TITE 750™ or L&M™ RESTORE™ products after the final steps of the process. Moving cracks must be addressed separately. Repair large or deep surface irregularities with a rapid setting LATICRETE® patching compound that meets the requirements of the project. Proceed with grinding and polishing steps as determined by the project requirements.

**Preparation of New Floors:** New concrete floors must be properly cured before abrasive smoothing steps can begin - a minimum of 28 days or once the concrete reaches 3500 psi (24.1 MPa). Remove all surface sealers and film forming curing compounds. Proceed with

grinding and polishing steps as determined by the project requirements.

**Application:** FGS HARDENER PLUS™ is applied after all grinding and polishing steps of the FGS PERMASHINE™ process are completed. Installation requires the use of an automatic floor scrubber or other mechanical equipment utilizing soft scrubbing pads. Two coats are required for compliance with warranty. Floor may be placed into service immediately after installation of second coat and removal of the rinse residue. Rinse residue is non-hazardous and may be flushed into sanitary sewer.

**Cleaning:** Regular scheduled cleaning of the treated floor with water and FGS CONCRETE CONDITIONER™ is recommended to obtain the maximum benefit of the FGS PERMASHINE process.

**Approved FGS PERMASHINE Installer:** Installation by an approved FGS PERMASHINE contractor is required. FGS PERMASHINE contractors are CPAA (Concrete Polishing Association) trained/certified polishing technicians and are trained and experienced with FGS PERMASHINE products. FGS PERMASHINE contractors will provide quality long lasting installation. Contact L&M for a listing of FGS PERMASHINE contractors.

## 6. AVAILABILITY AND COST

### Availability

LATICRETE materials are available worldwide.

### For Distributor Information, Call:

Toll Free: 1.800.243.4788

Telephone: +1.203.393.0010

For on-line distributor information, visit LATICRETE at [laticrete.com](http://laticrete.com)

### Cost

Contact a LATICRETE Distributor in your area.

## 7. WARRANTY

See 10. FILING SYSTEM:

## 8. MAINTENANCE

The long term performance, appearance, and life expectancy of wear surface products are critically dependent upon a good routine maintenance program designed specifically for the installed wear surface type,

traffic, and other conditions. Properly placed walk-off mats, inside and outside will help increase the life of the floor. Some cleaning products and equipment or improper use of products can damage a wear surface appearance over time. Recommended maintenance program consists of frequent and thorough cleanings utilizing FGS CONCRETE CONDITIONER. Frequency of washing will vary, as it may be necessary daily, weekly or less frequently depending on floor usage and age. A mechanical walk-behind or ride-on scrubber is an efficient and economical means of regularly cleaning concrete floors. Only soft scrubbing or soft brush attachments should be used when mechanically scrubbing your floor. Do not use aggressive abrasive pads or brushes. The use of black scrubbing pads, diamond impregnated pads or carbide impregnated type brushes may dull the surface gloss. Wet mops work well on small floors or places where a mechanical scrubber will not fit.

## 9. TECHNICAL SERVICES

### Technical Assistance

Information is available by calling the LATICRETE Technical Service Hotline:

Toll Free: 1.800.243.4788, ext. 1235

Telephone: +1.203.393.0010, ext. 1235

Fax: +1.203.393.1948

### Technical and Safety Literature

To acquire technical and safety literature, please visit our website at [laticrete.com](http://laticrete.com).

## 10. FILING SYSTEM

Additional product information is available on our website at [laticrete.com](http://laticrete.com). The following is a list of related documents:

- DS 230.13: LATICRETE Product Warranty
- DS 200.03: 3 Year Wear Surface System Warranty
- DS 176.5: JOINT TITE 750™
- DS 177.8: L&M™ RESTORE™

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