



FGS HARDENER PLUS™

DS-174.9-0417

A product brand of LATICRETE International, Inc.



1. PRODUCT NAME

FGS HARDENER PLUS™

2. MANUFACTURER

LATICRETE International, Inc.

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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.

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

- Existing Concrete

Packaging

5 Gal (18.9 L)

55 Gal (208 L)

Approximate Coverage

Two coats required:

First coat: 250 ft²/gal (6.1m²/L)

Second coat: 350 ft²/gal (8.6m²/L)

Apply second coat after first coat has completely dried.

Additional coats may be necessary under certain porous conditions.

Shelf Life

FGS HARDENER PLUS containers are to be stored in a clean, dry area between 40°F and 100°F (4-38°C). Shelf life of FGS HARDENER PLUS in unopened containers is a two years if properly stored

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

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.

Applicable Standard and Test Methods

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

Physical and Working 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 Absorption, (Rilem Standard) reduction in 24 hours	70%
Surface Breathable	Yes
UV Stable	Excellent
Color	Clear
VOC g/L	0.0

Specifications are subject to change without notification. Technical data shown in product data sheets are typical but reflect laboratory test procedures conducted in laboratory conditions. Actual field performance and test results will depend on installation methods and site conditions. Field test results will vary due to critical job site factors. All recommendations, statements and technical data contained in this data sheet 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. Satisfactory results depend upon many factors beyond the control of LATICRETE International, Inc. User shall rely on their 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 their direct use, indirect use or consequential to their use of the product. LATICRETE shall not be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use or inability to use the product.

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 CCAA (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

L&M™ and 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 www.lmcc.com.

Cost

Contact a LATICRETE Distributor in your area.

7. SHORT SPEC

033510 Concrete Finishes, or 030130 Concrete Rehabilitation. For complete guide specifications, see the Master-Spec Guide Section 033510 at 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.

8. WARRANTY

See 10. FILING SYSTEM:

DS 230.13: LATICRETE Product Warranty

9. 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.

10. TECHNICAL SERVICES

Technical Assistance

Information is available by calling the LATICRETE® Technical Service Hotline:

Toll Free: 1.800.243.4788, ext. 235
Telephone: +1.203.393.0010, ext. 235
Fax: +1.203.393.1948

Technical and Safety Literature

To acquire technical and safety literature, please visit our website at www.laticrete.com.

11. FILING SYSTEM

Additional product information is available on our website at www.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™