

LION HARD®

Lithium Silicate Concrete Densifier, Hardener and Sealer with Water Saver Technology

MANUFACTURER

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PRODUCT DESCRIPTION

LION HARD® is a VOC-free, environmentally friendly lithium silicate concrete floor densifier, hardener and sealer. This product penetrates bare concrete surfaces and transforms them into a permanently dust free floor with a prideful gloss that gets better with age.

There's no scrubbing, no washing, and L&M's **Water Saver Technology** makes **LION HARD** environmentally friendly and easy to apply. This product may be applied to new and existing, cured concrete as a chemical hardener, dustproofer and densifier to improve surface durability and appearance. **LION HARD** is also very effective on polished concrete surfaces to harden, densify and protect their attractive and durable finish.

Basic Use: **LION HARD** provides long lasting dustproof performance on high traffic concrete floors in CHPS schools projects, projects seeking LEED certification, and other projects, including retail offices, grocery stores, shopping malls, civic centers, sports arenas, stadiums and other commercial buildings. It is also appropriate for factories and warehouses, pharmaceutical plants, textile mills, automotive, truck and bus terminals, and laundries, as well as, in food processing plants such as meat packing plants, canning factories, breweries, and bakeries.

FEATURES & BENEFITS

- *Densifies and dustproofs bare concrete floors.*
- ***Water Saving Technology.** No scrubbing, no flushing residue with water*
- *Reacts instantly upon contact with floor surface.*
- *Produces surface gloss which improves with age.*
- *Will not absorb water or contribute to floor sweating.*
- *High traction, non-slip for safe floors.*
- *Effective on both new and old floors.*
- *UV stable. Will not yellow, flake or discolor.*
- *VOC Compliant. Non-Flammable, Odorless.*
- *Easy to maintain, no waxing necessary.*
- *Resistant to surface whitening.*

ESTIMATING

LION HARD is available in factory sealed 5-gallon and 55-gallon containers. Each container is properly identified with product name and batch number.

Typical Application Rates: Coverage dependent upon surface texture and porosity. Typical rate is 600-800 ft²/gallon on hard troweled, dense concrete (15-20 m²/liter). One coat normally recommended. For best results on porous concrete surfaces, apply second coat after the first coat has dried completely and any dried residue has been removed..

Polished concrete: Apply two coats: the first at 400-600 ft²/gallon (10-15 m²/liter) and the second at 600-800 ft²/gallon (15-20 m²/liter) for maximum hardness and surface durability, per instructions.

COMPLIANCE and Standards:

ACI 302, Guide for Concrete Floor and Slab Construction, Class 1 through 6, and Class 9.
NSF approved, USDA approved
VOC compliant
US Environmental Protection Agency
California Air Resources Board SCM Districts
SCAQMD, California
Northeast Ozone Transportation Zone,
Maricopa County, Arizona
CHPS, Collaborative for High Performance Schools
OSHA and ADA Non-slip requirements.
National Floor Safety Institute (NSFI)
ANSI - 101-B - Non-slip, High Traction
LEED - Green Building Rating System.

TECHNICAL DATA

Typical Properties:

Type Solids -	Lithium Silicate
Active Solids	100%
Flash Point -	None
Viscosity -	water thin
pH	10.9
Specific Gravity	1.10
Color	Clear
Weathering, UV test	Excellent
Surface Breathable-	Yes
Skid Resistance, AS®-E-303	Good
SCOF-Wet or Dry-	+0.6-0.8
Abrasion Resistance, AS®-C-779-	
Increased Wear Resistance-	+200-400%
VOC, gm/l -	0



LION HARD®



INSTALLATION

Surface Preparation:

Existing, Cured Concrete: Remove unsound concrete and fill holes, cracks and deteriorated areas. All residue, oil, sealers, waxes, contaminants and laitance must be removed from surfaces to assure maximum penetration.

Application: *Apply one, saturating coat* of **LION HARD** in a uniform manner, at a rate of 600 ft²/gallon (15 m²/liter). Install with a low pressure sprayer or other device, maintaining a wet surface sheen for 15 to 20 minutes. Apply more **LION HARD** to areas that are more porous and appear to readily absorb the material. Redistribute any excess **LION HARD** with soft broom or microfiber pad, allowing material to dry uniformly. Avoid brooming once drying begins. After drying remove any excess, powder-like residue with a stiff broom or dry buffer.

New Concrete: For best results, moist cure fresh concrete or apply clear, non-residual L&M Cure. Allow new concrete to cure for a minimum of 72 hours; seven days are recommended for best results. After the curing period has elapsed, treat new concrete surfaces *as described above in application.*

Under certain conditions application to fresh concrete may be necessary. In this case apply a uniform coat after final troweling and when surface water glaze is gone, but before application of a dissipating curing compound. Apply **LION HARD** at the rate of 600 ft²/gallon (15 m²/liter) with a low pressure sprayer, maintaining a wet surface sheen for 15-20 minutes. Remove any puddles or excess accumulation with soft broom or microfiber pad, allowing material to dry uniformly. After treatment has dried apply specified dissipating resin curing compound per industry standards.

Diamond Polished Concrete: After a sequence of polishing steps has been determined, proceed with coarse grinding steps. After the 400 diamond grit step has been reached and completed, apply one uniform, saturating coat of **LION HARD** at 400-600 ft²/gallon (10-15 m²/liter), keeping the surface wet for 15 to 20 minutes. Do not puddle. When dry, proceed with additional required polishing steps. After the 800 grit level and before the final polishing step, uniformly apply second coat of **LION HARD** at 600-800 ft²/gallon (15-20 m²/liter). Allow to dry and remove any residue with polishing diamonds. No water flush is required.

FOR BEST RESULTS:

- Apply when concrete temperatures are 40°F (4°C) and rising.
- Do not use acidic or highly alkaline cleaners on treated surfaces.
- All spills must be cleaned up in a timely manner.
- On new, interior concrete placements, we recommend finishing the concrete to a hard steel trowel finish (3 passes) per ACI-302.1R, Class 5 floor.

LION HARD is not a curing compound. Use on concrete that is less than 3 days will reduce its long term effectiveness.

PRECAUTIONS:

Avoid contact with skin, eyes and clothing. Wear skin and eye protection. Wash thoroughly after handling. Do not take internally. Please refer to product Material Safety Data Sheet (MSDS) before using. Immediately wash off with water all overspray from glass, metal surfaces and other materials which may be damaged. Do not dilute.

STORAGE/SHELF LIFE

LION HARD containers are to be sealed and stored in a clean, dry place above 40°F (4°C). Shelf life is two years in unopened containers when properly stored. Do not freeze.

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. L&M is ready to respond to your concrete information needs, anytime, anywhere!

SHORT SPEC

033000, 033543, 096000: Concrete densifier, sealer, hardener. All exposed concrete surfaces to be treated. "**LION HARD**" by L&M Construction Chemicals, Inc. See complete guide spec at www.lmcc.com/specs.

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.

For Professional Use Only.