

LION HARD™

High Performance Lithium Silicate Concrete
Densifier Sealer, and Hardener

MANUFACTURER

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PRODUCT DESCRIPTION

LION Hard™ is a VOC-free, environmentally beneficial lithium silicate concrete floor densifier, hardener and sealer. This product deeply penetrates bare concrete surfaces and rapidly transforms weak calcium hydroxide and calcium carbonate compounds found in concrete into dense, insoluble, durable flint-like wear surfaces.

LION Hard™ is a VOC-free, colorless solution of a pure active lithium silicate chemical ion with a non-acid penetrant. This product may be applied to new and existing, cured concrete as a chemical hardener, dustproof and densifier to improve surface durability and appearance.

Basic Use: **LION Hard™** is a long lasting treatment that is recommended to provide dustproof performance on high traffic concrete floors in schools, retail offices, shopping malls, civic centers, sports arenas, stadiums and other commercial buildings. It is also appropriate for plants 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

- *Easy one coat application. No scrubbing, no flushing with water.*
- *Application to new and existing concrete surfaces. Fast curing.*
- *Reacts instantly upon contact with floor surface.*
- *Little to no downtime.*
- *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.*
- *Breathable and UV stable. Will not yellow, flake or discolor.*
- *VOC Compliant. Non-Flammable, Non-Toxic, Low odor.*
- *Dries quickly. Most floors can be opened to traffic within one hour of treatment.*
- *Treated surfaces are easy to maintain, no waxing necessary.*
- *Resistant to surface whitening.*

ESTIMATING

LION Hard™ is available in 5-gallon and 55-gallon containers. Containers are identified with product name and batch number.

Typical Application Rates: Coverage dependent upon surface texture and porosity. Typical range is from 400 to 600 (10-15 square meters per liter). One coat normally recommended. For best results on porous concrete surfaces, apply second application.

On polished concrete apply at 400 to 600 ft²/gallon (10-15 square meters per liter). Apply two coats for maximum hardness per instructions.

COMPLIANCE and Standards:

ACI 302, Guide for Concrete Floor and Slab Construction.
USDA
VOC compliant
US Environmental Protection Agency
California Air Resources Board SCM Districts
Northeast Ozone Transportation Zone
Maricopa County Arizona
SCAQMD, California

TECHNICAL DATA

Typical Properties:

Flash Point -	None
Viscosity -	water thin
pH	10.5 to 10.9
Specific Gravity	1.10
Type Solids -	Lithium Silicate
Active Solids	100%
Color	Clear
Weathering, UV resistance	No change in appearance
VOC, gm/l -	0

INSTALLATION

Surface Preparation:

Existing, Cured Concrete: Surfaces must be structurally sound and clean. 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. Apply one uniform, saturating coat with low pressure sprayer. Keep surfaces wet for 20 minutes and reapply additional **LION Hard™** to areas that start to lose the wet-film appearance during this time. After this application period, remove all puddles or excess surface hardener with soft broom or microfiber pad and then allow to uniformly dry. Avoid brooming once drying begins. Remove dried excess residue with a soft broom



or dry buffer.

New Concrete: Application to fresh concrete is not normally recommended as surface water presence will inhibit the proper penetration and ultimately reduce the long term performance of any chemical hardener. For best performance, a minimum 7 day curing is recommended on new concrete surfaces prior to application.

Under certain conditions application to fresh concrete maybe desired or 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 at the rate of 600 ft²/gallon with a low pressure sprayer, maintaining a wet surface sheen for 20 minutes and then allowing to dry uniformly. Remove any puddles or excess accumulation with soft broom or microfiber pad. After treatment has dried and within approximately one or two hours, apply specified dissipating resin ASTM C 309 conforming, non-acrylic curing compound per ACI 308, Guide to Curing Concrete.

Diamond Polished Concrete: For best results, we recommend that new concrete cure for a minimum of 28 days or until it has attained 3,500 psi, allowing the concrete to gain sufficient strength to resist the aggressive and damaging effects of the grinding and polishing process.

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 sq ft per gallon, 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 sq ft gallon. Allow to dry and remove any residue.

FOR BEST RESULTS:

- Apply when concrete temperatures are 40°F (4°C) and rising.
- During hot and windy condition, it may be necessary to pre-wet surface with water.
- Provide adequate ventilation in enclosed areas to facilitate proper drying.
- Maintain treated floor surfaces with FGS Conditioner or other neutral floor cleaner. Do not use acidic cleaners on treated surfaces.
- All spills must be cleaned up in a timely manner. For extra protection from oil spills, apply L&M PETROTEX according to instructions.
- **LION Hard™** is intended for use as a supplemental treatment and is not a substitute for good concrete or good concreting practices.

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 cool, 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!

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.

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