



Permalith

Lithium Silicate Sealer, Hardener and Densifier

DESCRIPTION

Permalith is a premium, water-based lithium silicate solution designed to be used on new and old concrete surfaces to seal, harden and densify. Lithium silicates provide significant advantages when used in place of sodium or potassium silicates. Advantages over these other silicates include ease of application due to higher reactivity (scrubbing into surface to produce reaction is NOT necessary), ease of cleaning (lighter application rates means no residue to clean) and better penetration (lithium silicates have lower viscosity than other silicates). Due to the increased reactivity and lighter application rates, applicators are not generating silicate residues (appears as crystals) on the surface, which are considered hazardous waste by the EPA. When properly applied, **Permalith** reacts with the concrete to reduce porosity and permeability of the concrete matrix. This serves to increase hardness and chemical resistance, which in turn increases the service life of the concrete. **Permalith** penetrates the concrete; it will not scratch, peel or show tire marks. **Permalith** is compatible with subsequent adhesives and coatings.

USES

Permalith is ideal for hardening and dustproofing concrete applications:

- Warehouse floors
- Processing plants
- Basements
- Schools
- Offices
- Residential or commercial floors that will receive subsequent flooring, coatings or adhesives

BENEFITS

- Contributes to LEED EQ Credit 4.2
- Densifies: Increases abrasion resistance of normal concrete by >40%
- Best performance among family of silicates
- Re-open slab to traffic in one hour
- Eliminates need for future waxing
- Can act to enhance concrete hydration without forming a membrane on the surface
- VOC Compliant: No solvents
- Performance: Hardens and dustproofs
- Resistant: Improved resistance to attack from chemicals, oils and de-icing salts
- Non-staining: Will not discolor concrete
- Pre-Blended: Ready to use
- Efficient: Easy application and clean-up

SURFACE PREPARATION

All surfaces in contact with **Permalith** shall be free of dirt, oil, grease, laitance and other contaminants that may act as bond-breakers. All unsound concrete should be removed. Surface must be structurally sound and free of all contaminants. A suitable concrete cleaner should be used as a degreaser and to remove rubber tire marks. Thoroughly rinse and allow surface to dry prior to application.

PHYSICAL PROPERTIES

Complies with VOC contents in accordance with Federal EPA 40 CFR Part 59 Table 1, Subpart D for Concrete Curing and Sealing.

VOC	<20 g/L
Color	Clear
Flash Point	Non-Flammable
Dry Time	1 hr at 70°F (21°C)

Property and Test Method	Results				
Abrasion Resistance	Age	Abrasion @ :30	Improvement	Abrasion @ :60	Improvement
ASTM C779	7 Days	.005" (.12mm)	74%	.018" (.45mm)	59%
	28 Days	.007" (.17mm)	44%	.015" (.38mm)	40%

COVERAGE

Actual rates may vary depending on type and porosity of the surface and application method. Recommended coverage is as follows:

Broomed Surface:	500–700 ft ² /gal
Troweled Surface:	800–1000 ft ² /gal
Vertical Surface:	600–700 ft ² /gal
Old Concrete:	400–600 ft ² /gal

MIXING

For best results, mix thoroughly before each use. Do not over agitate or use high speed mixing equipment.

PLACING

Apply with a low pressure sprayer, brush, squeegee or roller. Spray application is recommended. A hand held pump sprayer or an airless industrial sprayer is acceptable. Apply evenly without puddling. Use a clean soft bristle push broom or microfiber pad to distribute product evenly over surface. It is not necessary to scrub product into surface. Brush out runs and puddles immediately. Excess puddled material will leave a white "dust" residue, which must be removed. Do not use a sprayer that has been used with solvent based products.

STORAGE

Protect from freezing. Store material in an interior, cool, dry place above 45°F (7°C). Shelf life is one year in original, unopened container.

CLEAN-UP

Clean tools and equipment with warm, soapy water. After materials have dried, it may be necessary to use solvents such as mineral spirits, toluene or xylene.

Packaging: 5 gal (18.9 L) pail, 55 gal (208.2 L) drum



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LIMITATIONS

In addition to the limitations already mentioned, please note the following. Applications to colored concrete should wait a minimum of 60 days for best results. Accidental exposure to glass, aluminum or polish metals should be flushed immediately with clean water to avoid potential etching. Allow the material to dry for one hour before exposing to traffic. Do not apply when the temperature of the concrete is below 40°F (4°C). Do not mix with any other products. Do not pour unused material back into original container.

DANGER

May be harmful if swallowed. May be harmful if inhaled. May cause skin irritation. May cause eye damage. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated place. Keep away from children. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/international regulations.

FIRST AID

If swallowed: Immediately call a poison center/doctor. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

MANUFACTURER/TECHNICAL SERVICE

Contact your US SPEC manufacturer's representative for the most current product information. Always read and follow the warnings and instructions on the most current technical data sheets and safety data sheets (SDS), available online at www.usspec.com.

US MIX

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Denver, CO 80223

Tel: 303.778.7227 Fax: 303.722.8426

Web Site: www.usspec.com

LIMITED WARRANTY: The manufacturer warrants that this product is free from defects in material and workmanship, and will perform per the manufacturer product literature in effect at the time of purchase. This warranty is for one (1) year from the date of purchase. Any implied warranty of merchantability or fitness for a particular purpose is limited to the duration of this express warranty. This warranty applies only if the product is used, in strict accord with the manufacturer published instructions. The sole and exclusive remedy under this warranty is replacement of the defective product or refund of the purchase price, at the manufacturer's option. **CONSEQUENTIAL, SPECIAL, AND INCIDENTAL DAMAGES ARE NOT RECOVERABLE UNDER THIS WARRANTY.** All claims under this warranty must be submitted to the manufacturer by calling 303-778-7227. This warranty gives you