

Sections

**03** 03 35 00  
Concrete Finishing / Densifier & Hardener

# LITHI-TEK® 4500

A HIGH PERFORMANCE PENETRATING REACTIVE CONCRETE DENSIFIER THAT STRENGTHENS AND HARDENS CONCRETE, INCREASING THE ABRASION RESISTANCE, REDUCING DUSTING

### Description

Lithi-Tek® 4500 is a high performance, deep penetrating industrial-grade, water-based, lithium densifier for use as a stand-alone product or as a primer to strengthen and harden concrete.

With its proprietary reactive agent & through the latest advances in nanotechnology, its smaller molecular structure penetrates deep into the substrate forming an insoluble crystalline structure within the pores and capillaries increasing the density and abrasion resistance while leaving the surface unchanged.

Lithi-Tek® 4500 dries completely invisible, leaving the concrete appearance completely natural while forming an effective barrier within the concrete reducing concrete dusting, surface wear and micro cracks.

### Actives

100%

### Appearance/color

Clear

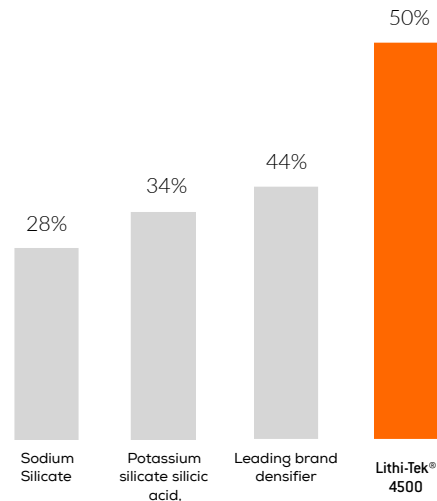
### Coverage

(Lithi-Tek® 4500 is concentrated)

750-1500 ft<sup>2</sup>/gallon once reconstituted

### DEPTH OF PENETRATION AND IMPACT RESISTANCE

Meets the requirements of:  
ASTM WK24567, ASTM C 779



Percentage Improvement vs. Control





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## TECHNOLOGY // ADVANTAGES

- **100% reactive** - Densifies concrete surfaces into a solid mass by penetrating the concrete and chemically filling the pores from within reacting with the calcium hydroxide becoming an integral part of the concrete
- **Increases abrasion resistant by up to 50%** Tightly binds together concrete reducing concrete dusting. Provides ease of maintenance to provide long-lasting protection on substrates subject to traffic
- **Small molecular structure** - allows for deeper penetration and increased performance
- **Combats ASR attacks** - Resists alkali-silica reaction
- **One-time permanent application** eliminating the need for re-application
- **Increased performance** of topcoat sealers when used as a densifying primer
- **Does not alter surface appearance** - the treated surface is natural, tack-free and slip-resistant
- **Resists efflorescence**
- **100% Breathable** - allows moisture to escape without damaging the sealer
- **Water-based** - proprietary environmentally friendly formula with no odor, no VOC's
- **Excellent penetration depth** - into any concrete substrate

- **Improves durability** - increases impact resistance
- **Super UV stable** - resistant to ultra-violent radiation, will not yellow or fade
- **Unrivaled industry leading 100 year warranty** - penetrates never delaminates, never diffuses, peel or flakes will not discolor yellow or degrade from UV light exposure.
- **Can be applied to cured and honed and concrete** - ideal for horizontal surfaces exposed to pedestrian and vehicle traffic

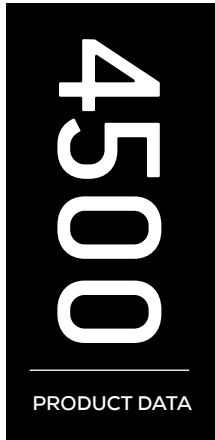
## TYPICAL PROPERTIES

**Appearance** - Transparent clear liquid

**Packaging** - 1 gallon concentrate (3.78 L), 55 gallon (208 L) drums

**VOC'S** - 0g/L

**Specific gravity** - 0.97 **Density** - 8.5 lb/gal



Technical Data Sheet

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TESTING DATA

**TEST METHOD**

**ASTM WK 24567**

Standard test method for soluble silicate densifiers, chemical hardening treatments, and waterproofing treatments for hardened concrete.

**ASTM C 39** Standard test method for compressive strength of cylindrical concrete specimens

**ASTM E 303**

Standard test method for measuring surface friction (BPT).

**ASTM C 779**

Standard test method for abrasion resistance of horizontal concrete surfaces

**Applications / Substrates**

- Interior // Exterior concrete
- Horizontal // Vertical substrates
- Concrete parapet caps
- Concrete ramps and barriers
- Parking garages
- Stadiums and buildings
- Concrete driveways, loading docks, public sidewalks, garages and shops floors.
- Plazas
- Warehouses

**Substrates**

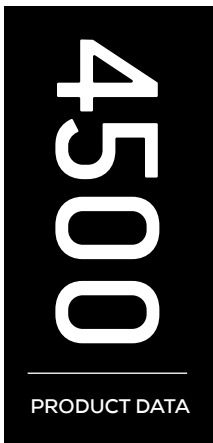
- Poured and cast in place concrete

**TYPE**

**RESULTS**

<b>Density of substrate and water repellency</b>	Pass in
<b>Compression test, 3000 psi</b>	
Untreated	3150 psi
Treated	4250 psi
<b>Skid Resistance Troweled Concrete</b>	
Untreated	90
Treated	90
<b>Abrasion Resistance, depth of wear, in (mm) 30 minutes</b>	
Untreated	0.0264 (0.7)
Lithi-Tek® 4500 Treated	0.0025 (0.06)

Test results are averages obtained in a controlled environment, material and curing conditions of 75°F and 50% relative humidity. Reasonable variations should be expected .



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### APPLICATION

#### Surface Prep

1. New "green" concrete must be properly cured. Concrete should obtain 80% of design strength, typically achieved within 28 days.
2. The concrete substrate must be structurally sound and clean of oil, grease, dirt, wax, curing compounds, efflorescence, paints, previous sealers, adhesives and other contaminants that might interfere with the penetration of the sealer. Power wash, acid etch or mechanically scarify as necessary to achieve the desired surface condition. If acid was used to clean the concrete, neutralize the surface and rinse with water prior to application. Allow for proper dry time before application. May be applied to slightly damp surfaces, although maximum penetration is achieved on dry substrates. Do not apply if standing water is visible.
3. Surface and air temperatures must be at least 40°F during application. Surface and air temperatures should not exceed 95°F. Do not apply when temperatures are expected to fall below 32°F within 8 hours or when rain is expected within 12 hours following application. Keep material from freezing. If freezing conditions exist before application, let the substrate thaw before application. Do not apply during inclement weather or when inclement weather is expected within 12 hours.
4. Crack, patching and expansion joint sealants can be applied after application; always test for compatibility and adhesion.
5. Protect people, property, vehicles, window glass, roofing materials, plastic products, shrubbery, landscaping and all surfaces not set for treatment from overspray.

#### Application - Primer

1. Always test a small area before application to ensure desired performance, aesthetics, coverage rates and to verify application technique. Let test area dry thoroughly, 5-7 days, before inspection.
2. Always mix the concentrate with 3 parts water prior to application. Distilled water is recommended for maximum performance. Stir material thoroughly before and during application.

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#### Application - Primer (Continued)

3. One uniform coat is needed to ensure complete coverage. Apply with a roller, brush or low-pressure non-atomizing sprayer. Apply to saturation and roll or broom out any puddles until the sealer penetrates the substrate. **Do not over apply.** If applied too heavily, an unreacted white residue may develop on the surface. If it starts to rain, stop treatment and cover the treated areas.

#### Application (Polishing)

1. Always test a small area before application to ensure desired performance, aesthetics, coverage rates and to verify application technique. Let test area dry thoroughly, 5-7 days, before inspection.
2. Always mix the concentrate with 2 parts water prior to application. Distilled water is recommended for maximum performance. Stir material thoroughly before and during application.
3. One uniform coat is needed to ensure complete coverage. Apply with a roller, brush or low-pressure non-atomizing sprayer. Apply to saturation and roll or broom out any puddles until the sealer penetrates the substrate.

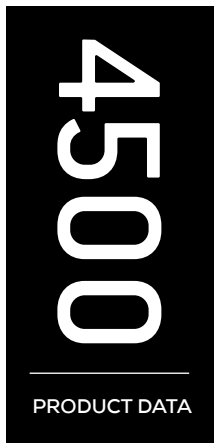
#### Dry Time

Typical drying time is 4-6 hours at 70°F and 50% relative humidity. Cooler temperatures or higher relative humidity can extend the drying time. Treated surfaces will be ready for pedestrian and vehicle traffic within 24 hours.

#### Clean Up

Clean equipment and tools with hot soapy water. Unused or old material may be disposed of in a waste disposal site in accordance with local, state and federal laws.

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## APPLICATION

### Precautions/Safety

Avoid contact with skin, eyes and clothing, do not take internally. Use appropriate safety equipment during application and handling. Please refer to the safety data sheet (SDS) for additional precautionary instructions before use.

### Best Performance (application notes)

- Proper application is the responsibility of the user.
- Do not use on extremely porous concrete or masonry such as CMU block.
- **Do not over apply. Sealer is highly reactive. Excess material may result in a white residue or discoloration on the surface.**
- Does not protect against equipment leaks such as oils and hydraulic fluids.
- Make sure the most current versions of product data sheets and SDS are being used.

### Coverage

Lithi-Tek® 4500 is concentrated. 1 coat: 750 - 1500 square feet. Variations in texture and porosity of substrate may affect the coverage and performance of the product.

### KreteTek Industries Inc.

66 River Road  
Hudson, NH 03051

[www.Ghostshield.com](http://www.Ghostshield.com)

### Customer Service and Technical Support

1-855-KreteTek (1-855-573-8383)

### Warranty

KreteTek Industries Inc. warrants our products are manufactured to strict quality assurance specifications and that the information supplied by us is accurate to the best of our knowledge. Such information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our product for your particular purpose. Any use or application other than recommended herein is the sole responsibility of the user. Listed physical properties are typical and should not be construed as specifications. No warranty is made, expressed or implied, regarding such other information, the data on which it is based or the results you will obtain from its use. We shall have no liability for incidental or consequential damages, direct or indirect. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products.

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### For professional use only.

Last revised 4/18