

RIO-SIL PLUS Li

Chemically Reactive Lithium-Silicate Liquid Hardener for Interior Concrete Surfaces

PRODUCT DESCRIPTION

RIO-SIL PLUS Li is a chemically reactive lithium silicate. It changes the chemical composition of surfaces filling the pores and capillaries of the concrete matrix with a hard dense gel. RIO-SIL PLUS Li has lower viscosity than other siliceous hardeners, allowing it to penetrate deeper into concrete. RIO-SIL PLUS Li does not require scrubbing to facilitate penetration this reduces labor costs. Unlike sodium or potassium silicates, RIO-SIL PLUS Li is easily removed, it does not leave unsightly white salt deposits

APPLICATIONS

- Interior horizontal concrete surfaces
- Freshly poured or existing cured concrete
- Industrial, commercial, or warehouse floor slabs
- Food preparation, storage, and distribution centers, convention centers, sports facilities
- Freezers, cold rooms, walk in chillers
- Schools, hospitals, retail outlets

TYPICAL PROPERTIES		
Property	Results	Test Method
Freeze Thaw Scaling	0.0%	ASTM C672
Water Vapor Transmission:	5-7 Rate grains/hr ft ²	ASTM E96
Water Absorption (50 days):	<2 % reduction	ASTM C642
SCOF Wet or Dry (pass > 0.5):	0.6 to 0.8	ASTM E303
Abrasion Resistance Increase:		ASTM C779
Wear Resistance vs. Control:	200 to 400%	
Yellowing:	None	
VOC:	0 g/l	

The data shown above reflects typical results based on laboratory testing under controlled conditions. Variations from the data shown may result. Test methods are modified where applicable.

CURE SCHEDULE: (70°F) (21°C) 50% R.H.

Dry to touch hours
 Light Foot Traffic Immediately
 Full Cure (heavy traffic) 6-8 hours

Application Temperature: 60-90° F

CHEMICAL RESISTANCE, IMMERSION

Salt, 10%	Excellent
Animal fats & fluids	Fair
Organic acids, 10%	Fair
Alkalies, 10%	Excellent
Fermenting foods	Excellent

BENEFITS

- Increases surface density and durability
- Lower viscosity for deeper penetration
- Reduces labor costs by eliminating the need to be scrubbed into the surface
- Any residue can be easily swept or rinsed from the surface
- Reduces surface absorption of liquids yet allows moisture vapor transmission
- Resists black tire marks
- Will not peel, scratch, or delaminate
- Develops satin sheen with wear
- Naturally slip resistant
- Dries quickly for minimal downtime
- Normal life expectancy of twenty years
- Minimizes maintenance costs and labor

PACKAGING & COVERAGE

- 5 gallon
- 15 gallon kits (volume approximate)

500-800 SF per gallon

IMPORTANT INFORMATION

- Meets Federal Environmental Protection Agency Regulation 40 CFR Part 59, National Volatile Organic Compound (V.O.C.) Emission Standards for Architectural Coatings

LIMITATIONS

- Do not apply to frozen or frosted surfaces.
- Protect glass, aluminum, and polished metal from contact with RIO-SIL PLUS Li. Remove immediately by washing with detergent and warm water
- Do not use on glazed surfaces such as tile or brick
- Continued exposure to oil and grease may cause permanent staining

INSTALLATION STEPS

PREPARATION

IMPORTANT – Follow the detailed application instructions and the safety instructions listed on the product Safety Data Sheets (SDS) copies available upon request. The following installation summary is for reference only and should not be relied upon as all inclusive. RIO-SIL systems should only be installed by trained persons experienced in polyurethane concrete flooring applications.

Curing New Concrete: Surfaces may be cured using any of these options:

1. RIO-SIL: a sodium silicate compound applied immediately after final finishing operations when the surface has hardened sufficiently that application will not mar the surface. Application rate is 200 ft² per gallon (5m² /L). Most Economical.
2. Water based curing compound easily removed with water and detergent following normal curing cycle.
3. Water: Water curing is permissible following the guidelines in ACI 308, Standard Practice for Curing Concrete.

Surface Preparation Cured Concrete: Mask any glass, aluminum, or polished metal surfaces in the application area. When RIO-SIL PLUS Li comes in contact with any of these surfaces rinse immediately with warm water to prevent pitting or discoloration. Contraction or control joints that have not been filled should be masked to prevent possible adhesion problems. RIO-SIL PLUS Li should be applied to floors after safety stripes are fully cured.

All surfaces to be treated with RIO-SIL PLUS Li must be dry, clean, and free of all dust, dirt, debris, oil, grease, sealers, or curing compounds.

MIXING

Do not dilute. RIO-SIL PLUS Li is packaged ready to use.

APPLICATION

Cured Concrete Application: RIO-SIL PLUS Li does not require mechanical scrubbing in order to absorb into the concrete surface. However, scrubbing action does break the surface tension and promotes deeper penetration into the concrete pores. Mechanical scrubbers equipped with brushes are the preferred method of application. If unable to use mechanical scrubber application with stiff bristle push brooms may be used.

Pour RIO-SIL PLUS Li directly from the container onto the surface to be treated maintaining an application rate of 500 to 800 ft² per gallon. If the optional 'scrub in' method is employed use a squeegee or vacuum to remove any excess material. When doing large projects use a squeegee to distribute RIO-SIL PLUS Li.

Very porous or soft dusting surfaces may require a second application to obtain optimum results. RIO-SIL PLUS Li may leave a white residue on the surface that is easily removed with a broom or water rinse.

Vertical Surfaces: Use sprayers or roller to apply RIO-SIL PLUS Li. Using a stiff brush to scrub into the surface will increase depth of penetration. RIO-SIL PLUS Li dries in 2 to 4 hours @ 70°F (21°C) with adequate air circulation. Lower temperatures or high humidity extend drying times. Treated areas may be opened to light foot traffic immediately and heavy traffic in 6 to 8 hours.

Polishing: Overtime, a satin sheen develops with traffic and minor abrasion. If an immediate sheen or higher gloss is desired use a commercially available floor finish and follow the manufacturers recommendations.

Clean-Up: Clean tools and equipment with warm water and detergent. Residue or excess material is nontoxic and does not require special disposal procedures.

MAINTENANCE

Storage: Protect from freezing. Store tightly sealed containers temperatures between 40°F and 80°F (4 and 27°C). Shelf life is one year from date of manufacture.

NOTICE TO BUYER: DISCLAIMER OF WARRANTIES AND LIMITATIONS ON OUR LIABILITY

We warrant that 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. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, THAT OUR PRODUCT SHALL BE MERCHANTABLE OR THAT OUR PRODUCT SHALL BE FIT FOR ANY PARTICULAR PURPOSE. NO WARRANTY IS MADE THAT THE USE OF SUCH INFORMATION OR OUR PRODUCT WILL NOT INFRINGE UPON ANY PATENT. We shall have no liability for incidental or consequential damages, direct or indirect. Our liability is limited to the net selling price of our product or the replacement of our product, at our option. Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products. Our products contain chemicals that may CAUSE SERIOUS PHYSICAL INJURY. BEFORE USING, READ THE MATERIAL SAFETY DATA SHEET AND FOLLOW ALL PRECAUTIONS TO PREVENT BODILY HARM.