



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.

TYPICAL PROPERTIES

Application Temperature	60-90°F
ASTM C672 Freeze Thaw Scaling	0.0%
ASTM E96 Water Vapor Transmission Rate Grains/Hour ft ²	5 to 7
ASTM C642 Water Absorption (50 days)	<2 % reduction
ASTM E303 SCOF Wet or Dry (pass > 0.5)	0.6 to 0.8
ASTM C779 Abrasion Resistance Increase	
Wear Resistance vs. Control	200 to 400%
Yellowing	None
VOC	0 g/l
Chemical Resistance, Immersion	
Salt, 10%	Excellent
Animal fats & fluids	Fair
Organic acids, 10%	Fair
Alkalies, 10%	Excellent
Fermenting foods	Excellent

Dry Time @ 70°F (21°C) 50% R.H.	
Dry	Hours
Light foot traffic	Immediately
Heavy traffic	6 to 8

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.

IMPORTANT INFORMATION

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

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

RECOMMENDED USES

- 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

PACKAGING & COVERAGE

5 Gallon

500 to 800 ft²/gal

INSTALLATION STEPS

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.

1. **Mixing:** Do not dilute. RIO-SIL PLUS Li is packaged ready to use.
2. **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.
2. **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. .
3. **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 squee-gee or vacuum to remove any excess material. When do-ing 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.
4. **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. .

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.

LIMITATIONS

- Do not apply to frozen or frosted surfaces.
- Protect glass, aluminum, and polished metal from con-tact 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

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