Pavement Technology, Inc. 800-333-6309 www.pavetechinc.com

Litho1000® concrete sealer/hardener

Litho1000® concrete sealer/hardener waterproofs and restores aging and newer concrete, sealing it against chloride ion penetration, deicing salts, sea-water environments and freeze/thaw cycling.

Markets

- Bridges
- DOTs
- Urban/Suburban Municipalities and Counties
- Airports

Compatible Substrates

Concrete surfaces of any age, including:

- Pavements
- Bridge Decks
- Parking Decks
- Parapet Walls
- PCC Paving
- Pre-Cast Concrete
- Vertical Cast-in-Place Concrete

Benefits

- Seals and waterproofs concrete surfaces, significantly reducing the concrete's permeability and sorptivity
- Protects against the adverse effects of deicing salts, freeze/thaw cycling and seawater environments
- Improves the hardness of the concrete aggregate and paste matrix
- Increases the surface durability of pavements and bridge decks
- Works on both new and aging concrete structures
- Contributes to the higher abrasive value of exposed aggregate
- Free of Volatile Organic Compounds (VOCs) and solvents
- Will not impede the bonding properties of joint sealants, patching materials, lane markers or paint striping
- Will not stain, discolor or darken concrete, alter or coat its surface texture or alter its skid number (SN) rating
- Compatible with traffic paint, striping, cementitious toppings, joint sealants, crack repair processes and typically applied paint and coating systems

How It Works

Litho1000 concrete sealer/hardener is a water-based lithium silicate with a proprietary formula in solution. It requires no mixing or diluting and contains no VOCs or solvents.

The proprietary Litho1000 formulation chemically alters the absorptive aggregate of concrete to increase its durability. Unlike topical sealers that merely coat the top surface of the concrete, the lithium silicate in Litho1000 sealer/hardener reacts with the hydrating cement to produce additional gel products near the concrete surface. These added gel products create an in-depth seal by filling the concrete capillaries that would otherwise allow water to penetrate through the concrete surface.

How to Apply

Temperature

Apply only when ambient temperature is above freezing. Product that has frozen will not function properly and must be discarded.

Surface Preparation

Surface must be clean and dry.

Application Method/Rate

Litho1000 sealer/hardener is a clear solution available in 55 gallon drums and 275 gallon totes. It shall be spray applied at the specified rate to obtain uniform coverage over the concrete. Two equal applications are required.

- For most concrete surfaces, such as bridge decks and pavements, typical application range is between 90 and 150 square feet per gallon.
- For pre-cast concrete and vertical cast-in-place , typical application range is between 125 and 200 square feet per gallon in one spray coat.

After application, rinse equipment clean with water. No special maintenance of treated concrete is required.

Other Considerations

- Store in a cool, dry area out of direct sunlight.
- Keep in tightly secured containers to prevent evaporation and contamination.
- Six month shelf life
- Do not freeze

Limited Warranty

Pavement Technology, Inc. (PTI) warrants its products to be of the highest quality. Refund of purchase price or replacement of product shall constitute the limit of PTI's liability. PTI makes no other warranties, express or implied, with respect to the products or any service and disclaims all other warranties, including any warranty of merchantability and fitness for particular purpose. This limited warranty may not be modified by reps of PTI, its distributors or dealers.

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Specifications/Testing

Litho1000 sealer/hardener testing has been performed to prove its superior performance and to ensure a close and consistent correlation between laboratory and field results.

AASHTO T 259 Test: Chloride Ion Penetration Resistance

(Salt Water Ponding – 90 days)

Average Absorbed Chloride Content (lbs/cu.yd.)

Sample Depth	Linseed	Litho1000	Improvement
1/16-1/2 in.	4.98	2.50	49.8%
1/2-1 in.	0.34	0.04	88.2%

ASTM C 672 TEST: Scaling Resistance

(Non-Air Entrained Concrete after 50 Freeze/Thaw Cycles)

	Untreated	Treated with Litho1000
Scaling	Light to Moderate (2+)	None (0)

ASTM C 501 Test: Relative Resistance To Wear

(Nominal 3000 psi concrete after 1000 revolutions)

Specimen	Avg. Abrasive Wear Index	Avg. Depth of Wear	Avg. Absolute Weight Loss
Treated	27.4	.026 in.	3.227 gm
Untreated	19.9	.033 in	4.525 gm
Improvement	37.7%	21.2%	28.7%

ASTM C 1202-94/AASHTO T 277 Test: Rapid Chloride Permeability (28 Days)

(Total charge passed-Coulombs)

Untreated	Treated
4002 C	2971 C

Average Improvement 26%

ASTM C 131 Test: Abrasion Resistance (Los Angeles Abrasion Test)

(Limestone aggregate soaked in Litho1000)

Sample	Untreated	Litho1000 1 hour	Litho1000 24 hours
100 rev. loss	6.1%	3.9%	3.9%
500 rev. loss	27.5%	23.2%	22.6%

AASHTO T 161/ASTM C 666 Test: Rapid Freeze/Thaw Cycle Resistance

Cycles	Untreated	Treated with Litho1000
146	Slight	None
237	Slight	None
490	Slight	None

HYDROSTATIC PRESSURE TEST

(Applied Pressure: 100 psi – 24 hour duration)

Property	Untreated	Treated with Litho1000
Absorption	120 ml	7 ml

ASTM C 944-12 Test: Abrasion Resistance Of Hardened Concrete & Mortar

(6 in. x 8 in. specimen, air cured, sand blasted, 22.0 lb. load)

Property	Untreated	Treated with Litho1000
Abrasion Loss (110 day)	14.0 gm	10.1 gm

ASTM C 882 Test: Epoxy-Resin System Bond Strength To Concrete

Test results shall demonstrate bond strength of treated samples equal to untreated samples used as a control.

AASHTO T 2590 Test: Depth Of Penetration

*Depth of penetration shall be a minimum of 1/8 in. as demonstrated by successful testing in accordance with **AASHTO T 2590** - based on unbraided specimens.*

Safety Guidelines

Contractors shall follow all stipulated application requirements.

Manufacturer and National Distributor

Pavement Technology, Inc., Westlake, OH

Made and Sourced in America

800-333-6309
www.pavetechinc.com