

1. PRODUCT NAME

Tenon® Hardener LS

2. MANUFACTURER

Bluestone Products™, a TCC Materials® company
2025 Centre Pointe Blvd.
Mendota Heights, MN 55120 USA

Phone: 1.651.688.9116
Fax: 1.651.688.9164
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3. PRODUCT DESCRIPTION

Tenon® Hardener LS is a clear, water-based Lithium sealer. Tenon® Hardener LS deeply penetrates into the concrete surface and reacts chemically within the capillaries of the concrete surfaces. The reaction forms a dense calcium silicate hydrate crystalline structure, providing a hard durable surface. It is suitable for use on recently finished concrete and in the renovation of aged concrete greater than 10 days old.

Features and Benefits

- Deep penetrating permeant chemical reaction
- Improves concrete strength development
- Hardens concrete to withstand warehouse and industrial wheel traffic
- Improves abrasion resistance to extend service life
- Ready to use
- Water Based, 0 g/L VOC
- Will not inhibit adhesion of secondary coatings
- Easy to apply with sprayer and roller
- Resists surface staining, non-yellowing

Uses

- Above or below grade
- Interior or exterior applications
- All concrete applications
- New or existing concrete applications
- Renovation of aged concrete
- Floors subject to heavy traffic and abrasion

SAFETY

READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website: tccmaterials.com or contact TCC Materials® at 651-688-9116 (7:30 AM to 4:00 PM Central US Time).

CAUTIONS

Read complete cautionary information printed on product container prior to use.

4. TECHNICAL DATA

***Concrete cured for 28 days**

Typical Results of Tenon® Hardener LS	
Compressive Strength ASTM C109*	17% increase in compression strength at 3 days over untreated Untreated 6,300 psi Hardener LS 7,350 psi
Abrasion Resistance* ASTM D4060* Taber Abrasion CS-17 500 cycles	83% increase in abrasion resistance over untreated Untreated 24 g loss (100%) Hardener LS 4.2 g loss (17.5%)
Flash Point	>212°F (> 100°C)
Application Rate	250-800 ft² /gal
Drying time	1-2 hrs depending on temperature and humidity
VOC Content	0 g/L

Packaging

- 5 gal. pail (18.93 L) - BOM #113330
- 55 gal. drum (208 L) - BOM #113324

Shelf Life

For best use, the recommended shelf life is 18 months. If shelf life is beyond 18 months, please contact your distributor. Store in original labeled container, away from moisture, out of direct sunlight. DO NOT STORE NEAR HEAT OR OPEN FLAME. Keep containers tightly sealed when not in use.

5. INSTALLATION

Preparation

New Concrete:

1. Freshly finished concrete surfaces require no surface preparation. Tenon® Hardener LS will be applied after final finishing in the place of a resin or acrylic curing compound.
2. In areas where form release agents have been used, residue must be removed prior to application.
3. Surface must be clean, dry, and free of contaminants.

Existing Concrete (greater than 10 days cure):

1. Remove all dust, dirt, and surface contaminants, ensuring surface is completely dry.
2. The surface must be free of all contaminants that would limit the penetration of Tenon® Hardener LS.
3. If acid is utilized to remove surface coatings, acid must be neutralized and the surface flushed with water and allowed to dry.
4. A test area should be performed to verify penetration and final surface appearance.

Note: It is the responsibility of the installer/applicator to ensure the suitability of the product for its intended use.

Job Mockups

The manufacturer requires that when its Tenon® products are used in any application or as part of any system that includes other manufacturers' products, the contractor and/or design professional shall test all the system components collectively for compatibility, performance, and long-term intended use in accordance with pertinent and accepted industry standards prior to any construction. Written documentation of the test performed shall be satisfactory to the design professional and contractor. Test results must include the means and methods of application, products used, project-specific conditions being addressed, and standardized tests performed for each proposed system or variation.

Mixing

- No mixing required, ready to use.
- Do not dilute.

Application

New Concrete:

1. Apply promptly after final finishing has occurred and after bleed water has fully receded.
2. Apply when temperatures are between 40° F to 90° F
3. Apply with low pressure sprayer maintaining a wet surface for 30 minutes by continued spraying or brooming excess from low to high areas.
4. After surface has dried, flush with water and use broom or squeegee to remove excess material or impurities that may have been brought to the surface.
5. To improve sheen, dry buff with non-abrasive pad the following day.

Existing Concrete (greater than 10 days cure):

1. Apply when temperatures are between 40° F to 90° F
2. Saturate the surface with Tenon® Hardener LS for 30 minutes. Utilize a low pressure sprayer and broom or squeegee to maintain a wet surface.
3. After initial 30 minutes, allow the surface to start to dry sprinkling the surface with water to aid in penetration.
4. After the surface dries for a second time, flush the surface with water and remove any excess material.
5. If desired penetration has not been achieved, follow step 1 while utilizing a floor buffing machine with a non-abrasive pad to aid in working the Tenon® Hardener LS into the fully cured concrete surface.

Note: Tenon® Hardener LS will impact the appearance of concrete and a test area should be performed when architectural appearance is critical. Do not allow Tenon® Hardener LS to come in contact with any glass, fabric, metal, or painted surfaces. Contaminated surfaces should immediately be wiped with a water-saturated cloth followed by a dry cloth.

Cleaning

Use water, on tools and equipment. For sprayers, pump the water through the spray equipment to remove residue and prevent clogs. For skin contact, wash thoroughly with soap and warm water.

Limitations

Spray application will yield best results.

Rapid drying conditions in exterior applications will greatly reduce effectiveness.

Application method and surface porosity will affect final appearance. White residue signifies over saturation, or surface reaching maximum hardness.

Allow 7 days before application of adhesive to treated surface.

For subsequent coating applications, perform proper surface preparation and consult coating manufacturer for more instructions.

Keep out of reach of children.

Coverage

The recommended coverage rate for most concrete substrates is 250-800 sq. ft. per gal. Coverage may vary due to porosity, wind, temperatures, and condition of surfaces. For more detailed coverage rates, refer to the chart below.

Approximate Coverage @ 70°F (21°C)	Sq. Ft./Gal.	M ² /L
Hard Troweled Finishes	400-600	10.7-16.0
Broomed or Float Finishes	250-350	6.7-9.7
Polished Concrete	600-800	16.0-21.4

6. AVAILABILITY

To locate Tenon® products in your area, please contact:

Phone: 1.651.688.9116

Website: tccmaterials.com

7. WARRANTY

Seller warrants that its product will conform to and perform in accordance with the product specifications. The foregoing warranty is in lieu of all other warranties, expressed or implied, including, but not limited to those concerning merchantability and fitness for a particular purpose. Because of the difficulty in ascertaining and measuring damages hereunder, it is agreed that Seller's liability to the Buyer shall not exceed the total amount billed and billable to the Buyer for the product hereunder.

8. MAINTENANCE

Normal sweeping, dusting, or mopping.

9. TECHNICAL SERVICES

Technical Assistance:

Information is available by calling TCC Materials®

(hours 7:30 AM to 4:00 PM CST):

Phone: 1.651.688.9116

Fax: 1.651.688.6164

Web: tccmaterials.com

Technical and Safety Literature:

To acquire technical and safety literature, please visit our website at: tccmaterials.com.

10. FILING SYSTEM

Division 9



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