# Harden X™

## Lithium Hardener/Sealer/Densifier

383 Canterbury Road Surrey Hills 3127

TEL: 61 3 9836 4488

SALES / TECH SUPPORT: 0411 248 486

www.sealsourceaustralia.com

**LEED® EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants**

# TECHNICAL DATA SHEET

## PRODUCT DESCRIPTION

SealSource® International, LLC manufactures this premiere hardener/sealer/densifier with the most cutting-edge technology in the industry. The lithium silicate formulation of **Harden X™** creates greater density by reacting with the calcium hydroxide in the concrete to form stable, insoluble tri-calcium silica structures. This superior densification process ensures maximum resistance to dusting, abrasion, bacteria, and chemical attack.

**Harden X™** is sprayed evenly over the area to be treated--there is no need to flush the surface or remove and dispose of any excess material after installation. Treated surfaces not only maintain their sheen against traffic and wear, but over time increases from a satin to glossy finish with regular maintenance. The most durable product of its kind, **Harden X™** gives long-term protection in a single application, dramatically reducing maintenance costs and facility downtime.

## USES

**Harden X™** is designed for interior or exterior use on new or existing concrete (as noted in ACI Standard 302.1R-89), including tilt-up construction slabs. Its many industrial and commercial applications include warehouses, manufacturing facilities, food processing plants, parking garages, distribution centers, retail stores, hospitals, sports & entertainment venues, convention centers, office complexes, cafeterias, showrooms, transportation terminals, schools, and correctional facilities.

**Harden X™** is USDA approved for use in food & drug processing facilities and is safe for incidental contact with food.

## ADVANTAGES

- Lithium Technology – allows deeper penetration and a more complete chemical reaction for maximum sealing/ hardening/densification
- Maximum Resistance to dusting & abrasion
- No Flushing - material is simply sprayed evenly over the surface with no flushing or removal of excess material
- Durable – one-time installation provides long-lasting protection
- Fast-Drying – dries in 10 minutes, open to traffic in 30 minutes
- Light-Reflective – provides immediate sheen that improves over time with normal wear and maintenance
- Lower Potential for Efflorescence than sodium-based treatments
- Stable In All Environmental Conditions - eliminates expansion/contraction caused by ASR in sodium silicates
- Low-Maintenance Surface – minimal downtime and maintenance costs
- USDA Approved - for incidental food contact
- Environmentally Safe - low VOCs (< 50 g/L), odorless

### PHYSICAL PROPERTIES

| | |
|---|---|
| Form: | Clear, pale light green, water-based solution |
| Total solids: | 16% |
| Active Ingredients: | 100% of total solids |
| Specific Gravity: | 1.11 |
| pH Level: | 11.0 |
| Flash Point: | N/A |
| VOC Content: | < 50 grams/L, 0 lb/gal, or 0 g/L per gallon |
| Freeze Point: | $0^{o}$ C ($32^{o}$ F) |
| Slip Resistance: | Does not change floor friction coefficient |
| Depth of Surface Penetration: | 2-8 mm |
| Lithium Silicate Solids: | 16.9% |

## PACKAGING

- 208 L (55 Gallon) Drums (drum containers filled by weight, volume is closely approximate)
- 20 L (5 Gallon) Pails

## MIXING

**Harden X™** is a single component product. Shake or stir container for one to two minutes prior to use.

## APPLICATION RECOMMENDATIONS/COVERAGE RATE

The use of a Certified Applicator is required for all national accounts. Please see separate application instruction document for complete application information. **Harden X™** may be applied by HPLV, pump-up, airless, backpack, or mechanical sprayer; roller or brush at approximately 10-12 m2/liter (400-500 sq/ft per gallon). Rate will vary depending on surface porosity.

## DRYING TIME

Dries in 1-2 hours and is ready for traffic as soon as the surface is dry.

## SHELF LIFE

**Harden X™** may be stored for up to one year in unopened, factory-sealed container under normal storage conditions of $13^{o}$ – $35^{o}$ C ($55^{o}$ F - $95^{o}$ F).

## COMPLIANCES

Recommended for use on concrete classes both new and existing surfaces as noted in ACI Standard 302.1R-89.

## FRICTION TEST DATA

These series of tests were conducted according to ASTM C-1028-96 guidelines. All samples had a machine trowel finish.

### RESULTS

| | |
|---|---|
| Dry untreated specimen | 0.710 |
| Wet untreated specimen | 0.480 |
| **Harden X™** treated specimen (wet) | 0.470 |
| **Harden X™** treated specimen (dry) | 0.710 |

### INTERPRETATION

**Harden X™** products do not significantly alter the friction qualities of the surface they are applied to. All standard methods for accident prevention must be used in situations where traction is of concern.

## ABRASION TEST DATA

**Test Method:** Mohs Hardness testing was conducted in conjunction with ASTM C1353 on 3000 psi steel-troweled concrete that had been in place for 10 years. The absolute scale of hardness equivalent is given in parentheses following the Mohs number.

| | |
|---|---|
| Untreated Concrete | 3.5 (9) |
| Concrete Treated with **Harden X™** | 7.0 (100) |

The Mohs hardness scale simply consists of 10 minerals arranged in order from 1 to 10. Diamond is rated as the hardest and is indexed as 10; talc as the softest with index number 1.

| | |
|---|---|
| Untreated | 0% reduction |
| Treated with **Harden X™** | 91% reduction |

## FLEXURAL STRENGTH TEST

**Test Method:** Per ASTM C-78-94 the standard method for flexural strength of concrete (using simple beam with third-point loading).

| | |
|---|---|
| Untreated | 430 |
| Treated with **Harden X™** | 635 |

## SAFETY

- Read Material Safety Data Sheet before using
- Keep out of the reach of children
- Protect from freezing
- Wear safety glasses and rubber gloves
- Do not apply to soft metals
- Do not apply to glass

## WARRANTY

SealSource® International, LLC will refund the price of or replace, at its sole election, product it finds to be defective provided the product has been used properly. Except as expressly stated above, the Company makes no warranty of merchantability and no warranty of fitness for any particular purpose, nor does it make any warranty, express or implied, of any nature whatsoever with respect to the product or its use. In no event shall the company be liable for delay caused by defects; loss of use; indirect, special or consequential damages; or for any charges or expenses of any nature incurred without its written consent.