

SS Harden X™

Hardener/Sealer/ Densifier with Lithium Technology EQ Credit 4: low-emitting VOC-compliant materials

PRODUCT DATA SHEET

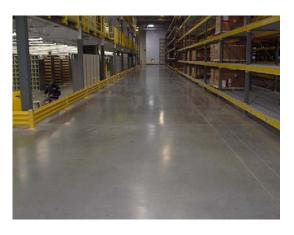
PRODUCT DESCRIPTION

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

SS 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, SS Harden X[™] gives long-term protection in a single application, dramatically reducing maintenance costs and facility downtime.

FEATURES

- Lithium Technology chemically bonds to the substrate
- Hardens & Densifies unique lithium formulation allows deeper penetration and a more complete chemical reaction for greater hardening properties
- 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 ready for traffic in 1-2 hours
- Light-Reflective provides immediate sheen that improves over time with normal wear and maintenance
- USDA approved for incidental food contact
- Sustainable & Environmentally Safe low VOCs (< 50 g/L), odorless
- Prevents efflorescence caused by ASR
- Can be applied on new or existing concrete and tilt-up construction slabs
- Makes concrete easier to clean reducing maintenance costs and downtime



USES

Interior/Exterior Use

New or existing concrete (as noted in ACI Standard 302.1R-89)

Tilt-up construction slabs

USDA approved for use in food & drug processing facilities – safe for incidental contact with food

PACKAGING

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

MIXING

Harden X[™] is a single component product. Prior to use shake container or stir for one to two minutes.

APPLICATION RECOMMENDATIONS

SS Harden X™ may be applied by HPLV, pump-up, airless, backpack, or mechanical sprayer; roller or brush.

* Certified Applicator is required for all national accounts

COVERAGE RATE

Coverage rate is generally 400-500 sq/ft per gallon (10-12 m²/liter), but 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.

TECHNICAL DATA

PHYSICAL PROPERTIES

Form: Clear, pale light green, water-based solution

Total solids: 16%

Active Ingredients: 100% of total solids

Specific Gravity: 1.11
pH: 11.0
Flash Point: N/A

VOC Content: < 50 grams/L, 0 lb/gal, or 0 g/L per gallon

Freeze Point: 32° F

Slip Resistance: Does not change floor friction coefficient

Depth of Surface Penetration: 2-8 mm

SHELF LIFE

One year in unopened, factory-sealed container under normal storage conditions of 55° F - 95° F.

COMPLIANCES

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

TEST DATA

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
SS Harden X [™] treated specimen (wet)	0.470
SS Harden X [™] treated specimen (dry)	0.710

INTERPRETATION

SS 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 SS Harden X^{TM} 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 SS 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 SS 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.

Technical Services, Sales and Customer Support (800) 305-9144

ChemicalResistanceChart

SS Harden X™

NO EFFECT = NE MODERATE EFFECT = M SEVERE EFFECT = S

ALCOHOLS & SO	LVE	NT	s					
Benzyl Alcohol								NE
Carbon Tetrachloric								
		•••	•••	•••	•••	•••		NE
Ethyl Alcohol	•••	•••	•••	• • •	•••	•••		NE
Isopropyl Alcohol	•••	•••	•••	•••	•••	•••		NE
Glycerol	•••	•••	•••	•••	•••	•••	•••	
Methyl Alcohol	•••	• • •	•••	•••	•••	•••	•••	NE
Ethylene Glycol	•••	• • •	• • •	•••	•••	•••	• • •	NE
Glycerol I-Hexanol								NE
Resorcinol								NE
T-Butyl Alcohol								NE
Trichloroethylene								
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Triethanolamine								NE
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Joy Concentrate		• • •		•••		• • •		NE
Lestoil								NE
Lux Flakes								NE
Rinse Dry								NE
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Phosphoric Acid Sulphuric Acid INORGANIC I Barium Hydrox Calcium Hydrox Calcium Hydrox Netholia Sodium Hydrox KETONES Acetone Methyl Ethyl Ke Methly Isobutyl MISCELLANE Antifreeze Cold Ashes Buttermilk Chlorine Gas Gelatin Glucose Molasses Nickel Plating S Ores Corn Syrup Fermenting Fru Formaldehyde Hydrogen Sulfic Manure Sauerkraut Sugar Sulfite Liquor Sulfur Dioxide	BAS ide xide coxide cox	ses Conde Co		trat ntrat	e te				NE M M NE NE NE NE M NE M NE
Phosphoric Acic Sulphuric Acid Sulphuric Acid Sulphuric Acid Sulphuric Acid Barium Hydrox Calcium Hydrox Potassium Hydrox Sodium Hydrox METONES Acetone Methyl Ethyl Ke Methyl Isobutyl MISCELLANE Antifreeze Cold Ashes Buttermilk Chlorine Gas Gelatin Glucose Molasses Nickel Plating S Ores Cider Coal Corn Syrup Fermenting Fru Formaldehyde Hydrogen Sulfice Manure Sauerkraut Sugar Sulfite Liquor Sulfur Dioxide	BAS ide xide coxide cox	ses Conde Co		trat ntrat	e te				NE M M NE M NE NE M NE M NE M NE M NE NE NE NE NE NE NE M NE M NE

OILS AND FUELS		
4.0.714.11.1.00		
	• • •	М
A.S.T.M. No. 2 Oil	• • •	M
A.S.T.M. No. 3 Oil	•••	M
A.S.T.M. Fuel A	• • •	M
A.S.T.M. Fuel B		М
A.S.T.M. Fuel C		М
Heating Fuel Oil		М
Jet AirCraft Engine Oil		м
Lignite Oils		м
ORGANIC ACIDS		
Acetic Acid	• • •	S
Acetic Acid – Glacial	•••	M
Acid Waters pH/6.5 Boric Acid		NE
Carbolic Acid Carbonic Acid		М
Chromic Acid		М
Citric Acid Formic Acid		м
Humic Acid		м
Hydrochloric Acid	• • •	S
Lactic Acid	• • •	M
Oleic Acid	• • •	NE
Oxalic Acid		М
Phenol Acid		М
Phosphoric 10%		М
Phosphoric 85%		м
Wine		м
***iile	•••	М
SALTS		
Ammonium Chloride		
	• • •	M
Ammonium Nitrate		M NE
Ammonium Nitrate		NE
Ammonium Nitrate		NE M M
Ammonium Nitrate		M M M M
Ammonium Nitrate		M M M M
Ammonium Nitrate Barium Chloride Calcium Chloride Calcium Hypochlorite Cupric Chloride Cupric Sulphate		M M M M M
Ammonium Nitrate Barium Chloride Calcium Chloride Calcium Hypochlorite Cupric Chloride Cupric Sulphate Ferric Chloride		M M M M M M
Ammonium Nitrate Barium Chloride Calcium Chloride Calcium Hypochlorite Cupric Chloride Cupric Sulphate Ferric Chloride Ferric Nitrate		M M M M NE M
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Ammonium Nitrate Barium Chloride Calcium Chloride Calcium Hypochlorite Cupric Chloride Cupric Sulphate Ferric Chloride Ferric Nitrate Ferrous Sulphate Iodine		NE M M M NE M NE M
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Ammonium Nitrate Barium Chloride Calcium Chloride Calcium Hypochlorite Cupric Chloride Cupric Sulphate Ferric Chloride Ferric Nitrate Ferrous Sulphate lodine Magnesium Chloride Magnesium Sulphate Nickel Sulphate Potassium Chloride Potassium Permanganate		NE M M M M M M NE M M NE M M
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Ammonium Nitrate Barium Chloride Calcium Chloride Calcium Hypochlorite Cupric Chloride Cupric Sulphate Ferric Chloride Ferric Nitrate Ferrous Sulphate lodine Magnesium Chloride Magnesium Sulphate Nickel Sulphate Potassium Chloride Potassium Permanganate Potassium Dichromate Sodium Borax Sodium Bicarbonate Sodium Chloride Zinc Nitrate WATER Distilled Water Mine Water, Waste Sea Water		N M M M M M M M M M M M M M M M M M M M
Ammonium Nitrate Barium Chloride Calcium Chloride Calcium Hypochlorite Cupric Chloride Cupric Sulphate Ferric Chloride Ferric Nitrate Ferrous Sulphate lodine Magnesium Chloride Magnesium Sulphate Nickel Sulphate Potassium Chloride Potassium Permanganate Potassium Dichromate Sodium Borax Sodium Bicarbonate Sodium Chloride Zinc Nitrate WATER Distilled Water Mine Water, Waste		N M M M M M M M M M M M M M M M M M M M

The above mentioned chemicals were tested based on the following parameters: attack to the concrete by means of staining and/or erosion. Therefore, the measure of the overall effect determines the level of concern based on those indicators. However, the overall attack can be altered due to the various conditions, which are, but not limited to, design of the concrete, ambient temperature, including the humidity levels, contact time of the chemical itself as well as the concentration of such chemical. The information contained in this chemical resistance chart is based on reliable data, but all such recommendations are specified without guarantee or warranty. SealSource, LC strongly recommends discussing specific concerns with their technical department prior to application.