

## LS 452 (SP)ECIAL - SEALERS FOR CONCRETE SURFACES

### PART 1 - GENERAL

#### 1.1 PRODUCTS

- A. All exterior concrete pavements shall be sealed with Sinak WCE Concrete Curing Agent per the manufacture's recommendations.
- B. All interior concrete floor slabs shall be sealed with Ultrasil DC9 after final finishing per the manufacture's recommendations.
- C. All interior concrete floor slabs seven days after pouring shall sealed with Euco Diamond Hard.

### PART 2 – SUBMITTALS

- A. Provide the Architect and/or Engineer the product data as required.
- B. Provide the Architect and/or Engineer the installer's credentials and manufacturer's certification for applying the sealers.
- C. Provide the Architect and/or Engineer the planned installation time after the concrete pours for the sealers.

### PART 3- INSTALLATION

- A. One week prior to concrete pours, a pre-pour meeting shall be held to discuss procedures with the Contractor, Architect and City Representatives.
- B. Install per the manufacturer's recommendations
- C. Installer shall be certified by the manufacturer to install sealer.

### PART 4 – MEASUREMENT & PAYMENT

- A. This work is incidental to the concrete placement and no separate payment will be made.



# WCE

## CONCRETE CURING AGENT

SINAK WCE is a zero VOC, Curing Agent, Water-Cure Equivalent Type, used to cure & seal freshly placed interior and exterior concrete. WCE creates an internal membrane deep within the concrete substrate, resulting in improved hydration, elimination of slab curl and improved abrasion resistance. WCE is recommended for use on interior, exterior, vertical and horizontal substrates.

WCE is formulated to exceed the performance requirements for all ASTM C-309, ASTM C-1315, & ASTM C-39 blanket, burlap, and polyethylene water cure specifications while offering same day slab access. WCE is tested and proven to chemically replicate 14-day water cure results and assures that the specified design strengths will be achieved along with improved durability and reduced permeability. WCE permanently penetrates the concrete substrate and does not form a film or residue on the surface. WCE is compatible with tilt panel bond breakers, joint sealants, patching, surface treatments, stains, acids, polish, coatings, flooring & roofing systems. The use of WCE allows for the installation of subsequent sealers, hardeners, densifiers, coatings, flooring, & roofing 5 days after concrete placement.

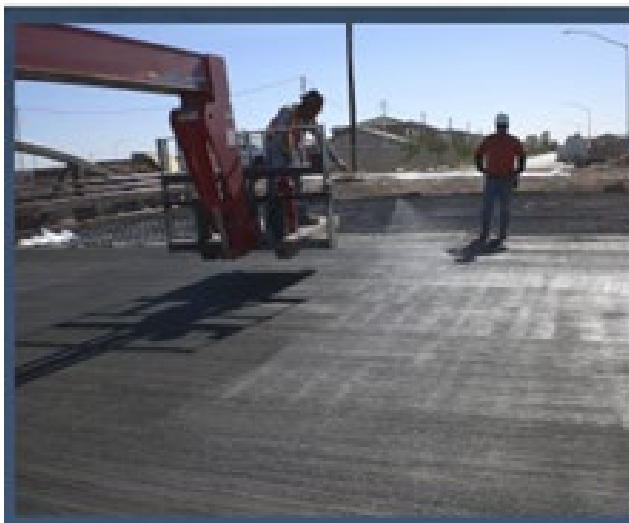
WCE is available as an ASTM C-309, ASTM C-1315, Type 1, 1-D, and 2 Class A & B cure. WCE is class 55 non-hazardous, non-toxic, contains no solvents, and is listed as UL GREENGUARD Gold Certified, LBC Red List Free, Super Compliant with SCAQMD and Buy American Act compliant. WCE's stable formula has an infinite shelf life and does not expire. WCE is specifically designed for projects with a goal of retaining the natural concrete appearance while reducing maintenance costs for the life of the structure.

### FEATURES & BENEFITS

- Replaces Curing Blankets
- Zero VOCs
- Eliminates Slab Curl
- Eliminates Cure Related Cracking
- Buy American Act Compliant
- UV Stable: Will not yellow
- Chloride Ion Protection
- Improves Hydration
- Improves Abrasion Resistance
- Improves Skid Resistance
- Exceeds ASTM C-309 & ASTM C-1315
- Compatible with all Paint, Coatings, and Adhesives
- Compatible with all Flooring & Roofing Systems
- Compatible with all Polish Systems
- UL GREENGUARD Gold Certified

### WHERE TO USE WCE

- Vertical Cast in Place Concrete
- Structural & Lightweight Concrete
- Horizontal Surfaces
- Shotcrete
- Tilt Panels
- Concrete Pavements
- Parking Structures
- Sound Walls
- Cold Storage
- Elevator Pits
- Pool Decks
- Garage Floors
- Podium Decks
- Topping Slabs
- Below Grade
- Exposed Aggregate
- Colored Concrete
- Stamped Concrete
- Pedestrian Bridges
- Polished Concrete



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## SUSTAINABLE DESIGN REQUIREMENTS

- Zero VOCs
- UL 2818 Gold - GREENGUARD® Gold Certified
- Environmental Product Declaration
- LBC Red List Free Declare Label
- Health Product Declaration
- Listed as Super-Compliant by the South Coast Air Quality Management District (SCAQMD)
- Exceeds the regulatory limits in the SCAQMD Rule 1113
- Meets the requirements to contribute for LEED credit in the following areas: EQ Credit 1.0, 4.1 and 4.3, EQ Credit 10 3.1, MR Credit 5.1 and 5.2

## TESTING

- ASTM C-309/C-1315: TYPE 1, 1-D, 2 CLASS A & B**
  - Exceeds water retention of less than 0.40 kg/m<sup>2</sup>
- ASTM C-39 (Compressive Strength)**
  - Meets or exceeds 14-day water cure
- AASHTO T 277-93/ASTM C-1202 (Chloride Permeability)**
  - Meets or exceeds 14-day water cure
- BS 1881 (Initial Surface Absorption)**
  - Meets or exceeds 14-day water cure
- ASTM D-3359-23 (Test Method for Rating Adhesion)**
  - Passed

## PRECAUTIONS

Do not allow WCE to come into contact with any glass, metal, or painted surfaces. WCE left to dry on the surface may result in streaking, whitening, or staining. Immediately wipe affected surfaces with a clean cloth.

## COVERAGE RATES

Two-coat coverage rate is 200-300 sq ft per gallon (5-7 sq m per liter) for textured surfaces.  
Two-coat coverage rate is 400-450 sq ft per gallon (10-11 sq m per liter) for smooth surfaces.  
Two-coat coverage rate is 300-400 sq ft per gallon (7-10 sq m per liter) for vertical surfaces.

## INSTALLATION

Installation should be continuous. The application of WCE should begin after the surface is firm enough to tolerate foot traffic without surface bruising or immediately after early entry saw cutting.

Apply a small test area to confirm penetration. If rain should occur at any time during this process, see 'Interrupted Installation' at the end of this section.

1. Protect objects and areas not to be treated from spillage or overspray.
2. Apply first coat of WCE uniformly wetting the surface with an airless or tank type sprayer.

**DO NOT** allow WCE to puddle or flood the surface.

Drying time will vary from 10 to 30 minutes depending on temperature and environment.

**NOTE:** "Dry" means dry to the touch.

3. Immediately after the first coat is dry, apply a second coat.
4. Clean all equipment with warm soapy water.

## VERTICAL CAST-IN-PLACE INSTALLATION

1. Application may begin immediately after forms have been removed.
2. Apply the first coat of WCE uniformly wetting the surface with an airless or tank-type sprayer.  
SINAK recommends applying product top to bottom with a maximum 1-2 inch run. **DO NOT** allow material to run down the surface.
3. Verify the first coat has dried to the touch before beginning the second coat.
4. Apply the second coat uniformly wetting the surface.

**NOTE:** Tilt panel bond breakers may be installed as soon as the WCE treated surface is dry to the touch. Sealers, hardeners, densifiers, polish systems, or coating installation may begin five days after concrete placement on areas treated with WCE. SINAK recommends a field bond test prior to coating, flooring, or roofing installation.

## INTERRUPTED INSTALLATION

If the application should be interrupted by rain, mark the place of interruption, and continue the application as soon as weather permits. If the delay exceeds 4 hours contact SINAK for additional information.

## HOT WEATHER INSTALLATION

In hot (above 100°F or 38°C), dry and/or windy conditions apply WCE shortly after loss (evaporation) surface water. Contact SINAK for additional information.

## COLD WEATHER INSTALLATION

Do not apply below 34°F (1°C). Contact SINAK for additional information.

## STORAGE & HANDLING

WCE has an infinite shelf life when stored in a cool dry area out of direct sunlight. Product must be kept in tightly secured containers to prevent evaporation and contamination. WCE **MUST** be protected from freezing. Product that has frozen will not function as intended, and should be discarded.

## AVAILABILITY

WCE is available in 1-gallon (3.78-liter) jugs, 5-gallon (18.9-liter) pails, 55-gallon (208.2-liter) drums and 275-gallon (1041-liter) totes.

## TECHNICAL ASSISTANCE

Technical assistance is available from the manufacturer (800) 523-3147 [www.SINAK.com](http://www.SINAK.com).

SINAK warrants its products to be free from manufacturing defects and to meet the technical properties on the current product information sheet. To the maximum extent permitted by law, the express warranty and the remedies specified herein are exclusive and in lieu of all other warranties and remedies. Any implied warranties including without limitation implied warranties of merchantability and fitness for a particular purpose are excluded. SINAK's liability under this product warranty shall be limited to a refund of purchase price or replacement of the product. SINAK shall have no liability for any loss of use, interruption of business, lost profits or goodwill, or for any special, incidental or consequential damages of any kind arising from the purchase or use of the warranted product, even if SINAK has been advised of the possibility of such loss, interruption or damage. This limited warranty may not be modified by representatives of SINAK, its distributors or dealers. Any claim under this warranty must be made within one (1) year of purchase and shall be accompanied by any reports or test results that form the basis of the warranty claim. Upon its acceptance of a warranty claim, SINAK shall have the right, but not the obligation, to conduct site inspections and perform tests pertaining to the customer's warranted product and its manner of use.



# ULTRASIL DC9

## WATER BASED DENSIFIER AND CURE FOR CONCRETE

### DESCRIPTION

ULTRASIL DC9 is a water based silicate solution used to densify and cure concrete. It chemically reacts with the concrete surface to enhance hydration of portland cement, helping the concrete reach its design properties. ULTRASIL DC9 becomes an integral part of the concrete, resulting in floors that are denser, more durable, and easier to maintain. ULTRASIL DC9 may be applied to both freshly placed or existing concrete.

### PRIMARY APPLICATIONS

- Interior, hard-troweled concrete floors

### FEATURES/BENEFITS

- Water based, no odor
- Compatible with subsequent application of densifiers such as Eucosil, UltraSil Li+, UltraSil 7, and Euco Diamond Hard
- Meets the moisture retention requirement of ASTM C309 on hard-troweled concrete
- Treated concrete resists penetration of water
- Low VOC
- Breathable
- Will not inhibit the adhesion of sealers, coatings, toppings, or coverings
- ▲ Can contribute to LEED points

### TECHNICAL INFORMATION

Specific Gravity 1.1  
VOC Content ≤5 g/L

Appearance: ULTRASIL DC9 is a clear liquid that does not change the appearance of concrete.

### PACKAGING

ULTRASIL DC9 is packaged in 275 gal (1,041 L) totes, 55 gal (208 L) drums, and 5 gallon (19 L) pails.

### SHELF LIFE

2 years in original, unopened containers

### SPECIFICATIONS/COMPLIANCES

Meets the moisture retention requirement of ASTM C309 on hard-troweled concrete

### COVERAGE

1 gal (3.8 L) of ULTRASIL DC9 will cover 300 to 800 ft<sup>2</sup> (28 to 74 m<sup>2</sup>) depending upon the finish and porosity of the concrete.

## DIRECTIONS FOR USE

ULTRASIL DC9 is for use on interior hard troweled concrete surfaces only. ULTRASIL DC9 may be applied on freshly placed concrete after final finishing and/or to existing cured concrete. It is ready to use and requires no pre-mixing or dilution.

On freshly placed concrete, apply by low pressure sprayer equipped with a fan tip immediately after final finishing operations and after disappearance of bleed water. Distribute the ULTRASIL DC9 evenly with soft bristle brooms/brushes or a microfiber pad. Over application and puddling may leave a white residue upon drying, which can be removed with stiff brooms or power scrubber after the concrete has hardened sufficiently.

When applying to existing, cured concrete, ensure the surface is free of curing compounds, bond breakers, oil, dirt, grease or other debris. If necessary, clean concrete surfaces with EUCCO CLEAN & STRIP and thoroughly flush with water.

Apply ULTRASIL DC9 by low pressure sprayer equipped with a fan tip, and distribute evenly so that puddling does not occur. Apply additional ULTRASIL DC9 to porous areas of floor that may be more absorptive.



## CLEAN-UP

Clean tools and equipment used to apply ULTRASIL DC9 with potable water immediately after use.

## PRECAUTIONS/LIMITATIONS

- Prevent ULTRASIL DC9 from freezing. In the event of freezing, thaw and stir or agitate before using.
- Protect metal, glass, wood, paint or brick from contact with ULTRASIL DC9. If accidentally oversprayed on these surfaces, wash surface with clean water immediately.
- Allow the product to dry 4 to 6 hours at 70°F (21°C) before exposure to heavy traffic.
- When a curing compound meeting all the requirements of ASTM C309 is required, KUREZ DR VOX is recommended.
- In all cases, consult the Safety Data Sheet before use.

Rev. 01.19

**WARRANTY:** The Euclid Chemical Company ("Euclid") solely and expressly warrants that its products shall be free from defects in materials and workmanship for one (1) year from the date of purchase. Unless authorized in writing by an officer of Euclid, no other representations or statements made by Euclid or its representatives, in writing or orally, shall alter this warranty. EUCLID MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. If any Euclid product fails to conform with this warranty, Euclid will replace the product at no cost to Buyer. Replacement of any product shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. Euclid does not authorize anyone on its behalf to make any written or oral statements which in any way alter Euclid's installation information or instructions in its product literature or on its packaging labels. Any installation of Euclid products which fails to conform with such installation information or instructions shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of Euclid's products for the Buyer's intended purposes.



# EUCO DIAMOND HARD

## LIQUID DENSIFIER AND SEALER FOR CONCRETE

### DESCRIPTION

**EUCO DIAMOND HARD** is a unique blend of silicate and silicate polymers that penetrate concrete surfaces and chemically react to provide an increase in surface density, durability, and abrasion resistance. Concrete treated with EUCO DIAMOND HARD is dust-proofed, resists tire marks, and is easier to maintain. Over time, EUCO DIAMOND HARD provides an attractive, slip resistant sheen to concrete that never peels, fades, or wears away.

### PRIMARY APPLICATIONS

- Interior or exterior
- Warehouse floors
- Commercial and retail floors
- Manufacturing plants
- Distribution centers
- Diamond polishing concrete

### FEATURES/BENEFITS

- Reduces porosity and increases durability of the concrete surface
- Complies with VOC regulations across North America
- Treated surfaces have increased liquid repellency
- Equipment can be cleaned with water
- Minimizes tire marks and enables them to be more easily removed
- Can be applied to new or existing concrete

### TECHNICAL INFORMATION

#### Typical Engineering Data

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

VOC Content..... ≤5 g/L

#### Drying Time at 70°F (21°C):

Light Foot Traffic..... 4 to 6 hours

Wheel Traffic..... 24 hours

#### Abrasion/Wear Resistance, ASTM C779 (see adjacent table)

#### Coefficient of Friction, ASTM F609

Untreated Control (Wet/Dry).....0.78/0.77

Euco Diamond Hard (Wet/Dry).....0.74/0.77

#### Liquid Repellency, RILEM Method 11.4

#### Water absorbed in 24 hours:

Untreated concrete: 5 mL

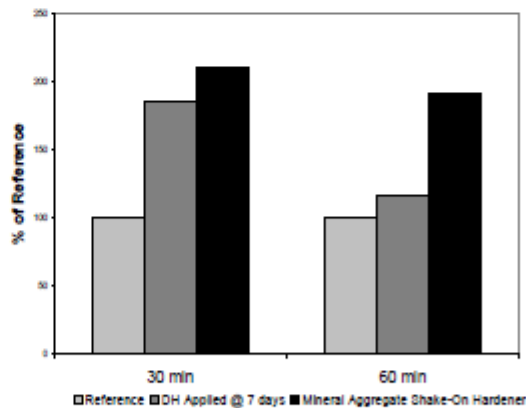
EUCO DIAMOND HARD treated concrete: 1 mL

**Chemical Resistance:** For a complete chemical resistance chart, contact The Euclid Chemical Co.

**Appearance:** EUCO DIAMOND HARD is a clear, water-based liquid that cures without a significant change in concrete appearance. During placement, the color of the concrete may initially appear darker

but will lighten upon drying. Tightly troweled concrete surfaces treated with EUCO DIAMOND HARD will achieve a glossy sheen over time with traffic and regular cleaning or buffing. If immediate gloss is desired, the floor may be dry buffed with a lambswool buffing pad after the sealer has cured for a minimum of 24 hours.

EUCO DIAMOND HARD  
ASTM C 778 Wear Resistance Results @ 28 Days



### PACKAGING

EUCO DIAMOND HARD is packaged in 275 gal (1041 L) totes, 55 gal (208 L) drums and 5 gal (18.9 L) pails.

### SHELF LIFE

2 years in original, unopened container

## SPECIFICATIONS/COMPLIANCES

- USGBC LEED Version 4, BD&C, ID&C
- The WELL Building Standard
- ANSI/GBI 01, Green Building Assessment Protocol
- Canadian Food Inspection Agency

## COVERAGE

One gallon of EUCO DIAMOND HARD will cover 200 to 250 ft<sup>2</sup>/gal (4.9 to 6.1 m<sup>2</sup>/L) of steel troweled concrete depending on the surface porosity and texture.

## DIRECTIONS FOR USE

EUCO DIAMOND HARD should be used directly from the container and requires no pre-mixing or blending.

**Surface Preparation (Newly Placed Concrete):** Cure the concrete by a wet or sheet cure method in accordance with ASTM C-171, or with a curing compound such as KUREZ DR VOX. New concrete should cure seven days or longer before application of EUCO DIAMOND HARD. For fast track projects, the wet cure time may be reduced at the discretion of the project engineer. Remove the curing method, including any laitance formed on the surface, and allow concrete to air dry a minimum of 24 hours prior to application of EUCO DIAMOND HARD. If a curing compound is used, it must be fully removed before applying EUCO DIAMOND HARD. Failure to follow these preparation steps will prevent full penetration of EUCO DIAMOND HARD, drastically reducing its effectiveness.

**Surface Preparation (Existing/Older Concrete):** Concrete that is already in service or older floors must be clean and free of any materials that could prevent penetration of EUCO DIAMOND HARD, such as curing compounds or cure & seals, paints, coatings, dirt/oil, waxes, etc. If necessary, use EUCO CLEAN & STRIP to remove these contaminants before applying EUCO DIAMOND HARD.

**Application (New or Old Concrete):** Air temperature during application must be between 35°F and 100°F (2°C and 38°C). At temperatures below 50°F (10°C), the reaction and "gelling" process of EUCO DIAMOND HARD is slower, so the concrete will need to remain wet with EUCO DIAMOND HARD for a longer period of time. In hot or windy conditions, the reaction may take less than the normal 30 to 60 minute period. Concrete should be pre-dampened in hot weather; apply EUCO DIAMOND HARD when all standing water has disappeared. Apply the EUCO DIAMOND HARD to the concrete surface by low pressure sprayer or by pouring directly onto the surface and distributing evenly by broom or squeegee. With soft bristle hand brooms or brushes on an auto-scrubber, work the EUCO DIAMOND HARD around the area to be treated and into the surface. The concrete must be kept wet with EUCO DIAMOND HARD for at least 30 minutes - add additional EUCO DIAMOND HARD if necessary to maintain a wet surface. As the EUCO DIAMOND HARD begins to thicken and gel underfoot, lightly spray the area with clean water to break up the thickened EUCO DIAMOND HARD and move the excess material on to the adjacent floor area next to be treated. Do not track EUCO DIAMOND HARD onto untreated concrete, as permanent footprints or tire marks can result. Continue the application process until the entire floor has been treated. When finished, completely remove all excess EUCO DIAMOND HARD from the surface. If excess EUCO DIAMOND HARD is allowed to dry on the concrete surface, a white residue will form that can only be removed by mechanical means such as grinding or sanding. Prevent this by completely removing all excess EUCO DIAMOND HARD from the surface when application is complete.

**Floor Joints:** If the floor joints are to be filled after EUCO DIAMOND HARD has been applied, they must be thoroughly cleaned before installation of joint filler. Cleaning joints by circular concrete saw or a drill equipped with a wire wheel is recommended.

**Maintenance:** Contact The Euclid Chemical Company for detailed maintenance procedures.

## CLEAN-UP

Clean brooms, tools and all equipment and sprayers with clean water immediately after use. The residue from application and clean up process is non-toxic.

## PRECAUTIONS/LIMITATIONS

- Protect containers of EUCO DIAMOND HARD from freezing. In the event of freezing, thaw and stir or agitate before use.
- EUCO DIAMOND HARD is not recommended for use as a curing compound. It does not meet the requirements of ASTM C309 or ASTM C1315.
- Protect freshly applied EUCO DIAMOND HARD from rain for at least 12 hours after application
- Although EUCO DIAMOND HARD has successfully demonstrated resistance to common chemicals in laboratory testing, the in-place performance will depend on surface porosity, application rate, chemical exposure and dwell time. If chemical resistance is of concern, a concrete sample treated with EUCO DIAMOND HARD should be constructed on the jobsite and subjected to the anticipated chemical exposure to verify in-place performance. This performance should be verified and approved by the owner prior to installation.
- Protect all adjacent surfaces including metals, glass, wood, paint or brick from contact with EUCO DIAMOND HARD. If accidentally over sprayed, wash adjacent surfaces with potable water immediately.
- Waste resulting from EUCO DIAMOND HARD application must be disposed of in accordance with local regulations.
- In all cases, consult the Safety Data Sheet before use.

WARRANTY: The Euclid Chemical Company ("Euclid") solely and expressly warrants that its products shall be free from defects in materials and workmanship for one (1) year from the date of purchase. Unless authorized in writing by an officer of Euclid, no other representations or statements made by Euclid or its representatives, in writing or orally, shall alter this warranty. EUCO MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. If any Euclid product fails to conform with this warranty, Euclid will replace the product at no cost to Buyer. Replacement of any product shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. Euclid does not authorize anyone on its behalf to make any written or oral statements which in any way alter Euclid's installation information or instructions in its product literature or on its packaging labels. Any installation of Euclid products which fails to conform with such installation information or instructions shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of Euclid's products for the Buyer's intended purposes.

**END OF SECTION LS SPECIAL**