

PRODUCT BULLETIN
Eco-Hard-N-Seal™
 Concrete Hardener and Sealer



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 800-553-8033 / www.tennantfloorcoatings.com
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DESCRIPTION:

A water-based sodium silicate solution.

USES:

- Seals and hardens interior concrete floors.

ADVANTAGES:

- Densifies concrete, reduces dusting
- Cleans easily, saving detergent, labor and water
- Complies with VOC and VOS regulations
- May be removed by acid etching to later apply a floor coating

STORAGE: Materials should be stored indoors between 65°F (18°C) and 90°F (32°C).

SHELF LIFE: Minimum 2 years from date of manufacture.

PACKAGING OPTIONS / PART NUMBERS:

Eco-Hard-N-Seal:

5 gallons / 08695-5

55 gallons / 08695-55

LIMITATIONS:

Colors: Available in clear only. Colorants cannot be added to Eco-Hard-N-Seal.

Contamination (Fisheyes): Products may fisheye if oil, silicones, mold release agents or other contaminants are present.

Eco-Hard-N-Seal does not form a film, so the dry floor will not look "coated". A gloss may develop over time as the floor wears.

MATERIAL PROPERTIES (LIQUID):

Property	Test Method	Results
Flash Point °F/C Seta Closed Cup	ASTM D3278	>200 (93)
Percent Solids, by wt	ASTM D2369	19.8
Abrasion wear index	ASTM D4060	30% improvement over bare concrete
Density lb/gal / kg/L	ASTM D1475	9.76 (1.17)
Viscosity, cps Gardner-Holdt	ASTM D1545	A-3
Volatile Organic Compound - VOC lb/gal (g/L)	ASTM D3960	0 (0)
Solubility		Complete (Hot/Cold Water)

APPLICATION CHARACTERISTICS:

Coverage rate will depend upon application coating thickness as well as the texture and porosity of the concrete. A gallon of Eco-Hard-N-Seal will cover:

Coverage Rate, ft ² /gal)	300
Application Thickness, wet	5.3 (1 coat)

**IMPORTANT:
READ AND FOLLOW ALL PRECAUTIONS AND
INSTRUCTIONS BEFORE PROCEEDING.**

PRELIMINARY FLOOR INSPECTIONS

CHECK THE CONCRETE: Concrete must be structurally sound and free of curing membrane, paint or other sealer. If you suspect that the concrete has been previously sealed, call Tennant Company, technical support for further instructions.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. Calcium chloride testing or in-situ relative humidity testing is recommended. Readings must be below 3 pounds per 1,000 square feet over a 24-hour period on the calcium chloride test or below 70% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see ASTM F1869 or F2170, respectively or follow manufacturer's instructions.

NOTE: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination from oils, chemical spills or excessive salts.

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 40°F (4.44°C) and 90°F (32°C). Humidity must be less than 80%. **DO NOT** coat unless floor temperature is more than five degrees over the dew point.

APPLICATION EQUIPMENT

- Protective clothing
- String mop or low pressure sprayer
- Broom or squeegee
- Disc machine OR automatic scrubber equipped with an abrasive bristle brush

ASSEMBLE EQUIPMENT: Clean roller with tape to remove any residual lint.

PREPARATION

Detergent scrub and rinse with clean water to remove surface dirt, grease, oil and contaminants from old concrete. Floor must be free of all curing membranes, sealers and coatings. New concrete must be free of standing water and set up enough to support foot traffic. If expansion joints are cut in the new concrete first, remove all dust and debris before applying Eco-Hard-N-Seal.

JOINTS: Depending on the preference of the facility owner, joints may or may not be filled. If the joints are filled, non-moving joints, i.e. contraction or control joints, can be hard filled with thickened, 100% solids epoxy or with a semi-rigid joint filler such as Eco-PJS™ or Eco-EJF™. Construction joints less than one inch wide may also be filled with Eco-PJS. Isolation or expansion joints must be filled with a flexible material designed for this purpose.

APPLICATION - HARDENER ON NEW CONCRETE

Apply with a low-pressure sprayer or string mop immediately following the finishing operation. Apply Eco-Hard-N-Seal at

an average coverage rate of 300 ft²/gal (this can vary depending on concrete porosity) to the entire surface as soon as the surface is firm enough to walk on and before hairline and temperature cracking begins. Broom or squeegee all puddled or excess Eco-Hard-N-Seal onto any dry spots that appear or respray them immediately so that the entire surface is wet for **30 minutes**. Then, squeegee or broom all puddled or excess Eco-Hard-N-Seal so that any remaining material penetrates into the surface. **NOTE:** *Improper procedure may lead to a floor that does not appear uniform.*

IF ECO-HARD-N-SEAL will remain on the floor as a permanent sealer, a second coat is recommended (for better penetration and seal, wait 2 to 3 weeks to apply the second coat).

APPLICATION - HARDENER ON OLD CONCRETE

Average or Broom Trowelled Concrete: Saturate the surface with Eco-Hard-N-Seal at an average coverage rate of 300 ft²/gal (this can vary depending on concrete porosity). Broom or squeegee all puddled or excess Eco-Hard-N-Seal on to any dry spots that appear or respray them immediately so that the entire surface is wet for 30 minutes.

AFTER APPROXIMATELY 30 MINUTES, the floor will become slippery. Add more water to the solution, and work it in using a disc machine or automatic scrubber.

SCRUB AND RINSE with clean water to ensure removal of all residue. White residue upon drying indicates inadequate rinse. Repeat rinse step if necessary. Floor may be open to traffic after it has dried (normally 1-3 hours).

APPLY A SECOND APPLICATION using the same procedure as before, if there is very little residue remaining after the first application.

WAIT: Allow to dry 1-3 hours before opening to traffic.

APPLICATION OF ADDITIONAL COATINGS

ECO-HARD-N-SEAL MUST BE REMOVED BEFORE APPLYING ANY OTHER COATINGS.

TECHNICAL SUPPORT

For any application questions, please call Tennant technical support at 800-553-8033 ext. 6070.

DISPOSAL

Dispose in accordance with federal, state and local regulations.

**PLEASE SEE SAFETY DATA SHEET
(SDS) FOR SAFETY AND
PRECAUTIONS.**

USE PRODUCT AS DIRECTED.

**KEEP OUT OF THE REACH OF
CHILDREN.**

MAINTENANCE GUIDELINES

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Tennant floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish.

Use soft nylon brushes or white pads on your new floor coating. Polypropylene or abrasive bristle (Tynex®) brushes can cause premature loss of gloss.

Detergent: Tennant has a full range of detergents--general purpose to heavy duty--for your cleaning needs. For assistance in determining which detergent is right for your facility or for additional technical information call: 800-553-8033.

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface.

Do not drop heavy or pointed items on the floor as this may cause chipping or concrete popouts in the case of a weak cap.

Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration.

Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Tennant Company warrants Eco-Hard-N-Seal™ to be free from defective manufacture, improper formulation, and defective ingredients. Warranty covers replacement of materials only.

Additionally, a properly-prepared and structurally-sound concrete surface treated with Eco-Hard-N-Seal™ in accordance with Tennant's directions is warranted to reduce dusting and stay hardened for a period of **twenty (20) years**. If, during the specified period, the treated surface does not retain the above properties, Tennant will replace any material used to reseal defective areas. This warranty does not cover improperly-applied Eco-Hard-N-Seal™, structural defects in the concrete, other materials that might be used for sealing purposes, or material losses of Eco-Hard-N-Seal™ resulting from chemical attack.

Warranty covers replacement of materials only.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event shall Tennant or Seller be liable for any incidental, consequential, or special damages arising out of the use of Eco-Hard-N-Seal™. **THE ONLY REMEDY OF THE USER OR BUYER, AND THE ONLY LIABILITY OF TENNANT AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES, OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE) SHALL BE REPLACEMENT OF THE PRODUCT OR, AT THE ELECTION OF TENNANT OR SELLER, RETURN OF THE PURCHASE PRICE.**

No representative of Tennant has authority to give any other warranty or assume other liability.

The presence of a Tennant employee during the application of Tennant's Eco-Hard-N-Seal™ does not extend or alter the warranty or limitations in any manner whatsoever.