DURO-NOX HSC

GREEN™ ENGINEERED

DURO-FLOOR CLASSIC SYSTEM FOR CONCRETE FLOORS

Tilt-Up Partner Products

DURO-FLOOR COLOR SYSTEM FOR DIAMOND POLISHED CONCRETE FLOORS

Standard performance, chemically reactive, water based, lithium and potassium blended hybrid silicate, liquid floor hardener, densifier and sealer. Component of the **DURO-FLOOR COLOR SYSTEM** and the **DURO-FLOOR CLASSIC SYSTEM.**

	USEPA	OTC	CARB-SCM	SCAQMD	LADCO	UT-R307	MCAQD	CANADA	CT, MD, DE, D.C.
Duro-Nox HSC	■	■	■	■	■	■	■	■	■

HOW IT WORKS

DURO-NOX HSC penetrates deep into concrete surface pores where it chemically reacts with calcium hydroxide (lime) to produce water insoluble calcium silicate hydrate gels that fill surface pores to densify, harden and seal treated concrete floor surfaces. The controlled reactivity and reduced sensitivity of DURO-NOX HSC to reactions with air and resulting whiting make it an excellent choice for application to freshly placed concrete and for final application to diamond polished concrete, including dyed, stained or colored concrete floor surfaces.

APPLICATIONS

- Use to seal, harden and densify all new or existing (less than 3 years old) interior concrete floor surfaces.
- Ideal for use in warehouses, distribution centers, retail stores, restaurants, schools, indoor malls, office complexes, food processing plants, dairies, breweries, food lockers and bottling plants.
- Also use on freshly placed concrete floor surfaces after final finishing (see Precautions) to provide interim protection during construction.
- Use on stained, dyed, integrally colored or plain gray colored diamond polished concrete floors and counter tops to improve gloss and to harden and densify without causing discoloration.

ADVANTAGES

- Up to 550% iIncrease in abrasion resistance and surface hardness.
- Does not require rinsing or flushing with water following product application. Eliminates the costly disposal of hazardous (alkaline) rinse water.
- Increases the impact and wear resistance of concrete floors where high volumes of pedestrian and/or forklift traffic are expected.
- Provides permanent protection to the depth of penetration.
- Reduces the porosity of concrete surfaces to improve the chemical and stain resistance to most organic acids, alkalis, deicing salts, foods, fats, oils and grease.
- Densifies, strengthens, seals and dustproofs soft or dusty concrete floors.
- Provides interim floor protection from stains and minor abrasion from construction traffic when applied to freshly placed concrete after final finishing.
- Improves the adhesion of subsequently applied line stripes, paints and coatings to soft or weak concrete surfaces.
- Overall performance and life far surpasses that of conventional membrane forming acrylic cure and seal type products.
- Breathable and does not contribute to floor sweating.
- Increases floor surface light reflectivity, thereby increasing overall interior brightness.
- Surface gloss appearance continues to increase through regular use and with cleaning.
- Because of the chemical reaction when applied to concrete, DURO-NOX HSC treated surfaces will never peel or flake.
- Complies with USDA requirements for incidental food contact.

⚠ PRECAUTIONS ⚠

- Do not use on latex or epoxy polymer modified concrete.
- Do not use on concrete previously treated with wax or resin-containing cures, sealers or bondbreaker compounds. These products must be removed by chemical or mechanical means as they interfere with the penetrating properties of DURO-NOX HSC.
- Protect from freezing. Allowing product to freeze can cause the container to rupture as well as the separation of the active components, resulting in poor product performance. Product which is suspected of freezing should not be used.
- Verify that product is within the “USE BY” date stated on product packaging. Do not use expired product. The use of expired product may result in poor product performance or failure.
- Apply at substrate temperatures above 40° F (4° C) and below 100° F (38° C).
- Do not apply in direct sunlight. Best results are obtained when DURO-NOX HSC is applied in the shade or at oblique sun angles (morning or early evening).
- Avoid contact with glass, aluminum and steel. If exposure occurs, immediately flush with water. Failure to do so may result in permanent surface discoloration.
- Before using on dyed, stained or colored concrete (diamond polished or unpolished), contact Nox-Crete for specific procedures required. Incorrect application procedures could result in unacceptable discoloration of the concrete surface.
- Application over acid stained concrete requires that the surface is first neutralized, thoroughly rinsed and allowed to adequately dry prior to application of DURO-NOX HSC.
- Application of DURO-NOX HSC to water saturated concrete floor surfaces or during periods of high humidity may prolong the dry time making the surface more susceptible to whiting discoloration.
- Not recommended for application to concrete floor surfaces that are over three years old unless the floor surface has been previously diamond ground to remove carbonation and expose unreacted lime.
- Some form of surface preparation is generally required prior to top coating DURO-NOX HSC treated floor surfaces with a subsequently applied paint, coating or adhesive. For specific surface preparation procedure recommendations see ICRI guideline No. 03732.
- Over application or following incorrect product application procedures may result in an unacceptable concrete surface appearance. To avoid a potential problem, perform a test application following proper procedures prior to beginning work.
- Improper application of DURO-NOX HSC to freshly placed concrete can result in the formation of white surface discoloration that may be unacceptable in appearance and difficult to remove.

USE INSTRUCTIONS

- Request current product literature, labels and safety data sheets (SDS) from manufacturer and read thoroughly before product use.
- Environmental and substrate conditions and concrete mix design have a major impact on product selection, application methods, appearance and performance. Product literature provides general information for some conditions. However, an adequate test application by the installer in advance of field scale use is mandatory (irrespective of any other verbal or written representations) to verify that product and quantities purchased can be adequately applied and will achieve desired appearance and performance.
- Best results are obtained when several representative test samples of DURO-NOX HSC are applied at different application rates to the floor to be treated and evaluated for dry time and appearance. Under most conditions, the best results are achieved when DURO-NOX HSC becomes dry to the touch within 15-20 minutes following product application. Longer dry times indicate over application which may result in surface discoloration. Shorter dry times indicate under application which may result in reduced product performance.
- Variations in concrete mix designs, placing and finishing procedures and weather conditions make it impossible to prescribe specific application rates that are inclusive of all site variables. The typical application rate to burnished, steel trowelled concrete is 500-700 sf / gal (12-17 sm / L). More porous surfaces will generally require a heavier application rate, while less porous surfaces will generally require a lighter application rate.
- The application rate of DURO-NOX HSC to freshly placed, steel trowelled, burnished concrete is generally higher due to the higher moisture content and higher alkalinity of the floor surface. This application rate (see Precautions) is 600-900 sf / gal (15-22 sm / L).
- Application of DURO-NOX HSC to freshly placed concrete floors should be performed after all control joints have been cut. All saw cut residue must be thoroughly removed prior to product application. Failure to remove saw cut residue can result in an unacceptable appearance. Protect surface from wind-blown dust or dirt until dry.
- Surfaces to be treated must be clean and free from dirt, dust, paint, residual wax or resin curing compounds, bondbreaker, sealers and standing water. For existing concrete floors, it is recommended to clean with Nox-Crete's biodegradable floor stripper, BIO-CLEAN PLUS, and an auto-scrubbing machine equipped with stiff nylon bristles. A dilution rate of 1 part BIO-CLEAN PLUS to 5 parts water is generally sufficient.
- Temperatures during application should be above 40°F (4°C) and no more than 100° F (38° C). To minimize rapid drying in warm weather conditions, best results are obtained if applications occur in the shade or at low sun angles.
- For large areas, apply product with an airless sprayer evenly to floor surface. Care should be given to avoid walking, driving or dragging equipment across freshly treated surfaces. Footprints, tire tracks, puddles, runs or other surface film imperfections should be immediately spread smooth with a micro-fiber applicator pad. Do not allow product to dry before spreading.
- For smaller areas, apply using a low pressure hand pump sprayer and immediately spread uniformly with a micro-fiber applicator. Do not allow product to dry prior to spreading.
- It is not necessary to work DURO-NOX HSC into the floor surface with a scrubbing machine after application. However, it is essential that the product be applied evenly and uniformly to achieve maximum performance and appearance.
- Once DURO-NOX HSC begins to chemically react with concrete, it thickens. Avoid disturbing the wet film at this stage. Damage to the thickening wet film may result in surface imperfections.
- Once DURO-NOX HSC has dried, any remaining dried powder residue can be removed with a stiff bristle broom or floor scrubbing machine.
- To improve the gloss, DURO-NOX HSC can be burnished with a high-speed (2,000 rpm) burnisher using diamond impregnated or natural hog hair burnishing pads.
- For maximum performance a second coat of DURO-NOX HSC can be applied. Although the application rate of the second coat is also variable, it is typically in the range of 700 – 900 sf / gal (17 – 22 sm / L).
- For additional gloss, reduced slipperiness and stain protection apply a finish coat of DURO-POLISH or DURO-POLISH PLUS.

TECHNICAL DATA

Color	Colorless
Clarity	Clear
Odor	None
Freeze Point	32° F (0° C)
Flammability	Nonflammable
VOC	0 g / L

Complies with USDA requirements for incidental food contact.

TEST DATA

ASTM D4060 Standard Test Method for Abrasion Resistance

	Percent improvement after 100 revolutions compared to an untreated control.*
Duro-Nox HSC	>550%

*** Concrete samples were treated at 21 days and tested at 28 days.**

PACKAGING

Packaged in 5 gallon and 20 liter pails, 55 gallon and 200 liter drums, 275 gallon and 1,000 liter totes.

SHELF LIFE

Shelf life is two years. Use before the "USE BY" date stated on product packaging.

HANDLING/STORAGE

Store in a dry location within a temperature range between 40° F (4° C) and 100° F (38° C).

AVAILABILITY & TECHNICAL SERVICES

In addition to corporate offices in Omaha, Nebraska, NOX-CRETE Products Group maintains regional offices and distribution centers in principal markets throughout the world. For source or technical information, call 800-669-2738 or 402-341-2080.

LIMITED WARRANTY

NOTICE-READ CAREFULLY

CONDITIONS OF SALE

NOX-CRETE offers this product for sale subject to, and Buyer and all users are deemed to have accepted, the following conditions of sale and limited warranty which may only be varied by written agreement of a duly authorized corporate officer of NOX-CRETE. No other representative of or for NOX-CRETE is authorized to grant any warranty or to waive limitation of liability set forth below.

WARRANTY LIMITATION

NOX-CRETE warrants this product to be free of manufacturing defects. If the product when purchased was defective and was within use period indicated on container or carton, when used, NOX-CRETE will replace the defective product with new product without charge to the purchaser.

NOX-CRETE makes NO OTHER WARRANTY, either express or implied, concerning this product. There is NO WARRANTY OF MERCHANTABILITY. In no case shall NOX-CRETE be liable for special, indirect or consequential damages resulting from the use or handling of the product and no claim of any kind shall be greater in amount than the purchase price of the product in respect of which damages are claimed.

INHERENT RISKS

NOX-CRETE MAKES NO WARRANTY WITH RESPECT TO THE PERFORMANCE OF THE PRODUCT AFTER IT IS APPLIED BY THE PURCHASER, AND PURCHASER ASSUMES ALL RISKS ASSOCIATED WITH THE USE OR APPLICATION OF THE PRODUCT.

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