



# VARICHROME

Penetrating, inorganic, ready-to-use, chemically reactive stain for cured concrete surfaces.

## HOW IT WORKS

VARICHROME acid stain for concrete combines a mineral acid solution with non-fading, inorganic metallic salts and a powerful surfactant for deeper concrete penetration. By chemically reacting with free lime, a byproduct of the cement hydration reaction, VARICHROME becomes permanently bonded to concrete and will not fade, peel or blister like conventional paints and coatings. The beautiful, translucent, variegated appearance achieved with VARICHROME coloration is unique to each individual concrete surface to which it is applied. This uniqueness allows plain gray-colored concrete to be distinctively transformed into a durable, long-wearing, magnificently colored surface with a timeworn finish.

## APPLICATIONS

- ◆ Specifically for use in interior applications to either horizontal or vertical concrete surfaces.
- ◆ Ideal for use in restaurants, convention centers and sporting arena concourses, retail stores, shopping malls, office lobbies, institutions, religious buildings and food courts.
- ◆ Dramatically improves the appearance of existing concrete surfaces previously covered with vinyl composition tile or carpeting.
- ◆ Transforms auto dealership showroom and grocery store floors traditionally covered with vinyl tile into beautifully colored showpieces with a unique, naturally translucent, variegated, timeworn appearance.

## ADVANTAGES

- ◆ Due to the inclusion of a powerful surfactant, VARICHROME penetrates deeper into concrete surfaces than traditional acid stain products.
- ◆ Chemically bonds to become permanently attached to concrete - will not fade, peel or blister.
- ◆ Allows precise color application for detailed designs.
- ◆ Compatible with NOX-CRETE'S SPARKL-SEAL acrylic sealers and DURO-POLISH synthetic floor polish.
- ◆ Transforms plain gray colored concrete floors into beautifully colored concrete surfaces with an "Old World" appearance.
- ◆ Available in 9 standard colors which can be used separately to create rich color hues or used together to provide unique marbled color effects.
- ◆ Green Engineered™ – better for health and the environment.
- ◆ Meets all federal and state VOC requirements.

## ▲ PRECAUTIONS ▲

- ◆ For interior use only.
- ◆ Not for application to wet concrete or to concrete that will be exposed to moisture either from the surface or from the subgrade. Moisture Vapor Emission Rate (MVER) must be less than 4.0 lbs per 1,000 sq. ft. (2.0 kg per 100 sq. m.) per 24 hours when tested in accordance with ASTM F-1869 over a 72-hour test period.



chemical solutions to concrete problems

- ◆ Not for use to cover-up or hide construction errors, design flaws or concrete surface color inconsistencies or blemishes.
- ◆ Do not apply in high traffic areas where the concrete surface could potentially be abraded below the depth of product penetration.
- ◆ Mottling, surface color variations and intensity differences are to be expected on every project. Predicting the exact color and the depth of product penetration prior to application is impossible. Variations in color can be caused by many things, including concrete mix design, concrete finish, age of the concrete, weather conditions at the time of concrete placement, the addition of extra mix water, the method of curing, the use of patching materials, etc.
- ◆ Some concrete surfaces will not accept VARICHROME. In such cases, it may be necessary to use an acrylic type stain such as NOX-CRETE'S VERSACRYL.
- ◆ Protect from freezing. Allowing product to freeze can cause the container to rupture as well as 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.

### **USE INSTRUCTIONS**

- ◆ Request current (verify) product literature, labels and material safety data sheets from manufacturer in writing and read thoroughly before product use.
- ◆ Site environmental conditions, substrate conditions, and construction can have a major affect on product selection, application

methods, procedures and rates, appearance and performance. Product literature provides general information applicable to some conditions. However, an adequate site test application by the purchaser or installer in advance of field scale use is mandatory (irrespective of any other verbal or written representations) to verify product and quantities purchased can be satisfactorily applied and will achieve desired appearance and performance under intended use conditions.

### **SURFACE PREPARATION**

- ◆ Concrete surfaces to be stained should be a minimum of 28 days old and clean of all dust, dirt, oil grease, curing compounds, bondbreakers, sealers, paints and other compounds which could interfere with product penetration.
- ◆ The use of NOX-CRETE'S BIO-CLEAN floor cleaner or BIO-STRIP floor coating stripper is recommended for removing heavy accumulations of contaminants. Best results are obtained using a walk-behind or riding type automatic floor machine equipped with non-marking nylon scrub brush attachments. Vertical surfaces should be cleaned with a high pressure (minimum 2,000 psi or 14 MPa) power washer. Light contamination on either vertical or horizontal surfaces can be removed by pretreating the area with a solution of trisodium phosphate (TSP) and water followed by mechanical scrubbing or power washing. All surfaces must be thoroughly rinsed.
- ◆ The use of acid containing cleaning compounds will reduce the effectiveness of VARICHROME and is therefore not recommended.
- ◆ Allow cleaned surfaces to dry a minimum of 24 hours prior to product application.

### **APPLICATION**

- ◆ Verify that area to be stained is dry and has a Moisture Vapor Emission Rate (MVER)

of 4.0 lbs. per 1,000 sq. ft. (2.0 kg. per 100 sq.m.) per 24 hours when tested in accordance with ASTM F-1869 over a 72-hour test period.

- ◆ Adjacent areas not to be stained should be properly protected from damage.
- ◆ VARICHROME should be well mixed prior to application. Best results are obtained when product is applied using a low pressure, acid resistant hand pump sprayer. Smaller areas can be brushed.
- ◆ Immediately following product application, the treated surface should be scrubbed in a circular motion using a non-marking, acid resistant scrub brush. Exercise care during scrubbing to prevent walking on the treated surface or brushing stain onto untreated areas.
- ◆ The area to be stained should be divided into small, manageable areas using natural dividers, such as walls or crack control joints.
- ◆ It is critical to maintain a wet edge during stain application and prevent the overlap of wet stain with dry, previously stained areas to avoid undesirable surface discoloration.
- ◆ Puddles, drips, splashes, boot prints and brush marks will affect the final color and must be brushed out immediately.
- ◆ When applying stain to a vertical surface, start at the bottom and work up. Avoid excessive running by brushing the surface immediately following stain application.
- ◆ Apply VARICHROME at full strength - do not dilute. The coverage rate will vary, depending on concrete porosity and texture. The typical application rate is 200-300 sf/gal (4.9-7.4 sm/l) per coat. It is recommended that a minimum of two coats be applied to maximize color intensity. If it is necessary to dilute VARICHROME, use NOX-CRETE'S VARICHROME EXTENDER to maintain the correct acid and surfactant ratios.
- ◆ Once applied, VARICHROME will need to be left on treated surfaces to allow for full reaction. The reaction time necessary will vary depending on the color and ambient temperature at the time of application. Most colors require a minimum reaction time of 10 hours. Burnished or hard steel troweled surfaces may require reaction times of 18-24 hours.
- ◆ To evaluate the color of a stain application it is necessary to rinse the acid stain from the surface. If the number of coats was predetermined during the test application, a second or third coat can be applied of the same color without rinsing between coats. If applying a different color, it is necessary to thoroughly rinse the surface and allow it to dry before applying a different color.
- ◆ After the final application of VARICHROME, it is necessary to neutralize the stained surface and rinse off the acid stain residue. To neutralize the surface, mix 1.0 lbs (0.5 kg) of sodium bicarbonate (baking soda) in 5 gal (19 l) of water and apply to the stained surface. Spread this solution using nylon scrub brushes until all fizzing has stopped. Rinse the surface thoroughly with water. Continue rinsing until rinse water is clear and uncolored. The surface should then be tested with litmus paper to ensure a neutral pH has been obtained.

### **SEALING**

- ◆ It is critical that all acid stain residue has been thoroughly removed prior to application of the seal coat(s). Failure to remove all residue will result in appearance defects, peeling and coating delamination.
- ◆ To bring out the vibrant colors and variegated appearance of VARICHROME, it is necessary to apply a seal coat to the stained surface. The following NOX-CRETE products are recommended for use over VARICHROME (application instructions for these products are available on the individual product data sheets):

**SPARKL-SEAL VOC** - solvent based acrylic sealer with excellent durability and high gloss.

**SPARKL-SEAL E** - water based acrylic sealer with excellent durability and moderate gloss.

**DURO-POLISH** - synthetic floor polish can be applied over the above sealers to increase gloss and reduce slipperiness.

**MAINTENANCE**

- ◆ Sealed VARICHROME floors should be maintained with regular sweeping and mopping. Spills should be mopped up immediately and the affected areas scrubbed with a detergent and water solution to prevent staining. Dust, dirt and sand should be swept up to avoid damage to the sealer.

**TECHNICAL DATA**

Color .....	Various
Clarity .....	Clear
Odor.....	Chlorine
Density.....	1.0-1.4
VOC.....	Negligible
Flash Point.....	N/A
Viscosity .....	20 centipoise

**PACKAGING**

Product is packaged in 1.0 gal. jugs (3.8 l) and 5 gal (19 l) pails. Weight will vary depending on color.

**SHELF LIFE**

Shelf life is one year. 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, phone (800) 669-2738 or (402) 341-1976.

**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 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.