DESCRIPTION
Concrete Surfaces Limact Acid Stains

Concrete Surfaces Limact Stain is not a typical stain or dye. It is made from a very mild hydrochloric acid solution, wetting agents, and metallic ions, and specially formulated pigments. When applied on concrete the metallic ions chemically react with the free alkaline in the cement forming oxides that produce the visible color. Unlike dyes that produce an even color, Limact Stain produces the multi-hued, variegated, mottled look of natural stone.

USE
Limact Stain may be used in interior and exterior flooring applications. Typical applications include residences, restaurants, malls, etc. as an economical alternative to tiles or pavers. Concrete Surface's Limact becomes a permanent part of the concrete that it has chemically reacted with, and will not fade, peel, delaminate, or chip. With the addition of Clear sealer and Wax, it performs excellent in high traffic areas. The sealed and waxed surface is especially easy to clean and maintain.

APPLICATION
Surface Preparation
Concrete Surfcaes recommends that concrete be allowed a minimum of fourteen (14) days to cure. Cooler climates, (highs not reaching 50°F) require curing times of twenty-one (21) days or more. If applied to uncured concrete, Concrete Surfaces Limact Stain will continue to change color until the concrete meets a complete cure. Therefore applying to cured concrete allows the contractor to identify final colors shortly after application.

Liquid curing agents should not be used on concrete that is to be stained. Concrete Surfaces recommends that there be no fly-ash or slag as substitute for Portland cement in the concrete, as these cement substitutes will reduce the alkalinity that contributes to the color.

Concrete must be thoroughly cleaned and rinsed before chemically staining. Unlike other applications, no profiling is ordinarily required before installation. For superior performance in the application of Concrete Surfaces Limact use Concrete Surfaces Concrete Stain Prep which will remove surface stains or deposits and open the pores of the concrete for optimum penetration. A degreaser may be required for visible oil stains. Oil, grease, and other petroleum stains that are permanent will not accept chemical stain. Chemical Stain should not be used over petroleum stains.

Water must easily penetrate the surface. Spotting the surface with water can check this. The water should darken the surface and be readily absorbed into the concrete. If water "beads" and does not penetrate additional curing and/or surface preparation must be done.

Note: If adequate cure time has elapsed and water still does not penetrate, then curing compound may be present and must be stripped. If this occurs, testing and other investigation may be required to determine what type of stripper to use.

Protection

Surrounding areas and foliage should be protected prior to staining. The work area should be roped off. All adjacent vehicles should be removed and the roped area closed to foot or vehicular traffic. Any adjoining walls should be masked. Wear approved acid respirator NIOSH/MSHAA TC 23C. Provide adequate ventilation and sufficient local exhaust as needed to maintain exposure below TLV limits. Wear chemical resistance gloves and chemical splash goggles. Wear suitable protective clothing, chemical resistant apron and boots to avoid skin contact.

Installation

Concrete Surfaces Limact Stain penetrates and colors concrete in varying degrees depending on the specific characteristics of the concrete. Each pour may have differences that produce dramatic shades once the chemical stain is applied. For this reason, a test section should be produced prior to the general application of the chemical staining. This test should be done on the job site and if possible, on the specific surface to be stained. The test area should be of adequate size for good visual inspection. The same worker, equipment, and technique that produced the sample should be used to produce the finished job.

Concrete Surfaces Limact Stain can be applied by using a pump-up sprayer with all plastic components, brush, or sponge. Concrete Surfaces Limact Stain contains hydrochloric acid that will corrode metal components.

Limact Stain may be applied full strength or diluted with water. Ordinarily dilution should be no more than one (1) part chemical stain to four (4) parts water. Color as well as shading may change depending on dilution. Test samples should always be produced to inspect results of diluted solutions.

Liberally apply one coat. Some jobs may require agitating the surface with an acid-resistant brush: sloped surfaces, slabs with "bird baths" that hold water, or stamped concrete or overlay. For best results, maintain a wet edge. Brushes should be uncolored, acid-resistant nylon bristles with a medium stiffness and able to hold liquids. Do not splash, dip or allow the chemical stain to puddle in joint areas or other depressions unless a changed color effect is desired in those areas.
Do not walk on the wet surface. Footprints will appear darker than the adjacent areas. If stepped on by accident, the footprints should be brushed out immediately.
The liquid Concrete Surfaces Limact Stain color will not resemble the final color produced on the concrete surface. The color changes as the chemical reactions take place. A slight bubbling or fizzing action will take place when applied. Use a circular motion and keep the brush in constant contact with the surface. To avoid lap marks, previously reacted chemical should not be spread to the new work area. It should be spread back over the section that it came from.

Two applications are normally required on concrete. However, the color is related to number of coats as well as time before rinsing. Premature rinsing will generally lighten the color but may cause undesired, dramatic shading. Final coat of chemical stain should be allowed to dry before rinsing unless different effects are desired. When multiple colors of chemical stain are to be layered, the first color residue should be cleaned off before the last color application of the second and/or the third color, etc. This allows the last applied color's effect to be evaluated before another color is applied.

One coat usually produces the desired results when staining polymer-modified cement. Polymer-modified cement accepts chemical stain more readily and predictably than concrete. Concrete Surfaces Limact Stain may completely change the color of the polymer-modified cement.

Clean-Up
Concrete Surfaces Limact Stain leaves a residue that needs to be cleaned. Use 4 oz. of baking soda with 5 gallons of water. Apply over total area using a broom and/or mop until cleaning water is clear. Some slabs may require a buffer and white pad for cleaning.

Sealer
Two coats of clear sealer are required to complete the project. The surface must be clean, completely dry and at least 45°F during the sealing application. Solvent Sealers-To apply with roller use a solvent resistant 3/8-inch - 3/4-inch nap depending upon application. Apply one thin coat forcing the sealer into the surface. Allow sealer to dry, and then repeat the process with a second coat of sealer. Water Base Sealers- Apply with an applicator. To apply with an airless sprayer, use a size 8/13 reversible tip and spray evenly onto the concrete surface. Allow first coat to dry completely and apply the second coat in the same manner. Decorative score lines that are to be grouted should be grouted between coats of sealer. For interior applications apply 2 – 4 coats of mop on wax.

Cure Time
Allow twenty-four (24) hours before permitting foot traffic on sealed area. Allow seventy-two (72) hours before permitting vehicle traffic on sealed area.

TECHNICAL DATA
Coverage: 1 gal. full strength @ 2 coats = 200 sq. ft.
Mixing Ratio: varies from no water dilution to approx. 4:1 / water

LIMITATIONS
Blues or green shades may spot black in the presence of moisture. Uncured slabs, exterior slabs subject to weather, and slabs with hydrostatic pressure may all spot black with blue and green shades. Concrete to be stained performs best with no Portland cement substitutes, such as slag or fly-ash

WARRANTY
Warranty of this product, when used according to the directions, is limited to refund of purchase price, or replacement of product (if defective), at manufactures/seller's option. Concrete Surfaces Products shall not be liable for cost of labor or direct and/or incidental consequential damages