

# Faux Brick® Concrete Stain Installation Instructions



FAUX BRICK® Concrete Stain penetrates concrete in varying degrees of intensity depending on the age and composition of the concrete resulting in mottled shading of colors. While these are the very characteristics that render a natural appearance, a test section should be produced prior to the general application of the concrete stain on the actual concrete slab to be stained. An adequate size mock up sample should be produced, so a good judgment of the final appearance can be made. It is important that the same worker, equipment, and techniques that produced the sample should be used for the finished project. Some concrete surfaces can not be acid stained successfully and should be avoided.

## SURFACE PREPARATION

### New Concrete

The concrete should be allowed a minimum of 21 days to cure. A diluted stain may be used if a sooner application is required. Cooler weather (highs not reaching 50°F) requires curing time of 28 days.

The concrete must be thoroughly cleaned and rinsed before attempting to apply the concrete stain. Any number of methods can be used to clean the concrete surface, from damp mopping to using a commercial cleaner with a rotary floor machine and brush attachment. **Never** use hydrochloric or muriatic acid to clean the concrete surface. This will prevent the concrete stain from reacting properly!

During the cleaning process, make note of the surface's penetrability. The water should darken the concrete surface and be readily absorbed. If water "beads" and does not penetrate, additional curing and/or surface preparation must be done. In some cases, hard troweled concrete may need to be lightly sanded with a rotary floor machine to open the pores of the concrete surface.

In new construction, all surfaces to be stained should be covered and protected whenever possible.

*NOTE: Liquid curing agents should **not** be used, as they will impede the stain from reacting with the surface properly. If adequate curing time has elapsed and water still does not penetrate, a curing compound may exist on the surface and must be stripped. Take appropriate steps to test and determine what type of stripping agent should be used.*

### Aged Concrete

The concrete surface should be thoroughly pressure washed with a fan tip or sanded with a rotary floor sander. Clean all dirt and loose debris from surface. Use commercial grade detergent when necessary to remove deep mud stains. A commercial degreaser works well in removing minor oil and grease stains. Oil, grease, and other petroleum stains that are permanent will not accept concrete stain, and optimum results cannot be expected.

*NOTE: Since FAUX BRICK® Concrete Stain reacts with the surface cement paste, aged concrete may not produce the variegated appearance like that of newly troweled concrete.*

## PROTECTION

The surrounding areas and foliage should be protected prior to staining. The entire work area should be roped off, and all adjacent vehicles should be removed. Close the roped off areas to any foot or vehicular traffic. Any adjoining walls or finished surfaces should be masked. Due to the aggressive nature of concrete stain, stains on cementitious surfaces are permanent. Concrete stain will also corrode or darken metal surfaces and etch glass.

*NOTE: Wear approved acid vapor respirator NIOSH/MSHA TC 23C. Provide adequate ventilation and sufficient local exhaust as needed to maintain exposure below TWA and TLV limits. Chemical resistant gloves, splash goggles, and protective clothing and boots should be worn to avoid skin contact.*

## APPLICATION

FAUX BRICK® Concrete Stain should be applied by using a pump-up sprayer with all plastic components for the best results. Airless sprayers should not be used. Concrete stain contains hydrochloric acid and will corrode metal parts. The concrete stain color as it appears in the container will not resemble the final color produced on concrete surface. Concrete stain has a slight bubbling or fizzing action when it is applied, and the color changes as the chemical reaction takes place. Some colors react more or less aggressively based on the existing concrete surface. **Aquamarine, Powder Blue and Nickel** may darken and turn black if used on exterior applications.

Liberal spray one coat of concrete stain evenly over the entire surface using a wide, fine setting. Keep the sprayer pumped sufficiently to ensure a consistent spray. Be careful not to allow the sprayer to drip or to allow the concrete stain to puddle in the joint areas or other depressions unless a more pronounced color is wanted in those areas. Two applications are normally required on concrete.

After each coat is applied and allowed to completely dry, the residue must be rinsed and lightly scrubbed with a stiff bristle brush. In some cases, a rotary floor machine may be necessary if the residue is stubborn or to facilitate the cleaning of large areas. Use a squeegee to divert the residue to a low or an easily accessible area where an acid-resistant wet vacuum or mop can easily remove the puddles.

Continue to rinse the surface until the water is completely clean. This allows the applicator an opportunity to evaluate the effect before proceeding. The effect one sees when the surface is wet and completely clean of residue is very close to how the surface will look when it is sealed.

Different colors and shades can be achieved by diluting the concrete stain with water. Concrete stain may be applied full strength or diluted up to 1:1 with water. Coverage is 200 to 400 sq.ft. per gallon depending upon surface texture, porosity, method of application, and contractor experience. Test samples should always be produced to inspect the resultant reaction with the concrete and of a diluted or modified version of the concrete stain.

When applying the concrete stain to vertical surfaces, the application should always start at the bottom and work upward. Excessive runs should be avoided; however, should they occur, carefully and immediately blot the areas with a cloth or sponge until the streaks blend with the affected areas.

Concrete stain can also be applied using a brush. Occasionally, however, swirl marks may be visible in the finished surface. If a sprayer is unavailable, use a brush with uncolored, acid-resistant nylon bristles with a medium stiffness. Use a continuous circular motion and keep the

brush in constant contact with the surface. To avoid lap marks, previously reacted concrete stain should not be spread to the new work areas, but should be brushed back over the section just treated. For the best results, always maintain a wet edge. If the entire surface cannot be applied maintaining a wet edge, try to stop at a control joint or break in the concrete.

*NOTE: All residue, run off, cleaning water, and absorbent materials must be disposed of in accordance with all local, state, and federal regulations.*

### **Warranty**

*These products are warranted to be of uniform quality within manufacturing tolerances. Since no control is exercised over their use, no warranty expressed or implied, is made to the effects of such use. Seller and manufacturer's obligation under this warranty shall be limited to refunding the purchase price of that portion of the material proven to be defective.*

### **FINISHING AND MAINTENANCE**

In order to protect the surface and to intensify the dramatic variegated coloration, it is important to seal the project as soon as possible after it has been properly cleaned and allowed to completely dry. Read all manufacturer's application and technical data pertaining to sealer before proceeding.

If the project is sealed properly, maintaining the finished surface is easy. Maintain normal cleaning practices such as vacuuming, sweeping, and damp mopping. Spillage, leaks, or dirt should be cleaned as soon as possible. Use a hose to remove soiled areas and debris. Heavily soiled areas may require using a mop or rotary floor machine with a quality detergent.

A commercial grade floor wax may be applied by following the manufacturer's recommended procedures. When sealer begins to show wear, resealing the surface with an additional coat of the same sealer is recommended.

## General Instructions for Acid Staining Concrete

### General Facts About Acid Stains

Concrete acid stains are a solution of hydrochloric acid, wetting agents, and metallic salts. The acid solution colors concrete by chemically combining the metallic salts with particles in the concrete to form oxides. This procedure is not a dyeing technique, nor does it produce an opaque finish like paint. The color is produced by a chemical reaction. The finish will not fade or chip and will have a long-lasting, vibrant color as long as it is properly sealed and maintained.

Although almost all concrete looks the same, it can be very different in mix design and finish. The specific mix used to produce concrete in Wisconsin is very different from that used in Florida. Different batches produced at the same batch plant, on the same day and used in the same installation can react very differently to an acid stain application. In addition, different concrete finishing techniques will affect surface porosity and how well a stain penetrates and reacts with the concrete. These variations, combined with various acid stain application techniques are what produce the “marbling” effect. Blemishes, imperfections and even cracks are what add character and charm to the finish.

Acid-based concrete stains contain a *strong hydrochloric acid solution*. Care should be taken to protect your skin and eyes from splashes, as well as adjacent floors, walls and, particularly, metal surfaces of any kind. The acid will burn your skin and eyes, stain adjacent surfaces and etch metal. Protect your eyes with safety glasses or goggles and wear acid resistant gloves and apron. Protect surfaces with plastic sheeting and tape. Keep in mind that acid stains may bleed under tape.

You may need to gently shake the gallon jug of stain before using it. Some of the ingredients may settle to the bottom during periods of storage. Make sure the cap is on tightly and turn the jug over several times. Occasionally, crystals may form (particularly in the Onyx color) that cannot be dissolved back into the solution. This does NOT adversely affect the stain; it will still chemically react with the concrete and produce desired results.

Green and blue stains can and often will turn very dark or black when they are exposed to direct sunlight. Consider other colors on outdoor concrete surfaces that are exposed to direct sunlight.

Different application techniques produce different finishes. Spraying with an all-plastic, pump-up sprayer is a common method that produces a “mottled” effect. Puddling the acid will produce darker shades. Mopping with a clean 100% cotton mop and/or clean cotton rags produces “swirling”. Sponging produces yet another finish.

**Always** test the stain on the concrete in an inconspicuous spot, i.e. behind a washing machine or in a closet. Always cut the stain with distilled water at least 1:1 on the first

test. The stain can also be cut 2:1 or more on the first test. Remember, you can make the stain darker, but you cannot make it lighter. Since concrete surface porosity can vary greatly, diluted solutions can produce more desirable results than full strength. The only way to know is to test a spot first with several dilution rates.

When considering the finish you are attempting to obtain, consider the application method. A very fine spray mist at a high dilution rate will usually produce the lightest color. Stronger solutions and scrubbing the acid into the concrete surface with a stiff bristled brush will produce darker stains. Following the scrubbing or brush application with another misting will help minimize overlap. Another method is to spray in large droplets or spotting. Let that application dry and follow with a fine mist to produce a unique finish. Using two colors works best when one is applied and allowed to dry, followed by the second color, rather than mixing the two stains and applying together. Two different colors can be applied together; however, the final color of the finish is unpredictable.

### Procedures

Remove tile, carpet, linoleum or other coverage from the floor. All glue, paint or any other substance staining the concrete floor must be removed or the material will show in the final stain finish. However, some imperfections and staining can actually add to the effect. Strippers and chemical cleaners are available that will remove most stains (not all). NEVER USE MURIATIC ACID TO CLEAN THE CONCRETE BEFORE STAINING. Once the surface has reacted with acid, it will no longer react with the acid-based stain. Use TSP (tri-sodium phosphate) to clean the floor. TSP is a common industrial cleaner and is available from many hardware stores. You should initially try using plain water to clean and prep the floor before using any type of chemical cleaner. All remnants of chemical cleaners or other contaminants must be rinsed thoroughly from the surface using clean water prior to the stain application and before applying a sealer or wax. The surface must be “white glove clean”.

Some stubborn glue, mastic and rust stains can be removed by sanding. However, extreme care must be taken not to remove the cement paste or “cream” from the surface. Aggregates in the cement mix, including sand and rocks, will not take a stain. If the floor is severely stained or has imperfections that will not be acceptable, Artcrete’s New Canvas topping can be applied by trowel. New Canvas is designed to be applied in a very thin coat and will accept any Artcrete acid-based stains. New Canvas is applied in a very thin coat and will cover most imperfections; however, it should not be used to fill holes or patch cracks.

The stains can be applied to a dry floor or a wet floor (dry floors tend to stain darker). Allow the stained floor to dry. A white residue will appear upon drying and very little, if any, color can be seen. Sweep or wipe off the dust and wet the surface with water to get an indication of the

finished color. You may want to apply a second coat in the same, weaker or stronger solution strength. Color is sometimes visible in seconds when the correct dilution rate is achieved. Sometimes, the stain must be allowed to react for 60 minutes on the surface. After this period of time, the stain may not be totally dry. Do not brush or otherwise apply this wet residue to other areas of the floor, as it will not react.

When the intended shade is achieved, rinse with clean water. Continue to rinse until the surface can be wiped with a clean rag and no residue can be seen. Use a solution of ammonia and water at a dilution rate of one cup ammonia to five gallons of clean water to neutralize the acid-stained surface. Thereafter, rinse the surface with clean water. A pH pencil should be used to test the surface pH. A neutral pH must be achieved before applying the sealer and/or wax.

The floor should be allowed to dry at least 24 hours. It should be thoroughly dry before sealing. Moisture trapped under the sealer will often cause "blushing". Use a short knap roller (1/4") to apply sealer in very thin coats. Let the sealer dry between coats and apply enough coats to achieve the desired gloss. Sealers can be applied by sprayer in very light coats. All sealers should be protected with a high quality floor wax. Remember, the sealer protects the staining and concrete; the wax protects the sealer. A good wax and regular maintenance is necessary to maintain a high gloss and durable acid-stained finish.

Slip resistant materials, such as "Shark Grip" can be added to the sealer to produce a slip resistant surface.

### Coverage Rates

Concrete Stain 1 Gallon 200 - 400 sq.ft. at full strength

Dilution with distilled water increases coverage rate

Sealer 1 Gallon 200 sq.ft. in a very thin coat

### General Concerns

A common concrete finish is the hard-troweled finish produced by machine trowel. It is very popular with most concrete finishers. It is typically called a "burned-in" finish. The concrete surface is very smooth, hard and has an almost shiny black appearance. This finish is not porous and will often resist staining. Also, the process leaves the steel particles from the trowel blades in the concrete surface. (This is much like the steel left on a sharpening stone when sharpening a knife. The stone will achieve a black color caused by microscopic particles of steel abraded into the surface of the stone.) Hydrochloric acid reacts with the steel and turns the surface black. A high dilution rate of water may achieve the desired color. However, regardless of the cleaning and care in the application, the final finish may be very dark, or even near black. New Canvas is often the best preparation technique for "burned-in" trowel finishes. Broom-finished concrete will readily accept acid-based stains. However, the sealed finish will not be glossy.

Concrete that has been previously sealed will not accept a stain. A simple test is to pour water on the surface. If the water is quickly absorbed into the concrete, it is likely the concrete was never sealed.

Due to the myriad concrete mixes and finishes encountered in the field, it is difficult to predict the final color, shade and effect obtained in an acid-stain application. The applicator, whether a homeowner or contractor, must be aware there is a possibility of unintended or unexpected results. Careful testing prior to the application will reduce the chance of an unexpected result. ALWAYS TEST AT DIFFERENT DILUTION RATES ON THE SAME SLAB TO BE STAINED BEFORE BEGINNING THE JOB.