



# BRICKFORM® E-Stain™

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## Reactive Stain

**PRODUCT DESCRIPTION** • BRICKFORM E-Stains are penetrating, reactive stains that produce unique color effects in finished cementitious surfaces that simulate the natural shadings and aged appearance of stone or masonry. The color effect produced is unique to each stained surface and cannot be duplicated with other materials. BRICKFORM E-Stain creates a chemical reaction within the concrete substrate. This reaction slightly etches the concrete surface to provide deeper and more permanent color.

**USES** • BRICKFORM E-Stain may be applied over smooth troweled or textured concrete, cement-based overlayers, vertical or horizontal concrete and masonry surfaces, artificial rock displays, water features and themed finishes. BRICKFORM E-Stain is ideally suited for use in the Micro-Topping, SM Professional Grade, Stampable Overlay, and cast in place concrete.

**LIMITATIONS** • BRICKFORM E-Stain Stain is not effective on many surfaces. Older, weathered concrete or concrete subject to runoff or dripping water or heavily sandblasted concrete may have little or no chemical reaction. In addition, tightly trowelled surfaces may have varying or little to no reaction as the density of the surface may prevent the product from penetrating and reacting. BRICKFORM strongly recommends testing representative samples in different sections of the concrete to determine suitability of the stain and final appearance. Stain colors Blue Di Mare and Evergreen should NOT be used on slag concrete or in areas subject to water from the subgrade or standing water. Applying to slag concrete or exposure to excess water will darken or blacken the stained surface. When using these colors, they should be considered for interior purposes where the subgrade is well drained and free of hydrostatic pressure. Moisture Vapor Testing should be completed if the area is questionable and rates of less than 5 pounds per 1000 square feet per 24 hours are required based on a 72 hour test per ASTM F1869.

**COMPOSITION** • BRICKFORM E-Stain is a water-based formulation containing reactive mineral compounds and proprietary admixtures. BRICKFORM E-Stain contains no hydrochloric acid, making it more environmentally friendly.

**COLORS** • E-stain is available in 8 standard colors and E-Stain Plus. Special colors and effects can be produced by using one or more applications, blending two or more stains, or by blending the stains with E-Stain Plus. Do not add water to the E-Stain.

**PACKAGING** • 1 gallon (3.8 liter) containers, 4 containers per case, 36 cases per pallet.

**COVERAGE** • One gallon coverage rate is approximately 200 ft<sup>2</sup>.

**STORAGE** • Store in a safe place, out of direct sunlight. Keep containers tightly sealed. DO NOT allow product to freeze. Shelf life is approximately 24 months.

**CAUTION • CORROSIVE.** KEEP OUT OF REACH OF CHILDREN. Before using or handling, read the Material Safety Data Sheet and Warranty. Although not considered corrosive, E-Stain has a low pH, and should be handled carefully. DO NOT TAKE INTERNALLY. Avoid contact with skin and eyes and clothing. Do not breathe vapor or mist. Wear acid vapor mask (NIOSH/MSHA TC 23C approved), goggles, rubber gloves, protective clothing and chemical-resistant apron and boots. Close container after each use. Use good hygiene when handling this product and wash and bathe after each use. Be sure to wash clothing after each use.

**EQUIPMENT FOR APPLICATION** • Large applications are typically completed with acid resistant pump-up sprayers and brushes. Detailed work and small areas can utilize acid resistant paint brushes. When brushing stain, a plastic dish pan or tub is recommended

to contain material and allow for the brush to be drip free before moving it to the work area. DO NOT USE METAL CONTAINERS OR SPRAYERS.

**EQUIPMENT FOR REMOVAL OF RESIDUE** • Rotary floor scrubbing machine with black or red pads, wet/dry vacuum. For corners and small areas, a medium sized stiff fiber deck brush is acceptable. Squeegees and sponges can be helpful on projects as well. Exterior jobs will require the deck brushes and a pressure washer with 2500-3000 psi at 4 gallons per minute.

**PREPARATION OF CONCRETE** • When using BRICKFORM E-Stain in applications where it is to be sealed, refer to the surface preparation guidelines for that sealer and use those guidelines in conjunction with these to ensure proper stain reaction and sealer adhesion. BRICKFORM strongly recommends representative job site samples. Mock ups should always be prepared on the same concrete that the acid stain is to be applied. Individuals who will be performing the work should test different sections of the concrete to determine suitability, coverage of the stain and final color appearance. The recommended surface profile for acid stains is CSP 1. Surface preparation guidelines are written by the International Concrete Repair Institute and are outlined in Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays. This guideline is available at [www.icri.org](http://www.icri.org).

The surface of the concrete must be free of sealers, dirt, oils, paint, alkali, penetrating sealers, or any foreign materials that would prevent BRICKFORM E-Stain from penetrating the concrete surface. In addition, the slab must be "open" to allow for stain penetration. Power troweled or very dense, smooth concrete surfaces may not react well with BRICKFORM E-Stain and mechanical or chemical profiling may be necessary to achieve desired results. Polishing type grinders with multiple heads are the desired method for mechanical profiling as they will leave a much more even surface to stain with less scratch marks and grinding wheel marks. Depending on the sealer to be used, 35-100 grit diamond grit metal bonded grinding discs will yield the best results. Shotblasting is not recommended as the process will leave visually undesirable track marks. Chemical means for profiling will always be determined by sampling. Acceptable methods include the use of Brickform E-Etch (see TIS), phosphoric acid, and, in extreme cases, hydrochloric (muriatic) acid. If using muriatic acid to open a surface to be acid stained, always start with a high dilution of acid to water (1:20) and make stronger solutions if the slab requires such to achieve the proper profile. Always use the weakest acid to water solution necessary. Make sure mock ups include the required surface preparation techniques as these will have an effect on the final color outcome.

Concrete should be fully cured prior to stain application. Longer curing periods may be desirable when Jade or Turquoise is being used.

Once the slab has been properly profiled, thoroughly clean the slab just before applying the stain.

Surface preparation videos are available at [www.brickform.com](http://www.brickform.com).

**APPLICATION** • Note: The color of the material in the bottle will not be the resulting color after the stain has completely reacted with the concrete.

Most staining is done at full strength. BRICKFORM E-Stain can be diluted with E-Stain Plus to create variations of color. Be sure to do mock ups to determine final color outcome.

Concrete should be dry and properly prepared prior to applying BRICKFORM E-Stain. Protect surrounding areas from overspray if using a sprayer. Work in small, manageable sections like from control joint to control joint. Do not step in wet stain.

When spraying, apply liberally with an even and continuous pattern over the slab. Maintain a wet edge. Scrub the stain into the surface with an acid resistant brush and re-spray scrubbed areas with the stain to remove brush marks. Avoid puddling of stain. When using a paint brush to apply stain, apply liberally and quickly and try to maintain a wet edge. Move the brush in a circular motion keeping in contact with the surface to avoid spatters and runs. Keep the stain container on the surface and close to the application area to avoid dripping.

The stain will foam for a few seconds as it reacts with the concrete. Stain that does not foam may be an indication that additional surface preparation may be necessary. As foaming takes place, continue moving the stain. Once the foaming has stopped continue staining with fresh material working the product back into previously stained areas to avoid lap marks. Maintain a wet edge throughout the procedure.

Avoid tracking stain onto pavement that is to remain uncolored.

When applying to vertical surfaces start from the bottom and work your way up. One person should spray the stain just ahead of another person scrubbing the surface. Avoid over application and drips.

Allow stain to remain on the surface and react for at least 4-6 hours. Exterior applications should be completed in the early morning hours when the concrete is cool and allows the stain to dry slowly.

**CLEAN UP** • BRICKFORM E-Stain will dry and form a powdery residue. This residue must be neutralized and completely removed. Apply Brickform Neutra Clean (see TIS for proper dilution and application instructions) to the surface and scrub aggressively to loosen dried soluble salts. Rinse thoroughly and repeat until all residue has been removed.

Interior applications are most successful when rotary floor machines with black or red pads are used to scrub the surface. While the surface is still wet and the residue is suspended in the water, immediately wet vac the material. Allowing the water and residue to dry—even partially—prevents the vacuum from picking up the material. Repeat this operation several times to ensure complete residue removal. Scrub corners and hard to reach areas by hand with a medium stiff brush and wet vac water and residue right away.

Exterior applications will require aggressive scrubbing with a stiff bristle broom followed by pressure washing the surface. Do not let the surface dry. If the surface dries, wet it down and scrub with the brush and follow with pressure washing. As with interior applications, allowing the residues to dry makes them more difficult to remove.

**IMPORTANT! FAILURE TO PROPERLY AND COMPLETELY REMOVE THE ACID STAIN RESIDUE WILL LEAD TO PROBLEMS WITH SEALER ADHESION AND DURABILITY. IT CAN ALSO AFFECT THE FINAL APPEARANCE OF THE PROJECT.**

Please note that rinse water may be slightly corrosive and have the ability to stain. Special care must be taken to keep runoff from areas that are to remain unstained, stained different colors or areas containing plant or animal life.

**SEALING** • After allowing the slab to dry thoroughly, protect the surface with BRICKFORM Gem-Seal, Poly-Astic, Poly-Seal, Safety-Seal, or Satin-Seal. Please get a copy of the appropriate Technical Information and Material Safety Data Sheet before attempting to use these products. Once sealed, protect the surface from foot traffic for 24 hours and vehicular traffic for 5 days.

**MAINTENANCE** • The sealed surface should be inspected periodically for areas of thin or traffic worn sealer. The sealer will need to be re-applied as traffic and wear dictates. For interior applications, BRICKFORM strongly recommends the application of Dura-Wax as a sacrificial coating to protect the sealer. Re-apply the BRICKFORM Dura-Wax as traffic and wear patterns dictate. Always follow the appropriate Technical Information Sheet guidelines when using these products.

**WARRANTY** • This product is not intended for public use and is intended for use by licensed contractors and installers, experienced and trained in the use of these products. It is warranted to be of uniform quality, within manufacturing tolerances. The manufacturer has no control over the use of this product, therefore, no warranty, expressed or implied, is or can be made either as to the effects or results of such use. In any case, the manufacturer's obligations shall be limited to refunding the purchase price or replacing material proven defective. The end user shall be responsible for determining product's suitability and assumes all risks and liability.

#### **MANUFACTURER**

BRICKFORM, A Division of Solomon Colors, Inc.

#### **ORDER SPECIFICATIONS**

##### **E-Stain**

Shipping Weight	Container Size	Item No.
10 lb	1 gallon	ES-(100-800)

##### **E-Stain Kit**

Shipping Weight	Container Size	Item No.
6 lb	8-pack kit	ES-KIT

##### **E-Stain Plus**

Shipping Weight	Container Size	Item No.
10 lb	1 gallon	ES-1100