



# Elements™ Transparent Concrete Stain

## Technical Data Sheet ELE-02

**FOR PROFESSIONAL USE ONLY.** Read all applicable and current product information for your project: Technical Data Sheet (TDS), Color Chart, Installation Guide, Material Safety Data Sheet (MSDS). All information is available for download online at [www.butterfieldcolor.com](http://www.butterfieldcolor.com) and at point of purchase.

MasterFormat™ Guide Specifications, and Butterfield Color® Architectural Details and Specifications are available for the specifier/designer. All information is available for download online at [www.butterfieldcolor.com](http://www.butterfieldcolor.com) and at point of purchase.

**1. Description:** Elements™ Transparent Concrete Stain represents the latest in nanopigment technology. It is formulated to readily permeate a properly prepared concrete surface and create translucent color variations similar to reactive acid stain. Most colors are resistant to fading from sunlight (see note on color chart for colors not to be used exterior). It can be used on interior concrete floors and exterior concrete hardscapes. It may also be applied to Butterfield Color® cementitious overlays. Elements™ Transparent Concrete Stain is breathable. It is a low odor, water-based, low VOC (15-45 g/L depending on color selection), environmentally and user-friendly concrete staining system. It does not contain acid.

Elements™ Transparent Concrete Stain can be applied as the primary coloring material over uncolored concrete and other compatible substrates. It may also be applied over, integrally colored concrete, color hardened (shake-on) concrete, stamped, or stenciled concrete, Butterfield Color® cementitious overlays, and reactive chemical stains once neutralized. It is an excellent substitute for reactive chemical stains on substrates that are minimally reactive with acid stains or when a color is desired that cannot be produced by an acid stain.

Elements™ Transparent Concrete Stain is compatible with concrete colored with Uni-Mix® Integral Concrete Colorant and Uni-Mix® Liquid Integral Concrete Colorant coloring systems, Perma-Cast® Shake-on Color Hardener and Perma-Cast® Sierra Stain™ once neutralized. It is also compatible with T1000™ Fine Overlay, T1000™ Stampable Overlay, Micro-Cem™ Ultra-Thin Overlay, MT Resurfacer™ and Cantera™ Vertical Wall Mix. Elements™ Transparent Concrete Stain is available in 18

standard colors. Multiple colors may be used for a more creative effect.

**2. Limitations:** Elements™ Transparent Concrete Stain must be applied to clean concrete. New concrete must be fully cured (28 days), free from laitance, dust, film forming curing compounds, and other contamination that will minimize penetration. Existing concrete must be unsealed, clean and structurally sound. **All surfaces must be cleaned with CHO™ Cleaner and neutralized before applying Elements™ Transparent Concrete Stain (refer to section 6, paragraph 2).** T1000™ Fine Overlay and T1000™ Stampable Overlay should cure for a minimum of 72 hours at 70°F (21°C) before applying Elements™ Transparent Concrete Stain. Do not apply when substrate, product or ambient temperatures are below 50°F (10°C) or above 85°F (29.5°C) or relative humidity is above 85% or when such temperatures are expected within 72 hours following application. Do not apply to wet, damp, or frozen surfaces. Do not use material if it has been frozen. Elements™ Transparent Concrete Stain should not be used in areas subject to vehicular traffic.

Do not use ELE-124 Red or ELE-127 Purple for exterior or interior applications exposed to sunlight.

All surfaces colored with Elements™ Transparent Concrete Stain must be sealed with Clear Guard® Cure and Seal, Clear Guard® PRO 350™ Cure and Seal or Clear Guard® H<sub>2</sub>O Wet Look Water-Based Sealer. Before applying sealer, read the current technical data sheets. All information is available for download online at [www.butterfieldcolor.com](http://www.butterfieldcolor.com) and at point of purchase. The colorations produced are translucent. Do not use Elements™ Transparent Concrete Stain to hide surface blemishes or con-

struction problems. Patching materials may produce colorations distinctly different from the adjacent surfaces. Elements™ Transparent Concrete Stain will not color exposed sand or aggregate. Do not use on vinyl, asphalt rubber, glazed tile or similar materials. **Note: Elements™ is not recommended for high traffic areas, areas subject to abrasion, areas subject to hydrostatic pressure or emersion in water.**

All furniture used on Elements™ stained surfaces must be affixed with some form of floor protection pads. Do not subject Elements™ stained surfaces to construction equipment and/or machinery.

**3. Packaging:** Plastic bottle, liquid concentrate

- 4 ounce (118 ml)
- 32 ounce (1 L)

**4. Shelf Life:** 1 year, when stored in original, unopened containers, in dry storage, between 60°-80°F. Do not use material that has been frozen.

**5. Coverage:** Coverage will vary widely depending on the porosity and texture of the surface, application method, desired color intensity, and number of applications. Two applications are recommended. Very porous surfaces may require additional applications. Deeper colorations may be achieved with multiple applications. Each application must penetrate and be absorbed by the concrete surface. Excessive applications of Elements™ Transparent Concrete Stain that are allowed to form a film, and harden on the concrete surface may delaminate or peel.

32 ounce bottle, after mixing with water, produces 1 gallon of stain: 200-400 square feet

4 ounce bottle, after mixing with wa-



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ter, produces 16 ounces of stain: 25-50 square feet.

**6. Surface Preparation:** The substrate must be free from liquid release agent, powder release agent, curing compounds, sealers, oil, dirt, and other contamination that would impede the penetration of Elements™ Transparent Concrete Stain. Hard-troweled concrete, self-leveling overlays, or similarly dense surfaces require preparation by rotary sanding with a 60-80 grit mesh-sanding screen or grit rotary brush. Avoid sanding too deeply and exposing the aggregate, which will change the surface color and texture. Demonstrate the effects of sanding upon color and texture with a mock-up panel prior to starting the installation. Test the surface with water. Random drops of water should quickly penetrate and darken the substrate. If not, additional sanding is necessary.

Once the concrete is clean, sound and contaminant free, it must be washed with Butterfield Color® CHO™ Cleaner. Available in 1 pound (0.45 kg) and 5 pound (2.27 kg) containers, mix 1 pound (0.45 kg) of CHO™ Cleaner with 1 gallon (3.8 L) of clean water. 1 gallon of the solution will clean approximately 100-150 square feet in a single application. Depending on the porosity/density of the concrete, multiple applications of CHO™ Cleaner are sometimes necessary. Spray apply the solution onto the surface and then scrub with a clean bristle brush or rotary scrubbing machine. Do not allow the cleaning solution to dry on the surface. After cleaning with CHO™ Cleaner, neutralize the surface by scrubbing and washing with a solution of 1 pound sodium bicarbonate (baking soda) and 5 gallons of water. Do not allow the neutralizing solution to dry on the surface. Scrubbing may be done manually with a stiff bristled brush or with a white pad mounted on a rotary floor machine. Thoroughly remove residues from the neutralizing and cleaning solutions by flushing with clean water and wet vacuuming. A mop alone will not adequately remove the residues.

Cleaning with muriatic acid is not recommended. The substrate must be dry before applying Elements™ Transparent Concrete Stain.

**7. Mixing:** Shake the plastic bottle of Elements™ Transparent Concrete Stain. Mix with potable water. Do not use concentrate without diluting with potable water. Do not add any other liquid or chemical to the product. Add concentrate to a clean plastic pail.

32 ounce bottle + 96 ounces (2.8 L) water (1 bottle of concentrate + 3 bottles of water)

4 ounce bottle + 12 ounces (355 ml) water (1 bottle of concentrate + 3 bottles of water)

Ensure that all color concentrate is rinsed from the bottle. Consistently measure the water to ensure color accuracy and coverage. Mix Elements™ Transparent Concrete Stain by hand or with a drill mounted paddle. Once mixed, the working time is indefinite. Periodically agitate the mixed material during the application.

**8. Application:** The concrete surface and joints must be thoroughly dry before application of Elements™ Transparent Concrete Stain. Do not apply when substrate, product or ambient temperatures are below 50°F (10°C) or above 85°F (29.5°C) or relative humidity is above 85% or when such temperatures are expected within 72 hours following application. Cover and protect adjacent surfaces with plastic during mixing and application. Overspray and spills are difficult to remove. **Apply Elements™ Transparent Concrete Stain with a clean high volume, low-pressure (HVLP) sprayer. Spray evenly over the prepared substrate in a circular or random motion. For larger applications, an airless sprayer with a .011 tip may be used. A pump up sprayer should not be used since it will not adequately atomize the material and cause excess material to be applied, which can result in failure of application.**

Periodically agitate the product in the

mixing pail and sprayer reservoir, as settlement will occur. A shallow saw cut is recommended for effectively separating different colors. More than one application of Elements™ Transparent Concrete Stain may be required on very porous concrete to achieve the desired coloration.

Do not allow material to puddle and dry on the surface or in joints. Depending on surface density and porosity, the substrate will eventually reject excess material. Excess material should be redistributed or wiped up with a clean cloth before it dries, otherwise it will require a more thorough clean up before sealing. If the material appears wet for longer than 1 minute, do not attempt to apply more product. If multiple applications are necessary, the surface may be lightly walked on after the previous application is dry to the touch or tack free. Do not walk on the dry stained surface for approximately 8 hours after the final application. Protect the stained surface from water and other liquids for 36 hours after application. Application tools and equipment can be cleaned with soap and water.

**9. Sealing:** After Elements™ Transparent Concrete Stain has dried for 24 hours, apply Clear Guard® Cure and Seal, Clear Guard® PRO 350™ Cure and Seal, Clear Guard® H<sub>2</sub>O Wet Look Water-Based Sealer, or Clear Guard® H<sub>2</sub>O Water-Based Cure and Seal. Before applying sealer, read the current Technical Data Sheets. All information is available for download online at [www.butterfieldcolor.com](http://www.butterfieldcolor.com) and at point of purchase. Before application of the sealer, the Moisture Vapor Emission Rate (MVER) of the concrete or cementitious topping must be measured and be less than 3.75 pounds per 1000 square feet per 24 hours (1.7 kg/92.9 m<sup>2</sup> / 24 hours). **WARNING:** Sealed concrete surfaces will be slippery when wet. If exterior or interior surfaces are subjected to wetting and are not adequately textured enough to provide a non-slip finish after the sealer has been applied, a non-slip additive must be used with the sealer. On interior applications

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subjected to wetting, where the use of a non-slip additive may not be desirable due to maintenance concerns, a slip resistant floor wax must be applied over the sealer.

**10. Maintenance:** Periodically inspect sealed surfaces for wear or damage. All concrete sealing compounds will eventually exhibit the affects of weathering and traffic. For maximum coating life and performance, wipe up all chemical solvent or petroleum spills as soon as possible. Remove abrasive debris by sweeping or vacuuming. Do not drag, drop or place sharp edges on sealed surfaces. All furniture used on Elements™ stained surfaces must be affixed with some form of floor protection pads. Do not subject Elements™ stained surfaces to construction equipment and/or machinery.

Periodic washings with mild detergents will help maintain surface luster. Do not use solvent or acid based cleaning materials for general cleaning. Hot car tires or turning tires while car is standing may damage the sealer. Surfaces that will be subjected to car traffic, de-icing salts or chemical exposure, must receive minimally, two applications of Clear Guard® Cure and Seal or Clear Guard® PRO 350™ Cure and Seal. Very porous or rough surfaces may require multiple application of a sealer to ensure protection of the underlying substrate.

Prior to re-coating, the surface and joints must be clean, dry, free from cleaning product residue, other contamination, or loose materials, which

will affect the adhesion of Clear Guard® Cure and Seal. When recoating, a slip resistant additive may be added to the sealer.

**11. Interior Floors:** Regularly clean by dry and wet mopping. Periodically machine scrub, rinse, and wet vacuum the surface. Apply a maintenance wax or slip resistant wax as directed by the wax manufacturer. This type of periodic maintenance will greatly enhance the appearance of the floor and minimize the need to strip and/or reapply the sealer.

**12. Quality Control:** Cast a job site sample at least 21 days prior to the installation for approval of color and finish. Utilize all materials, tools, and techniques from the actual job in the mock-up. Consistent batching, pouring, finishing, curing, sealing, and preparation techniques, will ensure the uniformity of architectural concrete. Verify adequate wet and dry slip resistance. Verify maintenance requirements. Site visits by Butterfield Color, Inc. Personnel are for making technical recommendations only and not for supervising or providing quality control.

**WARNING: MAY CAUSE EYE, SKIN, AND RESPIRATORY IRRITATION. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. WEAR EYE PROTECTION, PROTECTIVE CLOTHING AND A P100/ORGANIC VAPOR RESPIRATOR (NIOSH TC-84A APPROVED) DURING MIXING AND APPLICATION. FOR RESPIRATORY PROTECTION GUIDELINES REFER**

TO OSHA 29 CFR 1910.134. COVER PLANT MATERIAL. ENSURE ADEQUATE VENTILATION DURING AND AFTER APPLICATION. IN CASE OF SPILLAGE, ABSORB AND DISPOSE OF MATERIAL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. BEFORE USE, READ THE MATERIAL SAFETY DATA SHEET (MSDS). ALL INFORMATION IS AVAILABLE FOR DOWNLOAD ONLINE AT WWW.BUTTERFIELDCOLOR.COM AND AT POINT OF PURCHASE.

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