

**SurfEtch™ Top Surface Retarder**

## Technical Data Sheet SE-01

**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).**

**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)**

**1. Description:** SurfEtch™ is a water-based, biodegradable, low odor top surface retarder. Applied to the surface of fresh concrete, SurfEtch™ chemically delays the set of the surface mortar while allowing the underlying concrete to harden normally. This allows time for washing the surface, producing exposed aggregate flatwork, with subtle and varying reveals of texture and color.

Apply SurfEtch™ on gray concrete or concrete colored with Uni-Mix® Integral Colorant or Uni-Mix® Liquid. Use on poured-in-place flatwork: curbs, sidewalks, driveways, patios, pool decks, tilt-up and precast panels, and most horizontal concrete installations. SurfEtch™ produces a simulated light sand blasted surface exposing the aggregate from 1/16" to 1/8". The fully cured surface is not only attractive; it is also slip resistant. VOC compliant (<10 g/L) and solvent free, SurfEtch™ is safer and cleaner to use compared to acid etching or mechanical blasting. SurfEtch™ is a light blue color to facilitate an even application. Clean tools and equipment with soap and water.

**2. Limitations:** Apply SurfEtch™ between 55° to 90° F (12° to 32° C). Most concrete mix designs stop curing below 50°F. Do not allow the material to freeze during storage or after applied to the concrete. At higher temperatures, low humidity, or windy conditions, material may prematurely dry and lose its effectiveness unless reapplied. Do not apply to concrete that contains cold weather accelerators or hot weather retarders without prior testing. Do not apply to frozen surfaces, nor allow the material to freeze, before washing to expose the aggregate. Do not use as a finishing aid.

The depth of etch will vary with different mix designs, method and timing of finishing, application consistency, temperature and removal method. Hard-troweled

surfaces will reduce the effectiveness of SurfEtch™. Do not apply to vertical concrete or to form work. Do not apply to shake-on color hardeners, particularly if the surface has a hard-troweled finish, without prior testing and approval. The very dense surfaces typically produced by shake-on color hardener may inhibit the depth of etch compared to a plain concrete surface finished in the same manner.

**3. Cautions:** May cause eye, skin, and respiratory irritation. Do not take internally. Keep out of reach of children and animals. Wear eye protection and protective clothing during application. 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 Material Safety Data Sheet.

**4. Packaging:** SurfEtch™ is available in 1-gallon (3.8L) and 5-gallon (19 L) pails. Pails should be stored in a cool, dry place when not in use. Do not allow material to freeze. Do not reuse empty container.

**4.1 SHELF LIFE:** Shelf life in original, unopened containers is 2 years from the date of purchase.

**5. Coverage:** SurfEtch™ will cover approximately 175–300 ft<sup>2</sup>/gal (4.3–7.4 m<sup>2</sup>/L). Apply full strength. Do not dilute. Coverage will vary with surface texture and application method.

**6. Application tools:** Apply SurfEtch™ with a pump-up sprayer, brush, or roller. Spraying is the most effective and consistent method of application. Use clean equipment free from water or solvent residues. Clean application tools with clean water immediately after use.

**7. Installation:** Proceed with application after approval of the test area. Utilize the same concrete mix design throughout the installation. Finish the concrete uniformly level. High or low areas may retain or reject material, possibly creating inconsistencies in the exposed finish. Concrete with a float or broom finish allows SurfEtch™ to better penetrate the surface compared to hard-

troweled concrete. Float open surfaces treated with an evaporation retarder or finishing aid before applying SurfEtch™. Do not apply material until bleed water has dissipated. Do not apply curing and sealing compounds before applying SurfEtch™.

**7.1 EXISTING CONCRETE:** The cement residue produced when removing SurfEtch™ will bond to hardened concrete. Protect existing concrete by covering with plastic sheeting or by spraying with SurfEtch™. Allow SurfEtch to dry completely before proceeding with the new concrete installation. The dried film of SurfEtch™ will prevent the etched residue from penetrating or bonding to the concrete. Protect all adjacent surfaces from discoloration or damage from the chemical etching process.

**7.2 APPLICATION:** Facilitate mixing by storing material at moderate temperatures before use. Mix material with a powered drill, do not hand mix. Mix at low speeds until material is a uniform light blue color. Mixing time for a 5-gallon pail is 3-5 minutes. Apply an even coating of SurfEtch™ to the concrete's surface. When spraying, utilize the lowest pressure possible to create a fan pattern. Apply material evenly, to achieve a masking, consistent blue color over the concrete. If an insufficient amount of top surface retarder is applied, premature drying may occur, which could effect the exposure results. Heat, wind, and low humidity may also contribute to excessive drying. Cover the concrete surface completely with SurfEtch™. For consistent exposure results, spray all concrete surfaces at the same time after completing concrete finishing.

**7.3 DWELL TIME:** Do not work the surface with a float or trowel after applying SurfEtch™. The material will dry in 1-2 hours, after which time

it is resistant to light rain. Prior to drying, protect SurfEtch™ from rain by temporarily covering with plastic and then removing as soon the weather allows. Divert downspouts or other sources of substantial water exposure from flowing directly on the concrete after applying SurfEtch™. Do not apply curing compounds over the surface retarder.

**7.4 REMOVAL AND EXPOSURE:** Expose the aggregate by washing within 6-24 hours after application, depending upon the temperature and humidity, and as determined by the approved mock up panel. Use a garden hose and a new, clean broom or pressure washer to work the surface. Work a small area. If the depth of reveal is too deep, stop washing and allow the concrete to cure and harden further. Some concrete mix designs installed during elevated temperatures may require exposure to start sooner than 12 hours. Cold temperatures delay exposure. Achieve uniform exposure by washing the surface at the same time after the initial application of SurfEtch™ to the concrete.

**8. Curing and Sealing:** Allow the concrete to dry (no visible moisture or dampness) for 12-24 hours,

before applying a liquid curing compound. Use Clear Guard® Cure and Seal for exterior applications or interiors when a strong odor is not a concern. Clear Guard® H2O Cure and Seal is a water-based system useful for interior and exterior applications. Multiple light coats are necessary over the roughened etched surface. Do not allow material to puddle on the surface or in the joints.

To protect the exposed aggregate finish, reseal the concrete with Clear Guard® Cure and Seal, or Clear Guard® H2O Cure and Seal. Reapplication over time may cause the surface to become slippery. If this occurs stripping the sealer will be required. Thoroughly remove coatings from concrete with Butterfield Color's Blue Delaminator™.

Read all applicable product Technical Data Sheets before using materials.

**9. Quality Control:** Create a job site sample at least 21 days before installation for approval. Utilize all materials, tools, and techniques from the actual job in the jobsite sample. When curing and sealing the surface, verify adequate wet and dry slip resistance of the sealed surface. Verify maintenance requirements. Site visits by Butterfield Color, Inc. personnel are for making technical recommendations only and not for supervising or providing quality control.

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**Suggested Short Form Specification for Butterfield Color® SurfEtch™:**

Protect adjacent surfaces not receiving top-surface retarder with plastic sheeting and double tape. Apply even coat of Butterfield Color® SurfEtch™ according to manufacturer's instructions and recommended coverage rate, to achieve a masking, consistent, blue color over concrete surface. Allow top-surface retarder to remain on concrete surfaces for period established by mockup. Expose aggregate by washing off top-surface retarder within 6 to 24 hours after application, using garden hose or pressure washer and working surface with new, clean brooms. If etching is too deep, allow concrete to further cure. Clean tools immediately after use. Clean spillage and residue from adjacent surfaces. Dispose of residue legally. Seal concrete with 2 coats Butterfield Color® Clear-Guard™ Cure & Seal with slip-resistive additive according to manufacturer's instructions.