

# SoyCrete<sup>tm</sup>

## Installation Guide

### Recommended Tools & Supplies

Professional Mechanical Equipment:

High Volume Low Pressure (HVLP) Sprayer (Pressure Pot System w/HVLP Gun), Black & Decker HVLP Sprayer, Solo HD Pump Sprayer, Low Speed Floor Buffer with Red and Black Pad, Pressure Washer, Commercial Wet/Dry Vacuum, Floor Fans.

Manual Applicators:

16" Floor Coating NylFoam Pad, 18" Paint Tray, NylFoam 6" Trim Pad, 18" Lightweight T-Bar Floor Applicator, B&D Self Priming Stain Stick, Stain Pads, Sponges.

Miscellaneous Tools & Supplies:

SoyCrete 2 Oz Stain Sample Jars, Masking Tape, Painters Tape, Mop & Bucket, Clean Rags. Spray Bottle for Water, Shoe Covers or Spikes.

Decorative Design Tools: Tape Measure, Chalk Line, Grout Line Tape, Concrete Scoring Saw, Stencils, Etc.

### Concrete Basics

Concrete will vary greatly by cement mix type, aggregates, filler, hardeners, cure & seal compounds, density, strength, and concrete finishing methods. These variables may produce inconsistencies in porosity, texture, and color even within the same slab pour. These inconsistencies also provide the unique and natural variegated look when installing semi-transparent stains. The most important steps to ensure the desired decorative stain results are to properly test for porosity and color. Profiling and preparing the concrete surface is the most important step in decorative concrete installations. If you have a hard troweled surface that is very dense or will not exhibit fast penetration of water, you must profile the surface by opening the pores to allow sufficient penetration of the stain. The color of your concrete and the admix used, will affect the actual color. White or lighter color concrete will produce a more true color as seen in sample color charts. Dark grey or colored concrete will produce varied results depending on the desired color pigment. Field adjustments can be made with SoyCrete by mixing different stain colors or applying multiple coats. Porosity will also affect color. The more porous surfaces will tend to be darker than less porous surfaces. Good porosity does not necessarily mean a rough, broom or aggregate exposed finish. The finish may be smooth as glass and still have excellent porosity. The density of the finish or additives used during the curing process will have a greater impact on less than acceptable porosity.

### Surface Preparation

Proper surface preparation is critical to a successful long term and beautiful installation. ***Surfaces must be porous for proper penetration.*** Test the surface in all areas within each pad or foundation sections for porosity by spraying a light water mist over the project area. If the water soaks in fast and easy in all areas, you should have sufficient porosity and are ready to perform your stain sample test area. If your water test beads on top of the surface or penetrates very slowly, you either have a non-porous hard troweled surface or you may have oil, sealer, cure-n-seal, hardener or other substance that is prohibiting penetration. If all sealers and residues have been thoroughly removed, you may open the pores of the surface by sanding, grinding, shotblasting and/or by using a non-hazardous concrete etch solution (Eco-Etch<sup>tm</sup>) for maximum penetration and desired results. If the concrete is very dense or contain hardeners, using a mechanical grinding method still may not open the pores to create sufficient porosity. In these cases, using Eco-Etch to help open pores will be the desired method.

**Degreasing:** We recommend degreasing with our bio-based SoyFast Concentrated degreaser or similar to remove all oils, residues, and contaminants from the surface. Apply liberally at 1:1 heavy duty, 10:1 medium duty or 20:1 light duty. Power Wash clean or apply and rinse by hard bristle brush or floor machine with a black stripping pad. Use a wet/dry vac to extract the solution and allow to dry.

**Stripping:** We recommend our heavy duty bio-based SoyGreen PolyStripper or similar to remove any paint, coating, waxes, or sealers that may prohibit penetration or that you do not wish to show through the stain. Apply liberally with a HD pump sprayer or by roller and allow to dwell for 5 minutes to 12 hours depending on the age, type, and thickness of coating material. Always test a small area to establish the most effective dwell time prior to full application. For large area applications most will find it convenient to apply and allow to dwell overnight. Remove by power washer, floor scraper, or squeegee as applicable. Degrease area well with SoyFast as described in reference 1.

**Chemical Etch & Sealer Remover:** For chemical etching method, we recommend our non-hazardous alternative to hydrochloric, phosphoric or muriatic acid, called Eco-Etch™. It will effectively open pores of most hard trowelled, non-porous concrete and removes most sealers in one easy step. Apply liberally by textured or stippled roller. Allow to dwell for 15 minutes, then reagitrate with roller and allow to dwell for another 15 to 30 minutes. Test a small area to establish optimum dwell time and desired porosity prior to full application. Degrease area well with SoyFast.

**Overlay or Micro-Topping:** Overlays or Micro Toppings are also a very popular method to repair or create a consistent and basically new concrete canvas in which to stain. This solution is best performed by an experienced installer or an experience DIY installer familiar with trowel applications.

If applying to new unsealed porous concrete surface, it is recommended to allow for proper curing which is typically 21-30 days. (consult with your concrete contractor). Always test a small area prior to full installation. Approximate spread rate of SoyCrete is between 400-600 square foot per gallon depending on the application method and porosity of the substrate. Ensure that the surface temperature is above 50°F for best drying and curing conditions.

## Application

After you have performed your initial porosity test and surface preparation steps, **test a small area for color and porosity observation using our SoyCrete 2 ounce sample jar prior to full project installation.** This small test will save you time and effort if you find that color modification or additional porosity is required. Apply your test stain, by using a sponge or stain trim pad and rub into the surface until all marks and surface material is clearly spread within the concrete surface. **Do not allow puddling or topical stain to remain on the surface.** Allow the stain to dry for at least 30 minutes. Use a small fan to help accelerate the dry time for better visual evaluation.

After the dry time, wipe the stain with a lint free cloth or your fingers. If the stain comes up easily and exposes the concrete, there was no penetration, call Eco Safety Products for technical assistance. If very little or no stain residue came up, you may proceed with your application. If you are uncertain as to what you are witnessing, call Eco Safety Products for assistance. After 12 to 24 hours, you should not be able to remove the stain, even when you scrub with a stripping pad.

**Beginning your stain application:** Mask areas not intended to be stained. If applying advanced design patterns or stenciling, measure and mark pattern design placement with applicable tape or chalk lines. Note: If necessary, you may dilute the product with up to 10% clean water and mix well. Keep in mind this will lighten the original color slightly. Avoid puddling or the temptation to hide the surface like paint. If applying multiple color topcoats, allow the first coat to dry approximately 30 minutes to 1 hour, and then apply topcoat as desired. SoyCrete must be applied in a very thin even coat. You must work the product into the surface when using a manual application method. When dealing with multiple coats, always be aware of the porosity limitations.

**HVLP Sprayer Application:** Set to a fine spray. If using a PSI regulated compressor, find the optimum pressure between 20-50 psi for a fine mist spray. If using a Black & Decker or similar electric portable airless unit, the stain tip will generally produce a favorable spray setting. Apply in a thin even pattern and avoid puddling. If puddling or spotting occurs, rub the stain puddles into the surface using the NylFoam pad applicator. You may also use a Floor Buffer with medium pad after about 20 minutes of application as a design tool and to enhance distribution or manipulation of the stain. To help loosen the applied stain, simply spray lightly with water as you move the floor machine over the area.

If you require a darker color contrast, build up to your desired color with thin coats. Allow 30 minutes to 1 hour between coats to observe actual color prior applying additional coats. When using a floor buffer as noted above, you may apply your next coat immediately after buffing and repeat the process. When applying different colors that you do not want blended into the base coat, you must closely observe full dryness of the base coat prior to applying secondary colors.

**Manual Applicator:** 16" NylFoam Pad- Pour SoyCrete in a large 18" paint tray and saturate pad evenly. Apply SoyCrete moving from left to right or right to left in 3' passes. Work the stain into the surface evenly and as far as the stain will spread. Pass over all areas to further spread and move any topical or puddled stain while working the stain into the concrete surface. Work out any lap marks by continually working the topical stain into the surface. If the stain has dried too much, you may simply spray the area lightly with water and rub stain into the surface. B&D Stain Stick- Using the filling tube, siphon SoyCrete to capacity. Apply in the same manner as above. Sponge or Stain Pad Applicator- Pour SoyCrete in a bucket or paint tray. Lightly saturate the applicator and rub or wipe the stain into the surface until dry. If you have a floor buffing machine, you may use it as a design tool or to assist in creating a more uniform or even enhance the variegated look.

**Drying Time:** SoyCrete will generally dry to the touch within 1 hour depending on environmental conditions. Colder climates and high humidity will prolong drying times. Hot or sunny outdoor exposure will accelerate drying. When applying additional coats or color, be sure to wear spikes, socks or protective shoe covers to avoid marks or contamination of the stain coat. Apply additional coat as desired. SoyCrete requires approximately 6 hours drying prior to applying Acri-Soy Clear Finish Sealer. Premature application of the sealer may loosen SoyCrete that has not fully penetrated into the surface. You may expedite the drying time and also effectively even the SoyCrete installation by buffing the stain application. Buff with a medium coarse (blue, red or brown pad) after approximately 20 minutes of the stain application. Test a small area prior to full buffing to ensure SoyCrete has penetrated sufficiently. This buffing method will enhance the penetration and drying time significantly. Acri-Soy Sealer application may be applied as soon as 1 hour after the buffing process. If your installation has multiple colors or design patterns, be extra cautious if using the buffing process as premature buffing of multiple topcoat colors may tend to bleed colors together. For such detailed design installations, we generally would recommend the natural 6- hour drying process.

**Acri-Soy Sealer Application:** Apply after the recommended dry time of SoyCrete. Choose from two Sealer finishes. Satin Sealer- A matte finish, penetrating sealer. Gloss Sealer- A low gloss penetrating sealer. The sealer application is required to provide a lock-in protective barrier that protects your concrete surface and provides a lock-in barrier against moisture, staining, dusting and efflorescence. Most applications will require only a single coat. It is recommended to install a minimum of 2 coats for automotive and high traffic areas for maximum protection. Allow approximately 1 hour intercoat dry time between sealer coats.

If using an HVLP Sprayer or Solo HD Pump Sprayer- Set to a fine spray and apply in 3' pattern. Back-roll any puddling. If using a 16" NylFoam Pad, 18" Lightweight T-Bar Applicator, or 3/8" nap roller- Pour Acri-Soy into an applicable paint tray. Apply in 3' wide passes in a thin even coat to ensure elimination of puddling.

Allow Acri-Soy to dry for approximately 12 hours prior to allowing light foot traffic. Allow approximately 5-7 days prior to vehicular traffic to avoid hot tire pick-up. A fully cured system is hot tire pick-up resistant suitable for vehicular traffic. Full curing of the installation is approximately 5-7 days depending on environmental conditions. Avoid accumulation of standing water or washing with chemical detergents during the curing period.

**Specialty Finishes:** You may apply specialty finishes such as Eco-Tuff High Traffic Clear Coat, over Acri-Soy Sealer. Allow a minimum of 6 hours cure time of Acri-Soy sealer prior to installation of additional finish coats. For a superior decorative floor protective system recommended for high moisture or high traffic commercial environments. apply Eco-Tuff W.B. 2-Part Primer/Sealer over SoyCrete, then apply Eco-Tuff High Traffic Clear Coat. This system will provide a superior water proof, chemical and abrasion resistant finish that will extend the life of the concrete surface.

Please note that as with any coating system, premature installation of finish coats may cause undesirable emulsion with the sub-coatings and possibly cause premature system failure. Read all installation instructions for your desired specialty finish coating.

## Basic Design Tips

Lighten Color Tones- Spray a light mist of clean water and blotch wipe or buff area to remove topical stain and achieve desired appearance. This process removes a top layer of stain that has not yet penetrated into the surface. This process must be done generally within 1 hour of installation for easier modification. Another method is to dilute the stain with no more than 10% clean water prior to application. Another easy adjustment is to add our White stain color to soften tones or create shadowing effects.

Darken Color Tones- Apply an additional coat after a 1 hour intercoat time. Use faux finishing sponge or pad to add accent patterns or simply re-apply for complete coverage.

Borders & Stencils- Tape off your design pattern or apply a decorative stencil to the desired surface area. Depending on your design pattern this is performed before and/or after the first coat. If placing a pattern over the first base coat, be sure the stain is dry to the touch.

Stone Tile Effects- Simply mask off grout line patterns. Apply the stain color(s) to create your simulated stone tile look. Remove grout line tape when dry.

Mixing Colors- Our stain colors may be mixed for additional color variations. Simply mix your desired colors, and then apply as usual. For more color versatility, use the SoyCrete tint base and add mixtures of our standard colorant packs or for the professional applicator use our Eco-Color raw colorants.

## Basic Troubleshooting

Lap Marks or Over Saturation of Stain- If you experience undesirable marks or topical stain accumulation that has begun to dry, simply spray water over the area and buff the area with a stripping pad to spread the stain as desired. This must be done immediately after application. If you have waited too long, you should use SoyFast Degreaser or even SoyGreen Polystripper to breakdown the topical residue before it has a chance to cure. Once cured, you should call Eco Safety Products for technical assistance as more complicated procedures will be required. Be aware that outdoor installations during hot weather and direct sunlight will accelerate dry time and workability of the stain.

Tackiness of SoyCrete- If SoyCrete remains tacky even after 12 or more hours, it is a result of improper penetration due to lack of substrate porosity or caused by over-application. This is the single most important reason to test prior to application and to use only recommended application tools and methods. If there is no place for the stain to go, it will simply stay on the top surface and try to cure. Option 1: If there is enough porosity in the concrete, test a small area applying Acri-Soy by spraying onto the surface and back-roll. Allow to dry for approximately 1 hour. The solvency of Acri-Soy may assist in breaking down SoyCrete to fully penetrate the surface. If tackiness is gone, and the stain does not come up when wiping with your fingers, you may apply Acri-Soy as usual. Option 2: If the tackiness is not resolved and the stain comes up, please call Eco Safety Products for technical assistance.

White Residue on Surface- We recommend shutting off any irrigation that may effect an outdoor installation during the curing period. For unexpected rainfall, SoyCrete has an inherent water repellency chemistry to withstand unexpected rainfall or standing water during installation as long as it was installed properly and allowed to dry for at least 12 hours. Avoid installation of Acri-Soy during rainy forecasts for outdoor installations. If Acri-Soy is subjected to standing water before the full chemical cure, it is possible to witness a white milky substance. If this occurs, simply allow it to dry and reabsorb into the surface naturally. Wiping or cleaning this substance will remove the uncured Acri-Soy. Should this happen, simply re-apply Acri-Soy to the affected area.

## Stain Care:

Avoid using chemicals to clean the surface during the curing period and up to 14 days. Surfaces may be subjected to normal foot traffic within 12-24 hours depending on environmental conditions. Use caution and avoid dragging equipment, furniture, etc. over the decorative floor during the curing period. Automotive traffic should allow a minimum of 5 to 7 days for adequate cure to resist hot tire pickup. Pool environments should allow a minimum of 7-14 days before exposure to pool chemicals and standing pool water.

Standard maintenance cleaning requires only the use of water and/or neutral floor cleaner. We highly recommend the use of microfiber wet/dry mops for a chemical free interior maintenance of your eco-friendly decorative floor. If you apply a specialty finish coat, follow all manufacturer floor finish care instructions. It is highly recommended to inspect the sealer for effectiveness every 2-3 years or as needed to extend the life and beauty of your decorative stain. SoyCrete's durability will last for as long as your substrate is undamaged. Proper care and surface protection will provide years of decorative style and beauty.

Important: The performance of the product is dependent upon its correct application onto surfaces for which it is intended strictly in accordance with instruction onto correctly prepared surfaces which shall remain sound, stable and free of cracking or movement. We always recommend testing a small inconspicuous area for compatibility prior to full application. Instruction application deviation may diminish or negate the performance of the product. Under no circumstances will the company be liable for loss, consequential or otherwise arising from the use of the product. Should this product be proved defective our liability shall be to the replacement of the products. We reserve the right to amend specification and application techniques without prior notice.

