Seal Hair Application Process

CONCRETE SURFACE PROCESSING & PREPARATION

Using proper protocol for casting, curing and processing your concrete will give you the best results. Concrete must be Clean and DRY for successful results. A calibration step is required for all new users and recommended before using Seal Hair on finished projects. Seal Hair is intended for industrial use by trained professionals, and is not intended for use to the general public.

Polished Concrete: Wet polish concrete up to 100-grit resin pad followed by a scotch bright pad is recommended. Cut a piece of scotch bright using a 5” backer pad as a template. Wet polish concrete to remove casting release, efflorescence, and haze. The scotch bright will open the concrete surface and even out the color. Dry polishing with sandpaper only is not recommended as this will not remove casting release, paste wax or other surface contaminants. Concrete must be completely dry after wet polishing and before applying sealer, a min of 48hrs after wet polishing is recommended. Use a roofing torch to check for moisture before applying sealer.

Cream Finish Concrete: For cream finish concrete surface, wet polish the concrete with a 200 resin pad followed by a green scotch bright pad. Dry polishing alone is not recommended. Cut a piece of scotch bright using a 5” backer pad as a template. Wet polish concrete to remove casting release, efflorescence, and haze. The scotch bright will open the concrete surface and even out the color. This method works best when concrete is cast on new casting surfaces such as melamine molds. Reusable casting surfaces like metal, Formica or polycarbonate may leave lines, scratches or shadows in your face coat. If the concrete is uneven you may need to consider additional polishing. Any leftover marks from the casting surface may show up after sealer is applied. Primer will help even out and hide imperfections in the concrete.

Curing and Drying concrete: Allow for proper airflow both above and below concrete while curing and after water polishing. Concrete must be completely dry and moisture free before applying sealer. Every shop environment will have different curing characteristics. Local climate, elevation, humidity, temperature fluctuations along with building type and shop setup will cause different results when curing your concrete. Use a roofing torch to check for moisture in the surface of your concrete. If you notice water vapor chasing away from flame, there is too much moisture in the concrete. Lightly torch the surface working from left to right. Allow the surface to cool down to 75 degrees and repeat step. Torching several times may be needed to drive any excess moisture from the concrete. Once the concrete is clean and dry allow the surface to reach room temperature or about 75 degrees. The concrete is now ready to seal. Shop environment must remain about 65F as a minimum after sealer is applied. *Note (solvent based sealers are flammable) never torch concrete near open sealer, follow proper safety protocol.

Acid Etching: Lightly acid etching concrete is required for best results. Use a muriatic acid designed for masonry use. A good rule of thumb is to check your acid % listed on the label and dilute with water at the listed number. For example, if you are using an acid with 32% acid, dilute with 32:1 (Water : Acid). Use a scotch bright pad to scrub the concrete surface with diluted acid. A quick wash around 2 min is all that’s needed. Using light dilutions as recommended, you can do multiple acid washes if needed. Your surface should have a light texture similar to 400 grit sandpaper. Best practice is to polish, acid etch, grout, polish, acid etch, dry, seal.

Calibration step: The calibration step will help you understand your unique environment and set a protocol for proper curing and processing of your concrete. It is recommended that you make new sample pieces of your concrete using your processing, curing protocol and workflow. After sealer is cured a min of 48 hrs, cut the concrete using a grinder and tile blade, check the cut for proper adhesion. Cut a hole using a core bit and check both the plug and hole for proper adhesion. Using a razor blade cut a checkerboard pattern into the sealer. Use carpet tape over the cut pattern and perform a pull test, the sealer should remain bonded to the surface. Do not perform the calibration steps on concrete scraps or old samples. The point of the test is to check your current processing and curing steps same as your production work. The shop conditions and cure times are what you are checking more than the mix design or concrete type. This step will also give you an opportunity to see the process and how the sealer behaves while applying.

Color enhancement calibration: Seal hair is a solvent based concrete sealer and will enhance the color of your concrete more than water-based sealers. New color samples will be required for your show room.

Casting marks will show more prominently in the finish coat if not processed out completely. Dry polishing only is not recommended, thoroughly polishing with water and scotch bright is recommended.

For **cream finish** concrete make sure your mold is clean and made from new material or if your casting surface is re-usable make sure silicone lines and ghost marks are polished off completely. Use scotch bright to abrade and open the surface using and air polisher. This will remove casting wax, silicone rash and casting marks. Prime Hair works great on cream finished surfaces to maintain the delicate patina and keep the concrete looking natural.

Clean and properly etched concrete will enhance evenly, your sealer will be vivid and crisp.

*Note, if less color enhancement is needed see steps for Prime Hair color enhancement reducing primer. Primer is recommended for all hand troweled, and backing soda finished concrete.

Grout Slurry calibration: Adjust pin hole grout color as Solvent base sealers enhance more than water-based sealers. You will need a lighter color grout than you would with a water-based sealer. A good starting point is to mix the grout at the exact same loading as your face coat color and test color enhancement on a sample piece. You may need to reduce your color loading up to 25% lighter than you face coat. Grout test can be made using a concrete sample piece and several tape lines. Starting with your exact color percentage as a base line then reduce your color loading 10%-25% per sample section, this will give you a grout chart to keep on hand.

MIXING

Mix the Sealer: Seal Hair is mixed at a ratio of 4A:1B. Make sure to thoroughly mix the part A before de-canting as the matting agent will separate over time. Visual separation of the material is normal. Use a pneumatic drill and paddle mixer to mix the part A. Use an air regulator to adjust the speed of the drill if you are using a fixed speed unit. Always mix on a slow enough speed as to not splash materials. De-cant part A using a disposable plastic drinking cup and pour into a measured mixing cup. De-cant part B using a plastic syringe and add to the Part A. You can cut the tip off the syringe off and widen the opening with a drill bit if needed. Wipe the syringe with a paper towel, squeeze out any remaining resin, then wipe the plunger and interior with a paper towel. You can reuse the syringe several times before replacing. Mix the A & B together thoroughly for 3-5 min. Dwell for 5 min. *Note (solvent based sealers are flammable) do not mix using an electric or battery powered drill, sparks from the drill may cause a fire hazard. See coverage section for amount to be mixed.

Once your sealer is mixed dilute the sealer with solvent, at a ratio of 2:1 ratio or 50% solvent. Xylene or MEK is recommended however low VOC alternatives are acceptable if the first options are not available. Follow all local codes and laws.

Accelerate Hair: Add 1ml accelerator to 130 ml sealer (1:130) ratio. Note: math is base off of sealer before dilution.

The Seal Hair is now ready to be applied. A min shop temperature of 65 degrees is required. Warming the concrete surface prior to sealer application should be considered in cold environments and winter months a target of 75F when sealer application starts is optimal. Ceiling mounted infrared heat lamps are the best choice in low heat environments. Evenly heating the surface with infrared lamps for 1-2hrs after the sealer is applied will yield maximum performance and maximum crosslinking regardless of environment.

COVERAGES CHART

Seal Hair is measured by volume at a ratio of 4A:1B, multiply your total sq/ft by 12 ml. For example: 10 sq/ft of concrete x 12 ml = 120 ml of sealer needed. Divide this number by 5 (120ml / 5 = 24 ml). Multiply this number by 4 (24 ml x 4 = 96 ml).

(4) Parts A = 96 ml
(1) Parts B = 24 ml
Total= 120 ml Sealer

Dilution is 50% of mixed sealer or 2:1 ratio

For Example:
120ml / 2 = 60 ml
Add 60 ml of solvent to your sealer

Total mixed and diluted sealer for 10sq/ft = 180 ml

A min of 2 mil film thickness is needed for proper cross linking. 12ml per sq/ft (125 ml per sq/meter) is a guide only, since artisan concrete varies in texture, porosity and technique a range between 12ml-15ml is suitable. Adjust your sealer volume if needed up to 15ml per sq/ft (165 ml per sq/meter). Primed and pre sealed surfaces will require 12ml per sq/ft whereas raw un-primed concrete will take slightly more up to 15ml per sq/ft. DO NOT OVER APPLY SEALER! Two thin coats is all that is needed.

Australia and Europe Customers

10.7 sq/ft = 1 sq/meter, to convert 12 ml per sq/ft to metric = 125 ml per sq/meter

For primed and smooth surfaces use 100 ml Part A, 25 ml Part B per sq/meter

For unprimed and rough textures use “up to” 132 ml Part A, 33 ml Part B (do not over apply sealer)

Dilution is 50% of mixed sealer or 2:1 (Mixed Seal Hair : Solvent)

SEAL HAIR APPLICATION PROCESS

Roller Application: Two coats,

Equipment needed: ¼” nap roller 6” stick (wet roller), ¼” nap roller 9” cage (dry roller), paint tray with disposable liner, microfiber rag, paper paint strainer, painters’ tape. Use Painters tape to de-lint the nap rollers by wrapping a spiral of tape around the nap and pulling off lint and loose fibers.

Pour mixed and diluted sealer through a paper mesh paint strainer and into a standard paint tray

First Coat

1. Apply first coat using a ¼” nap 6” stick roller to apply Seal Hair. Load the roller and apply using a north south direction through your piece. Use strong positive pressure to work the sealer into the surface. Spread sealer out evenly until roller is unloaded. Work the piece from left to right applying one thin coat. This should use roughly ½ of your diluted sealer.

2. Do a second pass using your wet roller without reloading with sealer. Use positive pressure to work the sealer into the surface and ensure the concrete is evenly coated. Your goal is to get the sealer coverage evenly spread out on the surface.

3. Do a final pass by switching to the 9” cage roller, or “Dry nap roller”. Do not load the roller with sealer keep the fibers dry. Work the sealer with positive pressure and speed to eliminate lines and flatten out the sealer. Work the sealer in tight and thin from left to right, 2-3 passes with the dry roller is usually sufficient. Use the microfiber rag to damp off the fibers of your dry roller. Best is to place the microfiber on a flat surface and roll the nap through a few times to dry off and remove built up sealer. Don’t be alarmed if the sealer begins to flash off and become sticky. The Dry roller will blend the surface out and flatten lines and heavy areas. Don’t be afraid to be slightly more aggressive with the dry roller. 2-3 passes should work.

Wait 15-30 min for solvent to flash off before second coat. Don’t worry about uneven flashing off on the first coat. The surface will even out and melt back when the second coat is applied.

Second Coat

Apply second coat exactly the same as the first.

Application of this sealer will not yield good results if over applied, it will not cure and will be valuable to delamination and way react to water. Do not over apply the sealer in an effort to flood the surface or to keep the surface wet. The sealer is workable even after the solvent has flashed off.

Prime Hair:

Prime Hair is a single component water based acrylic primer/sealer. This is an optional step and will give you 50% less color enhancing. Solvent based sealers will color enhance more than water-based sealers. Grout slurry and pin hole fill should be tested prior to applying Seal Hair as the color may enhance more than you would like. Prime Hair will block color enhancement of both concrete and pin hold grout.

Apply 8ml -10ml sq/ft (85ml-100ml) to clean dry concrete before Seal Hair application. Primer should be diluted up to 50% with water 2:1 ratio (Primer:Sealer).

Roll or spray using and HPLV cup gun (15-20 PSI). Apply two thin coats of primer back to back same as the sealer application then roll the primer into the surface evenly using a ¼" nap roller or foam roller. Wait 2-4 hrs or until primer is completely dry. In winter months or cold shop conditions the primer may take longer to dry. Lightly sand out any roller lines or sharp burs by hand or with and orbital sander and 220 sandpaper on med speed if needed. Remove any dust using a hand brush and air chuck. Wipe surface with a damp microfiber to remove any remaining dust. Once the primer is dry, sealer may be applied.

Prime Hair also helps even out the surface and reduce water marks and spots. Test the primer during the calibration step to see the results side by side. Prime Hair is recommended on Hand pressed, baking soda finishes, troweled and cream finishes or anytime less color enhancement is required.

Post processing

Post processing is optional. If the surface reflection is good use a 400-800 sandpaper to remove lint and bugs stuck in the coating is all that's needed. If roller lines or reflection marks are left over from the application minimal processing can be used to remove lines and even out the surface. Sandpaper between 400-800 is acceptable. Use an orbital sander or hand pad to remove sharp burrs to smooth out the coating surface. DO NOT OVER SAND! Sandpaper is only for removing lint, dust or bugs from the surface. Do not chase the scratch pattern left by the sandpaper or try to flatten the sealer texture this will degrade the performance of the sealer. A few seconds working left to right is all that needed, a smooth surface is all you are trying to achieve. After sanding, Gray or Green Scoth bright pad on an orbital sander or by hand to hone out the surface and even surface reflection out. Once again don't over process, a few minutes is all that needed.

Baby Seal

Baby Seal natural bees wax is applied to the sealer after post processing. Baby seal helps with micro abrasions, reflection and over all look and feel of the countertops. Simply spray the surface and buff in with a dry microfiber rag until completely working in, do not leave wax to dry before buffing. Fold the microfiber into a flat square, use moderate pressure and buff the surface until the concrete is clean and dry. The surface should be dry and streak free. This will condition the surface, help with micro abrasion and keep the sealer luster long lasting. Baby Seal can also be used on mirrors, glass, stainless steel, wood and stone.

Delivery and Installation

48hrs after sealer application is min recommended cure time before delivery and installation. Do not rush work, most problems are caused by rushing and pushing your concrete too fast. Having sound workflow and practices will help mitigate most errors and problems. As a precaution core faucet holes before applying sealer. Do not install exterior concrete until 7 days after sealer application if rain, moisture or high humidity is forecast.

Care and Maintenance

1. **Scratches and abrasion:** Do not cut on surface, always use a cutting board. Seal Hair is resistant to abrasion however sharp items like knives and razor blades will scratch through the coating. If work is being installed in new construction, ensure the work is properly protected. Use signage to inform other contractors that the surface has "Fresh Sealer". Masonry trades, tile setting, and other tools and materials may scratch or damage the sealer. Instruct the contractor to take proper precautions and cover the project before other contractors perform work. Use dry materials such as paper or ram boar against the surface before covering with plastic. In some circumstances adding plywood over the ram board will give the best protection.

2. **Heat Resistance:** Do not place hot items on the sealer, instruct your customers to use a hot pad. Seal Hair will resist heat over 500F degrees however GFRC concrete may react to heat. Best practice is to advise your customers to always use heat pads.
3. **Cleaning**: Any common household cleaners are acceptable. Seal Hair is highly resistant to chemicals and acids. Use nonabrasive cleaners, do not use pot scrubbers, steel wool or metal scrapers. Do not use pumice cleaners, the surface reflection might change and show a dull spot.
4. **Wax**: Use Baby Seal natural bees wax to condition and beautify the surface. Waxing 1-2 per month will keep the surface looking and feeling great. Baby Seal is a sacrificial, non-building natural wax that will help keep the surface reflection even, streak free and hide micro abrasions.
5. **Water caution**: Although Seal Hair is a solvent base sealer it is based on urethane technology and will have a window of vulnerability to trapped water and moisture. Do not trap water or liquids against the surface for the first 90 days of use. Normal use and water contact is fine, as long as moisture can evaporate the risk is very low. If the sealer is over applied, it will take significantly longer to cure up to several weeks and will be more susceptible to water reaction.

Repair

1. **Scratch repair:** It is important to avoid scratches by following the care and maintenance instructions. If a scratch does occur a repair can be made to mend the surface film and keep oil and moisture from penetrating the scratch. Similarly, to water-based sealers the repair of a scratch is mainly aimed at performance. Aesthetics repairs will vary in success. Completely eliminating the repair will not be possible.
2. **Cleaning and surface prep:** Use a de-greaser such as simple green or dawn dish soap to de grease the sealer. If the scratch is through the surface and into the concrete do not expose the raw concrete to moisture. Acetone may be used to wipe the surface clean and remove any contaminants from the scratch.
3. **Patch kit:** you can make a patch kit for your customers to include a small amount of seal hair 4A:1B, mixing cup, gloves, stir stick, Q-tips, 3” nap roller (trim roller). Mix the seal hair components together, dwell for 5 min and remix. Drag the sealer through the scratch using a Q-tip. Allow the sealer 10 min to flash off, flatten the surface out using the trim roller. This may need to be repeated a few times allowing the sealer to completely dry in between coats. Once dry a light sanding with 400-800 sandpaper followed by scotch-bright may help to blend the surface and smooth any rough texture.
4. **Reseal:** If the damage is beyond a simple patch kit repair or if a complete reseal is considered contact tech support to discuss the specific details on the project.

Common mistakes

1. Over applying the sealer is the most common mistake. Do not flood the surface in an effort to “keep the surface wet”, you will over apply the sealer. Over applied sealer will take longer to cure. Anomalies like false bond and de-lam can occur with heavy application and will be suspectable to water reaction. Thin and natural should be the target finish. If your coating looks thick and plastic contact tech support to diagnose the problem. Don’t be alarmed with the sealer feels sticky when rolling. The sealer is still workable even when the solvent begins to flash off.

2. Don't over work the sealer (meaning long time periods), most projects will only take a few min per coat. You can use positive pressure and a slightly aggressive technique similar to rolling latex paint on a wall. Over working in this case is a timing thing not a pressure or rolling pattern.

3. Don't over sand the sealer when post processing. Wait until sealer is completely dry. Minimum processing will give best results. Over sanding will degrade the performance of the sealer. Don’t rush work, most mistakes are made when work is rushed especially moisture and adhesion related issues.