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. Seal Hair is intended for industrial use by trained professionals and is not intended for use to the general public.

New users: It is always recommended to test Seal Hair before proceeding with production work. Make sure to test seal hair on a concrete sample and ensure proper bonding and finish is achieved. Call 801-809-4098 for tech support with any issues before proceeding to production work.

Color enhancement calibration: Seal hair is a solvent based concrete sealer and will enhance the color of your concrete more than water-based sealers. Additionally, grout and pin hole slurry will appear darker than with a water based concrete sealer, a color calibration step is required. To achieve less color enhancement similar to water-based concrete sealer an additional step is required using **Prime Hair** color blocking solution.

Cleaning, Polishing and Processing Concrete:

Tools and materials

200 grit resin pad and water polisher
100-200 grit sanding blocks for edges and corners
Scotch Bright pad (green) 6”x9”
Muriatic Acid: 14% concentration
Microfiber rag

Polishing and Processing Concrete

Wet polish concrete with a minimum of 200-grit resin pad followed by a scotch bright pad. Cut a circular piece of scotch bright using a 5” backer pad as a template. Wet polish concrete with scotch bright to remove remaining efflorescence and any unstable material. The scotch bright will open the concrete surface and even out the color. Use a squeegee to remove standing water followed by wiping the surface with a microfiber rag to remove remining surface water. Proceed to grout slurry step! **Note: Dry polishing with sandpaper and orbital sander is not recommended**. Dry polishing will not remove casting release, paste wax or other surface contaminants and will tighten the concrete surface. Dry polishing will cause uneven acid etching and will not open the concrete surface properly. Dry polishing will cause a false bond and sealer film to de-laminate.

Grout/Slurry

Apply grout/slurry to the concrete surface with your preferred grout mix. Use a grout float and sponge to ensure **ALL** pin holes are filled. Work small sections at a time to ensure the slurry does not dry out and stays workable. Use a spray bottle and mist the surface of the concrete during grout process. After filling in all pin holes leave an even film of slurry on the concrete surface and cure overnight.

Grout Color calibration: Solvent base sealers will enhance color more than water-based sealers. To adjust pin hole grout color, you may need to start with a lighter color grout than you would use with a water-based sealer. You may need to reduce your color loading up to 25% or more for darker colors and 5%-10% for light colors. Best practice is to make a grout test sample strip using a concrete slab 6"x24". Place several tape lines across the sample piece and section off test areas. Starting with your exact color percentage as a base line then reduce your color loading 10% per sample section and mark each section color loading for reference. Once the sample gout has cured, polish the surface with the techniques listed in the post grout polishing step below. Seal the surface with Seal Hair alone or Prime Hair followed by Seal Hair for less color enhancement. This will give you a grout reference sample to keep on hand and help choose the correct color loading for your grout slurry.

Post Grout/Slurry polishing (final polish). Once grout/slurry has cured overnight, polish the concrete surface with a minimum of 200 grit resin pad followed by green scoth-brite pad on your water polisher or by hand on smaller projects. Once surface, edges and corners are clean and even proceed to the acid etching step.

Acid Etching: Acid etching your concrete is a required step and is essential for proper bonding, this will also ensure even color enhancement and quality of the final product. Use a muriatic acid designed for masonry or swing pool use with a 14% hydrochloric acid content. Home Depot HDX brand swimming pool muriatic acid is an excellent choice. Check the label for a 14% hydrochloric acid contend. Avoid muriatic acid with 32% hydrochloric acid content if possible.

Dilute with 10:1 (water : acid). Mix at least 1 gallon of water and flood the entire surface all at once (pump sprayers not recommended for most projects). Use a scotch bright pad to scrub the concrete surface. A quick wash around 3-4 min is all that's needed. Using light dilutions as recommended, you can do multiple acid washes if needed, usually 2 acid washes with a clean water rinse and scotch-bright scrub in between washes is all that is needed. Squeegee surface after final rinse to remove standing water. **Test concrete surface after the final acid wash** using a clean dry microfiber rag. Use the microfiber rag to dry surface. The microfiber should drag slightly against the surface. You may need two hands to pull the rag across the concrete. Your surface should have a light texture similar to 320 grit sandpaper. This test is only possible when the concrete is wet. Once dry the surface will feel smooth. This is the final step preparing your concrete surface. After the acid etch step do not sand, polish or apply anything to the surface.

After Acid wash allow the concrete to completely dry for 24-48hrs depending on environment and shop temperature. If needed during cold temperatures and during winter use a roofing torch

to check for moisture before applying sealer. If water vapor is being chased out by the torch the concrete is still retaining moisture. Continue torching until all moisture is removed. Use caution not to overheat the surface and cause damage. Concrete surface should be between 65F-80F to start sealer or primer (Prime Hair) application (surface temperature not air temperature)

Curing and Drying concrete: Allow the concrete to completely dry for 24-48hrs depending on environment and shop temperature. 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 trapped moisture in the surface of your concrete. If you notice water vapor chasing away from flame, there is too much moisture in the concrete, continue torching until all moisture is removed or wait an additional 24 hrs. Before applying sealer, remove dust from surface with an air-chuck and wipe surface clean with lightly saturated paper towel with acetone if needed. The concrete is now ready to seal.

***Note (solvent based sealers are flammable) never torch concrete near open sealer, keep sealer unopened and far away from any open flame. follow proper safety protocol.**

Sealing you Concrete

Tools and materials
9” Paint tray with plastic liner
Microfiber rag
9” cage roller with 3/16” Nap roller cover (Wooster Supper Doo-z) *De-lint with tape before use
6” stick roller with 1/4” Nap roller cover (Home Depot) *De-lint with tape before use
Measuring cups, wood stir stick, razor blade
Respirator designed for paints and solvents, gloves, safety glasses.
Paper towels, plastic measuring cup, 50 or 100ml plastic syringe

Coverage:

Seal Hair is applied at 12 ml of sealer per sq/ft for standard polished GFRC. Hand pressed, baking soda and troweled finishes will take slightly more sealer per sq/ft. Australia and Europe Customers use 120 ml. per sq/meter.

Multiply the concrete total sq/ft by 12 (total sq/ft x 12) = _____

Example: 25 sq/ft of concrete x 12 ml = 300 ml of sealer needed (this example will be used throughout the application instruction page)

Mixing Seal Hair

Seal Hair is mixed at a ratio of 4A:1B

Divide sealer needed by 5 to get a ratio of 4:1

Example 300 ml / 5 = 60 ml (round up to the nearest 25 increment), 60 ml rounded up = 75 ml

**This rounding step is for convenience while measuring and will help account for sealer waste. This rounding step will be referenced throughout the application page an is always to the nearest number divisible by 25!*

This first number will be your required part B (75 ml)

Now multiply this number by four (4 x 75 ml) = 300 ml (this will be your part A required)

Example:

25 sq/ft x 12 = 300 ml
300 ml / 5 = 60 ml (round up to nest 25 increment) = 75 ml part B
75 ml x 4 = 300 ml part A
Total sealer 375 ml (75ml part B, 300ml part A)

___sq/ft x 12 = ____ml
___ml / 5 = ____round up to nearest 25 increment =____ml part B
___ml x 4 =_____ part A
Total Sealer _____(__ml part B, ___ml part A)

Make sure to thoroughly mix the part A before decanting as the matting agent will separate over time. Separation of the matting agent is normal. Completely mix matting agent into part A before using.

De-cant part A using a plastic measuring cup. Keep rim of sealer container clean and free of sealer drips. A piece of tape placed over the edge of the container will help catch drips. There is no need to clean measuring cup after use. Place used measuring cup in a plastic container or plastic bag with a lid to prevent dust, dirt or pigments from contaminating measuring cup. Measuring cup can be reused with dried part A residue.

De-cant part B using a 50ml or 100 ml plastic syringe and add to part A. Cut the tip off the syringe and widen the opening with a drill bit to create a wider opening before using. Wipe the syringe with a paper towel after use, squeeze out any remaining resin, wipe the plunger and interior with a paper towel. You can reuse the syringe several times before replacing. Do not wipe syringe with acetone after use.

Mix part A and B together is a plastic measuring cup. Use a wooden stir stick or plastic paddle with pneumatic drill on low speed. Mix thoroughly 3-5 min then dwell 3-5 min and remix. **Do not use battery or electric operated drill! Sparks my cause a fire hazard!**

Mix thoroughly 3-5 min then dwell 3-5 min and re-mix, Pot life 1hr to 1.5hr.

Accelerate Hair: This is an optional additive and will cut normal cure time by 50%

Add 1drop of accelerator per 10 ml sealer once sealer is mixed

Example: 375 ml sealer = 37 drops

Dilution

Once your sealer is mixed, dilute the sealer with Xylene at a ratio of 2:1. This will help increase the working time of the sealer during application and help the sealer layout easier.

Xylene is recommended (low VOC alternatives can be used if xylene solvents are not available but should be mixed at a 1:1 ratio). MEK can also be used at a dilution of 2:1. For tech support call 801-809-4098

Example: 375 ml mixed sealer divided by 2 = 187.5 ml, (round up 25 ml) = 200 ml xylene

Add 200ml Xylene (or solvent) to mixed sealer and mix thoroughly

Total mixed and diluted sealer = 575 ml

Sealer is now read to be applied!

Application Process

Prime Hair: (**Optional step**) Prime Hair is a water based acrylic solution used for 50% less color enhancement. If you would like to keep the color of the concrete natural and have similar color enhancement to a water base concrete sealer, apply Prime Hair as a first step before applying sealer. Allow the primer to completely dry 4-6 hrs or overnight.

Application: Once concrete is completely dry and ready to seal, mix prime hair at a 1:1 ratio (Prime Hair : Water). Apply at around +/- 8ml per sq/ft (calculation are always done before dilution).

Example: 25 sq/ft x 8 = 200ml Primer Hair then add 200 ml water total = 400ml

Pour diluted solution into a 9” paint tray. Use a ¼” x 6” nap roller to fully saturate concrete surface, work drop edges first then the top. Work the solution in long strokes and keep everything wet. Keep the roller cover loaded with solution (dip/ roll, dip/roll) as you work across

the project. Your target is to get the entire surface saturated with the solution within the first few min of starting application. Once the entire surface is completely saturated the concrete should wet out, darken and color enhance similar to wet concrete. After applying Prim Hair, roll off any standing puddles and bubbles to get the surface relatively flat and even. (Do not worry about roller lines). Quick, wet and even is all that is needed. Do not work this solution like you would to apply a water-based sealer (meaning working a wet edge across the surface). This will take too long and actually cause roller lines in the finish. Application or Prime Hair should only take a few min to lay out and saturate the concrete.

Back Roll: Switch to a new (unloaded/dry) nap roller preferably a (3/16" x 9") or (¼" x 9"). 6" roller cover will work on smaller projects. Roll through the surface using random directions, long strokes to flatten the surface out. (Do not try and roll out roller lines), they will disappear when the solution dries. Roll through the surface to remove any standing solution, remaining puddles and bubbles. After a few passes the surface will begin to clear up. 2-3 passes is all that is needed. Keep a micro-fiber rag on hand to damp off the roller cover after every 3-4 passes. (Tip: Use clips and a piece of wood to stretch out the microfiber flat). The goal is to back roll the entire piece quickly not sections at a time. Rolling through the entire piece within 30-60 seconds would be considered 1 pass (larger pieces and sinks will take slightly longer). Once the surface has been rolled flat and tight, step away from the project and allow to dry. Don't over work the solution or try to roll out roller lines, this will take too long and actually will increase the likely hood of visible roller lines after the product dries. Allow product to completely dry before applying sealer. 4-6 hrs or overnight depending on shop temperatures.

Tie Coat: When using Prime Hair the use of a tie coat (bonding promoter) will increase the bond between sealer and primer. Call Tec support for options.

Seal Hair: Once concrete is dry and prep work is complete apply sealer at 12/ml per sq/ft between (65F-80F concrete surface temp not air temp) to concrete. If you are sealing multiple pieces an additional step is required to calculate required sealer per piece. Multiply the individual piece sq/ft area by 12 then multiply by 1.5, this will give you the needed sealer + solvent for the piece you are going to seal.

Example: 25 sq/ft total area with 2 pieces for the project. (575 mixed and diluted sealer)

Piece #1= 10 sq/ft x 12ml = 120ml, then x 1.5 (to account for solvent) = 180 ml (round up 200)
Piece #2 =15 sq/ft x 12ml = 180ml, then x 1.5 (to account for solvent) = 270 ml (round up 300)

*(Rounding step is for convenience and ease of measuring)

This should yield 75ml waste sealer that will be left in the roller covers, paint tray and mixing cups or used if additional sealer is needed.

Application: Pour sealer into a measuring cup to the required amount for the piece to be sealed. Once measured out, pour entire contents into the paint tray. Apply sealer with (¼" x 6") nap roller (de-lint roller cover with tape before use). Start with drop edges and then work the top. Apply all of the sealer from the paint tray onto the concrete surface. Apply back to back coats

until paint tray is empty. It will take about 2-3 coats over a 5-10 minute application window. A few mins is needed between coats to allow sealer to absorb and solvents to flash off. There is no need during the application step to roll out roller lines. The goal is to transfer all the sealer from the paint tray to the concrete surface. Once paint tray is empty roll through the surface using random direction and long strokes. Roll out puddles or heavy areas to get a generally even surface. Watch for dry spots to appear. This usually occurs on edges, gout spots or pin holes. If dry chalky spots appear, roll over dry areas to re-wet until concrete is fully saturated. If concrete appears dry and chalky after a few mins additional sealer is required. (Do not spend time trying to roll out roller lines).

Back-Roll: After seal is applied to the concrete and rolled out to a generally flat surface the sealer should have an overall shiny wet appearance (Do not back roll sealer when it is wet and shiny). Allow the sealer to flash off for 6-10 min or longer if needed (depending on shop temperature). Once the solvents begin to flash off the surface will begin to appear slightly dull and spotty. Use a (3/16" x 9" Wooster Super Doo-z) roller to back-roll the surface. Use longer strokes and random patters and work across the entire piece. Do not focus on one area or try to back roll out roller lines, working across the entire piece will give you a better finish. There is a self-leveling additive in the sealer that will help to self-level the finish as the sealer dries similar to paint. Over working the sealer during the back-roll process with disrupt the self-leveling properties of the sealer. Use a dry micro-fiber rag to occasionally damp off the roller cover fibers after roughly every 5-10 strokes (Tip: Use clips and a piece of wood to stretch out the microfiber flat). After the first back back-roll the surface should begin to flatten out. The surface should begin to take on a matte reflection. Back-roll through the piece a second time as described above. Third and Final back roll is to check for any shiny spots, obvious drips or slip/slide marks from the roller. Feather roll out any remaining spots. Don't over work the sealer or try to get roller lines out. The self-leveling properties of the sealer should give you an artisan quality finish once dry. Apply radiant heat or sunlight if the concrete surface will remain below 75F.

Curing: for maximum cross linking and to mitigate any water sensitivity issues use radiant heat lamps to heat the surface after sealer is applied. Infrared lights work well. Designate a safe area of your shop and hang radiant heat or infrared lights from the ceiling (pedestal lamps will also work). These can be placed on a timer for 4-8 hrs or overnight. The goal is to get the surface of the concrete over 80F. Heat over 100F is optimal and will require less time with curing process. Sun light can all be used during warm weather. A short 30-60 min is warm sun light will work. Always check surface temperature with and infrared temperature gauge. **Air temp is not an indication of surface temperature**. If surface temperature is below 75F curing step is highly recommended for best results!

Post processing

Post processing: Use a 400-800 grit sandpaper by hand or with an orbital sander for large surfaces areas and lightly sand to remove lint and sharp surface texture. This is a simple 1-2 min step to smooth out the surface. Do not over sand this may damage newly cured sealer. Simple light sanding is all that is needed. After sanding clean the surface with an air chuck and microfiber rag. Use a green scotch bright pad and buff the surface evenly. This step will hone the new sealer surface and give an overall even reflection.

Baby Seal

After post processing, wipe surface clean with a damp microfiber rag. When the surface dries apply Baby Seal Bees Wax to the surface with a clean dry microfiber rag. Buff until the surface is clean 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:

24-48hrs after sealer application is min recommended cure time (depending on shop temperatures or use of radiant heat lamps) 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. Do not install exterior concrete until 5 days after sealer application if rain, moisture or high humidity is forecast. Always use heat lamps for exterior work.

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 painters paper or ram boar against the surface before covering with plastic. In some circumstances adding plywood or foam 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 has very good heat resistance, however direct flame will damage and yellow the sealer and will crack and damage GFRC. Best practice is to advise your customers to always use heat pads and never allow direct flame contact on concrete surface. Fireplace or Fire pit temperature is limited to 130F for safety.

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. If a stain occurs that cannot be cleaned off, use acetone with a microfiber rag to clean. If the spot still remains you can use a piece of scotch bright and acetone to scrub the stain out.

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: Seal Hair has excellent water resistance. Normal use in wet areas, sinks, countertops or items like soap dishes/bottles will be acceptable. Seal Hair is a solvent base sealer that is based on urethane technology and can be vulnerability to trapped water and moisture similar to any urethane chemistry. Do not trap water or liquids against the surface for extended periods. Normal use and water contact will not cause issues as long as moisture can evaporate after use. Heat cure will significantly increase the water resistance and is a required step to using Seal Hair especially exterior use. Do not place potted plants on sealer without a water tray underneath. Continuous moisture trapped against the surface will eventually cause crystallization and water spots to form. There is no repair for water damage of this type.

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. The repair of a scratch is mainly aimed at performance. Aesthetics repairs will vary in success.

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 should 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 5-10 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. Back roll lightly with 3" roller. Once dry a light sanding with 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. Don't apply Seal Hair with techniques used for water-based sealers. Water based sealers flash of quickly requiring working a wet edges and back rolling from one side to keep the edge wet and roller lines from showing. Seal Hair is applied closer to acrylic paint where the product is applied to the surface first them back rolled flat. The final finish is achieved by allowing the self-leveling additives to flatten out roller lines as the sealer shrinks during drying and curing.

2. Under applying the sealer: Concrete porosity will vary from mix design, shop environment and casting technique. Hand cast, baking soda finishes, hand troweled and hand pressed concrete can be more porous, especially grout and pin hole slurry. If the surface appears chalky after sealer application roll over the area several more time until the concrete and

grout slurry is completely saturated and full color enhancement is achieved. You may need to bump the 12ml per sq/ft coverage up several ml to fully lock up the surface. Call tech support if any questions arrive.

3. Dry sanding as a processing step or dry sanding after the final acid etch. Never dry sand you concrete when using Seal Hair. This will cause bonding issues with the sealer. Never process or sand surface after the acid etche step. Do not attempt additional sanding. Acid etch is the final step before sealer. If a mark occurs on the surface before applying sealer use acetone and a paper towel to clean the entire surface.

4. Cold curing: Seal Hair is a high cross-linking sealer and requires heat to achieve maximum strength and performance. Do not cure in cold conditions. Use heat lamps when needed. Forced air heaters are not sufficient to cure Seal Hair. Use infrared temperature gun to check surface temperate. Sustained 75 F surface temperature is the min for curing.

5. Over sanding: seal hair should never be sanded flat. There should be a slight texture similar to melamine. The surface should feel buttery smooth, especially with the Baby Seal wax applied. However Seal Hair will never be glassy smooth like a water based sealer and should have a more natural honed stone feel. Do not try removing roller lines during post processing using sandpaper. Scotch Bright will work much better at honing and blending the surface and will not damage new sealer.