

PI.071 – QUICK NOTES: Basic Application Instructions for Polymer Modified Cementitious Overlays

Revised: 3/15/21 Version: 1.0

This document is designed as an easier to read and understand resource as compared to the PI – Product Information Sheets intended for specifications purposes. Keep in mind that these instructions are simply basic and therefore you should contact your Authorized Trainer for detailed instruction, problem solving and technical support.

Exterior Surface Preparation for Polymer Modified Cementitious Overlays:

1. Power wash the concrete surface with a minimum of a 3,000 psi pressure washer. A “turbo tip” greatly speeds up this process and cleans the surface better as well. Do not short cut this cleaning stage by simply giving the surface a rinse. When with a turbo tip, 1,000 sq. ft. should still take between three to five hours to properly clean.
2. Acid wash the concrete surface with 1 part store bought muratic acid mixed into 8 parts of clean water. Use a plastic watering can or jug like what you would water plants with. This watering can must be plastic and not contain any metal parts as the acid will corrode the metal. Pour the acid wash solution onto the concrete at a rate of 75 sq. ft. per gallon. Be careful not to get the acid into you eyes or come in contact with your skin.
3. Neutralize the acid solution with 1 part store bought ammonia mixed into 8 parts of clean water. Using the same plastic can, pour this solution at the same coverage rate as the acid wash. This chemical reaction will neutralize the acid reaction and change the pH of the water in the capillaries of the concrete.
4. Rinse the concrete off with clean water from a hose to remove any ammonia residue.

Additional Notes:

- If it is not possible to power wash the concrete to be overlayed, contact your Authorized Trainer for additional options.
- Be sure to protect the surroundings. Pressure washers can easily remove paint from structures and damage landscaping.

Preparing the Surrounding Area:

1. Mask off and protect structures and landscaping with plastic sheeting and/or heavy duty construction paper.
2. Be sure to use professional 3 day release masking tape so you do not leave tape residue or remove paint.
3. Apply a larger sheet of plastic at the ending point of the concrete surface so you can pull excess material off onto the plastic and not leave a visual blemish on the concrete.

Skim/Base Coat:

1. Use a clean five gallon bucket and add 7.5 to 8 quarts of clean, cool water.
2. If you choose to add integral color, do so now.
3. Pour half of a bag of THIN-FINISH™ into the bucket of water and mix until all of the powdered material is wet.
4. Pour the remaining half of a bag of THIN-FINISH™ into the same bucket and mix for two full minutes and until all of the powdered material is wet AND there are no clumps. It will require scrapping the sides and bottom of the bucket to ensure all clumps are removed.
5. Allow the THIN-FINISH™ to “false set” for three to five minutes so all of the dry polymers in the bag can turn to liquid. Now mix again for 30 seconds.
6. Hose down and wet the area to be overlayed. Your objective is to almost saturate the concrete. On hot or low humidity days the water will evaporate and/or saturate off of the surface rapidly. If this is the case, you may be required to hose the surface down more than once before you proceed.
7. Use a push broom to remove any areas of puddled standing water.
8. Be aware of the size of the concrete you are going to overlay because a bag of THIN-FINISH™ will cover approximately 250 to 300 sq. ft. per bag. This is not to say that you can mix up a partial bag as you cannot because components separate and you will not have an adequate mix.
9. Pour the mixed THIN-FINISH™ onto the surface in a strip approximately 12” to 15” x the width of the concrete slab at the opposite side in which you intend to finish and work off of the concrete surface.
10. Use a steel trowel, a Magic Trowel squeegee or a large Ultimate Squeegee to spread the THIN-FINISH™ to the concrete as thin as possible with moderate pressure. Ideally, you are applying the material the thickness of the largest grain of sand in THIN-FINISH™.

11. REMINDER: You want to make sure that the THIN-FINISH™ is being applied to a wet surface but not puddled areas of water. If THIN-FINISH™ is applied to a dry or drying surface, those areas can delaminate in the future. Conversely, if THIN-FINISH™ is applied to a puddled water area, the material will become visible diluted and may also result in delamination.
12. Be sure to not allow THIN-FINISH™ to puddle in expansion joints or tool joints. Apply THIN-FINISH™ the same thickness on the joints as you would on the concrete surface. If you allow THIN-FINISH™ to fill joints, those areas will delaminate off over time.

Additional Notes:

1. THIN-FINISH™ can be colored with PORTION CONTROL COLORANT™ or SYPP™ colorant if a color other than white is desired for grout lines in the splatter texture applications.
2. Once you have completed the application of THIN-FINISH™ you need to determine if an additional coat is needed before you proceed. As a general rule, broom finishes, slate trowel down and MICRO-FINISH™ applications will always require a second coat if THIN-FINISH™ before proceeding. Splatter texture do not always require a second coat of THIN-FINISH™ if the first coat is finished smooth and consistent. Thin stamped overlays require a second coat of THIN-FINISH™ but since this coat is not allowed to dry before applying TEXTURE-PAVE™, we refer to the coat as a “bond coat” instead of a skim/base coat.
3. The THIN-FINISH™ must be completely dry before you proceed to applying either a second coat or design tape. Failure to allow the first coat to dry will result in delamination. Completely dry does not mean the next day. In most cases the first coat will be dry in hours. Use a piece of blue masking tape and adhere it to all of the dark areas on the surface. If the tape adheres as well to the THIN-FINISH™ as it does to other dry surfaces, then the material is dry enough to proceed.

Bond Coat for Thin Stamped Overlays:

1. Bond coats are exactly the same as a skim/base coat and are mixed and applied in the same manner.
2. This coat is called a bond coat because it literally “bonds” the layer of TEXTURE-PAVE™ that will be stamped to the initial THIN-FINISH™ skim/base coat.
3. This coat must not be allowed to dry before the TEXTURE-PAVE™ is applied. Therefore this is again a step where you must be aware of the coverage and amount you are intending on stamping. Example; you will not want to apply the bond coat to a area the size of 10'x10' if you only have two bags of TEXTURE-PAVE™ mixed up because two bags of TEXTURE-PAVE™ will only cover approximately 50 sq. ft. at ¼” thickness.
4. If the bond coat does prematurely dry, you must wait until it is completely dry and apply another wet bond coat in preparation for TEXTURE-PAVE™. If you continue and apply TEXTURE-PAVE™ to the dry or drying bond coat, the material may delaminate in the future.

Thin Stamped Overlay:

1. Begin with a skim/base coat and allow it to dry.
2. After determining the size of the area you are going to apply a thin stamped overlay too, calculate the amount of bags of TEXTURE-PAVE™ and THIN-FINISH™ you will need. Example; if you are going to apply 100 sq. ft. at a time, you will need four bags of TEXTURE-PAVE™ and one bag of THIN-FINISH™. As a general rule, try to apply the thin stamp coat between expansion joints or tool joints and treat the sections of concrete between the joints like separate pours as if pertains to TEXTURE-PAVE™.
3. Assuming the area is 100 sq. ft.: Use four clean five gallon buckets and add 3.75 to 4 quarts of clean, cool water to each one.
4. If you choose to add integral color, do so now.
5. Starting with the first bucket, pour half of a bag of TEXTURE-PAVE™ into the bucket of water and mix until all of the powdered material is wet.
6. Pour the remaining half of a bag of TEXTURE-PAVE™ into the same bucket and mix for two full minutes and until all of the powdered material is wet AND there are no clumps. It will require scrapping the sides and bottom of the bucket to ensure all clumps are removed.
7. Continue until you have four buckets of TEXTURE-PAVE™ mixed up.
8. Allow the four buckets of TEXTURE-PAVE™ to “false set” for three to five minutes so all of the dry polymers in the bag can turn to liquid. Now mix again for 30 seconds.
9. Wet the first coat if THIN-FINISH™ that is already applied and apply THIN-FINISH™ as the bond coat to only 100 sq. ft.
10. Immediately pour all four buckets of mixed TEXTURE-PAVE™ onto the wet bond coat in a single pile.
11. Spread the material with a Gauge Rake set at ¼” thickness. Be sure to maintain pressure on the Gauge Rake so the cams continue to come in contact with the surface and the Gauge Rake does not lift and apply the TEXTURE-PAVE™ thicker in some areas.

12. It is not necessary to create a perfect finish. The cams on the Gauge Rake will create track marks in the TEXTURE-PAVE™ and this is normal. It always helps to use the Gauge Rake from North to South and then East to West or vice versa.
13. While spreading the TEXTURE-PAVE™ with the Gauge Rake, be sure to keep stay at least five to six inches away from all edges or joints as this drops the cams off the edge or in a joint and decreases the needed thickness of application. These areas can be touched up by hand with a margin trowel once you are done gauging the material out.
14. Use a Magic trowel squeegee on a long, lightweight handled pole to carefully pull towards you in order to remove the track lines left from the Gauge Rake. Do not apply pressure, which will decrease the thickness of the material. Instead, carefully pull in order to fill in the track lines. Again, a completely smooth and perfect finish is not required. Your only objective is to fill in the track lines and maintain the ¼" depth of material consistently across the surface. The stamps will do the rest of the work.
15. Use a margin trowel to detail the edges, corners and areas up against joints to create the ¼" depth.
16. Use a margin trowel to remove excess TEXTURE-PAVE™ that has fallen off of the surface or into any joints.

Additional Notes:

- TEXTURE-PAVE™ can be colored with PORTION CONTROL COLORANT™ or SYPP™ colorant if a color other than white is desired.

The Actual Stamping Process:

1. Once you have placed the TEXTURE-PAVE™ and have it ready for stamping you will need to wait for the material to begin to firm up a little. If you stamp too soon, the material will squish out from around the stamps and make a mess. If you wait too long, you may not achieve the depth of texture you are after. As a general rule, checking for the right time to stamp is pretty simple once you have a few jobs under your belt. Lightly press your finger tips into the TEXTURE-PAVE no more than 1/16" deep. If little or no white polymer or cement is present, you can begin stamping.
2. Spray your THIN-PRINT™ stamps or texture skins down with CLEAN-PRINT™ Liquid Release Agent and pick a starting point for where you are going to begin stamping.
3. Spray an area not bigger than six foot by six foot on the TEXTURE-PAVE™ with the CLEAN-PRINT™. Apply it liberally at a rate of approximately 125 to 150 sq. ft. per gallon.
4. Lay your first stamp on the TEXTURE-PAVE™ and another stamp right next to the first one. If you are using seamless texture skins, overlap the skins approximately six inches.
5. Gently walk out onto the stamp or texture skin being careful to take slower steps so you do not cause the stamps to slide. Use your stamps not only as the means of obtaining a texture but also as your work area. Therefore you will take the sprayer with the CLEAN-PRINT™ in it out on the stamps with you.
6. If using a stamp, be sure to set on every square inch of the stamp with one foot while keeping your other foot on a joint where two stamps come together. If you are using texture skins, keep your feet at least six inches away from the edges.
7. Once you feel you have obtained a good texture, carefully lift the edge of the stamp or texture skin to ensure the desired texture is achieved. If you are satisfied with the texture, carefully lift the stamp or texture skin and place it on another area to be textured.
8. Continue this until the entire surface of TEXTURE-PAVE™ is textured.
9. Use a seamless touch up skin to apply texture to hard to reach places such as up against structures or steps and to remove small imperfections.
10. Use a margin trowel to detail and clean up edges and joints.

Slate Trowel Down:

1. Begin with a skim/base coat and allow it to dry.
2. Use a clean five gallon bucket and add 5.5 to 7 quarts of clean, cool water.
3. If you choose to add integral color, do so now.
4. Pour half of a bag of THIN-FINISH™ into the bucket of water and mix until all of the powdered material is wet.
5. Pour the remaining half of a bag of THIN-FINISH™ into the same bucket and mix for two full minutes and until all of the powdered material is wet AND there are no clumps. It will require scrapping the sides and bottom of the bucket to ensure all clumps are removed.

6. Allow the THIN-FINISH™ to “false set” for three to five minutes so all of the dry polymers in the bag can turn to liquid. Now mix again for 30 seconds.
7. Wet the first dry coat if THIN-FINISH™ that is already applied.
8. From here there are several chosen methods of application. All are allied with a steel trowel or Magic trowel squeegee no more than 1/8” thick. Here are a few options:
 - a. Fully covered but wavy – This method is what we call 100% coverage because none of the skim/base coat is exposed. Apply THIN-FINISH™ approximately 1/8” thick and as even as possible. Then a trowel is laid flat on the surface but held up so it doesn’t sink into the material and a slight bit of suction and back and forth movement creates a wavy, subtle texture.
 - b. Open texture but smooth – This method maintains voids to expose a desired percentage of skim/base coat. Although 80% coverage with 20% void is common, it is not the only option. Rather than pouring larger amounts of THIN-FINISH™ onto the surface, use the trowel like a scoop to apply the material to the skim/base coat and spread approximately 1/16” to 1/8” thick while leaving the desired voids.
 - c. Open texture multi-layered – This method is the same as the “open texture but smooth” finish but once the surface is dry enough to walk back out on, a second or even third coat is applied but a lesser percentage of material is applied each time to create various levels.

Additional Notes:

- For a slightly smoother slate trowel down, mix one bag of MICRO-FINISH™ with one bag of THIN-FINISH™.
- Slate trowel downs are the easiest method to begin applying.
- The voids left in the slate trowel down take stain completed different than the textured areas. This is often a desired look.
- THIN-FINISH™ can be colored with PORTION CONTROL COLORANT™ or SYPP™ colorant if a color other than white is desired for grout lines or voids slate trowel down applications.

MICRO-FINISH™:

1. Begin with a skim/base coat and allow it to dry.
2. Use a clean five gallon bucket and add 8.5 to 9.5 quarts of clean, cool water.
3. If you choose to add integral color, do so now.
4. Pour half of a bag of MICRO-FINISH™ into the bucket of water and mix until all of the powdered material is wet.
5. Pour the remaining half of a bag of MICRO-FINISH™ into the same bucket and mix for two full minutes and until all of the powdered material is wet AND there are no clumps. It will require scrapping the sides and bottom of the bucket to ensure all clumps are removed.
6. Allow the MICRO-FINISH™ to “false set” for three to five minutes so all of the dry polymers in the bag can turn to liquid. Now mix again for 30 seconds.
7. Pour the mixed MICRO-FINISH™ onto the dry surface in a strip approximately 8” to 12” x the width of the concrete slab at the opposite side in which you intend to finish and work off of the concrete surface.
8. Use a steel or plastic trowel to apply the material as tight as possible at a strong angle. You will hear the trowel scrapping across the aggregate in the THIN-FINISH™. MICRO-FINISH™ must be applied very tight and thin. The object is to simply fill the void around the aggregate, not apply a measurable build.
9. Allow the material to dry and sand with 220 grit drywall type black screen, not sandpaper to remove high spots ridges and imperfections and vacuum up the dust.
10. Apply a second coat of MICRO-FINISH™ on top of the first coat and allow to dry and sand again.

Additional Notes:

- When applying the second coat of MICRO-FINISH™ it is more difficult due to a faster dry. Feel free to add an extra half quart of water to the mix.
- MICRO-FINISH™ can be colored with PORTION CONTROL COLORANT™ or SYPP™ colorant if a color other than white is desired.

Splatter Texture & Knockdown:

1. Begin with a skim/base coat and allow it to dry. Reminder: The color of this skim/base coat will be the color of the grout lines if a pattern is intended. If you want grout lines other than white, add PORTION CONTROL COLORANT™ to the skim/base coat.
2. Use a clean five gallon bucket and add 6 to 7 quarts of clean, cool water.
3. If you choose to add integral color, do so now.
4. Pour half of a bag of THIN-FINISH™ into the bucket of water and mix until all of the powdered material is wet.
5. Pour the remaining half of a bag of THIN-FINISH™ into the same bucket and mix for two full minutes and until all of the powdered material is wet AND there are no clumps. It will require scrapping the sides and bottom of the bucket to ensure all clumps are removed.
13. Allow the THIN-FINISH™ to "false set" for three to five minutes so all of the dry polymers in the bag can turn to liquid. Now mix again for 30 seconds.
14. Pour the material into a drywall type hopper gun that is attached to an air compressor set at 25 to 40 psi.
15. Pick a starting point that is opposite of where you intend on ending and spray the material onto the surface in a small, two foot circular pattern and motion and continue until the surface is covered with the desired percentage of material.
16. Once the first coat is dry, additional splatter coats and/or highlight can be applied.

Additional Notes:

- Be sure to mask off all surrounding areas better than you would with other applications.
- As a general rule, it is not recommended to splatter texture large areas without the use of design tape to create a pattern because tape lines detract from imperfect spray patterns.
- Hint: whatever color you skim/base coat is for grout lines should also be used as a final highlight spray at a very percentage. This too will detract from imperfections in the spray.
- Some colors may set up faster in the hopper gun compared to other colors. If this happens, pour the material back into the bucket, add one cup of water and remix.
- It is overly critical to ensure that there are no unmixed clumps or chunks in the material as this will clog a hopper gun.

ULTRA-STONE™ Antiquing Stain:

As you gain more experience you will learn that there are hundreds of coloring and dilution methods for using ULTRA-STONE™ Antiquing Stain. In this document, we will only point out a few suggestions that are basic coloring methods.

Keep in mind that ULTRA-STONE™ is only to be used on textured overlays and not on MICRO-FINISH™, conventional plain concrete or stamped concrete. The applications it can be used on are as follows:

- Thin stamped overlays created with TEXTURE-PAVE™
- Slate trowel downs created with THIN-FINISH™
- Splatter textures created with THIN-FINISH™

There are three different coloring methods for ULTRA-STONE™ and they are as follows:

- Color coat – 1 part ULTRA-STONE™ to 1 part water: This is an almost solid, paint like coat and rarely used.
 - Antiquing coat – 1 part ULTRA-STONE™ to 3 parts water: This is the most popular staining method when using ULTRA-STONE™.
 - Highlight coat – 1 part ULTRA-STONE™ to 5 parts water: Typically used on top of an antiquing coat but in a darker color to achieve more aging and mottling.
1. Begin with determining the type coloring method from the choices list above.
 2. Determine the size of the area you are going to stain so you know how much ULTRA-STONE™ to mix up. ULTRA-STONE™ is flooded on the surface and not applied like a paint. Therefore, coverage will be approximately 100 sq. ft. per diluted gallon. For instructional purposes, we will assume the project is 300 sq. ft.

3. Pour one gallon of ULTRA-STONE™ into a clean 3 gallon or larger pump up type sprayer.
4. Add the desired PORTION CONTROL COLORANT™ to the sprayer.
5. Add 2 gallons of clean, cool water to the sprayer.
6. Close the sprayer and shake the sprayer rigorously for 30 seconds.
7. Start at a point that is opposite of where you intend on ending and begin spraying the material in a two foot by two foot area at a time until the surface is colored.

Additional Notes:

- As you spray the material and look back at what was previously sprayed, the surface will look as if you need to go back and re-spray more material. Do not do this if you were sure to have flooded the surface the first time. As the color settles the color will look different and this is normal. If you do go back and re-spray an area to make it look more even, those areas will actually end up darker than other areas.
- Spray straight down on the surface and not at an angle. This will ensure that you do not miss the side profile of higher texture.
- Multiple coats of ULTRA-STONE™ are very common and suggested.
- You can always go darker but you cannot lighten up color. Therefore, start with lighter colors and work towards darker.
- All of the ULTRA-STONE™ must be completely dry before you apply a sealer.

CHEM-STONE™ Reactive Stain:

CHEM-STONE™ Reactive Stain can be used on virtually all forms of overlays and on conventional concrete. However, because the color is achieved by chemical reaction with cement, it cannot be used over sealers or other stains.

1. Begin with determining the type coloring method from the choices list above.
2. Determine the size of the area you are going to stain so you know how much CHEM-STONE™ to mix up. CHEM-STONE™ is flooded on the surface and not applied like a paint. Therefore, coverage will be approximately 100 sq. ft. per diluted gallon. For instructional purposes, we will assume the project is 200 sq. ft.
8. Pour one gallon of CHEM-STONE™ into a clean 2 gallon or larger pump up type sprayer.
9. Add one gallon of clean, cool water to the sprayer.
10. Close the sprayer and shake the sprayer rigorously for 15 seconds.
11. Start at a point that is opposite of where you intend on ending and begin spraying the material in a two foot by two foot area at a time until the surface is colored.
12. Once the first coat is dry enough to walk on, apply a second coat of the same color or a different one.
13. After you are satisfied with the color and the surface is dry, it is time to neutralize the stain.
14. Prepare a solution of one part ammonia to eight parts clean water and use a watering can/jug to flood the surface.
15. Use a broom or brush to lightly agitate and scrub the ammonia solution around on the surface.
16. Rinse the surface with clean water. On exterior applications you may be able to simply hose the residue off the surface. On interior applications or exterior where you cannot simply hose the surface off, use a liquid capable shop vac to remove the rinse water.

CSS EMULSION™:

The first thing to realize about CSS EMULSION™ is that it becomes highly flammable once it is diluted with VOC compliant solvent. It is not recommended for interior use. If you have an interior job to seal, speak with your Authorized Training for other alternatives.

Recommended dilution is achieved with a VOC compliant solvent such as DMC or PCBTF. Xylene or lacquer thinner is not VOC compliant. Do not use acetone or paint thinner.

1. Determine the type of dilution you need for the job. There is a reference chart provided for your use in the Product Information Binder. Otherwise you need to speak with your Authorized Trainer for recommendations. A few examples are as follows:

- 1 part CSS EMULSION™ to 1 part VOC compliant solvent – Ideal for splatter textures and slate trowel downs. 2 to 3 coats.
 - 1 part CSS EMULSION™ to 2 parts VOC compliant solvent – Ideal for thin stamped overlays, conventional concrete and stamped concrete. 2 to 3 coats.
2. Use a clean, metal five gallon bucket and add the CSS EMULSION™ followed by the solvent.
 3. Use a cordless drill with a mixing blade and mix the solution for 2 full minutes.
 4. At this point you can either apply the sealer with a solvent resistant roller or a good pump up type sprayer. A cone tip is preferred over a fan tip.
 5. Allow the first coat to completely dry before applying a second coat.

In Ending:

This document is not intended to replace the important PI – Product Information Sheet, TD – Technical Data Sheets or SDS – Safety Data Sheets. It is simply a guide. It is recommended that you fully read and understand all of the other documents to gain a better education as to the detailed use as well as safety concerns with any product you use.

Always remember to work smart and work safe.