

1/4" Stamping Instructions



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Concrete Solutions™ Polymer Concrete can be applied 1/4" thick over an existing concrete surface and then stamped in a variety of textures, patterns and designs, using custom made stamps available through Rhino Linings Corporation or Concrete Solutions distributors. The Concrete Solutions Polymer Concrete makes it possible to achieve the same beauty, elegance and natural appearance of traditional stamped concrete without the need for removal and replacement of an existing concrete surface. A detailed instructional video (TA-DVD) is available for purchase.

TYPICAL USES

Driveways, pool decks, patios, walkways, residential interior floors, commercial interior floors, restaurants, retail stores, shopping centers, vehicle and pedestrian exits and entrances, courtyards, showroom floors, theme parks or wherever an innovative alternative to conventional flooring methods is desired.

PRODUCTS AND TOOLS NEEDED

Application Steps	Product Name	Coverage Rate/Gallon	Tools for Application
Apply a Bond Coat (Resurfacer)	Concrete Solutions Concrete Polymer (Mix with water, cement and sand or premixed 50 lb mix)	250 sq. ft. per gallon of polymer	<ul style="list-style-type: none"> • 24" metal squeegee • mixing bucket • mixing drill
Spread 1/4" Stamping Mix Add Integral Color to the mix	Concrete Solutions Concrete Polymer (Mix with water, cement and sand or use 1/4" Stamping Bag mix) Integral Color Pigment	45 sq. ft. per gallon of polymer ----- 20 sq. ft. per 50 lb bag mix (See Price List for ratios)	<ul style="list-style-type: none"> • wheel barrow • funny trowel • spiked shoes • hand trowel • pump-up sprayer (for water) • edger • fresno • gauge rake • mixer
Spray Liquid Release Agent If desired, add Antique Color to the Liquid Release Agent or use it clear.	Concrete Solutions Liquid Release Agent ----- Concrete Solutions Antique Powder (optional)	250 – 300 sq. ft. ----- Mix 1 – 4 oz per gallon of Liquid Release Agent	<ul style="list-style-type: none"> • pump-up sprayers ----- • 1 oz measure cups • 1 gallon mixing buckets
Stamp Pattern or Texture (See stamp brochure for available patterns and textures.)	Concrete Solutions Patterned Stamps and/or Texture Skins	See Price List for quantity of Stamps recommended	<ul style="list-style-type: none"> • regular stamps • texture skins • margin trowel • touch-up rollers • floppy stamp • pounder • chisels • jointers
Apply first coat of Stamped Concrete Sealer in clear or colored with Antique Powder (If the color and the antiquing of the stamping job look good when finished, the Stamped Concrete Sealer can be applied clear. If the color of the job is uneven the Stamped Concrete Sealer can be mixed with the Antique Powder Color or liquid colors to even out a color problem before applying the clear sealer (See page 17.)	Concrete Solutions Concrete Sealer (For staining, mix with 1 part acetone where local laws permit then add Antique Powder in the desired color and ratio.) ----- Concrete Solutions Antique Powder (Mix with Stamped Concrete Sealer to make a transparent stain for correcting color problems.)	300 – 400 sq. ft. per gallon of Stamped Concrete Sealer and Acetone. Two gallons ----- Mix 2 – 8 oz of Antique Powder to one gallon of 50/50 Stamped Concrete Sealer and acetone (where local laws permit)	<ul style="list-style-type: none"> • pump-up sprayers (a good quality pump-up sprayer with solvent resistant seals and hoses or an electric sprayer) ----- • 1 oz measuring cups • 1 gallon mixing buckets • stir sticks
Apply more antiquing if needed using Liquid Release Agent and Antique Powder	Concrete Solutions Liquid Release Agent (Add 1 – 4 oz of Antique Powder per gallon of Liquid Release Agent)	150 – 300 sq. ft. per gallon	<ul style="list-style-type: none"> • pump-up sprayer or airless
Apply Stamped Concrete Sealer to achieve the look desired	Concrete Solutions Concrete Sealer When spraying over Liquid Release antiquing, apply diluted 1 to 1 with acetone for the first coat.	200 – 300 sq. ft.	<ul style="list-style-type: none"> • pump-up sprayer or airless

Note: Read the following pages for step by step instructions with pictures on how to apply a Concrete Solutions 1/4" Stamping Application. Also read the Technical Data Sheet on each product listed above to better understand the proper mixing and application instructions prior to use.

MOISTURE VAPOR TESTING

All concrete floors not poured over a proper moisture barrier are subject to possible moisture vapor transmission or hydrostatic pressure problems. These problems can cause a coating system to blister or fail. Before applying a coating system over a concrete floor which is on-grade or below grade, a moisture test is recommended to ensure that moisture content meets industry recommended standards.

SURFACE PREPARATION

Surface Preparation is often the most important part of a successful coating or resurfacing application. Surface must be clean, sound, and free from oil, dirt, waxes, or any other contaminant that may interfere with bonding. Popular methods of surface preparation include grinding, shotblasting, and/or scrubbing with detergent, acid etching, neutralizing, and pressure washing. The type of surface preparation needed will depend on the condition of the substrate to be repaired, resurfaced, textured, stamped, colorcoated and/or sealed. **For commercial and industrial indoor jobs**, grinding is required to prepare the surface. **For residential indoor jobs**, scrubbing with detergent, acid washing, neutralizing, rinsing and wet/dry vacuuming is recommended. **For most outdoor jobs**, the surface can be cleaned by detergent scrubbing, acid washing and pressure washing. The following is a step-by-step procedure.

- 1. Protect the walls** with tape and plastic before scrubbing or rinsing.
- 2. Scrub and rinse the floors.** First dampen the surface with water in 100 to 200 sq. ft. sections at a time using a water hose. Using the floor polisher machine, scrub the dampened surface with a strong detergent (such as Simple Green) diluted 2 to 1 or 5 to 1 with water. For oil spots use straight detergent with no dilution. While scrubbing, use a water hose and trigger gun nozzle to clean the surface behind the floor polisher. For large open areas such as a warehouse floors, etc., a 3000 psi (or higher) pressure washer with a 15 degree or spinner tip on the end of the gun can be used to clean behind the floor polisher. Rinse immediately behind the floor polisher, so the residue does not dry on the surface. Use a rubber squeegee and/or broom to keep the dirty water from running back into the rinsed clean areas. **Use a wet/dry vacuum** (one or more depending on the size of the job) to remove the dirty water and detergent from the surface. The persons scrubbing, rinsing, squeegeeing and vacuuming should all work closely together doing a section at a time. After rinsing the surface clean, check the oil spots by rubbing them with a white rag. If the rag gets dirty, it will need to be scrubbed with a heavy duty detergent using a floor polisher machine and then rinsed clean prior to using a grinder.
- 3. If the surface is coated with a paint or sealer**, it will be necessary to remove the coating using a paint stripper, sandblaster, shotblaster or surface grinder. If a shotblaster is used, a dustless grinder can be used to clean the edges where the shotblaster cannot reach.
- 4. Open the concrete pores.** Acid washing is recommended to etch a concrete surface when grinding, shot-blasting or sandblasting is not possible or unavailable. Opening the concrete pores allows the coating material to get good adhesion or bite into the substrate. Always wear the appropriate safety protection. The proper procedure to acid wash a concrete surface is as follows:
 - a.** Mix a solution in a 5 gallon pail consisting of 4 parts water and 1 part muriatic, hydrochloric or phosphoric acid. **ALWAYS ADD THE ACID TO THE WATER FOR SAFETY AND TO AVOID SPLATTERING.**
 - b.** Dampen the surface with water (no puddles) before applying the acid solution.
 - c.** Pour or spray the acid solution onto the dampened concrete surface. When spraying, use an acid-resistant pump-up sprayer.
 - d.** Scrub the acid solution evenly over the surface using an acid-resistant broom. Allow the acid solution to sit on the surface and work for 3 – 5 minutes etching the concrete. Do not allow any areas on the concrete to dry during the etching process. If this occurs, spray more water or acid solution to keep the surface wet.
 - e.** Once the acid solution stops fizzing, spray a solution of 10 parts water and 1 part household ammonia onto the acid solution to increase the pH and neutralize it prior to rinsing.



Protect surrounding areas.



Scrub with detergent and acid wash.



Pressure wash to clean and rinse.



Grind or shotblast for commercial jobs.

- f. Thoroughly rinse any acid residue off the concrete surface using a pressure washer. Pre-wet any surfaces the acid solution will be rinsed over. If indoors, rinse with water a section at a time and remove the water and acid solution with a wet/dry vacuum.

CRACK REPAIR

Repair cracks using the Concrete Solutions Crack Repair System. Clean cracks by pressure washing or routing. Prime the cracks with Concrete Solutions Epoxy 500 using a paintbrush. Fill the cracks flush with the surface with Concrete Solutions Epoxy 500 mixed with 1 – 2 parts of #60 or 90 silica sand. Scrape the excess off the surface using a stiff 5" putty knife or scraper. Wait one hour then apply Concrete Solutions Elastomeric Basecoat 5" wide over epoxy and cracks using a 4" paintbrush. Lay Concrete Solutions 4" Crack Repair Fabric immediately into the wet Elastomeric Basecoat to cover the cracks. Brush a thin layer of Elastomeric Basecoat on top of the fabric as you go, so the fabric is coated top and bottom. Work in 1 to 2 foot sections at a time so the Elastomeric Basecoat stays wet long enough to lay the fabric over it. Allow the Elastomeric Basecoat to dry overnight or until thoroughly dry. (See step-by-step instructions with pictures on how to fix cracks in the Crack Joint Repair Section of the Concrete Solutions Training Manual.)

JOINT REPAIR

Outdoor joints – All moving expansion joints that will be overlaid with the 1/4" Stamping System should be repaired with the Concrete Solutions Crack Repair System as outlined above. Joints that are not moving such as control joints do not need to be repaired if they are not cracked or if you don't think they will crack later on. They can simply be patched or filled with the Concrete Solutions Polymer Concrete Bond Coat (Resurfacer) mix and allowed to dry before spreading the stamping mix. Joints where you plan to end the stamping should be left open (see instructions on how to end at a joint below). Make sure all the moving joints that will be re-saw cut open are marked before covering them with the stamping mix by pushing something like a **pencil** in the dirt at each end of the joint or by using a **mark a lot** to mark on a taped off wall where the joint meets the wall. Some joints may have to be measured from a wall or edge and a map drawn so you can measure where to cut them back later.

After applying the 1/4" Stamping System over the joints, they should be re-saw cut with in 24 hours 1½ inches deep or all the way through the 1/4" of Polymer Concrete, Indurool, Fabric and Epoxy 500 in the joints. Snap a line over the center of the joints using the marks you made or a map. Then use a **skil-saw, diamond blade attachment and a straight edge** or hire a concrete saw cutting company to cut the joints open. This will allow the joints to move without any of the overlay or repair materials touching in-between, which will help prevent cracking or delamination next to the joints. Control Joints not moving can be re-saw cut open for appearance, or left uncut if you don't think they will move in the future.



Clean cracks.



Fill with Epoxy 500 and sand.



Cover with Elastomeric Basecoat and fabric.



Fill moving joints with Epoxy 500.



Cover joints with Elastomeric Basecoat and fabric.



The next day after stamping, snap lines over the center of all the covered expansion joints.



Saw cut joints back open.

Indoor joints – Indoor expansion joints should be treated the same as outdoor joints except it is not always necessary to re-saw cut them open if a seamless floor is desired. There is not as much movement indoors which increases the chances the repaired indoor joints will not crack through the 1/4" Stamping System. Since there are no guarantees however, it is always best to recut joints open whenever possible.

Fill deep joints with backerrod or sand – If a joint is deeper than 1", fill the base of the joint with backerrod or silica sand to prevent the Epoxy 500 from filling the joint more than 1" deep. This way you will only have to saw cut 1½" deep to be sure you're cutting completely through the 1" of Epoxy 500 in the joint and the 1/4" Stamping layer above the joint. A **small grinder** with a **4" diamond blade** attachment can be used in tight areas and next to walls where the skil-saw cannot reach.

How to end a 1/4" Stamping application at a joint – First, lay some duct tape into and next to the joint to prevent material from getting on the opposite edge not being stamped. Lay the 1/4" x 1½" thick form strips on top of the duct tape, next to the inside joint edge where you plan to stop stamping. Secure the form strips to the duct tape using some double sided carpet tape spaced one foot apart on the bottom of the form strip. Next, tape on top of the form strip with some more duct tape, so half of the tape is on the form strip, and the other half is on the concrete helping to secure the form strip in place. Also lay some plastic sheeting a few feet wide next to the form strips to keep the area not being stamped clean and to give you an area to step onto when you finish stamping. The stamping mix will be spread to the edge of the form strips and feathered down to a rounded 1/8" thick edge, using a 1/4" concrete edger, to prevent a trip hazard from the edge sticking up too high.

PATCH, LEVEL, REPITCH

Once the cracks and joints have been repaired with the Concrete Solutions Crack Repair System, the next step is to patch any holes or spalled areas or do any leveling or repitching that may be required. Before applying the 1/4" stamping application the surface must be fairly smooth and even so that you will be able to spread the stamping mix at an even thickness with the gauge rake. Patch any spalled or deteriorated areas of the surface with the Concrete Solutions Polymer Concrete Patching Mix, which is the same mix as the 1/4" Stamping Mix or refer to the Concrete Solutions Training Manual under Polymer Concrete Patching and Leveling for more detailed information. If the surface has high spots or raised areas they should be ground down until they are level with the surrounding surface.



Patch holes, spalls, level or re-pitch.

RESURFACE

When stamping over concrete surfaces that are pitted or rougher than usual, such as a rock salt, exposed aggregate or a spalled concrete surface, it is recommended to first apply a Bond Coat of the Concrete Solutions Polymer Concrete to smooth out the surface before applying the 1/4" Stamping Application. Apply the Bond Coat in a thin, even coat using a metal edge squeegee (available from Rhino Linings Corporation or Concrete Solutions distributors) to fill in the voids between the aggregate or to fill in the holes from the rock salt. The Bond Coat helps to smooth out the surface, so the stamping mix will go on more evenly and dry more uniformly. It also helps to prevent excess air bubbles while troweling the 1/4" Stamping Mix. Allow the Bond Coat to dry to touch one to two hours before applying the normal Bond Coat and 1/4" Stamping mix together at the same time. It is always necessary to apply a wet Bond Coat directly in front of the 1/4" Stamping mix, even if a Bond Coat was already applied as a resurfacing or smoothing coat. Surfaces which are smooth or in good shape do not need to be resurfaced with a Bond Coat prior to applying the regular Bond Coat ahead of the Stamping Mix Application.



Resurface with Bond Coat.

For the best results it is recommended to apply a prime coat of Concrete Solutions MRB (Moisture Resistant Barrier) Primer before applying the Bond Coat or 1/4" Stamping application. It provides extra consistency in the drying time and extra protection against moisture related problems from below a concrete slab.

PROTECT SURROUNDING AREAS

Once the surface is cleaned, the cracks and joints have been repaired and the surface is patched if required and resurfaced to a smooth condition, use **duct tape** and/or painter's tape and **plastic sheeting** to tape off any edges or walls around the area to be stamped, to keep those areas clean and protected from spills. Tape walls at least four feet high. Lay down a blue tarp approximately 12' x 16' underneath and around the mixer and a 4' path of **4 – 6 mil plastic sheeting** from the mixer to the area to be stamped to keep from creating a mess on the areas not being stamped. If you have to walk over grass to get to an area use particle board or plywood to lay down as a path on the grass instead of plastic to prevent from killing the grass, especially on hot days.

MIX 1/4" STAMPED CONCRETE

Now that you have completed all of the previous steps you are ready to begin the Concrete Solutions Polymer Concrete 1/4" Stamping Application. The following pages will guide you through the mixing and application instructions as well as instructions on antiquing and sealcoating. **Note: Before doing a stamping job, we recommend taking our training class in Las Vegas. If you have not taken the class, practice on your own property or a friend's or relative's to perfect your skills before doing a job.**

WHAT YOU WILL NEED FOR MIXING

Equipment	Tools	Supplies	Materials
<ul style="list-style-type: none"> • Mortar Mixer (full sack) • 1/2" Drill/Mixing Paddle • Electric Cord 	<ul style="list-style-type: none"> • Shovel • Broom • Margin Trowel 	<ul style="list-style-type: none"> • Water Hose/Trigger Nozzle • 1 Gallon Buckets (2 – 4) • 5 Gallon Buckets (2 – 4) • 1 oz. Measuring Cups • Plastic Sheeting/Tarps 	<ul style="list-style-type: none"> • Concrete Solutions Polymer • Water • Portland Cement I/II, Regular or White* • Silica Sand, 20, 30, 60* • Integral Color Pigment • Accelerator or Retarder
*Note: 50 lb. 1/4" Stamping bag mixes can be used in place of cement and sand.			

1/4" STAMPED CONCRETE MIXING FORMULA

For a faster curing time in cooler temperatures or indoors, use the Polymer Concrete Accelerator. (See page 7.)

1/4" Stamped Concrete - Mixing Instructions			
Five Gallon Bucket Mixing Formula		Mortar Mixer Mixing Formula	
1/2 gallon	Concrete Solutions Concrete Polymer	3 gallons	Concrete Solutions Concrete Polymer
1 gallon	water	6 gallons	water
1 1/2 gallons	cement (Portland I/II regular or white)	94 lbs.	cement (Portland I/II regular or white)
4 1/2 gallons	Silica Sand, #20, 30, 60 (equal amounts of each)	300 lbs.	Silica Sand, #20, 30, 60 (equal amounts of each)
Mixing Instructions: Start by mixing the ingredients above in a five gallon pail. If the mix seems too dry add up to 1 cup more of polymer and water at a 1 part polymer to 2 part water ratio. If the mix seems too wet, add a little more cement and sand at a 1 part cement to 2 part sand ratio to thicken the mix.		Mixing Instructions: Start by mixing the ingredients above in a mortar mixer. If the mix seems too dry add up to 1 gallon more of polymer and water at a 1 part polymer to 2 part water ratio. If the mix seems too wet, add a little more cement and sand at a 1 part cement to 2 part sand ratio to thicken the mix.	
Theoretical Coverage per Five Gallon Batch		Theoretical Coverage per Mortar Mixer Batch	
1/4" thick	20 sq.ft.	1/4" thick	135 sq. ft.

BAG MIX FORMULA

For easier mixing and convenience, several premixed bag mixes are available. 1/4" Stamping mix is blended with the proper proportion of cement and sand. Stamp-Top (just-add-water) bag mix is the mixture of polymer, cement and sand. They are available in white. Use Concrete Solutions Integral Color Paks which are pre-measured to mix with one bag of 1/4" Stamping bag mix or Stamp-Top bag mix for color desired.

Five Gallon Bucket Mixing Formula – 1 3/4 quarts of Concrete Solutions Concrete Polymer, 3½ quarts of Water and one 50 lb. bag of Concrete Solutions 1/4" Stamping Bag Mix.

Mortar Mixer Mixing Formula (1/4" Mix) – 3 gallons of Concrete Solutions Concrete Polymer, 6 gallons of Water and 8 bags of Concrete Solutions 1/4" Stamping Mix. If the mix seems to dry, add a little more polymer and water at a 2 parts water to 1 part polymer ratio to adjust the consistency.

For small jobs or mock up samples under 100 sq. ft., the 1/4" Stamping Mix can be made in five gallon buckets. For jobs over 100 sq. ft. it is best to use the mortar mixer mix which will produce approximately 30 gallons of mix and cover approximately 135 sq. ft. at 1/4" thick. For your first job, it is recommended to make one mortar mixer mix at a time and then to spread it out and wait until it is one third done being stamped before starting to spread the next mix. This will give you time to practice without having too much material spread and prevent it from getting too hard before you can stamp it. Once you learn the drying time of the stamping mix in different temperature conditions and you have a trained crew you will be able to safely spread two or more mixes at a time before starting the stamping process.

How Much Area Can Be Safely Spread Before Stamping – A mortar mixer full of material will cover approximately 150 sq. ft. of area. On a hot day or if you have never stamped concrete before, it is best to only spread one or two mixes at a time or 150 – 300 sq. ft. After spreading the stamping mix on a hot day it is normally ready to stamp in 30 minutes to 1 hour. On a cold day or indoors you may be able to spread up to 1000 sq. ft. or more ahead of the stamping crew, depending on the experience of the crew. Indoors you will normally have 2 – 3 hours before the stamping mix will be ready to stamp. Whenever possible plan to begin spreading the stamping mix in the early morning hours when the temperature is cooler and conditions are more favorable and predictable.

Note: Do not apply the stamping mix in extreme windy conditions or small surface cracks may appear from drying too fast.

Concrete Solutions Polymer Concrete Accelerator – Using the Concrete Solutions Polymer Concrete Accelerator you can speed up the drying time of the stamping mix in cooler temperatures, indoors or in shady areas. You can accelerate the mix so the spreading crew and the stamping crew can work closer together within 200 – 300 sq. ft. of each other. This way you do not have to worry about having too much unstamped material spread ahead of the stamping crew. The accelerator is mixed at 1 – 2 percent of the cement ratio, 1 – 2 pounds or 16 – 32 oz. per 94 lb. bag of cement.

MIXING INSTRUCTIONS

1. Mix the Concrete Solutions Concrete Polymer and Water – Using **1/2" Mixing Drill** and a **Five Gallon Bucket** or a **Mortar Mixer**, start by mixing the **Concrete Solutions Concrete Polymer** and **Water**. Use a **one quart, one gallon bucket and/or five gallon bucket** to measure the proper amount of polymer and water given in the mixing formulas.

2. Add The Cement (or Bag Mix) – Next add the **cement** using a **one quart or one gallon bucket** for the five gallon bucket mix or for the mortar mixer size mix, a **five gallon bucket** can be used to measure 10 gallons of cement. One 94 lb. bag of cement is approximately equal to 10 gallons. If using the Concrete Solutions 1/4" Stamping Bag Mix, simply add the number of bags given in the bag mix formulas. (When using pre-mixed bag mixes skip step 3 below.)

3. Add The Sand – After the **Polymer, Water** and **Cement** have been mixed together for approximately one minute or more, slowly add the **sand** using a **one quart or one gallon measuring bucket** for the five gallon bucket mix or use a **five gallon bucket** to measure 25 – 30 gallons of sand for the mortar mixer size mix. Start by adding 10 gallons of #20 sand and 10 gallons of #30 sand (approx. one 100 lb. bag of each). Then add 5 – 10 gallons of #60 silica sand. Normally 5 gallons of #60 will be sufficient except on colder days where sometimes 10 gallons will be needed to prevent the mix from being too wet.

4. Add The Integral Color Pigment (optional) – When not using the premeasured Integral Color Paks, follow these instructions. Using a one ounce cup (available at restaurant supply stores), slowly add the desired integral color pigment to the mix one ounce at a time, until the color in the mixing container matches as closely as possible the color on the color chart being used. Add one ounce of pigment at a time and then write down how many ounces were required to achieve the desired color for the first mix. Once you determine how many ounces were required for the first mix you can add the same amount of pigment to the mixes to follow using a measuring cup.

A gram or ounce scale may also be used to weigh each batch of pigment if desired for greater accuracy. After adding the integral color pigment allow the material to mix for at least 10 – 15 minutes before spreading the stamping mix. While waiting for the stamping mix to be ready, mix a five gallon bucket of Bond Coat (Resurfacer) mix which will be applied directly in front of the stamping mix. (See instructions for making a Bond Coat Mix.)

IMPORTANT INFORMATION – CONCRETE SOLUTIONS INTEGRAL COLOR PIGMENTS

Integral Color Pigments can be purchased from Rhino Linings or other manufacturers of integral color pigments made for coloring regular concrete. Concrete Solutions Integral Colors are blended to match popular color hardener colors and are designed to be mixed with white cement only. They are made for our 1/4" Stamping Bag mixes along with other Concrete Solutions bag mixes which are blended with white cement. Most regular concrete pigments are designed to be mixed with regular, gray cement. When using our pigments be sure to use white cement to achieve the color selected on the color chart. For a color chart call 1-800-232-8311.

MIX BOND COAT

While the 1/4" Stamping Mix is mixing in the mortar mixer, the next step is to make a Bond Coat, which is a thinner wetter mix that is applied as a bond coat ahead of the stamping mix. The Bond Coat is applied as thin as possible using a Metal Edge Squeegee (available from Rhino Linings Corporation or Concrete Solutions distributors). The Bond Coat is normally mixed in a five gallon bucket using a 1/2" drill motor and a mixing paddle. Four gallons of mix will usually cover approximately 250 – 400 sq. ft. depending on the porosity of the surface. Carry out the following instructions to make your own four gallon mix in a five gallon bucket or use the Concrete Solutions pre-mixed bag mixes: 50 lb. Resurfacer-RBM (add polymer and water) or 45 lb. Resurfacer (just-add-water).



Mix Concrete Solutions Concrete Polymer and water in a mortar mixer. Measure with five gallon buckets.



Mix cement, sand and integral color pigment in the mixer or use the pre-mixed bag mixes and Integral Color Paks.

BOND COAT MIXING FORMULA

Bond Coat (by volume) Coverage rate = approximately 250 – 400 sq. ft. per mix

In a five gallon pail mix:

- 1 Gallon Concrete Solutions Concrete Polymer
- 1 Gallon Water
- 2 Gallons Cement (Portland Type I/II - regular or white)
- 2 Gallons Silica Sand (#60 or 90)

Resurfacer Bag (option to use instead of cement & sand)

In a five gallon pail mix:

- 1 Gallon Rhino Concrete Solutions Concrete Polymer
- 1 Gallon Water
- 1 50 Lb Bag of Resurfacer-RBM

Add up to 1/2 gallon more of pre-mixed polymer and water at a 1 to 1 ratio to adjust the consistency.

TO MAKE A FOUR GALLON MIX

1. Pour one gallon of Concrete Solutions Concrete Polymer and one gallon of water into a five gallon bucket.
2. Add two gallons of cement and mix for 30 seconds using a 1/2" drill and mixing paddle.
3. Add two gallons of #60 or 90 silica sand and mix for 3 – 5 minutes to achieve a no lump consistency.

Once the Stamping Mix and the Bond Coat Mix have been made, you are ready to begin the application process. To apply the Concrete Solutions Polymer Concrete Stamping Mix, you will need the following equipment, tools, supplies and materials to have a smooth running application.



Mix Bond Coat in a five gallon bucket with a 1/2" drill and mixing paddle.

CONCRETE SOLUTIONS 1/4" STAMPED CONCRETE APPLICATION INSTRUCTIONS

At this point the surface should be cleaned and etched, all structural moving cracks and joints that will be covered with the stamping mix should be repaired with the Concrete Solutions Crack Repair System, any holes, spalls or areas in need of leveling or re-pitching should be patched smooth and areas in need of protection should be covered with tape and plastic sheeting. If all of these steps have been done you are ready to spread the Bond Coat (Resurfacer) followed immediately behind with the Concrete Solutions Polymer Concrete 1/4" Stamping Mix.

Equipment	Tools	Supplies	Materials
<ul style="list-style-type: none"> • Wheelbarrow • Pump-up sprayers (4) • Blower • Concrete Solutions texture stamps • One floppy stamp • Two texture skins • Worm drive skil-saw • 4" hand grinder 	<ul style="list-style-type: none"> • Metal edge squeegees • Concrete fresno • Funny trowel/margin trowel • Finishing trowels/edgers • Gauge rakes • Pounder/jointer tools • Broom/scraper • Square (for 90° angles) • Diamond blades (4" & 7") 	<ul style="list-style-type: none"> • 1/2" spiked shoes • Duct tape/masking tape • 1/4" form strips • Plastic sheeting (1-4 mil) • Snap line with blue chalk • Measuring tape • Mark a lot (to mark off joints) • Wood dowels (to mark off joints) 	<ul style="list-style-type: none"> • Bond Coat (Resurfacer) Mix • 1/4" Stamping Mix • Liquid Release Agent • Antique Powder • Sealer • Ice water (for drinking)
<p>Note: All of the items listed above will be needed for most jobs. The quantity and particular items needed for each job will depend on the job requirements and the square footage. Read below to see how each of the times above will be used.</p>			

Note: Before spreading, the stamping mix accelerator can be added to the mix in colder temperatures, shaded areas or for indoor jobs to help speed up the drying time of the mix. In hotter temperatures, retarder can be added to slow the drying time. Refer to the price list under 1/4" Stamping Products for more

information and mixing instructions. Also, applying **MRB Primer** helps to protect the stamping application from possible moisture vapor transmission problems. It also helps the stamping mix to set up more evenly especially in warmer temperatures. Allow the MRB Primer 2 – 4 hours to dry to touch.

STEP 1: FOG THE SURFACE WITH WATER

If it has been several hours or more since the surface was cleaned, quickly use a **blower** to remove any loose dirt or debris. Next, choose a starting point and lightly spray approximately 200 sq. ft. of area with water where you plan to start, no puddles.

STEP 2: APPLY THE BOND COAT MIX

Spread the Bond Coat (Resurfacer) mix as thin as possible over the dampened surface using a **Metal Edge Squeegee** (available from Rhino Linings Corporation or Concrete Solutions distributors). Only spread 50 – 100 sq. ft. at a time. The 1/4" Stamping Mix should be applied over the Bond Coat Mix before it begins to dry.

STEP 3: DUMP THE STAMPING MIX OVER THE WET BOND COAT

While one person is spreading the Bond Coat, another person should have a **wheelbarrow** full of Stamping Mix from the mortar mixer, ready to immediately dump over the wet Bond Coat. Dump the wheelbarrow in a couple of piles next to the starting edge.

STEP 4: SPREAD THE STAMPING MIX WITH A GAUGE RAKE

Using the **gauge rake** quickly spread the Stamping Mix 3/8" thick over the wet Bond Coat. The person using the gauge rake should wear **spiked shoes** (available from Rhino Linings Corporation or Concrete Solutions distributors) to be able to walk in the wet Bond Coat and stamping mix while spreading. By spreading the material at 3/8", it will end up approximately 1/4" thick by the time it is troweled smooth and stamped.

When working next to edges, keep the end of the gauge rake 1" away from the edge and allow the stamping material to flow out of the end of the gauge rake to cover the edge. This distance will prevent the end of the gauge rake from slipping off the edge and leaving the stamping material too thin. It is important to have at least 1/4" of thickness over the whole surface and not to leave any thin spots or they will dry before the rest of the material is ready to stamp.

STEP 5: SMOOTH OUT THE STAMPING MIX WITH A CONCRETE FRESNO

While one person is spreading the Bond Coat with the metal edge squeegee and one person is spreading the stamping mix with the **gauge rake**, another person should be smoothing out the stamping material using a **36" Concrete Fresno**. Apply just enough pressure to the fresno, as you work it back and forth over the stamping material, to smooth out the stamping mix and the groove lines left by the gauge rake. The sooner you fresno the stamping material after it is gauge raked the easier it will be.



Fog the surface with water.



Spread the Bond Coat.



Dump Stamping Mix over Bond Coat.



Spread Stamp Mix with Gauge Rake.



Fresno behind the Gauge Rake.



Fresno to fill in Gauge Rake lines.

The person using the fresno should work closely behind the person spreading the material with the gauge rake. If you wait too long it may become too sticky and hard to finish. If this happens, lightly spray the surface with water and it will become workable again. During this stage it is normal to have some trowel marks and ridges after using the fresno, you do not have to achieve a perfectly smooth finish. Your main goal is to fill in the gauge rake lines and to level and smooth out the surface as much as possible to get it ready for the funny trowel application.

Try not to fresno over each section more than two or three times before moving on to the next section. If after a couple of passes some low spots still appear, it may be necessary to scoop some extra material onto one end of the fresno and then to reach it out with the handle and dump it over the low spots. Next, fresno over those sections again to fill in the low spots and to blend in the extra material with the surrounding surface.

STEP 6: THE FINISHING TOUCHES PRIOR TO STAMPING

Just like with regular concrete the Concrete Solutions Polymer Concrete 1/4" Stamping Mix is finished in stages. Using the fresno to fill in the lines from the gauge rake and to get the surface as smooth as possible is the first stage. After using the fresno the stamping material will remain wet and too soft to stamp for 30 minutes up to 2 hours or more depending on the temperature. The hotter the temperature the faster the stamping material will set up. It is important to keep checking the material by touching it with your finger, in several different places around the edges, at least every 15 minutes to monitor how fast it is drying. As soon as the surface of the material begins to dull out and feels slightly firm but still soft, it is ready to begin the second stage of finishing. On a hot day in the direct sunlight this stage can begin immediately behind the fresno or within 15 – 30 minutes. On a cold day, in shady areas or indoors it may take 1 – 2 hours to reach this stage. **Note:** In cold, shady or indoor conditions it is best to use the accelerator to speed up the drying time.

Using a Concrete Finishing Trowel –

While waiting for the stamping material to set up enough to be troweled smooth, one or two people can be touching up edges and easy to reach areas using a hand trowel and a water spray bottle. It will be necessary to spray a light fog of water over the stamping material before troweling it to achieve a smooth finish. Use as little water as possible to achieve the finish desired. For hard to reach areas it is okay to walk in the stamping material with the spiked shoes as long as you trowel out the holes left by the spiked shoes as you go before the material gets too firm. The hand trowel or a margin trowel can also be used to scrape clean any drips that run down the sides of the original concrete before the stamping mix dries too hard.



Spray a light coat of water over the surface before troweling for easier workability and to achieve a smoother finish.



Use a hand trowel to touch-up edges and areas where it is difficult to use a fresno or funny trowel.



Detail edges using a hand trowel, edger and/or margin trowel while waiting for the funny trowel stage.



Lightly spray the surface with water prior to using the funny trowel

Using a Edging Trowel – A 1/4"

Edging Trowel can be used to round the outside edges of the area being stamped to leave a nice finished looking edge. It is also used to feather outside edges to 1/8" thick where the stamping mix ends in a walkway to avoid a trip hazard. Edges that are next to landscaping or not a trip hazard can be left 1/4" thick. Trim the sides of all exposed edges with a margin trowel.

Using the Funny Trowel (optional) – A funny trowel is like a hand trowel with a handle on it and is used at a later stage just prior to stamping to smooth out the trowel marks and rough finish left by the fresno. The funny trowel works best when the stamping mix is slightly firm but not too wet or too dry. Depending on the weather conditions and whether or not accelerator was used in the mix, it can take 15 minutes – 2 hours after the fresno application before the funny trowel is ready to be used. Using a funny trowel takes practice and can be difficult for a beginner. **It is possible to stamp without using the funny trowel as long as you stamp early enough before the stamping mix gets too firm. The sandy texture and trowel marks left by the fresno can be stamped out if stamped at an early stage. If stamped too late, the sandy texture and trowel marks may show through unless funny troweled first.**

Before using the funny trowel it is necessary to lightly wet the surface of the stamping mix with water, so the funny trowel can glide over the surface without sticking. Use a pump-up sprayer or a water hose with a trigger gun spray nozzle that will adjust to a fine spray to lightly wet the surface with a thin even coat of water, no puddles. A backpack pump-up sprayer works the best to keep your hands free in areas where you have to walk out on the material.

If you have to walk on the stamping mix use the **spiked shoes or 2 texture skins to use as stepping stones**.

The spiked shoes will leave small holes that are easily filled in with the funny trowel if the material is not set up too much as you back your way out of each section.



Trowel over the stamping mix with the funny trowel to achieve a smooth finish.



While wearing spiked shoes, funny trowel the surface a section at a time. Lightly spray more water if needed to achieve a smooth finish.

Begin using the funny trowel by wetting the surface in 100 – 200 sq. ft. section at a time. Finish one section smooth with the funny trowel before wetting the next section. Use the funny trowel like a hand trowel with a handle on it and work it from side to side to cover as much area as possible.

Trowel the stamping material slower and less aggressively than you would regular concrete and work each section as little as possible after spraying the water to achieve a smooth finish. Once the water gets worked into the surface, it becomes more difficult to achieve a smooth finish. If necessary spray another light coat of water where needed. If you are using the funny trowel properly, you should not have to trowel each pass more than two or three times. If you have never used a funny trowel, you may have difficulty achieving a smooth finish on your first attempt. If necessary you can use the fresno again and some water to achieve a smoother finish than the first stage with the fresno. It is not necessary to achieve a perfectly smooth finish to have a nice looking stamp job as long as you begin stamping at an early stage before the stamping material gets too hard.

STEP 7: PREPARE TO STAMP

After finishing the surface as smooth as possible with the **funny trowel**, **finishing trowel** and **edging trowel**, the next step is to wait for the Concrete Solutions Polymer Concrete Stamping Mix to set up to the stage where it is ready to be stamped. Normally after funny troweling you can begin stamping right away or within 15 minutes. While waiting, set up the tools and supplies that will be needed for the stamping process near the starting point. You will need 6 – 9 regular **texture stamps** depending on the pattern being used and the size of the job, one **floppy stamp** for stamping next to walls and vertical surfaces, two touch-up **texture skins** for stamping around the edges and next to walls, a **stamp pounder**, a pump-up sprayer filled with **Concrete Solutions Liquid Release Agent** and mixed with the color of antiquing desired, a **margin trowel** and some **touch-up tools** for the grout lines.

The stamping process involves using the **Concrete Solutions Liquid Release Agent**, **patterned stamps**, a **floppy stamp** and at least two **texture skins**. The stamping process can begin as soon as the material is firm enough to support a person standing on a stamp without the stamp sliding around or the material squishing up around the stamp. Keep checking the material at least every 15 minutes by touching it with your finger. The best stage for stamping is when you can easily push a dent into the surface without a lot of material sticking to your finger. The surface should be soft yet firm not wet and mushy. As long as the stamp is leaving a good impression and can support your weight, you can stamp as early as possible after the spreading and finishing process. Remember it is always better to start stamping the material too early than to wait until it is too hard.

STEP 8: SPRAY THE LIQUID RELEASE AGENT

The first step before stamping is to spray the surface ahead of the stamps with the Concrete Solutions Liquid Release Agent to prevent them from sticking to the surface. The Liquid Release Agent can be applied clear as it comes or mixed with the Concrete Solutions



Spray Liquid Release Agent before stamping with texture skins next to walls.



Use texture skins to imprint texture to all the edges and next to walls before stamping.

Antiquing Color Powders (**for interior jobs use clear Liquid Release Agent only. See page 13 for interior antiquing instructions**). To use the Liquid Release Agent for antiquing mix 2 – 4 ounces of antique powder per gallon of Liquid Release Agent in the color desired.

Whether you're using clear or colored Liquid Release Agent, start by spraying a section of the surface at a time where you wish to begin stamping. Spray the Liquid Release Agent using a **pump-up sprayer** to completely cover the surface in a thin coat. Spray the textured side of the stamps one time only before laying them on the surface.

One gallon of clear Liquid Release Agent should cover approximately 200 – 300 sq. ft. One gallon of colored Liquid Release Agent should cover approximately 150 sq. ft. per gallon. When using colored Liquid Release Agent it will be necessary to spray more over the textured surface after removing each stamp to achieve the antique look desired. (See antiquing instructions on page 13.)

STEP 9: STAMP THE EDGES FIRST

For each of the Concrete Solutions Stamp Patterns there is a matching **2' x 2' texture skin**. The 2' x 2' texture skin is exactly the same as the patterned stamp except with no grout lines. They are used to touch-up and to apply texture only around edges and next to walls and other areas the regular stamps or floppy stamps cannot reach.

One person using two texture skins should start stamping texture only around the edges as early as possible ahead of the stamping crew. Edges that are easily accessible from the sides can be sprayed with the Liquid Release Agent and stamped at a earlier stage with the texture skins by patting on them with your hands. When the stamping material is firm enough to support someone standing on the texture skins, one person can use them like stepping stones to walk around, stamping texture next to walls and edges that cannot be reached from the sides. The person on the texture skins should also carry a margin trowel or hand trowel with them to do any necessary touch-ups next to the walls and edges that did not get detailed during the finishing process.

When stamping next to walls and edges, first spray some Liquid Release Agent, next lay the texture skins next to the edge or wall and stamp them using your feet, hands or the stamp pounder to leave the desired impression. As you move along the edge overlap each texture skin a few inches and rotate each skin a quarter turn each time you move them.

STEP 10: PLACE THE REGULAR STAMPS ON THE SURFACE

Once the edges where you wish to begin stamping have been imprinted with the texture skins, you are ready to begin stamping with the regular stamps. Spray the Liquid Release Agent where you wish to begin stamping, and carefully place the first stamp over the semi-firm stamping material. Use the handles on the stamps to carefully lay them straight down over the stamping mix.

Most stamp patterns have straight grout lines that need to be lined up properly with the walls and edges to look good when the job is finished. If the wall or edge next to where you are stamping is not square, it may be necessary to use a **carpenter's square** and **string line** with no chalk to snap a square guide line to start from. A few stamp patterns such as random stone and the large 4' x 4' texture skins do not need a square edge to start from.

After laying the first stamp in place, carefully stand on it to see if the stamping material is firm enough to support your weight without squishing up around the sides of the stamp or sliding around too much. If it supports your weight you are ready to begin stamping.

STEP 11: IMPRINT THE STAMP PATTERN OR TEXTURE

Using the pounder or your feet, begin by walking or softly pounding on the edges of the stamp to press it into the stamping material, locking it into place. If the material is a little soft you will not have to use the pounder,



If the stamp mix is firm enough, walk on the texture skins like stepping stones to move around walls imprinting texture.



Place the stamps straight down on the stamping material and square with the walls or edges.



Use the pounder or your feet to imprint the texture from the stamp into the stamping material.

simply walking on the stamps will be sufficient to leave an impression. If the stamping material seems firm, you will have to use the pounder to hit the stamps harder in order to leave the desired texture. You can gauge how hard to hit the stamps by watching around the edges as you use the pounder. If the stamping material around the edges pops out or begins to curl up around the edges of the stamp, pound softer so the edges will remain flat. If the edges squish up or pop out in some places you can use a trowel or margin trowel to smooth the edges around the stamp flat before laying the next stamp.

STEP 12: PLACE MORE STAMPS NEXT TO THE FIRST ONE

Once you have placed the first stamp on the surface, pounded the edges and determined the material is ready for stamping, the next step is to place more stamps around the first one. Make sure that before placing a stamp on the surface it has been sprayed with Liquid Release Agent. To place a stamp next to another stamp lay one end down next to the stamp already in place and then carefully lower the other end down. All the stamps should fit tightly together like a puzzle. It is important to always keep the stamps tight up against each other or the pattern will be hard to keep lined up. The number of stamps needed for each job will depend on the size of the job and the pattern being used.

STEP 13: USING THE POUNDER

After all the stamps have been laid down and fitted tightly together, use the pounder or your feet to imprint the texture of the stamps into the stamping material. First pound the edges of the stamps, then the middle.

STEP 14: ANTIQUE WITH LIQUID RELEASE AGENT

While one person pounds on the stamps, another person should be spraying more Liquid Release Agent on the next section and moving the stamps for the person pounding. To antique with the Liquid Release Agent, mix 2 – 4 oz. of Antique Powder in the color desired to 1 gallon of Liquid Release Agent. Start by spraying a thin even coat ahead of the stamps. After stamping and moving a few stamps, spray more colored Liquid Release Agent and allow it to puddle in the low areas of the texture to achieve the antique look desired. Mixing the Antique Powder colors with the Liquid Release Agent makes a transparent colored liquid that when allowed to puddle in the low areas of the texture, creating a natural looking, contrasting color effect. It is important for the color antiquing to look even and natural as you are stamping since how it looks while you are stamping is how it will look sealed.

Before spraying the colored Liquid Release Agent always shake the sprayer to be sure the color is evenly mixed. Adjust the spray tip to a fan spray and start by spraying it into a bucket to be sure the color is coming out uniformly and not too dark before spraying the surface. If you get too much antiquing on the surface use a rag to gently clean it off while it is still wet or spray some clear Liquid Release Agent over it to move it around and lighten the color. Always practice on a sample board to perfect the look you want before doing a job.

Interior Stamping Antiquing Instructions: For interior stamping jobs, it is best to use clear Liquid Release Agent only during the stamping process to achieve the best bond against dragging furniture, etc. The antiquing can be done the next day using the following method: First seal the surface using Concrete Solutions Stamped Concrete Sealer mixed 1 to 1 with acetone. When dry, spray colored Liquid Release Agent over the sealer to achieve the look desired. When dry, apply another coat of 1 to 1 Stamped Concrete Sealer over the dry antique powder to bond it in-between both coats of sealer. Apply a final full strength coat of Stamped Concrete Sealer and Concrete Solutions Floor Finish.

STEP 15: USE THE FLOPPY STAMP NEXT TO WALLS

When stamping next to walls, pillars or vertical surfaces a **floppy stamp** is the easiest to use. A floppy stamp looks the same as a regular stamp except it is made out of a more flexible material. Floppy stamps are easy to bend making it possible to stamp within inches away from a wall.



Place more stamps next to the first one so they fit tightly together.



First pound the edges of the stamps, then the middle.



After stamping, spray more Liquid Release Agent with color added to create antique look.



Use the floppy stamp when stamping next to walls or vertical surfaces.

First, texture next to the walls with the texture skins, then lay the regular stamps over the surface until you come up next to a wall or vertical surface. Where the regular stamps cannot be laid flat because of a wall or other vertical object, fit the floppy stamp next to the regular stamps and bend it up against the wall to get as close to the edge of the wall as possible. You may have to stand on the regular stamps to keep them from moving while you pound on the floppy using your foot or the stamp pounder. After pounding, remove the floppy stamp and have someone touch-up the grout lines and texture where the floppy stamp could not reach all the way to the wall. **Note: Only use the floppy stamps next to walls and vertical surfaces. Do not use them in the middle with the regular stamps. Sometimes they can expand to be up to 1/4" larger than the regular stamps causing your grout lines to not align.**

STEP 16: USE TOUCH-UP TOOLS FOR THE GROUT LINES

While stamping, one person should check the grout lines and the surface after lifting each stamp to see if any touch-ups will be needed.

Touch-up tools such as grouting wheels, jointers or chisels can be used to clean-up excess material in the grout lines if needed. Next to walls and vertical surfaces grout tools can be used to create some grout lines where the stamps could not reach. A **margin trowel** is also handy for touching up surface blemishes or damaged areas caused during the stamping application. Any imperfections in the stamping should be troweled smooth with a margin trowel and re-textured with the texture skin if needed.



Use touch-up tools to fix grout lines.



Make your own grout lines next to walls.



Touch-up blemishes with a margin trowel.

STEP 17: HOW TO BLEND TWO MIXES OR SECTIONS TOGETHER

When joining two or more mixes or sections together, it is important not to leave a seam. To avoid this, try to finish each section with as straight a line as possible, so it will be easier to blend the next section from where you left off.

To join two sections without leaving a seam, first spread the Bond Coat, and dump the fresh stamping mix next to the edge where you left off spreading the last mix. Use the gauge rake to push the fresh material about one foot into the edge where you left off. If the material of the last section is not too hard, you should be able to gauge rake into it and begin using the Fresno from where you left off. If the edge where you are trying to join two sections seems too dry, it may be necessary to feather the two sections together by using a water spray bottle and a hand trowel. To use a hand trowel, wear **spiked shoes** so you can walk in the fresh material next to the edge. By lightly wetting the dry edge with water, you can trowel the fresh mix into the semi-dry edge and feather the two sections together. Spray the water where needed and use the edge of the trowel to press the fresh mix into the dryer mix until there is no seam showing. Try not to trowel outside of where you sprayed the water. If done properly you should not be able to tell where the two sections meet. If the edge seems too hard refer to the instructions to follow.



Blend sections together using the Gauge Rake and the Fresno.

STEP 18: HOW TO STOP STAMPING AND CONTINUE LATER

For your first few jobs it is recommended that you only spread and stamp 150 sq. ft. sections at a time until you are use to the drying time of the Concrete Solutions 1/4" Stamping Mix in different temperature conditions. There are two methods to spread small sections of the stamping mix and to stop and start again from where you left off.

METHOD ONE: Cut around stamps/remove excess stamping mix:

The best way to stop and start stamping when using stamps with grout lines is to first mix up one mortar mixer full of stamping mix to cover



Use a hand trowel and some water to blend two batches together without leaving a seam.

approximately 150 sq. ft. Spread the stamping mix as far as it will go over the wet Bond Coat using the gauge rake and fresno. Where the mix ends, finish spreading it in as straight a line as possible. After the mix sets up to where it is a little more firm and not too wet, finish troweling it smooth by spraying the surface with a light amount of water and then using the funny trowel and/or hand trowels where needed to achieve the desired finish.

When the stamping mix is ready to be stamped, start stamping from where you started spreading the mix and continue stamping to where you finished spreading the mix until you run out of material to stamp. When you get to where there is not enough material for a whole stamp to fit, stop stamping and cut around each stamp using a margin trowel. Use a hand trowel or stiff scraper to scrape up the excess un-stamped material left over on the surface being careful not to damage the finished stamped edge. Next, remove the stamps and finish antiquing with the colored Liquid Release Agent where needed.



To stop stamping and start again later, cut out around the stamps where you wish to stop stamping.

When you are ready to begin stamping again, mix up another mix and start spreading from where you left off stamping. Wear spiked shoes and use a hand trowel to carefully trowel the fresh mix next to the finished stamped edge. Trowel the fresh mix a foot out from the edge to give the person gauge raking room to begin spreading the next section. When you are ready to begin stamping the next section, fit the stamps next to the finished stamped edge where you left off. If done properly you won't be able to tell where you stopped and started each section. This technique can also be used if an edge where you are blending two mixes together gets too hard.



Spread the next mix from where you left off stamping the last section.



When ready to stamp, fit the stamps over the fresh material next to the finished stamped edge and begin stamping from where you left off.



Use a grouting tool to touch-up the grout lines between the two sections, so you can't tell where you stopped and started.

METHOD TWO: Stopping next to a joint or where a saw cut will be made: Another way to stop stamping and continue on later is to plan to stop at a joint or where a saw cut or decorative cut will be made after the stamping is completed. If stopping next to a joint that you will be continuing on from later it should be crack repaired first with the Concrete Solutions Epoxy 500, Elastomeric Basecoat and Fabric System.

After the joint has been repaired with the crack repair system, snap a line down the center of the joint and lay down a straight edge of 1/4" x 1 1/2" x 8' boards next to the chalk line using double sided carpet tape (re-usable plastic strips can also be made in the same size to achieve a straighter edge).

Spread the stamping mix to the top edge of the 1/4" form strips. Stamp over the form strips and then carefully remove the wood or plastic by first cutting it free from the stamping mix using a margin trowel before it dries too hard.

After removing the forms, you should have a 1/4" thick straight edge centered over the joint. When you wish to begin stamping from where you left off, tape on top of the finished edge and spread the next mix feathered on top of the tape, so the two sections are tightly joined together. Begin stamping by lining up the stamps halfway into the dry pattern of the last section where you left off.

When you finish stamping, you will see a straight seam line where the two sections were joined together. Snap a line down the straight seam and saw cut the joint to remove the seam line and to leave a natural looking saw cut joint. This is the best method to use when stamping with the 4' x 4' texture only stamps with no grout lines to match into.

After completing the Concrete Solutions Polymer Concrete 1/4" Stamping Application, check around all the edges and remove any excess material that may be hanging over the edge or dripping down the sides. Also check the grout lines to touch up any double lines or places where the stamping mix may have squished up between the

stamps. Texture skins can be used to walk around on the stamped surface to do any touch up that is needed. When finished with all the touch-ups allow the stamping application to cure overnight. Touch-ups that were missed can be done the next day.



METHOD TWO: Snap a line over the center of a repaired joint or where a saw cut will be made.



Lay down some 1/4" x 1 1/2" x 8' form strips made out of wood or plastic next to the chalk line using some double sided carpet tape.



Spread the stamping mix up to the forms and trowel it smooth to the top edge of the form.



Stamp up to the forms then cut between the forms and the stamp mix using a margin trowel and remove the forms leaving a straight 1/4" thick edge.



When ready spread a fresh mix next to the 1/4" thick edge where you left off and begin stamping from where you left off.



Remove tape next to seam to do any touch ups needed before it dries. Then when dry snap a line over the seam and saw cut.



Scrape and detail around all the edges.



Touch up grout lines where the stamping mix squished up between the stamps.



Use the texture skins to walk around on the stamped surface to do touch ups.

STEP 19: THE NEXT DAY AFTER STAMPING

The next day after stamping first check for anymore touch-ups that need to be done. To touch-up grout lines that are now hardened, use a margin trowel or a small grinder. You can also use a copper pipe approximately 3/4" x 5' in length to quickly clean out grout lines. Use a hammer to smash the ends of the pipe to the width of the grout lines you are touching up, then you can walk around scraping out excess material between the grout lines. To touch-up minor surface blemishes or small shrinkage cracks use #80 – 100 grit sandpaper.

STEP 20: SAW CUT OUTDOOR MOVING JOINTS BACK OPEN

After touching up the stamping application, all outdoor moving expansion joints should be saw cut back open, so they can be free to move again. For



Touch up minor surface blemishes or small surface cracks using #80 – 100 grit sandpaper.

indoor jobs where a seamless floor is desired, it is not necessary to re-cut the joints as long as they were crack repaired properly. It is still possible to get a fine crack over indoor joints not cut back open, but it is rare. For outdoor jobs start by snapping lines over the center of all the moving expansion joints that were filled with the crack repair system and covered up with the 1/4" stamping application. Do not use red chalk when snapping lines since it can be hard to remove. Use blue chalk or Antique Powder instead.



Snap lines and saw cut joints back open.

Saw cut through the 1/4" Stamping Material, the Elastomeric Basecoat, 4" Fabric and the Epoxy 500 in the joints using a skilsaw and a diamond blade or a sawcutting machine. The joints must be free to move again without any materials touching in-between, or you may experience cracking or delamination next to the joints later on. When using a skilsaw, an aluminum 3/4" x 4" x 10' straight edge can be used to keep the saw cut lines straight. Set a heavy bag or bucket on one or both ends of the straight edge to keep it from moving as you make your cuts. After all the saw cuts have been made, the next step is to clean the surface and remove all the dust from the saw cutting.

STEP 21: SMALL SAMPLE APPROVAL

Once the surface is cleaned and dry, look to see if the antiquing and the coloring of the stamping application looks even. Before applying the first coat of sealer, be sure the customer is happy. Seal a small area to show the customer the final look.

STEP 22: CORRECT COLOR PROBLEMS

How to remove the antiquing where applied too dark or heavy – If the base color is okay but the antiquing looks uneven, more antiquing can be sprayed over the thin areas to even them out. If the antiquing is too dark or heavy, it may be possible to remove it by scrubbing the surface with simple green or another detergent and rinsing with a pressure washer. For stubborn areas use simple green undiluted if necessary. Once the surface has been rinsed clean and allowed to dry, more antiquing can be applied, or the first coat of sealer can be applied if everything looks good.

Correct a color problem using Concrete Solutions Spray-Top® – If the color is not right, Concrete Solutions Spray-Top can be sprayed in a thin coat over the entire surface to change or correct a color problem. Before applying Spray-Top, the surface should be cleaned with detergent to remove any loose antique powder. Spray-Top makes it possible to achieve a perfect job every time and is good to use as the final color application on every job or at least to have as a back up. See antiquing instructions over Spray-Top on the next page.

STEP 23: APPLY THE FIRST COAT OF SEALER



Scrub the surface with a mild detergent and a broom to remove loose antique powder.



Rinse the surface clean using a water hose or a pressure washer.



For indoor jobs, a vacuum can be used to remove the rinse water.

After everything looks good you can proceed with the first coat of Stamped Concrete Sealer or Acrylic Urethane diluted 1 to 1 with acetone (where local laws permit). **NEVER APPLY ACRYLIC URETHANE OVER STAMPED CONCRETE SEALER OR VISA VERSA. WARNING: Remember to turn off all pilot lights of gas stoves, furnaces or water heaters etc. and do not apply the Stamped Concrete Sealer, Acrylic Urethane or any solvent sealers near an open flame as they are very flammable. Also use the appropriate breathing respirators in areas with poor ventilation.**

If you seal the surface and then notice that the antiquing doesn't look good, it is still okay to apply more colored Liquid Release Agent over the dry sealer if done within 12 hours. Spray the colored Liquid Release Agent where needed then allow to dry. Next, apply another coat of the same sealer mixed 1 to 1 with acetone over the whole surface or just over the dry antique powder laying on top of the first coat of sealer. The loose antique powder will get bonded in-between both coats of sealer as long as the second coat of sealer is applied over the first coat within 1 – 12 hours (the sooner, the better).

If after applying the sealer and antiquing still doesn't look good and the previous option doesn't work to fix the antiquing, the final option is to prime over the sealed surface with Concrete Solutions WB Epoxy Clear followed by Spray-Top. Allow the WB Epoxy to dry for at least 4 hours and not more than 12 hours before applying Spray-Top over it. See instructions below for antiquing over Spray-Top or read the Spray-Top Technical Data Sheet under Stamped Concrete Applications and watch the Spray-Top How-To DVD for more detailed instructions.

Apply Concrete Solutions Stamped Concrete Sealer or Acrylic Urethane thinned 1 to 1 with acetone (where local laws permit) as the first coat of sealer over the Spray-Top. Apply the Sealer using an airless or HVLP sprayer or the Spray-Top Sprayer can be used (where local laws permit). When using the Spray-Top sprayer to apply sealers, it will be necessary to tighten the bottom knob at the back of the gun to achieve a finer spray. A pump-up sprayer and paint roller can also work over some stamping applications. Do a test area to determine the best results.

When the first coat of Sealer is dry to touch usually within 30 minutes to 2 hours, the antiquing color can be applied over the sealer using Concrete Solutions Liquid Release Agent and Concrete Solutions Antiquing Color Powder. Mix 1 – 4 ounces of Antique Powder to one gallon of Liquid Release Agent to achieve the amount of antiquing desired. Spray the Liquid Release Agent, colored with Antique Powder, using a pump-up sprayer and allow it to puddle in the low areas of the texture. If the color is too light, add more antique powder (up to 4 ounces total). If the color is too dark, add more Liquid Release Agent until you achieve the look desired. The way it looks wet, is close to how it will look when sealed. When the antiquing dries, it will look lighter in color than when it was wet. After the sealer is applied, the color should darken back to the way it looked wet. Always do a sample and have it approved by the customer before doing the job. For indoor jobs, the Liquid Release Agent will take longer to dry than outdoors. After a couple of hours of drying, lay a rag over any puddles to soak up the excess release agent and/or set up a fan to blow over the floor to help dry the remaining wet areas.

Once the Liquid Release antiquing dries, apply a second coat of Sealer (same one as the first coat) thinned 1 to 1 with acetone (where local laws permit). The second coat of sealer will make the first coat tacky again allowing the antique powder to bond in-between both coats.

STEP 24: APPLY THE FINAL COAT OF SEALER

When the first coat or color correcting coats are dry, apply one or two more coats of sealer thinned 5 – 10% to achieve the finish desired. Always do a sample in a small area and have it approved before doing the whole job. Concrete Solutions Stamped Concrete Sealer can become slippery when wet. It is up to the end user to determine the suitability of the Stamped Concrete Sealer for their particular application. Slip resistant granules such as #80 or coarser white aluminum oxide granules can be broadcast into the wet Stamped Concrete Sealer to provide whatever degree of slip resistance is necessary. Rhino Linings Corporation or its sales agents will not be responsible for injuries incurred in a slip fall situation.

NEVER APPLY ACRYLIC URETHANE OVER STAMPED CONCRETE SEALER OR VISA VERSA.

WARNING: Remember to turn off all pilot lights of gas stoves, furnaces or water heaters etc. and do not apply the Stamped Concrete Sealer, Acrylic Urethane or any solvent sealers near an open flame as they are very flammable. Also use the appropriate breathing respirators in areas with poor ventilation.



To apply more antiquing, first apply a prime coat of Stamped Concrete Sealer mixed 50/50 with acetone where local laws permit. Apply clear or colored.



Spray the Stamped Concrete Sealer to even out the color of the stamping application.



Use the Liquid Release Agent to apply more antiquing, if needed, over the Stamped Concrete Sealer.



For extra slip resistance, broadcast #80 white aluminum oxide into the Stamped Concrete Sealer.

APPLYING A 1/4" STAMPING APPLICATION TO STEPS

To apply a 1/4" Stamping Application to steps involves more time, patience and detail than doing a regular surface. The procedure is basically the same as stamping a regular surface except different tools are used to spread and finish the material, and a slightly thicker mix is used.

Step 1: Mixing – Start by mixing a Bond Coat Mix and a regular 1/4" Stamping Mix as shown on page 7. The regular stamping mix will normally be too wet for a vertical surface and will need to be thickened by adding more cement and sand. Before adding more cement and sand, trowel a small amount of the regular mix 1/4" thick on one of the vertical risers of the steps. If it stays without sagging or running down, you can use it the way it is. If it seems too wet and sags, you can thicken it by adding one part cement and two parts #30 or #60 silica sand. To a five gallon bucket of mix, add 1 cup of cement and two cups of sand at a time until the mix is just thick enough that it will not sag but not too thick that it is difficult to trowel and work with. If the mix gets too thick it can be made wetter by adding a little more polymer and water at a 1 part polymer to 2 parts water ratio. Once the mix is thick enough follow the step by step pictures on one method for doing steps.

Step 2: Making a Small Gauge Rake – To make it easier to spread the stamping mix 1/4" thick over the steps, a small gauge rake can be made out of a 10 – 12" tape knife or a piece of wood and some nails. To make a gauge rake out of a tape knife, epoxy two finishing nails to the tape knife using some fast setting epoxy available from most hardware stores or use Epoxy 500. To make a gauge rake out of wood use a piece approximately 1/4" x 1 1/2" x 10" and pound one nail into each end of the 1/4" side of the wood so they stick out 1/4" or use the epoxy to bond the nails to the wood.

Step 3: Spreading the Mix – Spread the stamping mix with a hand trowel then use the gauge rake to remove any excess. Follow behind the gauge rake with a hand trowel or a tape knife without gauges to smooth out the lines from the gauge rake. Allow the material to set up until firm then fog the stamping mix with a light coat of water and finish troweling it to a smooth finish, as shown in the pictures 8 – 11.



1. Steps before.



2. Spread the Bond Coat (Resurfacer) over the steps using a trowel and/or wallpaper brush.



3. Trowel the Stamping Mix over the wet Bond Coat Mix 1/4" thick.



4. Use a hand made gauge rake to leave the material 1/4" thick over the steps.



5. Trowel behind the gauge rake using a trowel or tape knife to cover up the gauge rake lines.



6. Trowel the mix on the top of the steps then up the vertical risers and over the corners.



7. Shape and trowel the stamping mix 1/4" thick over the steps as smooth as possible.



8. Let the mix set up a little firmer, then lightly spray some water and trowel it again.

Step 4: Antiquing on Vertical Surfaces – One method for antiquing a vertical surface is to use the Stamped Concrete Sealer mixed 50/50 with acetone (where local laws permit). Mix one gallon of this mixture with 4 – 8 ounces of Antique Powder in the color desired. Spray the Stamped Sealer over the vertical surface in a thin coat to color the surface without letting it run. Spray more color than needed, allow it to dry to touch, then wipe off the unwanted color from the high areas of the texture using a rag or a stiff cellulose sponge and some acetone. Try to wipe the color off the high texture and leave as much as needed in the low areas of the texture to achieve the antiqued look desired. Allow to dry several hours then apply one or two coats of the Stamped Concrete Sealer. Practice on a vertical sample board to get the look desired before doing a job.



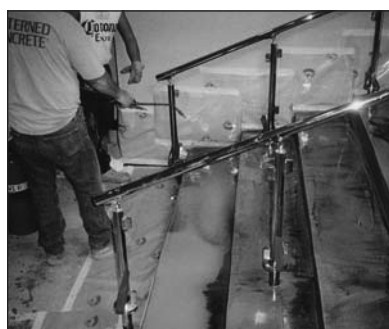
9. After spraying a light fog of water, use some step trowels to shape the step corners.



10. Carefully smooth and shape the corners to prepare for the stamping process.



11. After doing the corners, use a hand trowel where needed for touch up.



12. When the stamping mix is firm enough, spray Liquid Release Agent clear or colored over the steps.



13. Stamp the tops of the steps first by using a texture skin and patting it with your hands to leave the desired impression. Be careful not to pound on the stamps too hard next to the corners so Stamp-Top doesn't lose its bond and fall off the vertical riser.



14. Stamp the vertical risers of the steps being careful next to the corners. Use hand tools to create grout lines if stone or tile pattern is desired.



15. Use a chisel and a hammer if needed to gently pound a groove in the inside corner of the steps to leave a finished looking seam line. Use them also to make grout lines if desired.



16. Allow the steps to dry then rinse and apply more antiquing using the Antiquing Sealer if needed before applying the Stamped Concrete Sealer.

SLIP/FALL PRECAUTIONS

Concrete Solutions Stamped Concrete Sealer can become slippery when wet. It is the end user's responsibility to determine the suitability of the Stamped Concrete Sealer for their particular application. Slip resistant granules such as #80 or coarser white aluminum oxide granules can be broadcast into the wet Stamped Concrete Sealer to provide whatever degree of slip resistance is necessary. Rhino Linings Corporation or its sales agents will not be responsible for injury incurred in a slip/fall accident.

WARNING

The Stamped Concrete Sealer, Acrylic Urethane or any solvent sealers are combustible and should be kept away from open flames. Turn out all pilot lights. Wear the proper breathing mask in areas with poor ventilation. Read Material Safety Data Sheet before using. For professional use only!

COVERAGE CHART

Product Name	Description	Coverage Rate
Concrete Polymer To figure approximately how many gallons of polymer will be needed, divide the sq. ft. of the job by the sq. ft. per gallon of polymer	Bond Coat (Resurfacer) Mix 1/4" Stamping Mix	250 sq. ft. per gallon of polymer 45 sq. ft. per gallon of polymer
Cement (Portland Type I/II) regular or white To figure approximately how many bags of cement will be needed, divide the sq. ft. of the job by the sq. ft. per 94 lb bag of cement	Bond Coat (Resurfacer) Mix 1/4" Stamping Mix	1250 sq. ft. per 94 lb bag of cement 135 sq. ft. per 94 lb bag of cement
Silica Sand (#60 – 90) Silica Sand (#20, 30 & 60) To figure approximately how many bags of sand will be needed, divide the sq. ft. of the job by the sq. ft. per 100 lb bag of sand	Bond Coat (Resurfacer) Mix 1/4" Stamping Mix	1250 sq. ft. per 100 lb bag of cement 45 sq. ft. per 100 lb bag of cement
Resurfacer Bag Mix	50 lb bag of premixed cement and sand	250 sq. ft. per 50 lb bag at 1/32"
1/4" Stamping Bag Mix	50 lb bag of premixed cement and sand	18 – 20 sq. ft. per 50 lb bag at 3/8"
Liquid Release Agent	Prevents stamps from sticking / for antiquing	150 – 300 sq. ft. per gallon
Stamped Concrete Sealer	Solvent based sealer with a gloss finish	200 – 300 sq. ft. per gallon
Acrylic Urethane	Extra durable solvent based sealer (satin or gloss)	200 – 300 sq. ft. per gallon

Note: Other products needed for stamping applications include Integral Color Pigments, Antiquing Color Powders, Accelerator and Retarder. The amount of each of these products needed will depend on the color being used and the job conditions. See the Concrete Solutions Products Price List for more information and coverage rate on these and other products.

SAFETY PRECAUTIONS: Health Considerations: Consult the Rhino Linings® Safety Data Sheets (SDS)

Chemical systems require the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS and Safety Manual for detailed information and handling guidelines.

For Your Protection: The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Rhino Linings Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Rhino Linings Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.

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