Fine Broom Finish Instructions

Concrete Solutions® Polymer Concrete Fine Broom Finish was designed as a thin resurfacing application to repair and resurface old or new concrete. For years the only solution to repair cracked, stained or deteriorating concrete was to replace it with 4 – 6" of new concrete. Concrete Solutions Polymer Concrete and other Concrete Solutions Products make it possible to fix old concrete without having to remove it. For new concrete surfaces that may have been damaged, the fine broom finish provides an economical way to repair the surface and make it look like new again. It is also an excellent application to help protect concrete surfaces from freeze-thaw and salt damage in colder climates. Read the following information with step-by-step pictures for more information on how to apply a Concrete Solutions Fine Broom Finish application.

PRODUCTS AND TOOLS NEEDED

Application Steps	Product Name	Coverage Rate/Gallon	Tools for Application
Apply a Bond Coat of Polymer Concrete	Concrete Polymer (Mix with water, cement and sand or premixed 50 lb mix)	250 – 300 sqft per gallon of polymer	• 24" metal squeegee • hand trowel
Apply a Fine Broom Finish Application of Polymer Concrete	Concrete Polymer (Mix with water, cement and sand or premixed 50 lb mix)	200 – 300 sqft per gallon of polymer	• 24" metal squeegee • fine broom finish broom
Apply a First Coat of Concrete Colorcoat	Concrete Colorcoat	300 sqft per gallon of Concrete Colorcoat	• 3/8 – 1/2" nap paint roller or airless sprayer
Apply a Second Coat of Concrete Colorcoat	Concrete Colorcoat	300 sqft per gallon of Concrete Colorcoat	• 3/8 – 1/2" nap paint roller or airless sprayer
Apply one or two coats of Sealcoat 1000	Sealcoat 1000 (Apply undiluted using a pump-up sprayer and a soft broom)	400 sqft per gallon	• pump-up or airless sprayer • soft flag tip broom

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

Apply a Bond Coat using a 24" Metal Squeegee.

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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.
- **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 & JOINT REPAIR

Structural moving cracks should be repaired/treated with Concrete Solutions Crack Repair System prior to applying Trowel-Top or any other Concrete Solutions polymer concrete products. Please refer to Concrete Solutions Crack Repair Instructions for the complete and detailed procedure.

PATCHING, LEVELING, REPITCHING

Before applying the Concrete Solutions Fine Broom Finish, the surface should be smooth to achieve the best results. If needed, patch any holes, gouges or deteriorated areas of the surface with a Concrete Solutions Patching Mix. Feather the edges of the patches to zero or use a right angle grinder with a flat, 7" carborundum grinding wheel attachment to grind the patches smooth. The Patching Mix can also be used to fill in low spots, level an uneven surface or re-pitch areas with improper drainage. See the Concrete Solutions Training Manual under Patching and Leveling for detailed mixing and application instructions with step-by-step pictures.

RESURFACING

The final step before applying a Fine Broom Finish is to apply a thin Bond Coat of the Concrete Solutions Polymer Concrete over the entire surface. Apply the Bond Coat using a 24" Metal Squeegee (available from Concrete Solutions) to help smooth out the surface and to cover up any crack repair patches or other patching that may have been done. The Bond Coat also provides extra thickness and durability to the Fine Broom Finish application and makes it easier to achieve a more even broom finish texture. See the Bond Coat mixing and application instructions in the Concrete Solutions Training Manual for more details.

FINE BROOM FINISH AND BOND COAT MIXING FORMULAS

Follow the mixing formulas on the next page to make your own mix or use either of Concrete Solutions pre-mixed Resurfacer bag mixes. It is recommended to pigment the fine broom finish mix the same color as the Concrete Solutions Concrete Colorcoat that will be used. Use Concrete Solutions Integral Colors. Using Concrete Colorcoat over the Fine Broom Finish is recommended to achieve the best results and a more uniform color. It is available in concrete gray and 30 standard colors. Custom colors are also available. To achieve a new concrete color without using Concrete Colorcoat, or to try to match an existing concrete color it will be necessary to mix white and gray cement together. Try 3 – 4 parts white cement to 1 part gray or any combination required to get the desired results.

Slip Resistance: Do not apply the Fine Broom Finish on a steep slope or driveway as it may become too slippery. For steep driveways a coarser broom finish will be required which can be achieved by mixing coarser sand in the mix such as #20 and #30 and by using a coarser broom. It may also be necessary to add more sand to the mix at one part cement to a two parts sand ratio. It is up to the end user or applicator to determine and achieve the proper texture needed to provide a slip resistant finish. Concrete Solutions or it sales agents will not be responsible for injuries incurred in a slip/fall situation.

MIXING FORMULAS

Making your own mix - Fine Broom Finish and Bond Coat (by volume) -

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 – 90 or 50/50 mixture of #60 and #30 grit for extra slip resistance.)

Note: To make a 4 gallon mix change.

Resurfacer Bag Mix (just-add-water)

In a five gallon pail mix:

1.5 Gallons	Water
1 bag	45 lb bag of Resurfacer

For a drier and thicker mix, add up to 2 gallons (8.8 liters) of #30 or #60 silica sand per bag mix.

APPLICATION INSTRUCTIONS

Once the Concrete Solutions Polymer Concrete Bond Coat has been applied and is dry enough to walk on, usually within one to two hours, the Fine Broom Finish Application can begin.

1. Make sure the surrounding areas are protected then start by spraying the surface with a light coat of water where you wish to begin. Use a water hose with a trigger gun spray nozzle to lightly wet the surface without allowing the water to puddle. The right amount of water will give you more time to spread the material before it begins to dry. Too much water can weaken the mix. **(Remember to pigment the broom finish mix to the same color as the Colorcoat 100 that will be used.)**

1. Make sure surrounding areas are taped off and fog the surface with water where you wish to begin spreading the material.

2. Pour a row of material out of the mixing bucket approximately 8 – 10" wide next to the starting edge. Start by spreading the material using the 24" Metal Squeegee next to the starting edge and about 5' down the side edges to achieve a thin even coat. Immediately behind the metal squeegee begin brooming the material to achieve the broom finish texture desired. The cooler, the temperature the more time you will have to broom the material before it begins to dry. If you have to walk in the material to broom it, wear spiked shoes otherwise stand off to the side whenever possible. If necessary, an extension handle can be used for long stretches.

2. Spread the Fine Broom Finish material to a thin even coat next to the starting edge using a metal squeegee and broom to the desired finish.

3. Before the first row of material runs out, pour another row of material on top of it and if necessary spray more water where needed to keep the surface wet. Continue spreading with the metal squeegee and brooming until you reach a joint or stopping point. The best place to stop is at a joint to avoid leaving a seam line. When you are ready to start again carefully spread the material next to the other side of the joint without getting any on the finished side. After the brooming application is completed, use a scraper and a paintbrush to touch up any drips around the vertical edges.

3a. Before the first row of material runs out pour another row on top of it and if necessary spray more water where needed.

<u>WHAT TO DO WITH EXISTING JOINTS</u>

4. When the Bond Coat and Fine Broom Finish applications dry to touch within 30 minutes to one hour it is important to walk around the surface and cut back open any joints that were filled. The material in the joints will be thicker so it will take longer to dry. It is best to remove the excess material when it is not too wet so it will not be too messy and stick to the finished surface. The material will get to a stage between wet and dry when it is like dry dirt and can easily be scraped out, back to the original edges of the joint then swept up and thrown away.

Using a trowel or a stand up scraper, stick one corner in the joint then twist it so both edges are touching each side of the joint Pull the trowel or scraper down the joint to lift all of the excess material out of the joint and up onto the surface. If necessary the top edges of the joints can be touched up using

a damp paint brush. If the material in the joints dries too hard they will have to be saw cut back open using a skil saw and a diamond blade. If any material is left touching in between the joints, delamination can occur next to the joints later on.

APPLYING CONCRETE COLORCOAT

5. After cleaning out all of the joints the next step is to apply Concrete Colorcoat over the entire surface to achieve a uniform color. Concrete Colorcoat is available in 30 standard colors. Custom colors are also available.

6. Concrete Colorcoat can be used straight or diluted up to 10 percent with water and applied using an airless sprayer or 3/8 – 1/2" nap paint roller (see picture 6). When using an airless sprayer, use a .013-.017 tip.

When the first coat of color dries, usually within 1 – 2 hours, a second coat can be applied if needed. The second coat should be applied straight to achieve the best color uniformity and stain resistance. On driveways it is recommended to apply Concrete Solutions Sealcoat 1000 clear as a topcoat for extra resistance to oil and tire marking.

APPLYING SEALCOAT 1000

7. After the final coat of Concrete Colorcoat dries (2 – 4 hours) it is recommended to apply a topcoat seal of Concrete Solutions Sealcoat 1000 clear over the entire surface to provide extra stain resistance against dirt, oil, tire marks and other contaminants. Apply the Sealcoat 1000 using an airless sprayer or a pump-up sprayer and soft flag tip broom (available from Concrete Solutions distributors or Rhino Linings Corporation).

3b. Continue spreading the material ahead of the person brooming using the metal squeegee.

3c. Broom immediately behind the metal squeegee to leave the desired texture.

3d. Scrape or brush the vertical edges where the material drips over the sides.

4. Scrape out any material that got in the joints using a trowel or scraper before it dries too hard.

6. Apply Concrete Colorcoat using a paint roller

7. Apply Sealcoat 1000 using a pump up sprayer and a soft flagtip broom.

Pour the Sealcoat 1000 through a paint strainer before using to avoid clogging the sprayer.

To achieve the best coverage, spray the Sealcoat 1000 at an 80% coverage rate then use the broom to fill in the other 20%. Use the broom like a big paintbrush and broom in straight rows the same direction as the broom lines (see picture 7). Do not allow the Sealcoat 1000 to puddle or to get wet for 24 hours.
(See the Sealcoat 1000 Technical Data Sheet for more information.)

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.

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