



RIVER ROK

NATURAL PEBBLE POOL FINISH

INSTALLATION MANUAL

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Introduction

River Rok is a state of the art, pre-blended exposed aggregate pool plaster designed to provide an extremely durable and unique pool scape. River Rok is a blend of select natural aggregates and fortified Portland cement ideal for new or re-finishing swimming pools.

River Rok's premium grade cement and meticulously selected aggregates assure the pool owner of a finish with lasting beauty and unparalleled functionality. The performance enhancing cement strengthens the finish by increasing hardness, reducing water penetration and improving bond strength. The unique installation process reduces time, equipment costs, and labor while still producing an elegant, slip resistant surface.

River Rok offers an optimal range of colors (6) that are factory blended to perfection. Your pool can become an extension of your dreams. And if you're so inclined, you can even custom blend River Rok (with ratios provided by SGM) to create (6) additional colors.

River Rok is backed by a Ten (10) year, pool owner's Limited warranty. River Rok should be applied by qualified and authorized applicators. Dealers present a written warranty for up to ten years.

Every batch of SGM River Rok, about 60 – 80 bags, produced at SGM facilities in Pompano Beach Florida, Plant City Florida, Dallas Texas, and Corona California, is tested before shipping to insure our customers receive the highest quality product. Samples of each batch are stored at the factory for future reference in the event of a warranty claim.

Finally, this manual is intended as a reference source only. It is assumed that the user is experienced in the application of standard swimming pool plasters and water chemistry. There is no substitute for experience in the application of River Rok. Training by skilled installers is available through SGM and is the preferred way to acquire the necessary skills. For more information contact your local SGM representative or call (800)-641-9247.

I. DETERMINING COVERAGE

- A. Measure the total square footage of the pool's interior surface (walls and floor). Include extra material for steps, benches and swim outs.
- B. Determine the required number of bags by using **18 square feet per bag** for the average pool. More material will be required for a rougher shell.
- C. **Always add 5% to 10% more bags to allow for error.** It will not be possible to match areas plastered later due to shortages on the job site. Always take more than you need.

II. PREPARATION OF THE SUBSTRATE OR POOL SHELL

A. New Pool Shells

- 1. The shell must be free of any foreign material that may interfere with the bonding of the new plaster.
- 2. All loose material such as dripped thin-set, grout, paint, dirt, patching or decking products must be removed by scraping, water blasting (pressure cleaning) or sand blasting.
- 3. Algae, mold and mildew must be eliminated by chlorine washing. Failure to do so will result in discoloration and bond failure (delaminations).
- 4. Remove any oil or grease with tri-sodium phosphate and water. Oils and grease left on the pool shell will cause bond failure and prevent proper etching and cleaning by waterborne acid solutions. To test for oil and grease, wet the entire pool shell surface and examine it carefully for beading water droplets. Heavily saturated areas may require soaking with liquid detergents until oil is removed.
- 5. Etch the surface of the pool with Muriatic Acid and water. Adjust the concentration as needed to properly clean and roughen the surface. Smoother shells will require a higher concentration of acid than rough shells.

6. All water penetration due to hydrostatic pressure (weepers) must be stopped. Use SGM Instant Hydraulic Cement to plug leaks and seal around fittings.
7. The shell must be fully cured for a minimum of 28 days.
8. All pool inlets and main drain lines should be plugged to prevent clogging during application and exposure. All plugs except the main drain should remain in place until the pool is filled to prevent drip stains.
9. Mark the location of all fittings with a small piece of tape placed on the coping directly above to prevent them from being accidentally covered during the plaster process. It may be best to draw a map indicating the locations of all fittings in projects with numerous inlets and outlets.

B. Resurfacing Projects

1. Follow all of the above procedures.
2. Undercut all existing tile and fittings a minimum of 2" away and 3/8" deep into the existing plaster substrate.
3. Sound out and remove all hollow and delaminated plaster. Identify the hollow spots and saw an area 3" outside them. Remove the loose plaster inside the cut area.
4. Fill the hollow with SGM Vinyl Patching Compound or SGM Sand Topping Mix and Concrete Bonding Agent bringing the area level with the existing plaster.
5. Apply SGM Bond Kote as directed. Each unit of Bond Kote consists of one 5-gallon pail of Liquid Resin and two 65 lb., bags of Bond Kote Powder and will cover approximately 500 square feet. Mix one 65 lb. Bag of SGM Bond Kote with 1/2 pail of SGM Bond Kote Liquid Resin. Coat existing plaster using a 1 1/4" nap paint roller.

Allow material to set for one minute then create stipple texture by going over the area again with roller. Allow Bond Kote to cure for at least 6 hours before plastering. If Bond Kote is rained on or left to sit for more than a few days it may have to be reapplied.

III. MIXING

Note: River Rok is made in batches of 60 to 80 bags using natural ingredients. For this reason there will be variations in shade between batches. Batch numbers are stamped on the ends of every bag. It is therefore incumbent upon the user to follow these instructions explicitly to ensure the most consistent color throughout the pool.

- A. Separate the bags according to the batch numbers stamped on the bottom of each bag. **Record all batch numbers. All warranties are rendered invalid without the batch numbers.**
- B. Blend different batches together in each mix according to the ratio present at the job site. For example: If there are 30 bags total on the job and there are 20 bags of Batch A and 10 bags of Batch B then use 2 bags of A to 1 bag of B in every mix.
- C. Measure and add water to mixer. Hold back a portion of the water and add as necessary as mixing progresses. Careful measuring of the mix water will produce the best results. Lower water to cement ratios will produce plaster of greater strength and density. It is therefore best to use as little water as needed to produce a workable mix. Excess water will reduce strength and increase shrinkage (check) cracks. Water requirements will vary according to job site conditions.

Note: Mix water quality is extremely important. Well water or water high in metal and mineral content will cause discoloration in finished River Rok. Additionally, mix water of high hardness or alkalinity will cause the plaster to effloresce, releasing high levels of salts that produce calcium scale. Check mix water for metals, minerals, hardness and alkalinity before using.

- D. Start mixer and add River Rok as quickly as possible to ensure that all the material has the proper mix time. Failure to do so will produce uneven set times and result in washouts and streaking.
- E. Mix for a minimum of 5 minutes but no more than 10 minutes. This ensures even distribution of aggregates and increases the working time of the plaster. Insufficient mix time will result in uneven setting and shade variations. Too much mix time will produce an overall weaker plaster and may entrain undesirable air bubbles. As a rule of thumb, mix for only the amount of time required to produce a consistent, homogenous batter.

- F. Calcium Chloride may be used as an accelerator. It must be fully dissolved in water allowing impurities to settle out. Pour off the solution from the top being careful not to add impurities to the mix. The impurities found in calcium chloride flake and pellets have been known to cause discoloration in pool plaster. No more than 2% by weight of cement (about 1/2 lb. per bag) can be used. Overuse will cause discoloration. It must be noted that excessive use of calcium chloride will result in rapid acceleration and may affect the exposure process. For best results, use SGM Accelerator 100 at a maximum rate of 1/4 gallon per bag.

IV. PUMPING

Note: Although it is not necessary to use a plaster pump, many contractors use this system. Included here are some helpful hints for successful pumping.

- A. Increase the size of the pump manifold from 3" to 4". This can be expensive and not all plasterers have found it necessary. Change the valve ball from plastic to steel to improve longevity.
- B. Set plaster pump to the lowest gear by moving the belt. Always begin pumping with a full stroke on the main piston. This is accomplished by advancing the wheel until the cam is at its highest position.
- B. Prepare slurry of cement and water and run it through the pump first to prime the pump and lubricate the hoses.
- C. Pour the mixed plaster slowly into the pump hopper. Do not pour all the material in at once. Agitate the material in the hopper to prevent separation of the cement and aggregate.
- D. Pump the complete batch without stopping. Avoid unnecessary stopping during the pumping process. River Rok will tend to settle in the pump manifold and hoses when the pump is stopped.
- E. Do not try to clear a jam using the pump. Disassemble and clean the manifold and hoses when clogged. Do not water down mix. This will only cause the material to separate, clogging the pump and hoses.

V. APPLICATION

- A. Substrate should be cool and damp but not dripping wet. Mist the shell with cool, clean water but do not leave standing water. Standing water will weaken Diamond Brite in isolated areas and cause washouts.

Note: Hot, dry shells will cause rapid setting of the plaster and result in check or shrinkage cracking and delamination.

- B. Discard unmixed material (lumps). Breaking up and toweling in lumps changes the set of the River Rok in that spot. This will also create a weak spot and cause washouts. It is recommended that a small amount of material (approx. 1 bag of mixed material) should be placed on a piece of plastic or cardboard. This material will be used in case patching needs to be done to the pool. The material will be curing while on the cardboard, ensuring even cure times.
- C. Apply a scratch coat to the bowl first. The bowl will set up last and it will be necessary to walk on the bowl during the exposure process.
- D. Beginning with the shady walls and working to the sunny walls trowel a scratch coat on the walls and allow to set up slightly. The set time will vary according to temperature and humidity so constant inspection of the plaster during the set time is essential.
- E. Apply a finish coat to the entire pool surface working to 3/8" - 1/2" thick. Careful toweling will help to ensure even exposure, reduce washouts and produce a comfortable slip resistant finish. The technique of "Slick Toweling" is recommended. In this process the cement paste is brought to the surface during toweling and is removed with the trowel. This produces a slick surface and minimized the exposure needed. The aggregate can be seen through a thin film of cement paste after toweling is complete.
- F. Special attention must be given to the filling in of shoe spike holes. Toweling in the paste from the surface will result in the hole having no aggregate. The applicator must be careful to fill all spike holes with River Rok aggregate to avoid visible spike holes.
- F. Extra care must be taken to ensure proper toweling in the coves and corners. Insufficient toweling in these areas will result in roughness and washouts (loss of cement and aggregate) during the exposure process.

VI. EXPOSURE

Note: You must have one workman for every 300 square feet to properly expose River Rok. The exposure time will vary according to local conditions. Beginning too early or too late will result in uneven exposure. Some areas may be ready for exposure while other areas are still being trowel led. Constant inspection of the River Rok for readiness is imperative.

There are several techniques commonly used to expose River Rok. The following is a list of the most popular techniques.

A. Water Washing With Brushes

Note: This is by far the most effective technique and produces the best results with River Rok Nature's Collection.

1. When the River Rok has lost its sheen or is no longer damp, it may be ready for exposure with soft bristle brushes and water. The material must be sufficiently set up to allow applicators to walk on the floor without leaving footprints. Wear white cotton socks or foam shoes when exposing River Rok. Boots and bare feet are not recommended.
2. Test the plaster for readiness by carefully washing a small area with a soft bristle brush. If the cream washes away without losing aggregate the exposure process may begin.
3. Starting with sunny or fast setting areas begin washing away cement paste with water and brushes. Use a bucket first then progress to a soft flow of water from a garden hose as the material begins to harden. Begin using stiff bristle brushes as the set progresses.
4. Examine the plaster for hot spots that may be setting quickly. Mist these areas with water to allow longer exposure time. Over-cured cement paste will not remove easily and may require stiff bristle brushes to remove. Avoid slow setting areas like shady walls and the bowl. Washing too soon in these areas will cause washouts. If an area washes out it must be re-trowled immediately. Keep some extra River Rok mixed up for use in patching washout areas. Use of torches or newspaper to dry wet areas is acceptable if done properly.
5. Keep a sump pump running in the main drain at all times to discharge the wash solution. Dispose of wash as directed by local requirements.

6. Avoid leaving hoses, buckets or any other items on the plaster during exposure. Any object left on the plaster during this critical phase may leave a “shadow” on the surface. In the event of shadowing heat may be carefully applied to remove the discoloration.
7. When all of the cement paste has been removed from the surface uniformly, the brush phase is complete. If done thoroughly, this will complete the exposure process. The process of acid washing as described below is optional.

B. Acid Washing

Note: This technique is commonly used in cold climates or when the plasterers lack sufficient experience to undertake water washing. It is easier to do but can produce a less uniform finish.

1. After troweling, allow the plaster to fully set up. This may take anywhere from one to a few hours or overnight, depending on local jobsite conditions.
2. Begin acid washing by using a 25% solution of Muriatic Acid (higher concentrations may be needed for stubborn areas) and water to remove the cement film that may remain on the surface. Increase the concentration of the acid solution as needed. Proper safety equipment must be worn at all times. Begin washing the bowl first and work up to the shallow end. Following this procedure will minimize “rivers” or streaks on the floor. Acid wash walls and steps last. Do not allow acid wash solution to puddle in the bowl area. Use a sump pump to constantly discard the run off after it is diluted and neutralized.
3. The use of an acid wash additive to reduce fumes and ensure uniform coverage is highly recommended. Neutralize and discard the wash solution according to local requirements. Neutralize acid remaining on the River Rok with Soda Ash and water to avoid discoloration.

VII. STARTUP AND WATER BALANCE

- A.** Pre-filter the water with a carbon or resin tank to eliminate stain-causing contaminants.
- B.** First day, add a sequestering agent upon initial fill and maintain water circulation for 24 hours prior to the balancing the pool chemistry. Adjust ph to 7.2 – 7.4.

- C. Second Day, Record the chlorine, ph, and total alkalinity, calcium hardness and temperature levels. Adjust ph to 7.4 – 7.6 and the total alkalinity to 80 – 120 PPM. Dissolve all chemicals in water first and allow sufficient time for each chemical to be fully dispersed before adding the other chemicals. Do not add CHLORINE or CALCIUM CHLORIDE. Brush the entire surface twice a day for three (3) days.
- D. Third day, repeat steps from second day and adjust chemistry to the following levels:
Free chlorine: 1.0 - 3.0 PPM pH: 7.4 – 7.6 Total Alkalinity: 120 PPM
Calcium Hardness: 200 PPM* Stabilizer: 30 PPM

***Note: Lower Calcium levels help to reduce scale and discoloration.**

- E. Adjust the pump timer to normal operating hours.
- F. Do not install automatic pool cleaners for 28 days.
- G. Do not vacuum the pool with a wheeled vacuum for 14 days, to avoid leaving “wheel marks”. Brush type vacuums may be used immediately.
- H. Brush pool walls and floor daily for the first 2 weeks.

Note: These suggested guidelines are based on feedback from our customers throughout the nation. They represent an average of what has worked best for the majority and do not guarantee that you will not experience common plaster phenomenon such as staining, mottling, efflorescence and scale. Water supplies vary from one municipality to the next and therefore commonsense, experience and good testing procedures must be followed. Refer to the N.S.P.I. guidelines on start up and chemistry for more detailed information.

VIII. USE OF RIVER ROK ABOVE WATER

- A. It should be understood by the customer that River Rok above the water would have a dry appearance that differs from River Rok below water. Some check cracking may occur. Whenever possible water curing of exposed areas for 7 to 28 days will lessen the occurrence of shrinkage cracking and increase overall strength of the plaster.
- B. Any blisters due to air trapped during trowelling will fill with water and may delaminate during freezing temperatures due to the expansion of frozen water. It is therefore imperative that the River Rok be free of any blisters in above water applications.

- C. River Rok is not impervious to water penetration and will therefore develop a water line ring due to the presence of oils and dirt at the water line that will require regular maintenance.

IX. MISCELLANEOUS

- A. Recommended reading from the National Spa and Pool Institute (703) 838-0083: "Pool Plaster Technology".
- B. Recommended reading from the National Plasterers Council (714) 459-8053: Start-up Do's & Don'ts for Newly Plastered Swimming Pools; Why You Should Use Plaster in Your Swimming Pool; Care Tips for New Swimming Pool Plaster and Technical Manual.