Color Flake/Quartz Instructions

Concrete Solutions® Color Flake System and Quartz System are decorative flooring applications designed to provide an imitation granite or terrazzo look to residential, commercial and industrial floors. They are available in a variety of color combinations to match any decor, adding beauty and elegance as well as providing a low maintenance, slip resistant surface with excellent resistance to staining, impact and abrasion. The high performance products used in the Concrete Solutions Color Flake System and Quartz System offer the latest advances in technology to provide a fast drying, durable system that will last indefinitely if properly maintained.

TYPICAL USES

Both Concrete Solutions Color Flake System and Quartz System are most commonly used on residential garage floors, laundry rooms, patios, bathrooms and recreation room floors. The Quartz System is popular for patios and pool decks. For commercial applications, they are popular for automotive showrooms, bathrooms, office floors, retail stores, restaurants, hospitals, animal care clinics, cafeterias, parking garages, laboratories and many other applications.

PRODUCTS AND TOOLS NEEDED

Application Steps	Product Name	Coverage Rate/Gallon	Tools for Application
Prime Coat/ Color Base Coat	OPTION 1: Epoxy 200	200 sqft per gallon	• metal squeegee • 1/4" nap paint roller
	OPTION 2: WB Epoxy Color	250 sqft per gallon	
Color Flake Broadcast or Quartz Broadcast	Color Flakes or Quartz	**Color Flakes =** Heavy: sqft x .08 = lbs needed Medium: sqft x .04 = lbs needed **Quartz** = sqft x .5 = lbs needed	• no tools, broadcast by hand
First Coat of Clear Sealer	OPTION 1: SB or HP Urethane Clear	250 sqft per gallon	• 1/4" nap paint roller
	OPTION 2: FastFloor Polyaspartic	200 sqft per gallon	
Second Coat of Sealer (Optional for medium broadcast)	OPTION 1: SB or HP Urethane Clear	325 sqft per gallon	• 1/4" nap paint roller
	OPTION 2: FastFloor Polyaspartic	200 – 250 sqft per gallon	
Optional Indoor System First Coat & Second Coat	Epoxy 600 --- SB or HP Urethane Clear	75 -100 sqft per gallon --- 325 sqft per gallon	• 3/16" notched squeegee • 3/8" nap paint roller
Note: Other products, tools and equipment will be needed for surface preparation, crack repair, patching and resurfacing if required. Read the instructions below for more information on what you will need.			

HOW TO APPLY A SMOOTH, LOW ODOR SYSTEM FOR INDOOR JOB APPLICATIONS

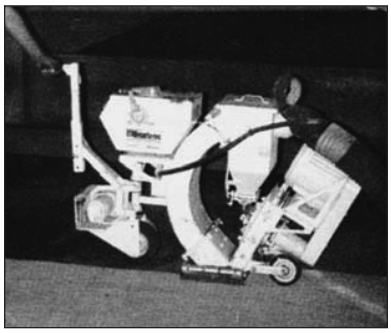
For indoor jobs where a smoother finish is desired, Epoxy 600 can be used over the color flake or quartz broadcast in place of the SB or HP Urethane. Be sure to scrape and blow off any loose flakes or quartz before applying the Epoxy 600. For an indoor, low odor color flake or quartz system (for jobs such as hospitals, stores and restaurants) use Epoxy 200 or WB Epoxy Clear as the prime coat, WB Epoxy Color to broadcast the flakes or quartz into, Epoxy 600 over the flakes or quartz, and Concrete Solutions Floor Finish for continued maintenance over the Epoxy 600 as needed. For indoor jobs with vehicle or fork lift traffic (such as parking garages or warehouse floors) it is best to apply a topcoat of SB or HP Urethane over the Epoxy 600 instead of the Floor Finish. Do not use the Epoxy 600 or Floor Finish in areas exposed to sunlight (such as garage floors) or yellowing will occur. See the Epoxy 600 Technical Data Sheet for mixing and application instructions.

1. SURFACE PREPARATION

Outdoor Jobs – Clean the existing concrete surface to be coated by power scrubbing with detergent, acid washing, neutralizing and pressure washing at 3000 psi or more using a 15 degree or spinner tip. The surface must be clean of dirt, oil and any other contaminants that may interfere with bonding. Grinding or shot-blasting are other popular methods.

Detergent scrub, acid wash, neutralize

Pressure wash surface to clean and rinse



For commercial jobs shotblast the surface

Indoor Jobs – Shot-blasting is recommended to prepare the surface for most indoor jobs. If shot-blasting is unavailable scrub with detergent, acid wash, neutralize, rinse and wet/dry vacuum. (See the Concrete Solutions Training Manual under Surface Preparation for more detailed instructions.)

Moisture Vapor Testing – All concrete floors are subject to possible moisture vapor transmission problems which can cause coatings to blister or delaminate. Prior to coating over a concrete surface, moisture vapor emission testing is recommended using the calcium chloride test method. Contact a moisture testing company in your area who can perform the test and give the proper recommendations. The Epoxy 200 is the best primer to use to help prevent moisture related problems.

2. CRACK AND JOINT REPAIR

After the surface preparation is completed, a wet dry vacuum can be used to remove any excess water from cracks and/or joints prior to repairing them. When dry to touch, fill the cracks with Concrete Solutions Epoxy 500 that is mixed with one to two parts #60 or 90 silica sand using a stiff putty knife. If desired, joints can be filled with Concrete Solutions Epoxy 800 (Flexible) mixed with #60 or 90 silica sand to provide a seamless floor or the joints can be left open.

Fill cracks with Epoxy 500 and sand mix

Scrape excess epoxy, leave little above crack

Grind epoxy over crack, smooth with surface.

After filling the cracks and/or joints, scrape the excess epoxy off the surface. For fine cracks 1/16 – 1/8", scraping the excess epoxy off the surface should be sufficient to complete the repair. For larger cracks over 1/8" wide, it is best to fill the cracks with the Epoxy 500 sand mix and the joints with the Epoxy 800 sand mix (if desired), then to scrape all the excess epoxy off the surface except for directly above the crack and/or joint. Leave a thin layer of the epoxy directly above the crack and/or joint and allow it to dry at least 4 – 6 hours. When the epoxy has dried sufficiently, use a right angle grinder and a flat 7" carborundum grinding wheel or sanding attachment to grind the Epoxy 500 and/or Epoxy 800 flush with the surrounding surface. This will be the best way to prevent the crack or joint repairs from showing through the completed color flake application.

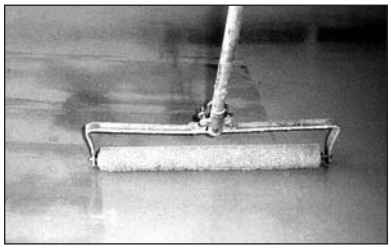
Patch holes or areas needing repair

Apply a bond coat (Resurfacer) if needed

3. PATCHING/RESURFACING

Before applying the Concrete Solutions Color Flake or Quartz System, the surface should be smooth to achieve the best possible finish. If needed, patch any holes, spalls or deteriorated areas of the surface using the Epoxy 500 and sand mix used for the cracks or Concrete Solutions Quick Set Patch Mix.

Apply Epoxy 200 with metal squeegee



Use roller to smooth out squeegee marks

If necessary, sand or grind patches when dry, to smooth them flush with the surface. Refer to the patching mix formulas given on the Polymer Concrete Mixing and Coverage Chart to make the proper mix according to the depth of the repairs. If no repairs are needed, skip to step four.

If the whole surface is damaged and needs to be resurfaced, a Bond Coat (Resurfacer) of Concrete Solutions Polymer Concrete or a coat of the Resurfacer Bag Mix can be applied. See the Polymer Concrete Mixing and Coverage Charts under Bond Coat for mixing and application instructions.

4. MIX PRIME COAT/COLOR BASE COAT

Once any repairs have been made, mix the Concrete Solutions Epoxy 200 Color by measuring two parts A to one part B or WB Epoxy Color by measuring one part A to one part B. The WB Epoxy Color is best for indoor jobs where very little odor can be tolerated. Mix for 3 – 5 minutes. Blend thoroughly using a drill motor and mixing paddle. Be sure to scrape the sides and bottom of the bucket with the mixing paddle. Mix only the amount of material that can be used within 20 – 30 minutes (approx. 1½ gallon).

For the Granite, Gray and Blue blends, the base color should be light or medium gray. For the Tan blend, the base color is Mojave Sand. For the Brown and Terrazzo blends, the base color is Adobe Tan. For the Red blend, the base color is Baja Red and for the Green blend, the base color is Greenstone. Read the technical data sheet for each product for mixing and application instructions before applying.

5. APPLY PRIME COAT/COLOR BASE COAT AND COLOR FLAKES OR QUARTZ

Once the Epoxy 200 Color is mixed, pour all of it out of the bucket in a thin row next to the starting edge. Do not leave it in the bucket for more than 10 minutes after mixing or it may set up and become hard. Spread it thin using the metal edge squeegee and then back-roll using a 1/4" nap paint roller to remove any squeegee marks. The person back-rolling should wear spiked shoes to be able to walk on the Epoxy 200 if needed. The coverage rate for the Epoxy 200 should be around 200 sq ft per gallon.

Apply Epoxy 200 Color or WB Epoxy Color to edges

Pour epoxy next to starting edge

Spread thin with 3/8" nap paint roller

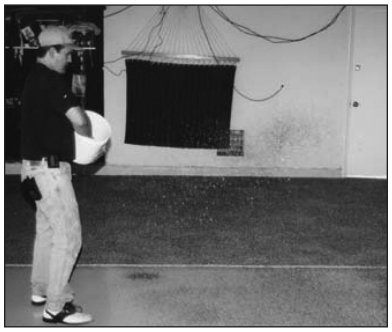
Have the color flakes or quartz ready in a two gallon bucket. Starting in one corner of the floor, apply the Epoxy 200 Color or WB Epoxy Color to the edges using a paint brush. After edging approximately 10 feet, pour a thin row of Epoxy 200 Color or WB Epoxy Color a few feet from the starting edge and begin spreading it over the floor in a thin, even coat approximately 200 – 250 sq. ft. per gallon, using a 1/4" - 3/8" nap paint roller.

When applying the Epoxy 200 Color or WB Epoxy Color, it will be necessary to broadcast the flakes or quartz within a few minutes since Epoxy 200 Color or WB Epoxy Color begins to dry within 10 minutes after rolling. Try to keep a wet

edge without stopping and begin broadcasting after the first 100 sq. ft. has been spread. The person broadcasting should be wearing spiked shoes to be able to walk out onto the Epoxy 200 Color or WB Epoxy Color and should be careful not to broadcast closer than a couple of feet from the wet edge where the other person is rolling.

Method 1: Heavy Broadcast (Flakes and Quartz) Instructions – For a heavy broadcast, the quickest method is to hold a two gallon bucket of flakes against your waist with one hand while using your other hand to quickly throw handfuls of color flakes up into the air. Throw them high into the air, as far and as evenly as possible over the wet Epoxy 200 Color or WB Epoxy Color while walking backwards towards the person rolling. Next to edges, walls and joints or in thin areas, lightly sprinkle the color flakes by hand to avoid throwing too many flakes in one area. It is okay to walk over the flakes with spiked shoes while broadcasting and sprinkling to achieve a more even distribution and to get to hard to reach areas. The person broadcasting flakes should be careful to keep them at least 1 – 2 feet away from the wet, leading edge of the Epoxy 200 Color or WB Epoxy Color where the other person is rolling. For quartz, simply broadcast to the point of refusal.

Method 1: When broadcasting with flakes, throw flakes up in the air by hand



Cover epoxy completely with flakes

Sprinkle flakes in thin areas or next to edges

Continue rolling and broadcasting until the entire surface is covered. Be careful not to broadcast more flakes or quartz than necessary to avoid running out before the job is completed. If it looks like you may run out, stop next to a joint to avoid having a seam line or, if there are no joints, be sure to get at least partial coverage over the entire area with the remaining flakes.

When the first coat of SB or HP Urethane clear sealer is applied over the surface, more flakes can be broadcast at that time if necessary to even out the appearance. If more flakes are broadcast, immediately back-roll over them with the sealer, or if a second coat of sealer will be applied they can be covered at that time.

Blow loose flakes to thin areas only if needed

Another method to use if you run out of flakes near the end of a job, is to use a blower while wearing spiked shoes to carefully blow excess loose flakes from the completed areas to the unfinished areas where more flakes are needed.

Note: While broadcasting, do not use the flakes from the bottom 1/2" of the bucket as they can sometimes become smaller and create an irregular appearance in the floor. However, it is okay to blend these flakes into the next full bucket of flakes.

Method 2: Medium Broadcast Instructions – A medium broadcast is done similar to the heavy broadcast except less flakes are sprinkled to allow some of the Epoxy 200 Color or WB Epoxy Color to show through. This method is more economical to apply but requires practice to achieve an even distribution of flakes, especially over large areas. The best way to apply a medium broadcast is to hold a smaller amount of flakes in your hand as you throw them high into the air. Practice different methods of broadcasting on a dry surface before broadcasting over the wet Epoxy 200 Color or WB Epoxy Color.

Broadcasting Flakes or Quartz on Vertical Surfaces: For vertical surfaces throw the flakes at close range against the coated vertical area until completely covered. If a medium broadcast is desired, throw smaller finger fulls of flakes against the vertical surface to achieve the desired look. It is easier to do the vertical areas first allowing them to dry to touch approximately one hour before doing the horizontal surfaces.

Sprinkle by hand for light to medium coverage

6. REMOVING THE LOOSE FLAKES OR QUARTZ AND SEALCOATING

Once the color flake or quartz broadcasting is completed and the Epoxy 200 Color or WB Epoxy Color application has dried (approximately 8 hours) or until completely dry, the next step is to blow and sweep up any loose flakes remaining on the surface. Blow the loose flakes against a wall into a pile, then scoop them up into a bucket. The excess quartz can easily be scraped up. The excess flakes or quartz can be re-used later on another job.

After sweeping and blowing the color flakes, scrape over the surface of the remaining flakes using the metal edge squeegee (available from Rhino Linings Corporation or many Concrete Solutions distributors) and blow off the surface again before applying the SB or HP Urethane or FastFloor® clear topcoat. The loose flakes gathered after scraping should be thrown away.

The SB or HP Urethane or FastFloor topcoat will provide a durable, stain resistant finish to protect the color flake application and help to keep it looking like new. Two coats of the SB or HP Urethane are best, especially over a full broadcast of flakes. For indoor jobs where a high build, low odor, smoother finish is desired, use Epoxy 600 instead of the SB or HP Urethane. Epoxy 600 is a self-leveling, clear epoxy. Use Floor Finish as a maintenance coat over the Epoxy 600. Do not use either Epoxy 600 or Floor Finish in garages or areas exposed to direct sunlight.

7. APPLYING THE CLEAR FINISH COAT

To apply the SB or HP Urethane clear, mix 2 parts A to 1 part B. Apply the SB or HP Urethane over the scraped color flakes using a 1/4" nap paint roller at a coverage rate of approx. 250 sq. ft. per gallon. While applying the first coat of SB or HP Urethane clear, look for any uneven or thin areas. While wearing spiked shoes, walk around and lightly sprinkle more flakes into the wet SB or HP Urethane where needed to achieve a uniform appearance. Once the first coat of SB or HP Urethane is completed and dry, usually within 8 – 10 hours (unless the SB or HP Accelerator is used) a second coat can be applied. Two coats are recommended to achieve the best finish. Before applying a second coat, carefully scrape and blow off the surface. To achieve a smoother finish, the first coat of SB or HP Urethane can be sanded using an orbital sander with 100 grit sand paper. Remove the dust from sanding using vacuum or a damp mop. Apply the second coat of SB or HP Urethane the same as the first and allow to dry for 24 hours before allowing light foot traffic and 72 hours for vehicle traffic.

For quicker return to service, apply FastFloor by mixing 1 part A to 1 part B. Spread FastFloor using a 1/4" nap paint roller at a coverage rate of 200 sq. ft. per gallon. Allow to dry for 2 – 4 hours before allowing light foot traffic and 24 hours for vehicle traffic.

Apply first coat of SB Urethane over flakes

Sprinkle flakes into urethane if needed to even look

Scrape surface and blow to remove loose flakes or quartz

Apply second coat of SB Urethane

SLIP/FALL PRECAUTIONS

Rhino Linings Corp. recommends using slip resistant granules in all outdoor applications where the SB Urethane will be used as a topcoat sealer and on indoor applications that may be exposed to water, oil or other spills that may cause a slippery environment. Aluminum oxide granules #80 grit or courser may be broadcast into the prime coat to achieve the amount of slip

resistance desired. It is the end user's responsibility to determine the suitability of a coating for their particular application. Rhino Linings Corp or its sales agents will not be responsible for injury incurred in a slip/fall accident.

WARNING

The SB and HP Urethane 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.

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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