

COLOR QUARTZ - EPOXY U100

1/8" DOUBLE BROADCAST DECORATIVE QUARTZ BROADCAST SYSTEM

QUARTZ-U100-PDS-042618

DESCRIPTION:

Smith's Color Quartz system is a seamless 1/8" finished thickness floor coating and cove system which can be utilized with different resinous product matrix' to suspend the Quartz. This system guide refers to using Smith's Epoxy U100 as the body coats to receive the quartz broadcasts, although other products may be used in different situations or when faster curing may be necessary.

Varies textures may be achieved depending on how smooth or textured of a surface is desired.

HIGHLIGHTS:

- Durable & Abrasion Resistant
- Decorative
- Seamless & cove optional
- Easy to clean
- High Chemical Resistant to most acids, bases, fuels, solvents, & alcohols
- Low Odor & Low VOC
 - Complies with VOC regulations for industrial maintenance coatings in the OTC & SCAQMD
 - FDA Title 21 subparagraph (b) CFR 174.5 – indirect food contact
 - No red label required for shipping
- Overnight return to service

- Multiple Extension Poles
- Spiked shoes or Soccer Cleats
- Flat Window Squeegee or Magic Trowel (optional)
- Sprayer for Solvent mottling (optional)
- Cleaning Solvent (Acetone, Xylene)
- Painters Tape
- Rags
- Plastic Measuring Pails

NOTE: The mix station and all application equipment should be ready for immediate use prior to mixing any product. Higher temperatures and humidity will shorten pot life.

CHECK FOR MOISTURE: Testing concrete moisture via both Calcium Chloride (ASTM F1869) and In-situ Relative Humidity testing (ASTM F2170) is recommended.

Acceptable Readings:

- Calcium Chloride testing (ASTM F1869)
<10 pounds and between 8.5 to 11.5 pH
- Relative Humidity (ASTM F2170)
<85%

Testing which occurs in non-acclimated interior environments will void the results. Follow the testing manufacturer's instructions precisely or visit www.astm.org, see ASTM F1869 or F2170, to purchase the test methods.

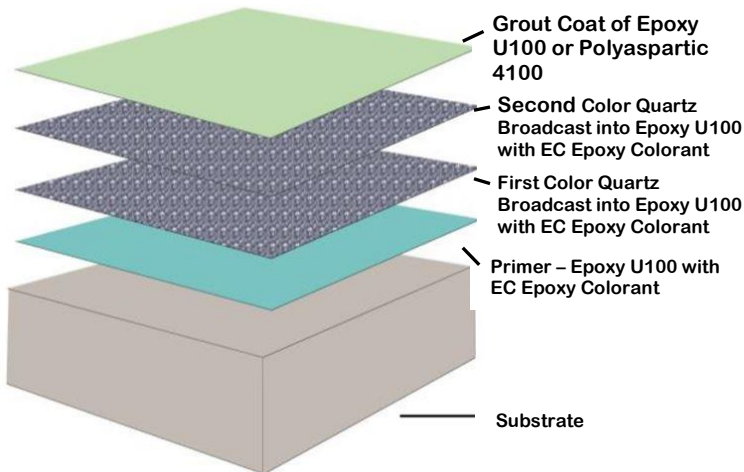
Should moisture vapor emissions exceed the above thresholds, an appropriate moisture vapor remediation primer, such as Smith's Epoxy MAC100 Regular Cure, Smith's Epoxy MAC125 Fast Cure or similar epoxy based moisture remediation primer with a full broadcast of sand. Silicate based "moisture vapor remediation" products cannot be proven to lower the vapor permeability nor can testing determine whether an acceptable permeability has been achieved after treatment.

The absence of an effective moisture vapor barrier may create an environment for moisture vapor transmission as well as high levels of alkalinity in concrete slabs (generally, but not limited to interiors). Smith Paint Products is not responsible for failures due to the presence of moisture vapor emissions and/or high levels of alkalinity.

CONTAMINATION OF SUBSTRATE: Concrete is porous and can become contaminated with oils, chemical from spills, etc. which act as a bond breaker. Determine if a potential bond breaker exists and a proper course of remediation.

OIL CONTAMINATION: [Smith's Oil Clean](#) may be used to remove oils, such as petroleum, synthetic and food oils, from the surface of the concrete prior to mechanical preparation. Wood substrates contaminated with oil may require removal and replacement of the oil contaminated area with new wood to ensure proper adhesion.

CHEMICAL CONTAMINATION: Chemical contamination should be determined and may require additional testing. Once the type of contaminant is determined, contact Smith Paint Products for recommendations while following local regulations regarding contaminant and disposal.



AREA PREPARATION: Be sure to mask or cover all areas that are not intended to be coated; including, but not limited to; door frames, doors, walls and windows.

NECESSARY TOOLS and EQUIPMENT:

- Plastic Sheeting or Ram Board to cover floor for mix station
- Jiffy mixing paddle
- Low speed 1/2" drill (Variable Speed 650 rpm or less)
- 5 gallon Plastic Mixing Buckets
- Premium, Non-Shed 3/8" Nap Paint Roller Covers
- 18" wide, non-metallic Paint Roller Frames





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SUBSTRATE PREPARATION

CLEANING: Detergent scrub with [Smith's Neutral Detergent](#), or similar, and rinse with clean, potable water to remove surface dirt, light surface grease/oil and contaminants prior to mechanical preparation. Heavy grease and oil should be removed using [Smith's Oil Clean Pro](#). If a densifier or dissipative curing compound is believed to have been present, use Smith's Green Clean Pro biodegradable etching gel after mechanical preparation methods.

MECHANICAL PREPARATION: Achieve a CSP 3 to 6 (Concrete Surface Profile in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute) yielding a surface texture similar to 80 grit sand paper or more coarse in order to maintain long term adhesion to the substrate. Should verification of proper adhesion be desired or when applying Smith's Double Broadcast Color Quartz system over an existing coating, follow ASTM D 4541 using an Elcometer to determine a direct tensile pull-off strength greater than 250 psi (1.7 MPa) to pass the test. It is highly recommended that a 10 foot by 10 foot test area be applied of the entire desired coating system and allowed to cure for no less than 1 month prior to performing an in-situ direct tensile bond test to determine adhesion strength values.

Recommended preparation methods below:

- **Diamond Grind:** Use 16 to 25 grit metal soft bond diamonds with an appropriate industrial, weighted head floor grinder to thoroughly remove the concrete surface until uniformly white.
- **Steel Shot Blast (Shot size S-230 to S-330 grit recommended):** Uniformly profile and clean concrete substrates overlapping each pass until white, clean concrete exists. Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust. Avoid stationary blasting as micro-cracking the concrete surface may potentially causing future coating delamination.
- **Scarify:** Sweep to remove large debris and vacuum to remove fine dust. Scarify to uniformly remove the concrete surface until white. Thoroughly vacuum all dust and debris. Ideal preparation method for weak concrete surfaces, previously coated floors, adhesive residues or applications greater than 125 mils thick
- **Silicate Remediation:** [Smith's Green Clean Pro](#) buffered etching compound used as a remediation method for removing densifiers/silicates after one of the above mentioned mechanical preparation methods. A uniform sandpaper like finish must be achieved with no patterning or dis-similar appearance. Shiny areas will need further treatment.

NOTE:

- DO NOT USE MURIATIC/HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR
- When etching, ensure all Green Clean Pro has been thoroughly removed with potable water with no remaining soapy residue or cement slurry
- DO NOT USE on "Green" concrete (less than 30 days old), Hard Trowel Finished concrete or previously sealed/coated/painted concrete to including any type of curing compound

*Key in all termination points using a diamond cutting blade prior to any above preparation method.

Please refer to ICRI Guideline 310.2R2013 for more in-depth

preparation details and recommendations.

JOINTS: Cut all joints open with a Diamond cutting blade and fill with an appropriate semi-rigid epoxy joint filler prior to priming the substrate. As Epoxy U100 is not as flexible as a moving joint, honoring of the joint at the surface after the resurfacing layer is applied then fill with an appropriate joint filler can lessen joint telegraphing. Please contact Smith Paints for more recommendations for crack repairs, joint wall rebuilding, etc.

PRIMING: Mix Smith's Epoxy U100 epoxy at a ratio of 2 parts by volume Part A to 1 Part by volume Part B in a clean mixing vessel and pour onto the prepared substrate in a straight ribbon. Using a flat squeegee or flexible blue steel smoother, spread the mixed Epoxy U100 in a thin, even manner leaving no bare spots. Keep a wet edge while placing additional batches working fresh material into the prior batch. For a single primer layer, apply 5-10 mils of Epoxy U100 (Ideal yield should be 160 to 320 sq.ft. per gallon) to ensure proper penetration into the substrate. Very porous substrates may look blotchy after priming and may require an additional coat of primer to avoid bubbles in the body coat. If repriming, there is no need to wait for the first coat of primer to completely dry but the second coat must be placed within 24 hours to ensure intercoat adhesion otherwise sanding of the first coat must occur.

RADIUS OR CANT COVE: Cove must be applied into fresh primer otherwise the cove mix will slide across the cured primer surface.

Mix 1 quart Epoxy U100 Part A with 1 quart of Silica Fume (i.e. Cab-O-Sil or similar) to a homogenous, lump free consistency then mix in pint of Epoxy U100 Part B for 60 seconds. Once the Cove Matrix is mixed, add in 4-5 parts by volume (10 to 12.5 quarts) of Color Quartz mixing for an additional 1-2 minutes or until thoroughly blended. Slowly add in the Color Quartz while the drill is running to avoid dry pockets of Color Quartz in the mixture. Immediately begin troweling the cove blend onto the wall and finish. *Do NOT mix more material than can be placed, finished and tied into with subsequent batches within a 15-20 minute period at 75°F substrate temperature.* Epoxy GEL150 may be used in place of mixing Epoxy U100 with Silica Fume.

BODY COAT:

Once the primer layer has cured enough to walk on without damaging the surface, mix up to 3 gallons of Epoxy U100

- 2 gallons Epoxy Parts A
- 1 gallon Epoxy Part B
- 1 unit of EC Epoxy Colorant

Mix for 2 minutes then pour mixture onto the substrate in ribbons. Immediately spread using a 1/16" x 1/16" V-Notched Squeegee to meter out the body coat then backroll with a 3/8" nap non-shed paint roller on an extension pole. While the epoxy is fresh, begin seeding in the color quartz to rejection until no epoxy or damp areas are seen. Continue this process until the entire area desired to be coated is finished. Allow to dry until the floor can be walked on without dislodging the Color Quartz from the epoxy then sweep up and thoroughly vacuum off the loose Color Quartz reclaiming this quartz for the next step or later phases.

Repeat this step using clear Epoxy U100 for the second broadcast





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layer.

GROUT COAT: Once all of the loose, excess Color Quartz has been removed from the second broadcast layer, scrape off any sharp quartz ridges then thoroughly vacuum the entire surface twice. First in a North-South direction followed by a second pass vacuuming East-West.

The clear grout coat may utilize several different products depending on the application, chemical exposure, UV stability needed as well as how smooth or rough of a textured finish is desired. Grout Coat product options include:

- Smith's Epoxy U100 (Summer Formula/Regular Cure)
- Smith's Epoxy FC125 (Winter Formula/Fast Cure)
- Smith's Epoxy GEL150 (Orange Peel Texture Gloss Finish)
- Smith's Polyaspartic 1000 Fast Cure (Solvent Based)
- Smith's Polyaspartic 2000 Long Pot life (Solvent Based)

Ambering/Yellowing is typical of epoxy based products and will occur faster when exposed to UV light. UV Stabilizer additives only slow this process. If ambering/yellowing is a concern, please use one of the above Polyaspartics for grout coating over the Quartz.

Mix the desired product and pour out in ribbons onto the color quartz then immediately spread with a flat squeegee. Continue mixing and spreading the grout coat keeping a wet edge between batches. While where cleats, walk into the fresh grout coat and backroll with a 3/8" nap paint roller attached to an extension pole to finish. DO NOT AGGRESSIVELY agitate while rolling to avoid air entrapment and a foggy finish.

OPTIONAL LAYERS or TOPCOATS: Allow the grout coat to cure before walking on, sanding or applying any optional proceeding layers and topcoats. Cooler temperatures and thicker applications of the grout coat will extend the cure time. Please see the individual product data sheet for more details.

If topcoating or additional layers are desired, sanding of the surface (for adhesion) within the first 24 hours after at temperatures below 85°F is not required. However, beyond 24 hours, the surface will need to be abraded using 80 grit sandpaper using an orbital Low Speed Swing Buffer to abrade the surface then cleaned prior to the next layer. If sanding, a good rule of thumb is to wait overnight to avoid damaging the fresh grout coat; however, Epoxy FC125 and Polyaspartic 1000 can be sanded after a couple of hours with temperatures above 75°F. More aggressive grit screens or sandpaper may create burns, scuffs and other surface defects, especially within 12 hours after the initial installation, which topcoats and subsequent thin layers may not hide. Hard to reach areas or any depressions should be made uniformly dull using an orbital palm sander and 60 to 100 grit sandpaper. Done correctly, the surface should be uniformly dull with no scratches easily identified.

Once uniformly dull and properly abraded, vacuum the entire surface followed by either a thorough Acetone solvent tack rag wipe or use an auto-scrubber with white, soft nylon bristle brushes and a very mild neutral detergent and then a clean water rinse. Once dry, check the surface to ensure all dust has been removed

before proceeding with the next layer.

MAINTENANCE: *The coating system must be allowed to cure for no less than one week (7 days) before using any mechanical cleaning equipment on the surface and no less than 24 hours before neutral cleaner or water exposure.. This includes auto-scrubbers, swing buffers, sweepers, etc. Only dust and wet mop the first week. If a topcoat of Smith's Polyaspartic was applied, wait a minimum of 3 days before using mechanical cleaning equipment.*

Regular cleaning, to include dust mopping, is crucial to maintain the appearance and to achieve the appropriate longevity of any floor coating system. Cleaning cannot occur too often. Spills should be removed quickly. Avoid the use of Polypropylene or abrasive bristle (Tynex®) brushes as these are known to create scratch patterns and lower the sheen of the finish.

Proper maintenance will help to maximize your investment by removing particles that scratch and dull the appearance of a floor coating. The floor should be swept daily and scrubbed once per week or per month depending on the amount and type of soils present. Environments with oils or regulated by health departments will need a more strict cleaning regiment.

DETERGENT: Always use the least aggressive detergent necessary to remove the residue. Typically, coated floors may only need a detergent scrub on a weekly or monthly basis depending on the environment. Daily dust mopping or water only mopping/scrubbing is highly recommended. Environments with exposure to foods, oils, chemicals, ink, etc. should be detergent scrubbed daily, possibly enough after every shift.

Caution: Do not drag or drop heavy objects across any floor, including coatings as scratching, gouging or chipping may occur to the concrete or the coating itself. This includes the tip of the forks on a forklift, nails protruding from a pallets, etc.

Rubber tires are prone to plasticizer migration, especially aviation tires and high performance car tires. Plasticizer will stain coating and commercial flooring leaving an amber, yellow-like stain that can be permanent. This can be more noticeable where aircraft or vehicles are stationary for longer period of time, more so in non-climate controlled environments such as aircraft hangars with lighter colored floors. To avoid plasticizer staining, use a piece of Plexiglas® or LEXAN® panels, cut a few inches in diameter larger than the tires that will rest on the panels, between the floor and the contact point of the tire when storing rubber tired vehicles on any floor, including floor coating systems.

Avoid spinning tires on the surface of a coated floor. The heat created from the friction of a spinning tire will quickly soften the coating causing permanent damage to the finish.

Should a gouge, chip or scratch occur, touch-up the damaged areas immediately to avoid chemical or water intrusion to the concrete which could create additional damage. A thin layer of clear nail polish to the damaged area will provide some minimal protection until the area can be properly repaired.

SLIP RESISTANCE: Smith Paint Products recommends the use of angular slip-resistant aggregate in all coatings that may be exposed to wet, oily or greasy conditions as well as any condition where increased traction may be necessary. It is the contractor





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and end users' responsibility to determine the appropriate traction needs and footwear necessary for the conditions as well as setting performance parameters prior to beginning the application, testing to determine parameters have been met upon completion to achieve the end users documented safety standards.

Mock-ups are highly recommended as part of the evaluation process to determine the appropriate amount of slip-coefficient necessary for the environment.

LIMITED LIABILITY: Liability is limited to replacement of defectively manufactured product of the same type and cost of the originally purchased product upon presentation of a valid, fully paid invoice at the time of a claim. No warranty shall be granted for outstanding invoices or for accounts with unpaid balances until paid in full. No damages, whether consequential, liquidated or other, shall be provided under this Limitation of Liability and Limited Warranty. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SMITH PAINT PRODUCTS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SHOULD YOU NOT AGREE WITH ANY OF THE ABOVE TERMS, DO NOT PURCHASE THE PRODUCT(S). Should a product defect be suspected at the time of application, cease use of the product immediately and notify Smith Paint Products for investigation as you will be responsible for the cost to repair or replace any work performed with product(s) suspected of defect. Record batch codes and save all products you purchased in order for any warranty to occur allow with the invoice that matches said quantity. Defects determined after installation must be reported to Smith Paint Products within 10 business days of discovery.

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