

Smith's COLOR QUARTZ DOUBLE BROADCAST - 1/8" THICK

System Application Guide

QUARTZ-U100-PDS-030722

DESCRIPTION: Smith's Double Broadcast Color Quartz system is a seamless 1/8" finished thickness (125 mils average) floor coating with the option of seamless cove. This system can be utilized with different resinous product matrix' to suspend the Quartz, such as 100% solids epoxy, cementitious urethanes and Polyaspartics. Smith's Double Broadcast Color Quartz yields a decorative yet very durable flooring system with the ability to achieve a mild to coarse surface texture for use in a variety of applications and traction needs.

This application guide refers to using a Smith's epoxy based product 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.

RECOMMENDED USES:

- Kennels & Veterinary environments
- Automotive Service & Wash Bays
- Car Washes
- Commercial Kitchens (*See [Smith's CPR](#) for thermal shock exposure environments)
- Food & Beverage – Canning, Bottling, & Distribution
- Educational Environments – Laboratories, Locker Rooms, Restrooms, Pool Decks & more
- Medical/Pharmaceutical – Laboratories, Locker Rooms, Water Therapy rooms, Restrooms, Corridors and more

HIGHLIGHTS:

- Durable & Abrasion Resistant
- Decorative
- Seamless & cove optional
- Easy to clean
- Chemical Resistant
- Does not Harbor Bacteria
- Meets FDA standards

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. Use plastic sheeting, Ram Board, cardboard or similar to cover the mix station floor from spills during installation.

NECESSARY TOOLS and EQUIPMENT:

- Painters masking tape or Stucco tape
- 2" wide chip paint brushes
- 4" or 6" wide 3/8" nap trim paint rollers and frames
- Quartz blower or extra 5 gallon paints for seeding Quartz
- Paint or Jiffy mixing paddle
- Low speed 1/2" drill (<450 rpm)
- Gauging tool:
 - 1/16" X 1/16" V-Notch Squeegee for metering 12 -15 mils
- Flat blade Squeegee for grout coat
- 5 gallon pails for mixing
- Premium, Non-Shed 3/8" Nap Paint Roller Covers
- Paint Roller Frame with Extension Pole
- Spiked shoes or Soccer Cleats
- Cleaning Solvent (Acetone, MEK, Xylene)

INSPECT THE SUBSTRATE: Ensure the substrate is structurally sound, solid, and free of any bond breaking contaminants, such as oil/grease, paint, densifier/sealers, curing compounds, wax, silicone, etc.

- [AAR \(Alkali Aggregate Reaction\)](#)
 - [ACR \(Alkali-Carbonate Reaction\)](#)
 - [ASR \(Alkali-Silica Reaction\)](#)
- Hydrostatic Pressure
- Near Surface ASR (may occur in certain environments which have been topically treated with Sodium Silicates or Potassium Metasilicates)
- Substrate contamination (i.e. Oils, Solvents, PERT, PCB's, Silicone, etc.)

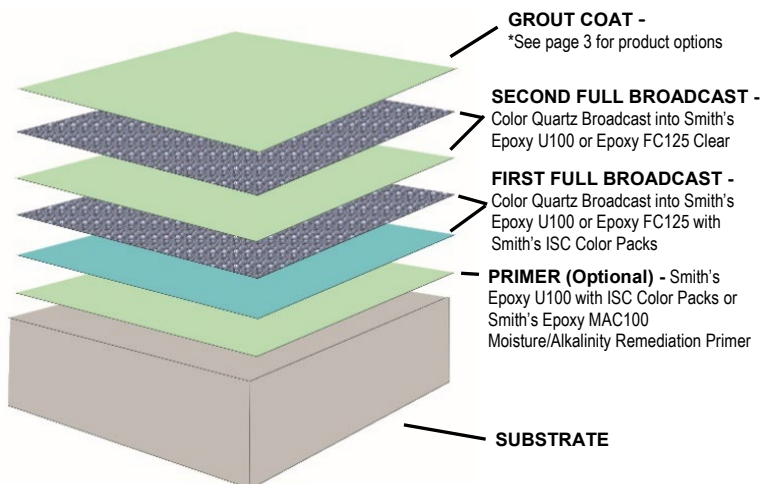
*See individual product data sheets for in-depth procedures regarding substrate contamination, silicate contamination, oil remediation, Moisture vapor transmission, etc.

CHECK FOR MOISTURE: Testing concrete moisture via Calcium Chloride testing (ASTM F1869) and In-situ Relative Humidity testing (ASTM F2170) is recommended. For Calcium Chloride testing, readings must be below 3 pounds in accordance with properly testing as well as between 8.5 to 11.5 pH and below 75% relative internal concrete humidity.

[Smith's Epoxy MAC100](#) or [Smith's Epoxy MAC125](#), in conjunction with proper testing and mechanical preparation, will reduce the moisture vapor emission rate to a level within the tolerance of subsequent coatings and traditional floor covering needs.

Follow the testing manufacturer's instructions precisely or visit www.astm.org, see ASTM F1869 or F2170, to purchase the test methods. Testing MUST occur within an acclimated, interior environment for the results to be valid and conclusive.

NEVER USE SILICATES FOR MOISTURE VAPOR REMEDIATION.



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TEMPERATURE and HUMIDITY: Do not install coatings when the Dew point is within 5° of the temperature.

SUBSTRATE PREPARATION: Mechanical substrate preparation is the *most important phase of a success floor coating application*. The more detail and time dedicated to preparation will dramatically affect the appearance as well as the durability of the finished floor. Proper floor preparation maximizes the product longevity, minimizes potential failures and creates the best environment for an aesthetically pleasing installation.

- 1) Clean the substrate with a detergent scrub using [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](#)
- 2) Allow new concrete to cure for at least 28 days to obtain ideal design strength of the concrete to allow for proper preparation*
 - a. ***Minimum 28 day cure per 1" thickness for optimal moisture content**
 - b. Coatings applied to a damp or incompletely cured concrete substrate may loss of adhesion or develop undesirable surface irregularities. Moisture Vapor Testing is always recommended when coating directly over concrete
 - i. When fast track construction is necessary over a newly poured concrete slab, allow a minimum of 10 to 14 days cure at 72°F then mechanically prepare the concrete as stated below prior to applying [Smith's Epoxy MAC100](#) or [Epoxy MAC125](#) with Smith's ISC color packs added at no less than 10 mils immediately followed by a full broadcast to rejection of the desired color Quartz blend into the wet MAC series primer. Then proceed as stated on Page 3 "Body Coat" section with the second broadcast and subsequent layers of this system
- 3) Concrete Surface Profile - CSP 3 to CSP 4 must be achieved via mechanical preparation. If water is introduced to the intended application area, allow substrate to fully dry. Please refer to ICRI Guideline 310.2R2013 for more in-depth preparation details and recommendations
- 4) Remove paint, adhesives and loose particulates from the intended application surface

NOTE:

- DO NOT USE MURIATIC/HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR

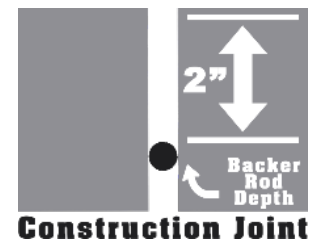
Please refer to ICRI Guideline 310.2R2013 for more in-depth preparation details and recommendations.

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.

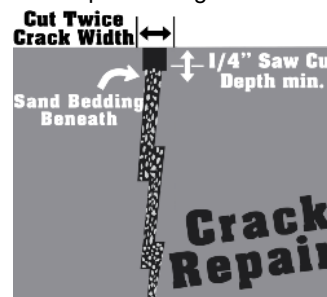
JOINTS: Cut all joints open with a Diamond cutting blade and fill with an appropriate semi-rigid joint filler, such as [Smith's Poly JF](#) or [Smith's Poly JF/FC](#). Use a dry fine grade washed sand to prefill joints to provide a bond break at the bottom and to support the joint filler. Use a broom to remove any excess sand leaving the recess twice the width of joint.



Epoxy 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's for more recommendations for crack repairs, joint wall rebuilding, etc.



CRACKS, CHIPS & GOUGES: Patching of chips, gouges, etc. may be repaired with a variety of different, compatible coating materials, to include but not limited to, [Smith's SKM](#); [Smith's Epoxy GEL150](#) / [Smith's Epoxy GEL150/FC](#); [Epoxy U100](#) / [Smith's Epoxy FC125](#) mixed with Silica Fume; [Smith's Poly PCF-45](#) or similar. Ensure resinous patching products are hard enough to walk on without imprinting or damage before proceeding.



Resinous repair methods are preferred vs. cement-based products. Should a cementitious repair compound be used for repairs, it *must*:

- non-water soluble
- rated for exterior use
- state "for use under a resinous coating" or similar on the cement product data sheet

Cement based repair compounds require additional cure times prior to coating with a high solids resinous coating (at 72°F / 50% Humidity): *Follow cement manufacturers recommended cure rate for moisture-cured adhesives

- Polymer-Modified Portland Cement-based Overlays & Mortars >5,000 psi; Rated for Exterior & Interior usage
Cure for 2 to 3 days per 1/4" ave. thickness
* Portland Cement-based Self Leveling Underlayments NOT RECOMMENDED
- Calcium Alumina & CSA Cement-based Mortars & Trowel Grade Patching Compounds >5,000 psi, Rated for Exterior & Interior usage
Cure for 24 hours per 1/4" ave. thickness
- Gypsum-based cementitious products, to include synthetic gypsum = NOT RECOMMENDED



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RADIUS OR CANT COVE: Prime wall surface with [Smith's Epoxy U100](#) using a paint brush or trim roller. Cove must be applied into fresh, wet primer otherwise the cove mix will slide across the cured primer surface.

Option 1 - Mix 1 quart [Epoxy U100](#) Part A with 1 quart of Silica Fume (i.e. Silica Fume 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 to 5 parts by volume (10 to 12.5 lbs. quarts per 3/4 gallon mixture of Epoxy U100/Silica Fume) of Quartz mixing for an additional 1 to 2 minutes or until thoroughly blended. Slowly add in the Quartz while the drill is running to avoid dry pockets of Quartz in the mixture. Immediately begin troweling the cove blend onto the wall and finish.

Option 2 – [Smith's Epoxy GEL150](#)

3/4 gallon Smith's Epoxy GEL150 to 29 to 36 lbs. Color Quartz

Volume Mixture for Cove:

- 2 Parts [Smith's Epoxy GEL150](#) Part A
 - 1 Part [Smith's Epoxy GEL150](#) Part B
- Mix for 2 minutes then continue mixing while adding the following:
- 12 to 15 Parts Color Quartz

Mix for an additional 1 to 2 minutes or until thoroughly blended while the drill is running slowly to avoid dry pockets of sand in the mixture. Immediately begin troweling the mixture onto the freshly primed wall and finish.

Do NOT mix more material than can be placed, finished & tied into with subsequent batches within a 15 minute period at 75°F substrate temperature.

Cove Type & Size	Single Batch Yield (29 lbs. Aggregate to 3/4 gal Epoxy)
45° Cant Cove – 2"	21.5 lin.ft.
45° Cant Cove – 4"	10.75 sq.ft.
2" Radius Cove	30 lin.ft.
4" Radius Cove	15 lin.ft.
6" Radius Cove	10 lin.ft.
8" Radius Cove	7.5 lin.ft.

***Substrates exposed to sunlight during installation will reduce working time in that area of the floor**

****DO NOT MIX AT HIGH SPEEDS** to avoid air and moisture entrapment

FIRST BODY COAT:

- 1) Mix 3 gallons of epoxy with 1 can of Smith's ISC color packs for 2 to 3 minutes. Options for epoxy body coat:
 - a) [Smith's Epoxy U100](#)
 - b) [Smith's Epoxy FC125](#)
 - c) [Smith's Epoxy UCE200](#)
- 2) Pour mixture onto the substrate in ribbons
- 3) Immediately spread using a 1/16" x 1/16" V-Notched Squeegee to meter out the body coat
- 4) Backroll with a 3/8" nap non-shed paint roller on an extension pole
- 5) While the epoxy is fresh, begin seeding in the Color Quartz to rejection until no epoxy or damp areas are seen. Typical coverage is 100 sq.ft. per 50 lbs. bag of Color Quartz
- 6) Continue this process until the entire area desired to be coated is finished
- 7) Allow to dry until the floor can be walked on without dislodging the aggregate from the epoxy then sweep up and thoroughly vacuum off the loose sand reclaiming the excess for later phases/use, if desired

SECOND BODY COAT:

- 1) Mix 3 gallons of clear epoxy for 2 to 3 minutes. Epoxy options:
 - a) [Smith's Epoxy U100](#)
 - b) [Smith's Epoxy FC125](#)
 - c) [Smith's Epoxy UCE200](#)
- 2) Pour the clear epoxy mixture onto the substrate in ribbons
- 3) Pour mixture onto the substrate in ribbons
- 4) Immediately spread using a 1/16" x 1/16" V-Notched Squeegee to meter out the second body coat
- 5) Backroll with a 3/8" nap non-shed paint roller attached to an extension pole
- 6) Repeat full broadcast of Color Quartz into fresh second body coat at a rate of 100 sq.ft. per 50 lbs. bag of Quartz
- 8) Allow to dry until hard set and floor can be walked on without dislodging the aggregate from the epoxy
- 9) Once hard set / dry, sweep, scrape then thoroughly vacuum to remove excess quartz

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, U.V. stability needed as well as how smooth or rough of a textured finish is desired. Grout Coat product options include:

- [Smith's Epoxy UCE200](#) (Ultra Clear 100% Solids – Long Working time)
- [Smith's Epoxy U100](#) (Chemical Resistant – Regular Cure Formula)
- [Smith's Epoxy FC125](#) (Chemical Resistant – Winter Formula / Fast Cure)
- [Smith's Epoxy GEL150](#) (Chemical Resistant Orange Peel Texture Gloss Finish)
 - Optional [Smith's Epoxy U.V. Absorber additive](#) for above epoxy products
- [Smith's Polyaspartic 1000](#) (76% Solids, Solvent Based – Fast Cure)
- [Smith's Polyaspartic 1500](#) (76% Solids, Solvent Based – Reduced Odor)
- [Smith's Polyaspartic 2000](#) (76% Solids, Solvent Based – Long Pot Life)
- [Smith's Polyaspartic 5000](#) (High Solids, Low Odor – Regular Cure)



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Ambering/Yellowing is typical of epoxy based products and will occur faster when exposed to UV light. UV Stabilizer additives, including [Smith's Epoxy U.V. Absorber additive](#), 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 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.

Select a topcoat appropriate for the traffic, chemical exposure and environment. Typical topcoats for Smith's Double Broadcast Color Quartz system are:

- [Smith's Hi-Wear 90S](#)
- [Smith's CRU'86](#)
- [Smith's MCU-60](#)
- [Smith's Poly-WB](#)
- [Smith's Polyaspartic 1000](#)
- [Smith's Polyaspartic 1500](#)
- [Smith's Polyaspartic 2000](#)
- [Smith's Polyaspartic 5000](#)

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 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 as well as consulting with a third party testing firm for in-situ slip co-efficient of friction testing.

MAINTENANCE: *The coating system must be allowed to cure for at least 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.*

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 (Tyrex®) 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 regimen.

DETERGENT: Always use the least aggressive detergent necessary to remove the residue. 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 at least daily.

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.

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