



QC Concrete Resurfacer HD

Product Information Bulletin 31.0507P

QC CONCRETE RESURFACER HD

QC CONCRETE RESURFACER HD is the preferred material for trowel-down/spray textures in exterior/interior applications. QC CONCRETE RESURFACER HD is a three-part polymer-modified cementitious coating, consisting of a unique vinyl polymer liquid and a cement aggregate blend. The material is applied in multiple coats by brush, roller, squeegee, trowel or sprayer to a typical thickness of .90 mils. It can be applied over almost any clean, sound surface including concrete, cement block, tile, metal, and wood.

Use and Benefits

- Provides a sprayable cementitious coating for exterior and interior concrete surfaces.
- Extraordinary adhesion and its ability to withstand prolonged pedestrian and vehicular traffic.
- Provides a tough water-retardant coating that substantially reduces water penetration, freeze-thaw scaling and concrete carbonation.
- It is a “breathable” coating that releases normal entrapped vapor without loosening or blistering.
- QC CONCRETE RESURFACER HD is available in two base colors – white and natural cement.
- QC CONCRETE RESURFACER Liquid Tint Packs are available to achieve additional colors.
- Recommended Thickness: 90 mils ($\frac{3}{32}$ " (2.38 mm))

NOTE: Order QC CRACK REPAIR KIT* for all cracks and construction joints.

Before Any Application

1. REQUIRED EQUIPMENT

Heavy Duty $\frac{1}{2}$ " Drill and “Jiffy” Mixing Blade
Mixing Containers
Muriatic Acid (15% Solution)
Power Washer (2,500 psi)
Crack Router or Grinder with Masonry Cutting Blade
Caulking Guns and Polyurethane Sealant (Sika Flex 1-A or equal)
Rectangular Steel Trowels, Pool Plaster Trowel, Walking Trowel
Acoustic Texture Rig or Hopper Gun; Mortex-type Dash Brush or Rice Brush
Brushes and Rollers ($\frac{1}{2}$ " and $\frac{3}{16}$ " Nap)
Spiked Shoes
Brooms, Air Blowers
Duct Tape and Masking Paper

2. QC CONSTRUCTION PRODUCTS utilizes the International Concrete Repair Institute’s (ICRI) Concrete Surface Profile (CSP) standards for specifying finished surface roughness prior to applying QC CONCRETE RESURFACER HD. For proper adhesion, the surface must be a minimum #2 in accordance with ICRI’s CSP chart. Contact the International Concrete Repair Institute at www.ICRI.org, or QC CONSTRUCTION PRODUCTS for more information on these surface profiles.

3. Remove all loose decking material, paint or other coatings. Remove all spalled concrete. In particular, be sure to remove all grease, oil, silicone coatings, or any other material on concrete that would prevent adhesion. Generally, concrete is to be etched with a 1:4 solution of Muriatic Acid and water to remove alkali deposits or loose particles on the surface. Thoroughly neutralize the acid by pressure washing with detergent solution, such as dilute QC CONCRETE DEGREASER AND NEUTRALIZER*, and water. Grinding, shotblasting or power scarifying are also acceptable methods. **CAUTION:** Remove acid residue in accordance with safe-handling practice and in compliance with general regulations. Fill major depressions or cavities in concrete or deck coating with an appropriate repair mortar.

4. Ensure the deck and all repairs fall $\frac{1}{8}$ " per linear foot minimum to provide for proper drainage.

5. Concrete decks should have a control joint system worked out to meet all known deck-stress concentration points. A good quality polyurethane sealant, such as Sika 1-A or equal, can be used to fill expansion joints, generally after application of the coating. Install backer rod in deep joints to prevent 3-sided adhesion of the sealant. Joint design should accommodate the movement expected. Generally, the depth of the joint should be no more than $\frac{1}{2}$ the width. Priming of the side walls of the joint with an epoxy primer is highly recommended.

6. Control joints and moving/working cracks in the existing concrete are expected to transfer through the surface of the topping and create potential cracking problems. To isolate moving cracks, use the QC CRACK REPAIR KIT* according to the kit instructions. In the case of existing joints or saw cuts, new joints or saw cuts must be placed in the QC CONCRETE RESURFACER HD directly over the existing joints or saw cuts. Any new joint or saw cut must penetrate entirely through the new QC CONCRETE RESURFACER HD layers.

Application

Correct mixing of QC CONCRETE RESURFACER HD is absolutely essential to the proper functioning of the materials.

1. Open the QC CONCRETE RESURFACER HD Liquid container and pour off about half of the liquid into another clean five-gallon pail. Then, with a flat stick, stir the bottom of the original container to bring up any solid residue that may have settled on the bottom of the original pail. Then “box” the liquid back and forth a couple of times with the other part of the pail.

2. Optional – Add one QC CONCRETE RESURFACER HD Liquid Tint Pack to each 5-gallon container of liquid and mix thoroughly prior to adding powder component to the liquid to achieve desired architectural colors.

3. To make a full “unit” of QC CONCRETE RESURFACER HD, pour five gallons of stirred and boxed liquid into a large mixing container. Start mixing with an electric drill mounting a “Jiffy” impeller-type mixing blade, or equal. Then **gradually** add about two bags of QC CONCRETE RESURFACER HD Base Coat into the mixing container. Never reverse the procedure and attempt to pour the liquid into the powder.

NOTE: See “Application Steps” below for exact mix ratios for each coat.

4. After the material has been mixed free of any obvious lumps, continue to mix for at least **two more minutes** with the “Jiffy” blade submerged in the mix and held at an angle. You will observe that the mix gradually loses its grainy look and develops a creamy appearance. These two minutes of final mixing is essential to eliminate dry pockets of unmixed material that could produce pinholes and white efflorescing in the finished work.

5. Apply QC CONCRETE RESURFACER HD **immediately upon completion** of mixing. Working time of material at 70 °F (21 °C - 24 °C) is about 30 minutes. Mix no more material than can be applied in that time. Discard any material that starts to set up in the mixing container. Do not attempt to re-temper material. **Keep material stirred to avoid aggregate settling in container during use.**

STEP ONE – BOND COAT

The bond coat is applied to prime and condition the surface.

A. Slightly dampen any concrete and masonry surfaces with water before applying the bond coat. Recommended method for dampening is with a water hose spray nozzle or a hand-held pump garden sprayer. Do not dampen to a point where surfaces are shiny wet—only damp. Non-porous surfaces such as metal, tile, etc. do not require dampening.

B. For a bond coat application mix together the following:

QC CONCRETE RESURFACER HD Liquid	5-gallons
QC CONCRETE RESURFACER HD base coat	1- $\frac{1}{2}$ bags

Blend these materials together thoroughly by “Jiffy”-mixer drill mixing. Apply the bond coat material immediately upon completion of mixing. Keep material stirred to avoid aggregate settling in container during use.

C. Trowel or Squeegee the bondcoat over the concrete for best results. Be sure to work the material into porous concrete surfaces. To produce a smoother, flatter surface on concrete that has surface irregularities, pits, and voids, trowelling is recommended. On large areas, it is recommended to squeegee the bond coat material for fastest production. Use an inexpensive brush to apply bond coat material in corners and cove the material up at walls. The above mix of bond coat should cover about 500 sq. ft. Cure time for the bond coat is 2-4 hours or until no material comes up when you press your foot down on the deck and swivel it under weight.

D. An additional coat of bond coat material may be required to grout or smooth out the surface for certain texture finishes. For a grout coat application mix together the following:

QC CONCRETE RESURFACER HD Liquid	5 gallons
QC CONCRETE RESURFACER HD base coat	1- $\frac{1}{4}$ bags

Scrape-trowel the grout material to fill all voids or pinholes in reinforcing fabric and to smooth or level-up surface as required. A flexible tool such as a plastic Bondo Spreader is very effective for smoothing out material at wall coves. *Coverage is approximately 600 sq.ft. per mix.*

STEP TWO – TEXTURE COAT

The texture coat is designed to provide a uniform, slip-resistant, decorative finish where desired. A variety of functional or decorative texture finishes may be applied. The most common textures applied around pool decks are as follows:

Knockdown Finish – To produce a contemporary, decorative Monterey or Travertine finish, the mix ratio is:

QC CONCRETE RESURFACER HD Liquid	5-gallons
QC CONCRETE RESURFACER HD base coat	2- $\frac{1}{4}$ bags

When using this finishing technique, it is important to keep the viscosity of the material consistent from one batch to the next. The ideal material viscosity or consistency for a knockdown finish is similar to thick pancake batter. An easy way to judge material viscosity is to run your finger across the surface of the material in the mixing pail; the material should be stiff enough to leave a rut behind your finger. This rut should close in behind your finger at the same rate on each mix. Adjust the orifice on the “Pattern Pistol” to the desired size. Generally, the largest or second to the largest orifice or hole setting is used and the material is sprayed to a 70% - 75% coverage at 10-15 psi. Spray the material in even, overlapping passes, and hold the trigger on the gun open as much as possible to avoid drips and stop and start patterns. The same applicator should do all the spraying to achieve the most uniform spray pattern.

Walk through the wet material on spiked shoes (golf shoes work well) and lightly “knock-down” the material with the trowel. The material should be allowed to set until it loses its wet-glaze. QC CONCRETE RESURFACER HD will generally set to a trowelable hardness in about ten minutes, depending on temperature and humidity. Care must be taken to knockdown each batch of material at the same stage of set or hardness to maintain uniform size paddies or flat-troweled texture splatters.

Knockdown the material in as few passes as possible; do not over work the material. To achieve the most professional looking finish, it is recommended that all the material be knocked-down in the same way and in the same direction, by the same applicator.

A foolproof way to apply a professional looking knockdown finish is to spray a texture coat to 90% coverage, and allow it to cure without knocking it down. *Coverage is approximately 500 sq. ft. per mix.*

Then splatter a second texture coat and knock it down. The texture created by the first coat will “catch” the texture from the second coat as it is being troweled and keep it from “smearing”. *Coverage is approximately 450 sq. ft. per mix.*

Dash Finish – To produce a Kool-Deck finish, the finished surface should expose a 40% flat – 60% void surface. This Flat-Void Pattern is achieved, beginning with a very light troweling, which produces a hard, dense surface. The mix ratio for a Kool-Deck finish is:

QC CONCRETE RESURFACER HD Liquid	5 gallons
QC CONCRETE RESURFACER HD base coat	2- $\frac{1}{4}$ bags

When using this finishing technique, dash or shake the material off a Mortex-type Dash Brush or Rice Brush in even strokes to 90% coverage. This tool can usually be found in swimming pool supply stores or concrete accessory stores. Allow the material to set-up for 10-15 minutes or until it loses its wet-gaze. Then, walk through the material on spiked shoes and lightly flatten the peaks of the texture with a trowel. Troweling may be done with a hand trowel or walking trowel. To set the pattern by hand, use a pool plaster trowel (well broken in). The trowel should be held flat, using a very light hand. The walking trowel consists of a wide, flexible blade that attaches to extension handles.

To set the pattern, suspend the trowel over the work and lower it until a slight amount of pressure is exerted. Always use a pulling motion. The flexible blade will follow the contour of the slab, producing a very light Flat-Void Pattern. The walking trowel is especially useful for its speed and long reach on large areas. Closely follow behind this operation with a second pass of the walking trowel.

To finish out the texture, correct any uneven pattern by holding the hand trowel flat to attain the desired 40%-60% Flat-Void Pattern. A final, sharp troweling pass may be necessary after the material has set to clean away any fuzz-marks, fin ridges or trowel licks left from flat troweling. If necessary, the texture may be lightly sanded with a floor sander once it has cured (4-6 hours), to obtain a more uniform finish. Coverage is approximately 450 sq. ft. per mix.

Drop Finish – To produce a Rounded-Drop or Drip Finish, the mix ratio is:

QC CONCRETE RESURFACER HD Liquid	5-gallons
QC CONCRETE RESURFACER HD base coat	1-1/4 bags

Use a Mortex-type Dash Brush or Rice Brush for this finishing technique. Dip the dash brush into the material and drip the material off the brush by shaking the brush with quick back-and-forth wrist actions while holding the brush at chest height. Keep the dash brush moving and always try to keep it shaking for best results. This will help to control unwanted lines or streaks of material from disfiguring the texture. Pull the brush out of the bucket from different directions to avoid puddling the material around the bucket. Avoid texturing over previously textured areas that have cured to prevent overlap from doubling the texture.

Each brush full of material should cover about 2-3 sq. ft., depending on the coverage and surface profile desired. The Rounded Drop or Drip finish is achieved by applying the texture over 50%-60% of the surface. Dash excess material off of the brush periodically. It is a good idea to periodically flush the dash brush with water and wire-brush it to clean dried material off the bristles. This will help to ensure that the flow of material off the brush is uniform.

The material will gradually stiffen in the bucket as it begins to set. The stiffer the material becomes, the slower it will flow off the brush and the less it will self-level on the surface. Never mix more material than can be applied in 30 minutes. Coverage is approximately 500 sq. ft. per mix.

The Dash Brush method requires a certain amount of artistic skill on the part of the applicator. Patience and an ability to apply the texture symmetrically are essential to achieving a professional looking finish. No two mechanics will produce exactly the same texture. It is recommended that the same mechanic do all the texturing for best results.

Allow all texture coats to cure (24) hours before sealing.

QC Patina Stain*/QC CemTint*/QC Concrete Dye*

- Once desired finish is achieved, material should be left to cure for 24 hours prior to staining.
- QC CONCRETE RESURFACER HD may not stain according to the QC PATINA STAIN*, QC CEMTINT* or QC CONCRETE DYE* color charts. The combination of polymers and cement in QC CONCRETE RESURFACER HD may cause stains to react differently.
- Always test or sample stains in an inconspicuous area to assure desired color affects are achieved.
- Sanding the top finish coat with a 100 to 150-grit sanding screen or the use of QC CON CLEAN* may allow better adhesion of the sealer.
- For best results, stain QC CONCRETE RESURFACER HD within 72 hours of application. Waiting longer than 72 hours can result in the stain not penetrating fully.

Surface Protection and Maintenance

QC CONSTRUCTION PRODUCTS offers a full range of high-end sealer systems for colored and stained surfaces to ensure the long lasting protection and enhanced color of the final project. The interior system consists of two coats with a durable base coat sealer, followed by three coats of a special high-solids top coat maintenance sealer. The exterior system consists of two thin coats of a durable base coat sealer.

Base Coat Sealers:		Top Coat Sealers:
QC ULTRA SEAL*	QC CEMSEAL*	QC INTERIOR FLOOR FINISH* (GLOSS)
QC SOLVENT SEAL VOC III*	QC PERMASAL*	QC NATURAL BEAUTY* (MATTE)
QC SOLVENT SEAL 18*	QC VOC 100 WB*	
QC SOLVENT SEAL 27*	QC SURPRO WB*	
QC SURPRO SB*		

- Allow QC CONCRETE RESURFACER HD to fully cure before sealing, minimum 24 hours. Sanding the top finish coat with a 100- to 150-grit sanding screen or the use of QC CON-CLEAN* may allow better adhesion of the sealer.

*PLEASE REFER TO CORRESPONDING PRODUCT INFORMATION BULLETIN FOR TECHNICAL AND APPLICATION DATA.

www.qcconstructionproducts.com

For complete information on all QC products—including product information catalogs, product brochures, color charts, technical specifications, sales aids and more—contact QC CONSTRUCTION PRODUCTS.

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2. After sufficient curing, if water gets on the surface before sealing, a white film can result. While this film won't affect the bond or durability, the film should be cleaned off before sealing. Clean with QC CON-CLEAN* and clear water rinse.

3. Do not allow water on the surface until QC CONCRETE RESURFACER HD has completely cured. Excessive water before sufficient curing will affect sealer bond and durability.

4. All decorative concrete installations should be maintained on a routine basis with the use of QC maintenance products to ensure the preservation of a high-quality, long-lasting surface. Maintenance schedules will vary depending on a number of factors, including volume and intensity of traffic, UV light exposure, geographical location and weather conditions. Resealing will be required periodically, depending on the amount of foot traffic. As with any surface treatment, the lifetime of this product is dependent on the care it is given. The use of a qualified flooring maintenance contractor is recommended for resealing, especially in commercial applications.

Limitations

- QC CONCRETE RESURFACER HD will stick to almost everything and is much easier to clean off when it is still wet. Otherwise, sanding, grinding or chipping may be required to remove unwanted material.
- Never mix water with QC CONCRETE RESURFACER HD when thinning is required – Use QC CONCRETE RESURFACER HD Liquid only.
- If QC CONCRETE RESURFACER HD has started to set up, do not attempt to remix.
- Pull masking tape off as soon as possible for easiest removal. Use duct tape or filament tape for best results.
- When applying QC CONCRETE RESURFACER HD in full sun, on a hot day, or in high winds, expect greatly reduced working time.
- Do not apply QC CONCRETE RESURFACER HD at temperatures below 40 °F For when such temperatures may be expected during its drying and curing time.
- QC CONCRETE RESURFACER HD is never to be applied over joints, moving or working cracks, cracks greater than 1/16", or any untreated or unprepared surfaces.

Coverage Rates and Drying Times

Actual coverage may vary depending on color choice, application method, and other local conditions.

- QC CONCRETE RESURFACER HD Base Coat Powder: 200-400 square feet per mixed 55 lb # bag.
 - QC CONCRETE RESURFACER HD Finish Coat Powder: 600-1,000 square feet per mixed 55 lb # bag.
- Allow completed application of QC CONCRETE RESURFACER HD to cure a minimum of 24 hours prior to sealing; allow 72 hours if applying stain.

Shelf Life and Storage

QC CONCRETE RESURFACER HD products have a shelf life of one year.

Liquid: QC CONCRETE RESURFACER HD Liquid should be stored indoors and above freezing temperatures. Do not allow liquid to freeze. If liquid freezes, discard.

Powder: QC CONCRETE RESURFACER HD Powders should be stored indoors and away from moisture.

Technical Data

Please refer to the corresponding MSDS for hazard-related information.

- Adhesion.....ASTM C882, Type 1, 515 psi
- Freeze-Thaw.....Coated concrete cylinders immersed 8 hrs. in salt water solution followed by 16 hrs. freezing, 50 cycles; no scaling, peeling, flaking
- Absorption.....Weight gain by 4" coated concrete cube after 21 days water immersion <2%; Canadian Mortgage and Housing Corp. ME 8211-09230 (2" material cube, immersion 48 hrs.) 8.79%; ASTM C642, 1.61%; volume of permeable voids 5.07%
- Weathering.....ASTM G23 (Weatherometer) Method 1 procedure, 60 cycles; No visible degradation
- Compressive Strength.....ASTM C579 Method A, 2,440 psi
- Tensile Strength.....ASTM C307, 465 psi

Product Handling

For complete instructions on handling and use, consult the corresponding Material Safety Data Sheet before using product.

Warranty

QC CONCRETE RESURFACER HD, a proprietary product, is warranted to be of uniform quality within manufacturing tolerances. Since control is not exercised over its use, no warranty, expressed or implied, is made as to the effects of such use. Seller's and manufacturer's obligation under this warranty shall be limited to refunding the purchase price of that portion of the material proven to be defective. The user assumes all other risks and liabilities resulting from use of this product. If you have any questions, please contact QC CONSTRUCTION PRODUCTS.

QC CONSTRUCTION PRODUCTS available through: