



### INTRODUCTION

Horizontal surface repair is common on slabs either elevated or on grade. Cracking of a slab can be due to any number of reasons. A few of them are: settlement of the soils supporting the concrete slab, restraint of horizontal movement due to fixed foundation elements, overloading, applying a load larger than the slab was designed to support, and restrained drying shrinkage of the slab. After evaluating the level of deterioration, a plan should be developed including objectives and specifications for the repair. Steps for repairs should include layout, removals, edge preparation, mixing, bonding, placement, polishing and grinding the repaired areas, and have been included below as a step-by-step guide for use by field personnel.

### CRACK WIDTHS

#### Hairline Cracks (and less than 1/8")

For hairline cracks, *CreteFill Crack Repair* in cartridge form with needle tip applicator is the best option. The ultra-low viscosity of the *Crack Repair* allows it to completely penetrate fine cracks and knit them together. Multiple passes will be needed due to the low viscosity of the product as it absorbs down into the crack. Keep refilling the crack until rejection of the product. *CreteFill Crack Repair* in the cartridge has a 100 second working time and cures in about 10 minutes. *CreteFill Crack Repair* in gallon kits has a 200 second working time and cures in about 30 minutes.

#### Cracks (1/8" or greater)

For larger than hairline cracks, *CreteFill Spall Repair* in cartridge form is the best option. It is thicker in viscosity so that material will not be lost down the crack, but thin enough that it will fully penetrate and repair the crack. For these larger cracks the needle tip applicator is not needed.

For wider cracks, fill the crack with dry 30 grit silica sand flush with the floor. Saturate the sand with the *Spall Repair* until it is fully saturated and slightly overfilled. This will likely require several passes as the *Spall Repair* absorbs through the sand. *Spall Repair* has a pot life of 10 minutes and cures in 45 minutes.

#### Spalls and Large Cracks

For large cracks and spalls, hand mixing *CreteFill Spall Repair* with sand is a great solution. The added sand increases the strength of the repair, helps it blend in better and increases the volume of the product. When hand mixing, purchasing bulk containers of repair material is a cost effective method.

### SURFACE PREPARATION

One of the most important issues associated with any kind of concrete repair is the surface preparation of the spall, crack, or other defective areas intended for repair. It is only necessary to chase or route out the crack if the pores of the crack are closed off. This usually occurs when foreign material, especially liquids have been spilled on the floor. Most hairline cracks to cracks of about 1/16 (1.6mm) inch rarely need cleaned with anything other than compressed air. Cracks of about 1/8 inch (3.2mm) may need to be cleaned with a straight diamond blade if compressed air is not sufficient. A wire brush or a 5-in-1 tool can also be used to remove much of the loose debris in the crack. Larger cracks are almost always routed out with a v-blade as it has a tendency to follow random cracks better. Proper bonding strength can only be achieved if the walls of the crack are clean and free of loose debris. Vacuum the entire area to remove all debris and dust. Make sure repair area is completely dry as the Urethane is moisture sensitive and should not be applied to wet surfaces. Developing a good, sound, new concrete surface will guarantee that the Urethane repair material will adhere to the surrounding surface and no further delamination will occur. If exposed rebar is identified then the bar should be fully exposed and cleaned of damaged and corrosion. The key point in developing a successful repair in any kind of slab is the attention to detail in the preparation of the deteriorated concrete. Poor preparation is the number one reason for callbacks.

## Moist Conditions

*CreteFill Crack Repair* will react if moisture is present. This causes swelling and foaming as the product cures. To prevent this reaction, the crack should be as dry as possible. If sand is mixed with the urethane as part of the repair, the sand should also contain no moisture. This will ensure the best repair.

## Directions for Bulk Containers

Shake the "B" gallon container for 20 – 30 seconds to disperse the pigment to insure consistent color. Mix A and B sides in equal parts by hand and pour into the crack to level or slightly overfilled. For 10-gallon kits, the "B" side should be mixed using a power drill with an extended paddle, taking care to not introduce air into the product.

## Directions for Cartridges

Shake cartridge for 60 seconds to disperse the pigment to insure consistent color. Remove the cap and end plug, install the flow restrictor on the top of the cartridge and then secure mixing nozzle by screwing it onto the cartridge. Point cartridge up and start flowing material through nozzle. Tilt nozzle down and extrude small amount until color is uniform. Flow material into crack or spall. Add dry silica sand into crack or spall as desired. After the *Curecrete CreteFill Crack Repair* has cured, it may be necessary to grind flush with the surface. While cartridge is held vertically, remove nozzle then recap with end plugs. This will help prevent A and B sides from contaminating each other. Cartridges are packaged with a flow restrictor for use with small and fine cracks. When using a cartridge on fine cracks the nozzle (static mixer) should have a needle tip adapter installed.

## GRINDING OR SHAVING TO FINISH GRADE

Allow the product to set for 15 to 30 minutes or until it is hard prior to grinding. For best results, use a flexible grinding wheel. Grind smooth with a 7-inch wheel. Shaving or cutting may also be done with a sharp razor blade cutter. Cut as soon as product is set and not completely hard. If product has completely hardened it can be shaved if carefully heated with a MAPP or similar gas torch and then shaved. Repair is now ready for traffic.

## NOTES

This product is only intended for use on horizontal surfaces. Exposure to ultraviolet light may cause discoloration. Coloring when mixed is concrete grey. Cures within a range from -20 F (-28.9 c) to 130 F (54.4 C). Pot life is approximately 2 - 4 minutes, and is ready for traffic in 10 – 30 minutes. Long sleeve overalls or disposable overalls, rubber gloves, eye protection with splash shields, rubber or leather boots should be worn. Do not use near high heat or open flame. Do not take internally. Keep out of the reach of children.

## TECHNICAL SUPPORT & MSDS

Technical information and assistance can be obtained by calling *Curecrete Distribution, Inc.* at 1.800.998.5664. Please visit our website, [www.curecrete.com](http://www.curecrete.com), for information on this and other available products.

For MSDS information, please visit: <http://ashfordformula.com/overview> and select the appropriate MSDS in the right-hand column, or scan the QR code below.

