



## **Application Guidelines for PPC Coatings – Concrete Patching**

### **General Objective**

The objective of this specification is to describe the material and workmanship necessary to achieve desired results for the application of PPC Coatings resin protection system. All application procedures shall be performed in a safe and responsible manner and strictly adhering to manufacturer's instructions, including surface preparation, coating procedure, as well as storage and handling of coating materials.

### **Description of Patching Grout**

The PPC Coatings Patching Grout is a two component rapid curing thermoset resin mixed together with clean dry aggregate, 100% solid without solvent entrapment after cure, which meets or is well below the maximum VOC emissions requirements. PPC is a rapid curing system that can be applied year round from temperatures ranging from minus 40°F to 160°F without the need for external heat assistance. A substrate applied with PPC can be returned to full service within an hour. The resin will exhibit no adhesion interfering shrinkage on curing. PPC Coatings have a coefficient of thermal expansion similar to that of concrete, and will provide outstanding impact and abrasion resistance. The coating will provide resistance to a broad range of corrosive chemicals, and will exhibit flexural strength of up to 17,000 PSI, compressive strength of up to 20,000 PSI, and tensile strength of up to 10,000 PSI.

### **Surface Preparation**

Mark the perimeter of the Area to be patched at least one inch away from damaged area in sound solid concrete. Saw Cut the marked perimeter edge of the concrete patch to the required depth of the Patch, but no less than one half inch deep, creating an anchor pattern around the perimeter of the patch in the sound stable concrete.

Remove all loose concrete until a sound solid surface is achieved. Concrete must be removed to the depth of the saw cut perimeter, and meet the saw cut perimeter creating a "mould". The surface does not have to be even. Sound solid concrete surface must be cleaned to eliminate any contaminate that will prevent direct contact of PPC Prime coat with concrete surface. Any exposed oxidized rebar must be cleaned and sand blasted to obtain a "white metal" SSPC-5 profile. Concrete must be dry.

If patch is applied to a gravel surface, a loose layer of clean dry pea gravel or rock no bigger than 3/4 inch should be laid as a bed, at a thickness of ½ to 1 inch deep.

### **Prime Coat**

PPC Prime Coat must be applied to all surfaces to be coated, including any voids or areas that are not flush with the surface. PPC Prime Coat is applied with PPC Coatings QC Resin. Resin must be mixed in original container prior to pouring into a measuring vessel. PPC Resin activator must be added to QC Resin and mixed prior to application. PPC Prime Coat must be applied by working the resin thoroughly into the course substrate, including the vertical walls of the



saw cut perimeter. No ponding of resin should occur. All dry spots or dry areas must be recoated. Primed surface should look wet and glazed after resin has cured. Any exposed rebar must be Prime Coated. The thickness of Prime Coat should be between 6 –10 mils, with an approximate coverage rate of 150-160 sq/ft per gallon. Once Prime Coat has cured PPC Patching Grout can be applied.

Prime Coat must be applied with a brush.

### **Patching Grout**

Patching grout is obtained by mixing PPC QC Resin together with clean dry aggregate of any size, or a matrix of different sizes. The choice of aggregate size is determined by the depth of the patch. **Aggregate is added at a ratio of no more than 1 part by weight of QC resin to 4 parts by weight of aggregate.** QC Resin must be mixed in its original container prior to pouring into a measuring vessel. PPC Resin activator must be added to QC Resin and mixed prior to application. Once QC resin has been activated continue to mix the resin and gradually add the dry clean aggregate to the QC Resin creating a pourable wetted grout. No dry aggregate should be present in the mixture. Starting at one end of the cavity, pour grout in one layer until level with surface. Compress the grout until a thin coat of QC resin is apparent on surface. Continue to add grout until patch is completely full and flush with original surface. If patch is not filled to required surface level, wait until grout has fully cured and is cold when touched before adding another layer of grout to create an even surface. If grout leaves a sufficiently acceptable surface profile, no final coat is required. If a colored final coat is desired, a pigmented final coat can be applied to surface. Clean dry aggregate can be broadcast onto the final coat before it has cured to create a rougher anti skid surface if required.

Over heating of grout can create hairline fracture and cracks in the grout. This usually occurs when too much activator was added to the QC Resin. If this occurs, wait until grout has fully cured, open crack by saw cutting into the crack and expanding the opening. Make sure that the cured grout is solid and has not detached from the substrate. To create a grout that can be easily poured to fill the cracks, formulate as described above, but with smaller and less aggregate than was used to create the original grout. Once cracks have been filled, a final coat must be applied to a fully cured surface to make sure the surface is fully sealed. Dry clean aggregate should be broadcast on the final coat before it has cured, to create an anti skid surface.

### **General Application**

PPC Coatings may only be applied by factory trained and approved applicators.

PPC Coating Resins are supplied in 5 gallon pails.

All materials will be brought to the job site in the original manufacturer's containers and shall be subject to inspection by the engineer.

Pails of PPC must be stored in a cool, shaded, clean, and dry area in unopened containers.



The applicator shall mix and apply the material and apply each coat at the rate and in the manner specified by the manufacturer.

Allow each coat to dry to touch before the next coat is applied.

The number of coats specified is the minimum number acceptable. Applicator shall apply the coating to the specified thickness.

All work shall be done by a technician skilled in the application of complex multi-component coating systems.

Sufficient ventilation is required when applying PPC Coatings. Protective equipment, clothing and respiratory requirements must be followed according to MSDS. All applicable safety requirements must be fulfilled prior to and during the application of all PPC Coatings.

Material Safety Data Sheets (MSDS) shall be available at the job site at all times. MSDS must be read and understood prior to opening PPC Coating Pails.

DOT regulation classification for PPC Resin is "Resin Solution" UN 1866; PG 3; Flammable 3.

#### **PPC COATINGS**

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