



Concrete Polymer Liquid Data Sheet

Part # CP

DESCRIPTION: Concrete Solutions® Concrete Polymer Liquid is a special formulation of water-based resins specifically designed to be mixed with water, cement and sand mixtures. When added to Portland cement, sand and water in specified proportions it creates a new flexible, adhesive cementitious compound which can be used to repair and protect a variety of surfaces. Polymer Concrete, which is concrete with Concrete Polymer Liquid added, is designed to combat the shortcomings of regular concrete; particularly its low flexural strength and thin section fragility. It promotes a rapid cure in thin set applications. Cement mortar or concrete modified with Concrete Polymer Liquid exhibits increased physical strength: tensile strength, shear bond strength, flexural strength and compressive strength. It increases resistance to water, abrasion, freeze-thaw and chemical attack. It bonds tenaciously to concrete and various types of foam and can also be applied over asphalt, wood, metal, tile and linoleum (see Substrates on page 2 for more details). Cementitious formulations modified with Concrete Polymer Liquid exhibit exceptional toughness and durability in interior or exterior applications.

TYPICAL USES: Polymer Concrete is ideal for thin section patching, leveling, re-pitching and resurfacing applications from zero up to two inches thick. It is used for 1/4 – 1/2" thick Stamped Concrete applications over existing surfaces to provide decorative patterns and textures. It can be applied less than 1/16" thick by a special metal edge squeegee or hand trowel to provide a smooth finish or by a broom or hopper gun sprayer to provide textured finishes from 1/16 – 1/8" thick. It is most commonly used on driveways, patios, pool decks, garage floors, sidewalks, parking garages, warehouse floors, steps, walls, interior floors of hotels, casinos, stores, restaurants and other businesses. It can also be used as an underlayment to level uneven floors for tile and other types of flooring.

FEATURES & BENEFITS:

- Restores existing surfaces
- Exceptional bondability
- Very durable
- Improves performance properties of mortar mixes such as adhesion, compressive and flexural strength, freeze-thaw and weathering resistance
- Can be applied in a variety of textures, colors and patterns
- Excellent for acid stains and/or dyes
- Fast cure time
- With Concrete Polymer added, cement mixes do not require a curing agent
- Can be applied by trowel, rubber or metal squeegee, broom, brush, screed rod, hopper gun sprayer or gauge rake and fresno for 1/4" Stamping applications

CHEMICAL PROPERTIES:

Test	Result
Specific Gravity (grams/cc)	ASTM D-792 1.059
Weight per Gallon	8.8
Solids	46 – 48%
Recommended Application Temperature	45° – 85°F (10° – 29°C)
PH	9.5 – 10.0
Color	light gray

MOISTURE VAPOR TESTING: All concrete floors not poured over a proper moisture barrier are subject to possible moisture vapor transmission or hydrostatic pressure problems. These problems can cause a coating system to blister or fail. Before applying a coating system over a concrete floor which is on-grade or below grade, a moisture test is recommended to ensure that moisture content meets industry recommended standards.

MIXING INSTRUCTIONS: See Concrete Solutions Concrete Polymer Mixing and Coverage Charts for detailed mixing instructions and coverage rates.

APPLICATION INSTRUCTIONS: Polymer Concrete can be applied to a sound properly prepared and cured surface in good weather conditions. For step by step application instructions with pictures see the Concrete Solutions Training Manual. See below for brief instructions.

1. Surface Preparation - The surface must be thoroughly cleaned of oil, dirt, grease, any loose material or other foreign matter. Use whatever method is required to leave the surface clean and acceptable for the coating application. Depending upon the condition of the substrate, options include: power scrubbing with detergent and acid washing, then neutralizing and pressure washing to clean and rinse or shotblasting, sandblasting or grinding may be used.

2. Crack Repairs (If required) - Repair cracks with the Concrete Solutions Crack Repair System. Clean cracks by pressure washing or routing with a right angle grinder and a diamond blade. Fill cracks with Concrete Solutions Epoxy 500 mixed with 1 to 2 parts #60 silica sand using a 5" stiff putty knife. Scrape excess from surface. Cover over the epoxy in the cracks with Concrete Solutions Elastomeric Basecoat and 4" Crack Repair Fabric using a paintbrush and a utility knife or scissors. Detailed crack repair instructions with step by step pictures are available upon request.

CONCRETE SOLUTIONS® CONCRETE POLYMER LIQUID (continued):

3. Patching, Leveling and/or Re-pitching (If required) - Patch any holes, spalls, low spots or uneven and/or deteriorated areas with an Concrete Solutions Polymer Concrete Patching Mix. See the Concrete Solutions Patching Mix Technical Data Sheet for information on our "just add water" patching mix and how to mix your own mixes using local cement and sand.

4. Bond Coat - This is often referred to as a smoothing or bond coat. Where the surface is in good condition and after the proper surface preparation you may skip the repair application and proceed directly with the Bond Coat. The Bond Coat is applied thin less than 1/16" using a special metal edge squeegee (available from Concrete Solutions) or a hand trowel. It can be used to provide a smooth finish or as a prime coat and smoothing coat prior to applying a Polymer Concrete Texture Coat or 1/4" Stamping application. The Bond Coat mixing formula is 1 part Polymer, 1 part Water, 2 parts Portland Cement Type I/II and 2 – 4 parts Silica Sand #60 or #90. Pre-mixed bag mixes are also available called Concrete Solutions Resurfacer.

5. Texturing and 1/4" Stamping Applications - The Texture Coat or 1/4" Stamping application provides a decorative finished look and durable surface. Refer to the Concrete Solutions Training Manual for instructions with step by step pictures on how to apply a Fine Broom Finish, a Swirl Pattern Texture, a Trowel Knockdown Texture, Stencil Patterns or Taped designs or a 1/4" Stamping Application. To learn how to apply these applications we recommend attending our monthly training class in Las Vegas, Nevada before doing a job. Concrete Solutions Resurfacer-RBM and our 1/4" Stamping bag mix can be used for all the applications mentioned above.

6. Colorcoating, Staining and/or Sealcoating - Once the finish coat of Concrete Polymer has been applied, the next step is to apply a colorcoat, stain and/or clear sealer to protect the surface and achieve the look desired. Concrete Solutions Concrete Colorcoat can be used to provide a uniform color (see Concrete Colorcoat Technical Data Sheet) or other coloring methods are available such as chemical stains and dyes. Once the colorcoating or staining is completed, it is recommended to apply a clear sealcoat application to provide extra protection from wear and abrasion as well as stain and chemical attack. Popular Concrete Solutions sealers include Concrete Solutions Stamped Concrete Sealer, Sealcoat 1000, Acrylic Urethane, WB Epoxy, WB Urethane, SB Urethane, HP Urethane or Epoxy 600. For extra slip resistance it will be necessary to broadcast #80 or coarser aluminum oxide granules into the first coat of wet sealer. It is the end user's responsibility to determine the suitability of a coating for their particular application. (See Technical Data Sheets for more information.)

7. Joints - Never fill moving expansion joints with the Concrete Polymer. They should be left open or re-sawcut open.

SUBSTRATES: After mixing Concrete Polymer Liquid with cement, sand and water in the proper ratios according to the finish desired, it can be applied over a variety of surfaces that have been properly cleaned and prepared.

Concrete - Polymer Concrete can be applied directly over properly cured, cleaned concrete.

Wood - First apply metal lath, then Polymer Concrete followed by Elastomeric Basecoat and 40" Fabric, followed by a Bond Coat then the finished texture or system desired. See the Elastomeric Basecoat Technical Data Sheet for more information.

Tile and Brick - Grind or shotblast the surface, apply a Bond Coat of Polymer Concrete to fill in grout lines smooth with the surface. Allow to dry, then apply Elastomeric Basecoat and 40" Fabric over the surface before applying the final Polymer Concrete application.

Asphalt - Must be in good, solid condition. Scrub with detergent and pressure wash or shotblast the surface. Apply WB Epoxy Clear or Elastomeric Basecoat using a 1/2 – 3/4" nap roller. Broadcast #30 silica sand lightly into wet material. Allow to dry overnight before applying the Polymer Concrete Bond Coat and Finish Coat application.

Linoleum - Clean and strip any waxes, sand with 80 grit sandpaper and apply a Bond Coat of Polymer Concrete. Next apply 1/4" Stamping or the finish coat desired.

HOW SUPPLIED: Concrete Polymer Liquid is available as a concentrate in either 1 gallon or 5 gallon pails.

SAFETY PRECAUTIONS: Health Considerations: Consult the Rhino Linings® Safety Data Sheets (SDS)

Chemical systems require the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS and Safety Manual for detailed information and handling guidelines.

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