ULTRA SURFACE CONCRETE POLYMER Technical Data Sheet (May 2003)

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DESCRIPTION: Ultra Surface Concrete Polymer 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. Ultra Surface Polymer Concrete 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 Ultra Surface Concrete Polymer 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 after doing the proper surface preparation and applying the proper prime coat application if required. [See Application Procedures below for more details]. Cementitious formulations modified with Ultra Surface Concrete Polymer exhibit exceptional toughness and durability in interior or exterior applications.

TYPICAL USES: Ultra Surface 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 1/16th of an inch 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 - 1/8th of an inch 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.

APPLICATION PROCEDURES:

After mixing Ultra Surface Concrete Polymer 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 - U.S. Polymer Concrete can be applied directly over properly cured, cleaned concrete.

Wood - First apply Metal Lath, then U.S. Polymer Concrete followed by Elastomeric Basecoat and 40" Fabric, followed by a Squeegee/Bond Coat then the finished texture or system desired. See the Elastomeric Basecoat TDS for more information.

Tile and Brick - Shotblast or grind the surface, apply a Squeegee/Bond Coat of Ultra Surface Polymer Concrete to fill in grout lines smooth with the surface. Allow to dry, then apply U.S. Elastomeric Basecoat and 40" Fabric over the surface before applying the final Ultra Surface 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 U.S. Polymer Concrete Squeegee/Bond Coat and Finish Coat application.

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

Ultra Surface Concrete Polymer

Advantages:

1. It Sticks [or bonds well].
2. It Wears [It's very durable].
3. It can be applied in a variety of textures, colors and patterns.
4. It improves performance properties of mortar mixes such as adhesion, compressive and flexural strength, freeze-thaw and weathering resistance.
5. Cement mixes applied with the addition of Ultra Surface Concrete Polymer do not require a curing agent.

Typical Properties

Appearance	Light gray liquid
Weight per gallon	8.8
Solids Content	46-48%
Specific Gravity	1.059
pH	9.5 to 10.0

MOISTURE VAPOR TESTING: All concrete floors not poured over a proper moisture barrier, are subject to possible moisture vapor transmission or hydrostatic pressure problems which 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, the customer should be informed of this potential problem and given the option to have a qualified moisture testing company perform a calcium chloride test to give the proper recommendations.

APPLICATION CONDITIONS: Ultra Surface Polymer Concrete can be applied to a sound properly prepared and cured surface in good weather conditions. Ideal temperature application range = 45 to 85 degrees F.

METHODS OF APPLICATION: Ultra Surface Polymer Concrete 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.

MIXING INSTRUCTIONS: See Ultra Surface Concrete Polymer Mixing and Coverage Charts for detailed mixing instructions and coverage rates. See also Ultra Surface Products Manual.

APPLICATION INSTRUCTIONS: For step by step application instructions with pictures see the Ultra Surface Products Manual given out at our training classes in Las Vegas, Nevada. 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 w/ 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 w/ the Ultra Surface Crack Repair System. Clean cracks by pressure washing or routing with a right angle grinder and a diamond blade. Fill cracks with Ultra Surface Epoxy 500 mixed w/ 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 Ultra Surface Elastomeric Basecoat and 4" Crack Repair Fabric using a paintbrush and a utility knife or scissors. Detailed crack repair instructions w/ step by step pictures are available upon request.

3. Patching, leveling and/or Re-pitching [If required] - Patch any holes, spalls, low spots or uneven and/or deteriorated areas with an Ultra Surface Polymer Concrete Patching Mix. See the Ultra Surface 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. Squeegee/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 Squeegee/Bond Coat. The Squeegee/Bond Coat is applied thin less than 1/16th of an inch 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 an Ultra Surface Polymer Concrete Texture Coat or 1/4" Stamping application. The Squeegee/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 Ultra Surface Resurfacer.

5. Texturing and 1/4" Stamping Applications - The Texture Coat or 1/4" Stamping application provides a decorative finished look and wearing surface. Refer to the Ultra Surface Products 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. Ultra Surface Resurfacer 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 Ultra Surface Polymer Concrete 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. Ultra Surface Colorcoat 100 can be used to provide a uniform color [see Colorcoat 100 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 resistance. Popular Ultra Surface sealers include Ultra Surface Stamped Concrete Sealer, Sealcoat 1000, Acrylic Urethane, WB Epoxy, WB Urethane, SB Urethane, HP Urethane or Epoxy 600. For extra slip resistance it will necessary to broadcast #80 or coarser aluminum oxide granules into the first coat of wet sealer. Concrete Solutions will not be responsible for slip/fall accidents. [See Technical Data Sheets on each sealer for more information.]

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

WARRANTY INFORMATION - The data provided herein is based on our knowledge and others. Our only warranty with respect to the products we sell is to replace or give credit for any of our product proven to be defective. It is up to each applicator to test and evaluate the product to make sure it is suitable for his or her own particular purpose. See Concrete Solutions standard warranty and disclaimer for full warranty details.