PPC

Guide Specification

PART 1 GENERAL

1.1 SUMMARY

A. Provide materials, sundries, labor equipment and supervision necessary to install a Cement Base, water disperse Urethane Resin mortar flooring system as in this specification over new or existing sound concrete surface
B. The manufacturer's application instructions for each product used are considered part of this specification and should be always followed.
C. Related Sections:
   1. Section 03 30 00 - Cast-in-Place Concrete
   2. Section 07 92 00 - Joint Sealants and Joint Filler
   3. Section 07 26 16 - Under Slab Vapor Retarder/Barrier
   4. Section 07 95 00 – Expansion Control

1.2 SYSTEM DESCRIPTION

A. PPC KRETE Urethane Slurry SL shall be a complete system of compatible materials supplied by PPC to create a seamless flooring system
B. PPC KRETE Urethane Slurry SL shall be the assign application of the specific substrate indicates on the drawings

1.3 SUBMITTALS

A. Product Data: Submit PPC product literature and installation instructions.
B. Samples: Submit samples of specified urethane cement flooring system. Samples shall be construed as examples of finished color and texture of the system only.
C. Applicator Approval: Submit letter from manufacturer stating applicator is approved to install the PPC KRETE Urethane Slurry SL flooring system.
D. PPC KRETE Urethane Slurry SL Color Chart
E. Warranty: Submit copy of manufacturer's standard warranty.

1.4 QUALITY ASSURANCE

A. Supplier Qualifications: PPC KRETE Urethane Slurry SL, as supplied by PPC, is approved for use on this project.
B. Applicator Qualifications: Applicators shall be approved to install the specified system.
C. Requirement of Regulatory Agencies: Materials used in the epoxy-terrazzo flooring system shall meet existing Federal, State and local VOC regulations.

1.5 DELIVERY, STORAGE AND HANDLING

A. Delivery: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name and type of material.

B. Storage and Handling: Recommended material storage temperature is 75°F (23.8°C). Handle products to avoid damage to container. Do not store for long periods in direct sunlight.

1.6 PROJECT CONDITIONS

A. Environmental and Surface Requirements:
   1. Do not proceed with application of materials when substrate temperature is less than 60°F (15°C). It is recommended to maintain a minimum concrete temperature of 65°F (18°C) for a minimum of 48 hours before, during and after installation, or until cured. For applications below 60°F (15°C), consult PPC.
   2. Concrete must be free of hydrostatic, capillary or moisture vapor pressure. Substrates in contact with ground must have a properly installed, effective vapor barrier to help prevent potential problems resulting from hydrostatic, capillary or moisture vapor pressure. Moisture content of concrete does not exceed fo16 pounds per 1,000 square feet per 24 hours when tested by the referee or quantitative calcium chloride test method or 90% relative humidity content.
   3. Coordinate flooring work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the flooring system to cure
   4. Provide adequate ventilation
   5. Protect adjacent surfaces from damage resulting from installation of the system.
   6. Applicator shall report finished areas to General Contractor so he can prevent damage on finished areas due miss use of floor, not allowing proper curing time or from activities from other trades.

1.7 WARRANTY

A. Upon request, PPC shall offer the manufacturer's standard warranty upon receipt of a properly executed warranty request form.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. PPC Premier Protective Coatings, Inc. located at 6202 Kempen Ave., San Antono, TX 78233 www.premierprotective coatings.com.

2.2 MATERIALS

A. PPC KRETE Urethane Slurry SL Flooring:
1. Moisture Vapor Transmission Control: PPC Moisture Vapor Barrier (OPTIONAL)
2. Joint Filler: PPC Poly Joint 82 Fast flexible hybrid polyurea or other approved by PPC
3. Filler: Fumed silica and silica flour.
4. Primer: PPC KRETE Urethane Slurry SL scratch coat or other approved by PPC
5. Mortar: PPC KRETE Urethane Slurry SL
6. Aggregate: Natural Color Silica Quartz 16-30 or 20-40 mesh.
7. Fumed Silica
8. Seal Coat: PPC KRETE TOPCOAT

2.3 MATERIAL PERFORMANCE CRITERIA

A. Performance requirements of cured PPC KRETE Urethane Slurry SL used on this project are

PERFORMANCE REQUIREMENTS OF CURED PPC KRETE Urethane Slurry SL Mortar		
PHYSICAL PROPERTIES	**TEST METHOD**	**RESULTS**
Compressive Strength	ASTM C-579	9,050 psi after 7 days
Tensile Strength	ASTM C-307 ASTM D-790	2,175 psi 2,200 psi
Flexural Strength	ASTM C-580 ASTM D-790	2,900 psi 5,200 psi
Shore D Hardness	ASTM D2240	84-85
Abrasion Resistance	ASTM D-4060 Taber Abrader H22, 1000 cycles	25 mg loss
Coefficient of Thermal Expansion	ASTM E-81, ASTM D-696, ISO 11359 -4°F to 140°F	1.5 x 10^{-5} per °F

PERFORMANCE REQUIREMENTS OF CURED PPC KRETE Urethane Slurry SL Mortar		
PHYSICAL PROPERTIES	**TEST METHOD**	**RESULTS**
Flammability	ASTM D-635	Pass
Bond Strength	ASTM C4541	>400 psi (concrete fail)
Impact Resistance	ASTM C4226	> 160 in/lbs
Water Absorption	ASTM C-413	0%
Slip Resistance	Pendulum Test	Dry 70 / Wet 25
Temperature Resistance	Operation Temperatures	1/8" 27°F to 185°F 3/16" 23°F to 185°F

B. Miscellaneous materials such as cleaning agents, fabric reinforcement, drains, etc. shall be a composite part of the flooring system and shall be compatible with the specified PPC KRETE Urethane Slurry SL flooring system.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that the work done under other sections meets the following requirements:
   1. That the concrete substrate surface is free of ridges and sharp projections, sound and dry.
   2. That the concrete was cured for a minimum of 28 days (minimum of 3,000 psi compressive strength)
   3. The use of concrete curing agents, if any, shall be of a sodium silicate base only; others require written approval from PPC
   4. That MVT is below 16 lbs./100sf/24hrs and/or RH is below 90%, **otherwise Moisture Vapor Barrier must be used**. We highly advise using a Moisture Vapor Barrier at ground level all the time.
   5. That damaged areas of the concrete substrate be restored to match adjacent areas. Use PPC® E100 Epoxy Clear and oven-dry silica aggregate approved by PPC® for filling and leveling at a ratio of one part epoxy mixed with four parts aggregate by volume.

3.2 PREPARATION

A. Protection: Protect adjacent surfaces from damage resulting from the work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, equipment, etc. by suitable means.

B. Surface Preparation
   1. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a power broom and a strong, neutral pH detergent. Thoroughly wash, clean and dry. Areas where oil or other contaminants penetrate deep into the concrete may require removal by mechanical methods.
   2. Mechanical Surface Preparation must be conducted achieving a CSP 3. Unproper mechanical preparation can cause “pinholes” in surfaces, which can result in blister/pinholes problems during the application of the Urethane Cement flooring system. Note: Shotblasting does not remove deep penetrating oils, grease, tar or asphalt stains. Proper cleaning procedures should be followed to ensure proper bonding of the epoxy flooring.

C. Cracks: After mechanical surface preparation, fill all non-moving cracks with a paste made with PPC E-100 epoxy and Fumed Silica. Mix 3 parts of fumed silica with 1 part of missed E-100

D. Moisture Mitigation (If needed)
   1. After Mechanical Surface preparation, apply PPC Moisture Vapor Barrier at a rate of 100 sf/gal in a single coat and allow to cure

E. Floor Joints
   1. Fill Control and Constructions Joints with PPC Poly Joint 82 at a minimum of ¾” depth. The use of closed cell backer rod is acceptable to control depth filling.
   2. Moving joints and Construction Joints shall be projected over Urethane Cement Flooring System and treated accordingly with sealants or preconstructed expansion joints.

F. Key Cuts: Cut 1/8”–1/4” joints around perimeter of floor, drains, penetrations, doorways, and in field of floor to mechanically anchor floor system

3.3 APPLICATION

A. Primer: Mix PPC KRETE Urethane Slurry SL for three minutes. Apply a scratch coat of approximately 40 mils. Primer should be tack free prior to applying the Urethane Cement System.

B. Urethane Cement Mix and Application using PPC KRETE Urethane Slurry SL:
   1. Add Part C2 Pigment to Part B Hardener and mix for 1 minute
   2. Add Part A Resin and Mix for 1 minute
   3. Add Part C1 Powder and Mix for 2 minutes or until completely blend
   4. Pour Product over concrete and spread using a 1/8" or 3/16" gauge rake
      - For applications of ¼" and 5/16", add 6 lbs of Silica quartz sand (20-40 0r 16-30 mesh) during the mixing process of the PPC KRETE Urethane Slurry SL
   5. Spike roll and Loop Roll to release out gassing and level surface

C. Optional: KRETE TOPCOAT
   1. Add Part C2 Pigment to Part B Hardener and mix for 1 minute
   2. Add Part A Resin and Mix for 1 minute
   3. Add Part C1 Powder and Mix for 2 minutes or until completely blend
   4. Pour Product over concrete and spread using a phenolic core roller, ¼" to 3/8" nap and apply at a rate between 150 to 200 sf/kit

D. For foot traffic, allow each product to cure 6-10 hours at 70°F/21°C

E. After competition, do not allow heavy traffic on coated surface for a period of 24 hrs at 75°F/23°C

3.4 CLEANING

A. Remove debris resulting from completion of work operation from the project site

B. Reference Flooring Systems Manual for typical cleaning methods.

3.5 PROTECTION

A. It is the General Contractor responsibility to protect the finished floor from the time the Urethane Cement installer initiates and complete the work.

END OF SECTION

PPC Premier Protective Coatings, Inc., 6202 Kempen Ave., San Antono, TX 78233 www.premierprotective coatings.com.