

System Specification
VAPORSOLVE BASIC SYSTEM
Division 7 Moisture Protection or Division 9 Finishes
Section 07 14 00 Fluid-Applied Waterproofing
or Section 09 67 00 Fluid-Applied Flooring

NOTE TO SPECIFIER:

VaporSolve Basic System is a fluid applied 100% solids, low viscosity, hydrophobic formulated epoxy system designed for superior concrete penetration and adhesion to mitigating high moisture leveling in concrete from moisture sensitive impervious non-breathing coatings and flooring system. It is ideal to be used under most commercial, industrial and institutional coating flooring systems, such as, carpet, resilient sheet goods, static control, tile, and wood.

1.0 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Surface preparation.
 - 2. Joint and crack treatment.
 - 3. Furnishing and installation of epoxy-based moisture control system.

1.2 RELATED SECTIONS

- A. Section 03 30 00 – Cast-In-Place Concrete:
 - 1. Concrete shall meet the requirements for ACI 201.2R Guide to Durable Concrete.
- B. Section 09 62 00 – Specialty Flooring, installation requirements.
- C. Section 09 30 00 – Tiling Flooring, installation requirements.
- D. Section 09 64 00 – Wood Flooring, installation requirements.
- E. Section 09 65 00 – Resilient Flooring, installation requirements.
- F. Section 09 65 16 – Resilient Flooring, installation requirements.
- G. Section 09 65 19 – Resilient Tile Flooring, installation requirements.
- H. Section 09 65 36 – Static Control Flooring, installation requirements.
- I. Section 09 67 00 – Fluid Applied Flooring, installation requirements.
- J. Section 09 68 00 – Carpet, installation requirements.

1.3 SUBMITTALS

- A. Submit manufacturer's product data including ASTM test reports on product performance.
- B. Submit manufacturer's application instructions.
- C. Submit manufacturer's warranty information.

1.4 QUALITY ASSURANCE

- A. All materials used in concrete moisture control system shall be supplied by Arizona Polymer Flooring, Phoenix, AZ. No multiple sourcing or substitutions will be allowed.
- B. If 10 Year Gold Warranty is selected by the owner, the application contractor must be certified by the manufacturer or be under the supervision of a factory

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technical service person for the surface preparation and application of VaporSolve 100.

1.5 DELIVERY, STORAGE AND HANDLING

- A. All material shall be delivered to the job site in unopened containers clearly labeled and stored in a dry location at a minimum of 65⁰F (18⁰C) and a maximum of 90⁰F (32⁰C).

1.6 WARRANTY

- A. The owner may choose the standard warranty. If the standard warranty is selected, the product manufacturer guarantees that the products are free from manufacturing defects and comply with its published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to the repayment of the product purchase price. All consequential damages, including but not limited to installation labor, damage to the structure or contents of the structure are excluded.

The contractor guarantees that surface preparation and application meet industry standards. The length of the warranty shall be determined by the local or state governing contractor's board.

- B. If the Gold Warranty is selected, the warranty shall be made jointly to the owner by the product manufacturer and the application contractor.

Arizona Polymer Flooring guarantees that its products are free from manufacturing defects and comply with its published specifications. In addition, we further guarantee that the moisture remediation system will protect subsequently applied flooring from **damage due to moisture or alkalinity regardless of the level of moisture in the concrete.** This warranty shall be limited to repair of the affected areas only as determined by Arizona Polymer Flooring. Repair shall include removal of existing flooring, reapplication of remediation system and new flooring. New flooring shall be of the same type and value as the old flooring. Labor charges shall be reasonable and average for the industry. Removal and replacement of owner's equipment is not covered. Consequential damages to the building structure or its contents are excluded. Damages due to temporary loss of building use are excluded. The length of the Gold Warranty is 10 years from the date of installation.

The application contractor guarantees that he shall comply with the product

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manufacturer's application specification governing surface preparation, product mixing and application thickness. All invoices must be paid in full for warranty to take effect.

Arizona Polymer Flooring and the application contractor shall be released from warranty obligations under any of the following conditions:

1. Laboratory analysis reveals interior concrete contamination from previously applied reactive silicate materials or organic hydrocarbon materials that interfere with the bonding of VaporSolve Basic System
2. Weakening of the concrete over time caused by conditions beyond the control of the product manufacturer or the installation contractor. If the concrete deteriorates sufficiently, it will no longer support the bond of the remediation system. Such conditions are detailed in ACI 201.2R Guide to Durable Concrete ACI published by the American Concrete Institute and would include any of the following:
 - A. Attack from sulfates of sodium, potassium, calcium, magnesium, or Ettringite, sometimes found in soil or dissolved in ground water.
 - B. Deterioration caused by the physical action of salts from ground water containing sodium sulfate, sodium carbonate and sodium chloride.
 - C. Cracks that develop in the concrete or joints after the application of the remediation system. This includes cracks and damage to the concrete caused by Alkali Silica Reaction (ASR).
 - D. Failure of the concrete due to expansive contaminants in the concrete mix.

PART 2 PRODUCTS

A. MANUFACTURERS

- A. Resin system, crack and control joint filler shall be supplied by Arizona Polymer Flooring,
4565 W. Watkins St., Phoenix, Arizona 85043, Phone: 623.435.2277.
- B. If a self-leveling cementitious underlayment is required over the moisture control system, VaporSolve Tie Coat and Self Leveler 150 shall be used.

B. MATERIALS

- A. Joints and cracks shall be filled with a flexible epoxy compound, VaporSolve Joint Filler.
- B. Moisture control epoxy shall be VaporSolve Basic System.

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C. SYSTEM DESCRIPTION

- A. One coat of VaporSolve 100 applied at a rate of 100 square feet per gallon to achieve a minimum thickness of 16 mils wet film thickness.
- B. The coating shall have the following properties:

TYPICAL PHYSICAL PROPERTIES

7 Days at 75⁰F (24⁰C) Resin and Hardener

1.	Hardness, Shore D	ASTM D2240	85
2.	Adhesion to Concrete, 100% Concrete Failure	ASTM D7234	450 psi
3.	Permeability	ASTM E96	0.60 perms
4.	Permeability/MVT	ASTM E96	1 pound/24 hours/ 1,000 square feet
5.	Flammability (Bonded to Concrete)	ASTM D635	Self-Extinguishing
6.	Microbial Resistant	ASTM G21	Passes Rating #1
7.	Resistance to Alkalinity	ASTM D1308	
		Immersion 60 Days	
	A. 35% Potassium Hydroxide		No visible change Weight Gain 0.09%
	B. 35% Sodium Hydroxide		No visible change Weight Gain 0.09%

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
 - 1. Inspect surfaces to receive moisture control system. Report in writing to the architect any unusual or unsatisfactory condition.
 - 2. This coating system is designed for use where it can be known with certainty that reactive silicates have never been applied to the concrete.
 - 3. A tensile bond test to verify the cohesive strength of the concrete is recommended, but not mandatory. The test is done in accordance with ASTM D7234 using an Elcometer pull tester or similar device. Follow these steps to conduct this test:
 - a. Grind the concrete using a diamond cup wheel. Remove a minimum 20 mils from the surface. Upon completion test the ground surface's pH, if the pH is 10 or greater proceed to the next step. If the pH is below 10 the concrete is contaminated and additional grinding and retesting of the pH is required.
 - a. Vacuum thoroughly to remove all debris and dust.
 - b. Mix small kit of SK-E400 Fast Cure for one full minute.
 - c. Pour onto prepared surface, brush in well. Wait 10 minutes and apply a second coat.

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- d. Place pull off dollies into wet epoxy. Allow to cure overnight.
- e. Pull off dollies. Record failure mode and PSI.
Results must show a minimum concrete tensile strength of 250 psi.

3.2 SURFACE PREPARATION

- A. All surface contaminants such as grease, oil, animal fats, etc. must be removed prior to shot blasting. A floor machine with a nylogrit brush must be used with S-12000 Heavy Duty Degreaser depending upon the contaminant being removed.
- B. Surfaces to receive VaporSolve coating system shall be shot blasted using a 50/50 blend of 280/330 shot. Floor shall be crosshatched (North-South, East-West) double blasted to achieve an ICRI Guideline No. 310.2R CSP 3-4 profile (texture similar to 60-80 grit sandpaper). Diamond grinding is acceptable on the edges. After shot blasting, the surface must be thoroughly vacuumed. Cracks wider than 1/16 inch should be routed out to 1/4 inch width. Cracks and joints must be filled flush with VaporSolve Joint Filler. Tape both sides of the joint to keep the joint filler off the body of the floor. Joints must be filled to their complete depth. Allow joint filler to cure firm before proceeding. Honor all moving joints and do not bridge with floor covering materials. When remediation is to be done under polymer flooring, mark all moving joints and recut after polymer flooring has been installed. Saw cuts must be a minimum 1/4 inch wide and 1 inch deep.

3.3 INSTALLATION

- A. Allow sufficient time for the installation of the flooring system. At no time shall the speed of project completion be allowed to detrimentally affect the application.
- B. Provide sufficient light, power, and heat to permit proper application of the material. Substrate temperature shall be at a minimum of 50⁰F (10⁰C) during the application and for 48 hours thereafter.
- C. Mix and apply VaporSolve 100 at the rate of 100 square feet per gallon. Pour material from the mixing pail and spread using a metal trowel or flat squeegee. Back roll with a 1/2 or 3/4 inch nap roller. After the initial rollout, walk back onto the material with spiked shoes and roll a second time to insure optimal substrate wetting. Dry film thickness shall be 16 mils. Allow to cure firm before proceeding with self-leveling cementitious underlayment or finish flooring.

3.4 FIELD QUALITY CONTROL

- A. Installer shall apply the material at the thickness specified by the product data sheet. Measure out the area to be covered and use the entire kit on that area.

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For example, a three gallon kit of VaporSolve 100 must cover 300 square feet to meet the specification.

- B. 100% solids coatings applied over shot blasted surfaces without a primer are prone to concrete outgassing bubbles. These bubbles are self-sealing and have been proven not to reduce the effectiveness of the coating. After the product cures, if desired, the bubbles can be smoothed with a razor blade scraper or sanded using 80-100 grit sandpaper.

3.5 SELF-LEVELING CEMENTITIOUS UNDERLAYMENT

- A. Should a self-leveling cementitious underlayment be required by the flooring adhesive manufacturer or for the purposes of smoothing the substrate, VaporSolve Tie Coat and Self Leveler 150 shall be used.

END OF SECTION

This Specification was prepared by:

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