

UNDERSTANDING CONCRETE MOISTURE ISSUES

Appendix A: Moisture Vapor Remediation and Alkalinity Control Products/Systems

Overview:

APF has sold over twenty million square feet (of VAPORSOLVE moisture mitigation materials to a moisture challenged flooring industry. Since the first VAPORSOLVE product was formulated and introduced in the early 2000's, APF has continued research and development of moisture solutions acknowledging that one product could not solve all of industry's moisture mitigation problems.

APF has developed the most diversified moisture mitigation products and systems available to the flooring industry. Today, APF offers in excess of twelve products and four systems, as well as dozens of informal combinations of VAPORSOLVE Products to solve the vast array of moisture related problems.

VAPORSOLVE provides scientific solutions that can only be provided by a negative side moisture barrier for concrete slabs on-grade and elevated concrete slabs, as well as control joint and crack fillers. However, that turned out to be only one part of the challenges at the job site. Fast tracked construction needs lead APF to formulate fast curing and rapid turn-around versions of the VAPORSOLVE products/systems, as well.

The VAPORSOLVE Family of Products are Comprised of:

1. VAPORSOLVE Primer – Water-based epoxy material with deep penetration and superior concrete adhesions. Designed to greatly reduce or eliminate concrete outgassing.
2. VAPORSOLVE Fresh Concrete (Primer) – Water based epoxy material formulated to be scrubbed into green concrete from 6 to 24 hours after placement. The primer is always top coated with one of the versions of VAPORSOLVE 100.
3. VAPORSOLVE 100 – Low viscosity, hydrophobic resin system that cures on dry, damp or wet concrete. Used as a single coat remediation system or as a top coat over VAPORSOLVE Primer. VAPORSOLVE 100 is available in (a) Clear (b) Pigmented (c) Clear Fast Cure and (d) Pigmented Fast Cure.
4. VAPORSOLVE 100 LP - 100% solids, low permeability epoxy coating designed to comply with ASTM F3010 Standard Practice for Two Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings.
5. VAPORSOLVE Joint Filler – 100% solid, flexibilized and thickened control joint and crack filler. VAPORSOLVE Joint Filler is available in (a) Clear (b) Pigmented (c) Clear Fast Cure and (d) Pigmented Fast Cure.
6. VAPORSOLVE Tie Coat – Fast drying water based resin for use over moisture vapor remediation systems to insure the adhesion of subsequently applied self-leveling cementitious products.



UNDERSTANDING CONCRETE MOISTURE ISSUES

Appendix A: Moisture Vapor Remediation and Alkalinity Control Products/Systems

The VAPORSOLVE Family of Systems are Comprised of:

1. VAPORSOLVE Basic System – VAPORSOLVE 100 is applied without a primer at a single coat of 16 mils (0.04 cm) or 100 square feet (9.29 square meters) per gallon (3.79 liters).
2. VAPORSOLVE Ultra System – VAPORSOLVE Primer at 8 mils (0.02 cm) or 200 square feet (18.6 square meters) per gallon (3.79 liters) and VAPORSOLVE 100 at 8 mils (0.04 cm) or 200 square feet (18.6 square meters) per gallon (3.79 liters).
3. VAPORSOLVE Fresh Concrete System – VAPORSOLVE Fresh Concrete (primer) at 8 mils (0.02 cm) or 200 square feet (18.6 square meters) per gallon (3.79 liters) and VAPORSOLVE 100 at 8 mils (0.04 cm) or 200 square feet (18.6 square meters) per gallon (3.79 liters).
4. VAPORSOLVE 100 LP – VAPORSOLVE 100 LP is applied without a primer at a single coat of 16 mils (0.04 cm) or 100 square feet (9.29 square meters) per gallon (3.79 liters).

Surface Preparation:

Concrete surfaces to be bonded must be clean and sound, which in all cases requires some form of substrate preparation. Deleterious surface contaminants and deteriorated concrete must be removed, repaired if necessary and the surface roughened and cleaned.

All concrete substrates surfaces will require surface preparation prior to the installation of a VAPORSOLVE product or system, including cracks, spalls and control joints repair. The only exception is VAPORSOLVE FC (fresh concrete) which must be scrubbed into the green concrete surface.

The first step in these operations is extremely critical. Keep in mind. That the best materials correctly mixed and applied are doomed to fail unless the concrete substrate is properly prepared. At a minimum, the concrete substrate must be prepared in compliance with International Concrete Repair Institute, ICRI CSP #3 from ICRI Guideline NO. 310.2R Guide for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings and Polymer Overlays.

However, not all concrete is accessible for shotblasting, however these surfaces still must meet ICRI CSP #3. Concrete transitions, terminations, penetrations, drains, tight spots where the equipment does not fit, etc., these areas cannot be adequately addressed by shotblasting. Not only are these areas difficult to address, it is critical that they be profiled correctly. These areas must be aggressively diamond ground with a #12 to #16 diamond.

NOTE: See APF Technical Bulletin – Concrete Surface Preparation Guideline



UNDERSTANDING CONCRETE MOISTURE ISSUES

Appendix A: Moisture Vapor Remediation and Alkalinity Control Products/Systems

Applications Needs:

1. Bonding APF polymer products and systems to VAPORSOLVE products and system eliminates the need for a non-VAPORSOLVE primer, as long as the 24 hour recoat window has not been exceeded.
2. The recoat or top coat time for APF products and systems is 24 hours or less.
3. For third party products or systems a sample should be installed to test adhesion.
4. For third party products or systems requiring an aggregate profile for their product to bond to. If it is necessary to place a second coat of the VAPORSOLVE top coat or APF's Epoxy 400 and broadcast aggregate into it. Never broadcast aggregate directly into VAPORSOLVE products or systems.

Disclaimer:

APF Technical Guidelines are developed in good faith for the sole purpose of assisting others with products, systems and industry standards. The information published herein is gathered from different sources that are thought to be reliable, but the reader should not assume that the information absolves the reader from validating information from other sources, such as listed below, before making a decision. Since information from others can change without notice, APF cannot be held at fault if any of the information conveyed in good faith is deemed in error.

