



Controlling Moisture in Concrete

Project Summary

Industry: Corporate Warehouse/
Office

Challenge: Controlling Moisture
in Concrete

Location: Atlanta, GA

Solution Components:

- Platform EMS
- Platform Primer P360
- Platform L3

When Gourmet Foods built their 28,000 ft² state of the art headquarters & warehouse facility in Atlanta GA, they faced the challenge of addressing ongoing moisture emissions from the concrete substrate. Given the service environment and site use Gourmet Foods choose to avoid the risk of a lower performing system and instead selected Platform EMS, an ASTM F3010 approved Moisture Mitigating Membrane.

Keeping the moisture and associated salts/alkalinity in the concrete away from the bond line with adhesives should ensure a successful application of any kind of flooring. This is typically noted and addressed in associated specifications by ASTM F710- Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. Gourmet Foods and their supporting contractors recognized the need to control the moisture in concrete, as failure to do so would open the facility to flooring issues down the line as noted by Robert Nieminen of Interiors + Sources,

“North American commercial property owners spend an estimated \$2.4 billion on remediation of structures and floor coverings as a result of moisture-related flooring failures annually. An additional \$1.2 billion is spent on topical moisture treatments (of varying effectiveness) in an effort to address moisture issues prior to the floor covering being installed.”

Robert Nieminen; Interiors + Sources
March 2017; 49-50

Moisture related issues lead to an unhealthy workplace, flooring failures, business disruption, and finally – a cost to repair. Fortunately, there are methods to treat and address moisture emissions from concrete subfloors. Adhesives tolerant to high RH, even light duty acrylic membranes can withstand the presence of moisture in concrete (typically up to 95% RH). This assumes that in service conditions will never exceed the published limits of the given product.



5 CRITICAL MATERIAL PERFORMANCE BENCHMARKS FOR AN ASTM F3010 MEMBRANE:

- Meet/exceed ASTM F3010
- Exposure to pH 14 - no degradation
- Suitable for 100% RH & 25 lbs MVER
- Warranty through to finished floor
- Free from Benzyl Alcohol & Nonylphenol

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Project Solution

Risk Management determines whether to utilize a lesser product to address the moisture, under the assumption that the moisture conditions in the concrete are stable, and will not exceed the “solutions” ability to address during the flooring’s service life. In cases where the risk is too high to accept the potential failure and disruption of a lesser material solution (hospitals, technology, office, manufacturing) there is the “best practices” solution defined by the American Society for Testing Materials, ASTM F3010- Standard Practice For Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems For Use Under Resilient Floor Coverings (Released in 2013). This fully vetted standard, references one type of materials (2C Resin based membrane forming) and is suitable to control moisture in concrete at 100% RH.

Vaporseal HM+, and Platform EMS by FloorPrep.com are both ASTM F3010 Membranes. There is however one more detail to note for “best practices” for moisture mitigation. Over the past 20+ years a number of perplexing field issues have been observed with ASTM F3010 materials. Aggressive research by independent laboratories, chemical suppliers and more have identified common raw materials used in ASTM F3010 validated products that may be contributing to rare, typically unwarranted failures.

“Benzyl alcohol, a common diluent used in most conventional epoxy floor coatings, emits out of the coating over time leaving voids in the film. This could allow moisture vapor to pass through, or if the voids occur at the interface of the coating-concrete layer, it could cause blistering or delamination as the epoxy coating would start peeling off from the substrate.”

The Coatings Expert 2019 Evonik’s Epoxy Curing Agents, Shafiq Fazel, Evonik.

FloorPrep.com’s Platform EMS, and Vaporseal HM+ are both free from Benzyl alcohol and Nonylphenols.

Working with Choate Construction, contractor All American Services South followed best practices and installed FloorPrep.com’s Platform EMS on properly prepared concrete, followed by a NEAT application of P360 primer, and a underlayment application of 5000 psi Platform L3 high performance underlayment. This system provides a dry, durable system that will control the moisture, and tolerate multiple cycles of flooring finishes for years to come!

Contact FloorPrep.com Technical services for your moisture consultation. FloorPrep.com offers complete subfloor solutions for commercial leveling, moisture control, lightweight applications, sound attenuation, fire ratings, gypsum and concrete substrates.



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