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PERFORMANCE ADHESIVE ≠ MOISTURE CONTROL TECHNICAL BULLETIN

Innovation is an important part of any industry or market. Efforts to develop disruptive technology that result in new products, services and/or ways of completing tasks are critical to vibrant growth and evolution in any market. OBEX is fortunate to own the Creteseal brand, one of the all-time greats in terms of disruptive technology within the concrete Moisture Control market. The Creteseal brand of products has been consistently fine-tuned and tested to offer the most comprehensive performance levels available at a competitive Total Cost of Ownership (TCO) price. In recent years, the Moisture Control market has seen a new, aspirational offering – Performance Adhesives. The manufacturers and distributors of these products are promoting them as suitable alternatives to highly-reliable, cost-effective and proven concrete Moisture Control systems like Creteseal CS2000 and Creteseal MAX. So far, the results are not as promising as some might have hoped – Moisture Emission Vapor Rates (MVER) within published Performance Adhesive manufacturer criteria have resulted in failures like the one pictured here.

This is a floor that is less than 3 years old. The initial MVER tests, completed in Fall, were all 4.5 lbs or less (range of 1.0-4.5 lbs) with a maximum RH of 95% (range of 55-95% RH) and pH readings of 8. These MVER readings are well within the Performance Adhesive manufacturer's tolerances to warrant performance.



Subsequent MVER tests, which were completed in Spring, 4 years after the initial tests, were 7.2 lbs or less (range of 3.2-7.2 lbs) with a maximum RH of 94% (range of 90-94% RH) and pH readings ranging from 8.4-9.4. Changes in environmental conditions were such that the adhesive could not protect the flooring from MVER.

Moisture control product manufacturers and distributors are motivated to provide customers with reliable product offerings that limit risk for the owner (resilient flooring failure) and liability (repair/replacement of failed resilient flooring) for entire value chain delivery team might want to stop here – manufacturer through the various contracting entities, and all the way to the system/flooring installer.

The proven chemical and mechanical aspects of traditional concrete Moisture Control systems have been highly refined and tuned over hundreds of millions of treated square feet in the last several decades. These cost-effective and efficient systems are proven reliable when installed in accordance with ACI, ASTM and other industry standards. In rare instances of compromised performance, those events are most commonly related to one, or more, failures to complete the installation process in accordance with manufacturer recommendations and requirements.

Performance Adhesives have a potential place as a part of a “belt and suspenders” approach to Moisture Control system installation. On occasions when post-treatment concrete testing indicates modest “outlier” readings for MVER, prudent owners, contractors and installers will add the Performance Adhesive “suspenders” to the tried and true “belt” of a proven Moisture Control system. Performance Adhesive manufacturers publish ambitious specifications and limits for moisture, however, when those same manufacturers are unwilling to backstop those limits with a meaningful extended warranty like OBEX's Creteseal (the ORIGINAL 15-Year Warranty) it's no wonder that



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they render results like those reflected in the photo. In those instances, the owner and/or contractor will be up against a flooring failure resulting in a very costly remediation/repair event.

Fundamentally, the risk of Moisture Control system failure is most specifically tied to utilization of unproven systems, unfavorable environmental conditions and/or poor installation preparation and installation efforts. Over the decades of use, the simple facts are Moisture Control systems should be, most appropriately, presented as opportunities to save time OR money. In reality, there are no *proven* solutions that allow for both savings of significant amounts of time AND money. With a Day-of-Pour Moisture Control system (Creteseal CS2000), there is a real opportunity to save money and gain excellent concrete Moisture Control protection. However, Day-of-Pour systems require concrete chemical interactions, during the curing and hydration period, to facilitate effective moisture control outcomes. The trade-off of lower cost is offset by a requirement for appropriate concrete hydration/curing time and subsequent testing and validation before proceeding with the final flooring installation. In the case of retrofit concrete scenarios, a two-part resin Moisture Control system (Creteseal MAX) presents the opportunity to dramatically accelerate construction schedules albeit at a higher price point. Beware the purveyor that promises both time AND money savings in one solution. It's one thing to write the corresponding warranty and another to actually stand behind that warranty with a track record of performance over millions of square feet protected over decades of time.