

Concrete Moisture Tests Conducted Without the Knowledge of a Sub-Slab Vapor Barrier

Stop wasting your resources in both time and money. The warranty for flooring performance is off the table anyway.

Benny Dickens

Founder/CEO

Formulators

1790 Boyd St Santa Ana, CA 92705

To ensure a reliable flooring installation, interpretation of test results requires a thorough understanding of the test methods, their limitations and the slab design system. - ACI 302.2R-06

Getting caught up in the minutia surrounding the pseudo-science of concrete moisture testing is increasingly common. But let's not forget why ultimately moisture testing is conducted; to reduce the risk of flooring failure. Too much emphasis as to the how and what is being tested versus the why is becoming all too common.

Take for instance a typical commercial remodel project. The space is selected, floor planning and architecture develop the lay-out and the GC begins the project renovation. The floor gets tested for moisture and the resulting report shows 80-85%RH within the performance tolerance of the manufacturer's adhesive. The remodel proceeds and the flooring is installed. Yet within 12 months the visible signs of adhesive failure begin. So who's to blame? How about the fact that the report generated provided a false positive. It's the same old story: bad information begets bad decisions. What the

For slabs not placed on a vapor retarder/barrier, the validity of any moisture test taken at the surface or with probes in the concrete should be questioned. - ACI 302.2R-06

consultant failed to do was discover if a proper vapor barrier existed. If the bottom of the slab is exposed to ground source moisture then any test of the concrete is a momentary picture of the available moisture of the ground and slab. The two are connected. Any interpretation otherwise provides a false positive that no statistical manipulation can provide assurance. Unfortunately the huge financial loss of failure in this scenario will be shared by all parties except for one; the consultant. The consultant who provided the information is indemnified from the financial loss.

Now let's assume that a vapor barrier has been documented by the consultant to exist and the same failure results. Chances are that a possible breach in the continuity of the retarder/barrier exists. If this fact is possible on any number of concrete slabs, then how confident can we predict future installation success on any slab whether it's a new concrete pour or remodel project. The current reality in the flooring industry is that no matter who is doing the testing or how, severe limitations exist on predicting or avoiding flooring failures.

Ultimately, the solution to avoiding installation failures resides with the chemistry of the adhesive. Since the move away from moisture tolerant, solvent based adhesives the advent of flooring failure has been exponential. Given the moisture testing mentioned in the above scenario may be noble; but in the final assessment this effort and any effort toward conventional epoxy mitigation simply serves to minimize moisture exposure to the only moisture sensitive component of the installation, the flooring adhesive itself.