



IAQradio Episode 686
Robert Blochinger | Mickey Lee | Ralph Moon, PhD
The Moisture Mob – Flooring Panel Grand Finale

Good Day and welcome to IAQ Radio+ episode 686 blog. This week we welcomed Bob Blochinger, Mickey Lee and Dr. Ralph Moon, PhD for the Moisture Mob – Flooring Panel Grand Finale. Fellow Moisture Mobsters: Andrew Rynhart CEO of Tramex Meters and Pete Consigli, Global Restoration Watchdog called in for the Roundup.

The Moisture Mob series has been a unique learning experience. Today we wrapped up the flooring panel and also dove into how moisture affects various types of flooring. Bob Blochinger provided his take on how concrete chemistry affects flooring. Dr. Ralph Moon discussed his recent research on how different types of flooring are affected by moisture issues. Mickey Lee weighed in with lessons learned over 30 years in the industry.

Bob Blochinger was raised in New York City, working in the family construction business. He began his career in the flooring industry in 1970, offering carpet cleaning and installations while specializing in water and fire damage restoration work. He later expanded into the retail department store sector providing installation of floor covering sales. During the 1990's his company started to service the architectural and interior design trade with high-end floor covering product sales and installations. Bob also works as an expert witness, inspector and investigator for law firms, condominium associations and flooring manufacturers.

Mickey Lee is currently a private consultant providing consulting, training, research and writing services in the fields of property damage restoration, psychrometrics, drying science, and structural drying after water intrusions. Mr. Lee retired from the Munters Corp (US) in 2011 after serving in various roles for over 20 years and on various RIA and IICRC committees.

Ralph Moon, PhD is a Building Scientist with more than 42 years of consulting experience in the areas of duration of loss studies, material testing, risk assessment, project management, industrial hygiene, and indoor air quality assessment. Dr. Moon has published over 60 peer reviewed and 40 technical articles and papers and is a frequent expert witness on insurance-related claims and projects.

Comments from the Moisture Mob Flooring Panel

Bob Blochinger-

- It's common for flooring installers to be threatened, that is if they are unwilling to do the task then the general contractor or building manager will find someone who will.
- Installers expect that the surface upon which they are to install flooring will be prepped and ready to work on. Too often, this is not the case.
- Flooring installers don't bring a chemist and attorney to the jobsite; the chemical makeup of the concrete and concrete's moisture content are beyond the control of the flooring installer.
- Only 10% of installers have moisture meters. And the majority of those who do buy and use low cost meters.
- ASTM 710, 2171, 1869 are moisture testing standards.
- The installer accepts liability for the floor surface as soon as he puts a trowel or other tool on it.
- Bob is working on a 3 story, 60,000 sq ft. flooring project in Miami Beach which was built in the 1950s. Some is slab on grade and some is above a crawl space.
- Floor installers don't control the pricing for their work, two choices: take it or leave it.

Mickey Lee-

- Agrees with Bob that proper meter usage is a big issue.
- Mickey consults primarily on commercial projects.
- Following water losses, restorers are tasked with drying the building. The source of the water restoration contractors remove from the building most

often comes from above (broken pipe, catastrophic flooding, leaky roof) not from under the slab.

- Most floor coverings encountered are coated, resilient flooring or glued down commercial carpet.
- Many restoration contractors have not invested in decent moisture meters. They purchase the wrong meter and also don't know how to properly use it.
- Mickey teaches restorers how to read meters. They need to follow the instructions and set meters to the correct scale. This is how you let the building 'talk to you.'
- Moisture meters are used to moisture map the building for the restorers own purposes and determine the dry standard and set drying goals. When it comes to concrete, I recommend Restorers not tell their customer, "the concrete is dry." Don't take that 'monkey' on your back. Instead, do testing for your own purpose then tell the client that "I think your flooring installer is ready to conduct his moisture testing." This places the responsibility on the person who last touched it who is the one qualified to accept and warrant the finished product.
- Mickey prefers restoration contractors use non-destructive concrete meters and follow ASTM 2659. Then the owner can hire a 3rd party person to do the testing required by flooring manufacturer's specification.

Ralph Moon-

- The article the Ralph co-authored in the CIRI Journal was based upon experimentation and study of common real world water damage scenarios.
- 2 different scenarios were created, the study parameters included: causation, origin and duration.
- One study was done to mimic insidious long term foundation leaks (e.g. sprinkler systems spraying on exterior of buildings). A variety of flooring materials were subjected to "simulated damp foundation". Found that solid ruff-cut wood flooring tended to cup. Laminate, engineered and bamboo were studied. Bamboo is considered grass not wood. Higher cost wood flooring cut perpendicular to annular growth rings responded surprisingly well. Prolific microbial growth was visible on the underside after 7-9 days. Cannot determine in the field how long wood has been wet.
- Second study was done to simulate a nasty vacation leak, flooring with standing water beneath. Flooring placed on a flat surface and allowed to

absorb water until ½ the thickness was wetted. The woods got ugly quickly; color change and distortion were visibly apparent. The study is helpful providing visually apparent data. Vinyl floor wears off at the butted edges.

- Odors were noticeable. A pleasant wood smell was noticeable after 2-3 weeks. “Qualified Noses” can testify on the absence and presence of odor. Ralph is not a “Qualified Nose” so he avoids testifying regarding odor. Wood submersed in water will create complex odors due to fungal and bacterial proliferation and materials degradation.
- Ralph opines that composite wood flooring will swell and twist while engineered flooring manufactured in a similar manner to the way exterior plywood is constructed is a durable wood flooring surface that doesn’t cup or swell. Pergo flooring installed over foam and bamboo performed well.

Bob Blochinger-

On a prior IAQradio episode, Bob Blochinger commented “LVT (Luxury Vinyl Tile) is the bane of the industry because: we don’t know what it will do once it’s on the floor, we have no control over installation workmanship training and we don’t know where its going to be disposed of when replacement time comes.”

- He provided an updated opinion: Manufacturers are providing new instructions on installation.
- Manufacturers want 6 mil poly-film placed on top of the slab prior to installation.
- Manufacturers opine that there is no need for moisture testing due to reduced moisture absorption by the flooring core. There remains a lack of education.
- Online training and YouTube are not substitutes for hands-on-training and testing.
- You get what you pay for when buying flooring materials.
- There is no LVT recycling effort.
- LVT is easy to install and easier to maintain compared to the alternatives.
- Bob’s new mantra is: LVT is a chemical sandwich destined to fail.

Bob Blochinger-

- Sees moisture wicking up through slab from below.

- Can smell mildew as soon as he lifts the first piece of flooring.
- Moisture in slab due to both subsurface and ambient conditions.
- Provided an update on IICRC inspection standards: s800 carpet textile inspection in public review, s230 ID & moisture measurement in buildings.

Ralph Moon-

- Has witnessed drying equipment remaining on-site for months after water losses in an attempt to dry concrete.
- Concrete wants to absorb.
- Water vapor moves from areas of high temperature to areas of low temperature.

ROUNDUP-

Andrew Rynhart- CEO TRAMEX Meters

- Liked hearing about Ralph's testing.
- Prefers natural flooring products, plastic floors are not great for human health.
- Where is the moisture coming from: ambient or subsurface?
- When floors are coated, moisture builds up below.
- Moisture testing is rooted in the resilient flooring industry.
- Opines-Vapor barriers are over-specified for use on new concrete. Vapor barriers are under-specified for use on old concrete.
- Sealers benefit both the flooring and the building.
- Void spaces in concrete transport moisture.
- Adhesive needs to form proper bond on the concrete surface.
- There are different EMC for concrete in different climate zones.
- Slab should be moisture mapped and deep tested.
- Drivers for meter pricing include calibration costs and quantities of scale.
- If you saw the conditions in which lower cost meters are made, you wouldn't buy them.

Pete Consigli- Restoration Global Watchdog "Watch Dog Rant"

- Link to last week's IAQradio+ blog, <https://www.iaqradio.com/blogs/685.pdf>

- Bob Higgins opines that poly-film vapor barriers are useless.
- Joe Lstiburek recommends capillary break (stones) under slabs where there is high water level, rainy climate, wind driven rain, etc. Lstiburek opines that perimeter edges of cement slabs aren't done properly. Water slips over poly-film and spreads. If poly-film is being used the perimeter edges should be wrapped. Save cash, flash, Save cash, wrap.
- Training Emphasis-Orders of magnitude: remove bulk water; drain the rain from the plane, air movement, vapor diffusion, water activity and importance of air transport.

Mickey Lee- Pearls of Wisdom

- Mickey's perspective is from the drying contractors perspectives. He is not a chemist, concrete or floor expert, but given a building to dry, he can figure a way to do it.
- Don't step over a dollar to save a dime. Invest in quality instruments. He is not a fan of multipurpose instruments, saying too many restorers buy an IR camera that is also a penetrating and non-penetrating moisture meter and a thermohygrometer and a 'can opener'. What you get is a somewhat decent meter for all of those purposes but it's not great for anything.
- Use non-penetrating concrete meters when measuring moisture in concrete for your purposes.
- It's dry when its dry. Let the building tell you when its dry. (Avoid making promises) that you are not really qualified to make.

Ralph Moon-

- Opined that the panel was cohesive.
- When asked about future research said he was curious about cleaning chemical damage to metals, etc.

Z-Man signing off

Trivia: which character in Godfather 1 was given the name Leonardo Passafaro at birth?

Answer: Luca Brasi - Answered By: Don Weekes