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IAQ RADIO+ Show Number 772 BLOG

Good day and welcome to IAQ Radio Plus, it's the episode 772 blog, this episode was broadcast live from Winter Break Week 2026 in Bonita Springs, Florida.

We discussed building envelope moisture surveys and their takeaways from the event with our illustrious panel: Ashley Easterby, the Aussie Restorer, Stephen Richford, UK Restorer and co-founder of the British Damage Management Association, Luis Suarez Restorer and bilingual educator, Wynn White Sr., Louisiana consulting engineer and father to the most interesting engineer in the world and of course Pete Consigli, Global Restoration Watchdog, Restoration Industry Historian, Moisture Mob Consigliere, and Co-Host & Facilitator of Winter Break Week 2026.

The Z-Man provided a short intro on the Winter Break's goings-on:
Prior to the main event there was an invitation only to a private meeting of the Moisture Mob, a diverse elite international group united by their interest in and commitment to accuracy in moisture testing and a few Moisture Mob Associates. Just like in the Godfather story, the Mob's Made-Men discussed family business, promoted several original members and inducted new members.

Highlights from our Panel Discussion:

Steven Richford mentioned that in Britain, RH is actually secondary, not so important as other measurements. However, when they deal with flooded buildings, after they've dried the building, they need to confirm whether they've attained a target moisture level. There is a British standard that requires measurement of the relative humidity within a 5-sided box attached to the surface of the floor and we're seeking to get to the lower target level.

One of Steven's takeaways was that as far as moisture readings are concerned, all that glitters is not gold. The presence of strong alkaline salts on the surface of the floor, sodium hydroxide and other hydroxides, can lead to a depression of the relative humidity, resulting in an erroneous reading that may not truly represent the actual moisture content of the floor.

The British Standard Institute (BSI) is similar to the US standard organization (ANSI) creating a wide variety of standards for a broad range of industries. For

instance, BSI has various standards that require conditions to be met before resilient floor coverings are installed.

Steven's Tip to the audience: Well, the great thing is that we don't have the climate you've got here in Florida with huge moisture in the air, high dew points external to the building and then air-conditioned spaces within. But the practitioners that were talking this week were very precise and clear about the need to really plan to have the ability to document many different variables because investigating building defects requires meticulous record-keeping for the potential of an eventual court case, which many of the speakers are regularly presenting themselves for a depositions.

Wynn White, P.E.: My takeaway is how many much smarter people there are with good experience than me, and I've learned that I don't know a whole lot when it comes to everything that we deal with, or I don't know as much as I thought I knew. I learned who I can call, and I've gotten off on a tangent on concrete and I'm still confused, but at least I know who I can call when I run into an issue. So, for me, I mean, there's a lot of brilliant people here and I'd recommend, if you're in this business, you ought to be here at the winter break and summer camp as well, but where else are you going to get this kind of education and learn from your peers? This is it. To be quite honest, I'm blessed to be here.

Z-Man: Wynn White, please share the important takeaway that you gave me regarding removing ceramic tile after flooding.

Wynn White- "We had some floods in Louisiana, and there's a picture in the paper of a man chipping up the ceramic tile off his bathroom floor, and it suffered a flood, so they had water on them.
And I said, well, number one, last week you'd have been out there swimming in the Bayou, and you wouldn't have thrown all your clothes away and all of that. And then secondly, I asked, do you have any boys in the family? Well, yeah, he said. I said, well, you know, sometimes they don't always hit the toilet. And do you chip the ceramic up because the kids peed on it? And the short answer is no, you don't. So, you don't always have to do what some folks say you need to do for remediation.

Z-Man, "That's a pretty powerful statement, particularly if you're being in court!" You know, I wouldn't use it in the deposition, but it would be a great bomb to drop when you're in court with a jury and a judge that's looking for

some practical information upon which to decide. Wynn White- “I'll have to think about that.

Luis Suarez: I'm amongst the giants, the people who pioneered a lot of this stuff. And one thing that I did learn that is common to every single industry, no matter which industry, if you're in the HVAC and the roofing and the concrete and all that stuff, it's two things. One, water unites us.

And then the other one is that viewpoint is an issue. So those are the two things that I ended up capturing as a pattern. We're always going to be dealing with water.

So that's going to bond every single side of the industry and viewpoints, apart from other issues. But it's one of the causes that we end up having for us to get called in there because things end up condensing in spots that should not be condensing. Yesterday's presentations from Ralph Moon hit a lot of important points.

Because like I said, I'm amongst giants, pioneers, legends. And it's a lot that they have to go through and learn. And I'm thankful for that.

Back draft damper failures. (Backdraft dampers are devices used in ventilation systems to allow air to flow in one direction while preventing it from flowing backward. They help maintain indoor air quality and energy efficiency by stopping contaminated air from re-entering a building.)

A change in my presentation approach, making complex subjects such as thermography, moisture measurement and concrete more understandable.

Every project has complications and things we may not understand; we need to be careful with what we say and how we say it. The great value of events like this is knowing who to call.

Z-Man Event Coverage Speaker-by-Speaker

Bob Blochinger- How to test concrete:

- The tools, the testing methods and the standards.
- Hands on demonstration
- Importance of safety and PPE. (how to contain dust while drilling concrete).

- You don't want to do a drill test on pre-stressed concrete. Wynn White explained that if you drill into 1 of the tendons it isn't going to be pretty. As we don't have Xray vision you don't know where the steel is, which jeopardizes the structural integrity of the structure. A novice wouldn't know by looking that the concrete shouldn't be drilled. Even with a TRAMEX meter you can only find the steel when the meter can read deep enough. Don't drill a hole through the rebar or you're going to cause real problems. Moisture is a problem; structural problems are more serious.

"Concrete Bob" Higgins

- The concrete industry doesn't really understand their product.
- Concrete has changed significantly over the years, and the testing has not been revised. Old tests are being used on new concrete, and the tests don't always provide accurate results because the concrete is different.
- pH and alkalinity are different. (PH measures the acidity or basicity of a solution, while alkalinity indicates the water's ability to resist changes in pH by neutralizing acids. Essentially, pH is a snapshot of the current state of acidity, whereas alkalinity reflects the buffering capacity of the water. Michigan State University, Wikipedia).
- You can do everything right and still get in trouble because the concrete isn't right.
- The top ¾"-1" of concrete is where the concrete failures occur, the failures are caused by salts within the concrete that are moving.
- Importance of testing the concrete prior to installation of any floor material. If you don't have a baseline you could get into big trouble in the future.
- Moisture testing tells us where the moisture is, not where the moisture came from.

Gabriel Ballinger- IICRC's new Building Moisture Inspection Course

- Gabriel is a talented very animated speaker.
- The importance of subjects that are taught and concentrated upon in the course: professional judgement, determining moisture causation, scientific method, moisture dynamics, measurements, building assembly failures, consequences, inspections and documentation.

David Daniels, TRAMEX- Moisture Testing Concrete

- Importance of testing concrete prior to installation.
- How to take moisture readings according to the standard. (8 readings within the first 1,000 sq. ft. Reading to be taken 6' from walls. 4 readings

are taken: 12 o'clock, 3 o'clock, 6 o'clock, 9 o'clock. Readings are not averaged, only the highest reading is used.
- Slabs generally cool at night, There is a time lag for slab to warm.

Roland Viera- Flooring Forensics (Presented by Bob Blochinger)

- The scientific method.
- Short list of things to do, include gather data we trust, trust but verify the data, make observations and define the suspected problem.
- Shining light over flooring at different angles can reveal crowing and other defects that are not visible under ambient light.
- Create a hypothesis, test the hypothesis with experiments and finally present the documented results.
- Formulate and communicate your conclusion.
- Don't take any shortcuts.

Howard Brickman- Engineered wood flooring.

- Engineered wood and things we don't think about,
- Wood is anisotropic, easier to split along its grain than across it because of the directional non-uniformity of the grain (the grain is the same in one direction, not all directions).
- Engineered flooring is great for use in high humidity areas and climates, shrinking can be encountered when used in dry desert climate.

WINTER BREAK MAIN EVENT DAY 1

Pete Consigli- Introduction to Building Science and IEQ Principles applied to moisture surveys, IAQ inspections and Mitigation, remediation, restoration and drying.

- we are dealing with temperature, relative humidity, moisture, etc., more tends to go to less.
- Jumping to conclusions on building complaints: its mold, its chemicals, when it could be one or more other causes. (The four main causes of indoor air quality (IAQ) complaints include biological pollutants (like mold and dust mites), chemical pollutants (such as volatile organic compounds from cleaning products), particulate matter (like dust and smoke), and inadequate ventilation, which can lead to the accumulation of these pollutants. Addressing these issues can help improve overall indoor air quality and reduce health risks. US EPA),

- Relative humidity (according to Andy Ask, P.E.) is worthless to engineers, but important to restorers because it is the single best number to predict drying.
- Importance of understanding the IEQ terminology we use and being able to explain and communicate it to building owners and occupants.

John Lapotaire- Water Vapor, the often-overlooked water phase- the summer season nemesis.

- Wall covering ailments "Radisson Rash" and "Hyatt Hives" discolorations that occur when vinyl wallcovering is installed on exterior walls and acts as a moisture barrier that accumulates moisture and supports fungal growth.
- Back drafting and failed back draft dampers.

John T. Hall- Best practices for roof surveys using all of the tools in the diagnostic toolbox.

- You can have a "wet blanket" on top of your building when water enters the roofing system.
- Water in a roof system moves both downward and side-to-side.
- 20% of roofing industry funds is spent on roof restoration, mostly commercial buildings working to save and repair what is there.
- Leak detection tools: electronic leak detection, impedance meters, infrared cameras, nuclear.
- Moisture meters work as compasses not rulers.
- When survey a roof, look for patterns not specific numbers.
- Suggests making a core cut into a dry area to determine a baseline. Don't ever cut what you don't know how to patch!
- "Surgical destructive< Instead of making a core cut using long pins that are driven into the various layers of roofing.
- When measurements from different tools don't agree, that is an indication of a clue not a failure.
- Infrared cameras never lie; the interpretation sometimes does.
- What we do on roofs doesn't just stay on the roof.
- False certainty is more dangerous than uncertainty.

John T. Hall and John Lapotaire answered questions

Jeremy Beagle- Crawl spaces the silent saboteur, understanding dew point to control, condensation and avoid, moisture, mold and the crawl space blues!

- Condensation damage is not a covered insurance peril.
  - Beware of people trying to get a claim paid that isn't really a claim.
  - Crawl spaces are common because its less costly to build a home with a crawl space than a full basement.
  - Condensation is actually the collection of many, many small droplets on a surfaces.
  - In the southern US, when humid air gets into cooler crawl spaces and causes condensation. The dew points in crawl spaces end up being higher than the dew points in the conditioned upstairs, causing problems upstairs.
  - New owners of older homes tend to add on and renovate which disrupts the original natural ventilation patterns.
  - Importance of the scientific method.

Huey Miller- The impact air conveyance systems have on investigative building envelope moisture surveys: an overview of HVAC industry best practices.

- Covered how each of the relevant HVAC standards come into play during building moisture investigations.

Mike McGuinness- Uncontrolled moisture and mold in schools, dealing with IEQ emergencies.

- Some mold problems in schools are self-induced when New Jersey school districts either clean carpets in last August or leave entry doors open when the HVAC system is set at economy and inadequately removes the excess moisture.

Ken Siders- A restoration case study from cradle to grave: lessons learned from post hurricane project claims resolution!

- The Word of Life Church saga ends after a 3-year journey from a hurricane's impact on a complex roofing system, through mitigation, documentation, key project phases, claims settlement negotiations and the path to completion to become whole!
- Ken did a moisture inspection and moisture mapping of a large Florida church following a hurricane.
- The insurance claim went into litigation.

- Ken's thorough documentation and report (a binder with 6"-8" of data) enabled the church to prevail and settle the claim out of court for policy limits.

John Isaccson- The 4 Principles of Project Management

- The 3 Ps of project management: people management, project management and process management.
- Importance of bedside manners of the staff working on the job site. The staff can be great craftsmen but if they don't treat the client right, you're going to have problems.
- The client wants to always know: the cost, how long will it take, when you can start, when will you be done?
- Importance of communication.
- Sometimes things don't happen as planned, for instance the delivery of the cabinets has been unexpectedly delayed. It's very important to communicate to the client that you are working for them behind the scenes. A delivery promise was made and is not being kept, I'm working for you and calling them everyday

Bob Blochinger- Best Practices for Flooring Inspections, Project Oversight, Troubleshooting and Moisture Testing.

- ASTM 1869 calcium chloride vapor emission quantitative test.
- ASTM 2170 in-situ drill test qualitative test for measuring RH

Concrete Bob Higgins- The Science and Chemistry of Testing Moisture in Concrete: Determine a Dry Standard based on Moisture Dynamics and Alkalinity for site specific conditions.

- Flooring failures due to concrete moisture content and emission and what every drying contractor needs to know about concrete.
- Testing is different when done in the lab or done in the field. In the lab testing is done according to lab conditions and when done in the field it's a crapshoot.
- Technology seems like a hamster wheel, spinning the wheel without forward progress.
- Concrete is full of compounding factors.
- Water behaves differently in concrete, air is an open structure and concrete is not.
- Concrete is like a loaf of bread; the upper crust reacts differently than the material below.
- Efflorescence is caused by moisture diffusion not moisture migration.

- You can have no definable quantification without context.
- When you go into Home Depot and see a bag marked cement, the material inside is clinker. The material is clinker until water is added to make cement.
- The older the concrete, the more likely it is to collect salts on the surface. The salts in concrete absorbs moisture from the air.
- When evaluating concrete, you need to first establish a dry spot as your dry standard.

Special Added Attractions :

- John T. Hull- Hands on demo of moisture detection techniques for commercial roof inspections

- Bob Blochinger- Hands on demo of calcium chloride vapor emission test and in situ drill test.

- Matt Hess- Demonstration of 40' long commercial flood training house on wheels.

Andrew Rynhart- Moisture testing history and its application to building science.

- WME (wood moisture equivalent) is a reference scale on a moisture meter that is calibrated with wood. When the same meter is used to measure another material, the readings would be different, the reading is the WME.
- Testing moisture is wood has been very important for a long time. Wood is kiln dried which is an energy intensive process. The lumber company doesn't want to spend any more time and energy than necessary to dry the wood.
- Moisture testing goes back to the 1850s. When building underground tunnels, a hole would be made into concrete, and a pre-weighed sample of wood would be inserted and pounded into place. The sample wood be left in place for a specific period and then removed and weighed. The gravimetric difference is how the amount of moisture present was measured.
- According to Andrew, the repeatability of tests is more important than accuracy.
- Andrew discussed the history and differences between impedance, pin, destructive and non-destructive meters.

Ralph Moon- Moisture investigation protocols to determine causation and culpability using applied research to prepare for a deposition, and mediation or litigation. & Best practices for performing a Moisture Investigation to Provide a Defensible Report of findings for insurers, property owners and/or attorneys for claims resolution.

- Ralph's experience has been that courts are very lenient to testimony from engineers and hold other professions to higher standards.
- Determine who is paying you, request a retainer, instructions for what they want you to do.
- Look in the mirror and decide if you have the skillset for the potential assignment.
- Ask for substantial information ASAP prior to your site visit.
- Be willing to go where your competitor didn't go. Have coveralls, PPE and whatever necessary to facilitate going to those areas.
- Step by step requirements of putting together a defensible report.
- The importance of doing onsite tests that demonstrate your findings. Use of blue paper towel to reveal dripping under sink, etc.
- Look for evidence among the obscure.
- Consider the effect of adjoining structures (row houses, etc.)
- Mobile homes are metal boxes with floor penetrations.
- The effect of appliances on the building, large family in a small home doing large volumes of laundry. The dryer exhausts 200-250 CFM of air which will be replaced by outdoor air which may be hot and humid.
- Examples of capillary action and vapor diffusion.
- Don't forget, in winter the heat moves outward. In summer the heat moves inward. When uniform mold coverage is found behind dresser, mirror or cabinet the source of the moisture is vapor.

Seth Pevarnik, ARDEX About Concrete and It's Repair

- 3 important things to know about concrete: its gray, it cracks and nobody is going to steal it.
- Concrete is dynamic, its either moving or not moving, The more dynamic it is the more cracking occurs.
- Slab curl is caused by differential drying, shown examples on in plane and out of plane cracking.
- Concrete repair methods. Stick and glue (like it sounds, little metal sticks and adhesive). Can't guarantee a return to structural integrity. Structural engineers will decide whether repair can be made, how far the repairs will be made, and what products need to be used.
- Finishing concrete too soon causes air bubbles.

- Osmotic blistering. Water is the solvent and natural salts are the solute.
- Semi-permeable membrane. Cement is a paste or an adhesive residue.
- ASTM C856, standard practice for petrographic examination of hardened concrete.

RoundUp with Pete Consigli- Global restoration watchdog, industry historian and Co-Host of Winter Break:

- The host hotel has been very cooperative.
- 90-100 attendees (including west coast, Canada, United Kingdom, Australia). Many industry notables attended.
- Multiple meeting tracks, occurring simultaneously. Meetings held in both hotel and the event center a short walk away.
- Attendees received CEC credits from: IICRC, RIA, ACAC (recertification).
- Phil Rosebrook, Jr, moderated the 2nd day of the main event.
- Ramona Gallagher and Barb Jackson (members of the IICRC S-320 Contents Restoration Standard) teamed up to create a contents restoration program.
- Sarah Mack from Enthalpy Analytical presented on post-fire sampling developed in collaboration with Alice Delia, PhD lab director.
- Brittany Gordon and Josh Krinsky from Sporelytics presented the pros and cons of using an analytical lab to analyze your mold samples.
- 50+ people attended a celebration of life dinner for Mickey Lee. An acknowledgement of life and work of Richard Alexis who pioneered the predecessor event (IESF) which morphed into winter break.
- Planning has begun for next year's event which will be even bigger and better.
- Rolled out the new Hands-on Moisture Testing Workshop.
- 2024 was TRAMEX's golden anniversary. 4 brothers inherited the business from their parents. Andrew Rynhart is Chief Technical Officer, Kelvin is director of sales, Jeremy handles marketing and Dylan is the chief operations guy.

Some testimonials:

- Wynn White- The entire program and speakers were top notch, well worth my investment and I think it would be worth just about anybody else's. To be quite honest, I'm blessed to be here.
- Luis Suarez- I'm amongst the giants, the people who pioneered a lot of this stuff. People need to be here for them to experience what I experienced.

Z-Man signing off