Moisture Testing Procedures

Specific, high-risk locations, such as areas under windows, roof flashings and decks are tested for moisture using an electrical resistance-type probe meter. Additionally, the surface of EIFS is scanned under high-risk locations using a Tramex Wet Wall Meter. Any locations that register an elevated reading with the Tramex Wet Wall Meter must be probed using the electrical resistance-type probe meter. The meters are calibrated at an appropriate test location. The location is photographed and indicated in the report. The calibration procedure is repeated for each side of the home. This step is intended to determine the accumulated moisture content of the sheathing and/or frame for each elevation of the home and to provide a baseline for comparing readings to other locations on the home.

To probe for a moisture reading, the inspector will first drive two steel pins through the EIFS into the wall. The inspector should note whether the substrate or framing seems firm or soft, keeping in mind that different substrates may be used on the home. The pins are withdrawn, and then replaced with the Teflon-coated probes of the Delmhorst meter. CHECK YOUR PINS TO ENSURE THAT THE TEFLON COATING IS NOT SCRATCHED OR DAMAGED, WHICH COULD GIVE FALSE READINGS. Record the meter reading and note the "feel" of the framing or substrate wood. The small inspection holes are sealed with an appropriate sealant, preferably matching the color of the EIFS as closely as possible.

An electrical resistance-type meter (such as the Delmhorst J-2000, BD-2000, BD-2100 or similar meter) with at least 3" probes should be used to determine relative moisture levels in the substrate or framing wood. Any reading 19% and above is considered above normal. Double-check all high readings. Flashing, nail heads, screw heads, and other materials can give false high readings. If you have any doubt about the reading, move the probes 1" in any direction from the original location and re-test the area.

Regardless of the moisture level, always note the stability of the framing in the area tested. Some areas with low moisture readings may still have damage to the framing.

ALWAYS CHECK THE PROBE PINS TO VERIFY COMPLETE COVERAGE OF THE TEFLON COATING. SCRATCHED OR DAMAGED PINS CAN GIVE FALSE HIGH READINGS.

The Tramex Wet Wall Meter works well for determining the size of a known high moisture area. The Tramex Wet Wall Meter cannot be used to determine a moisture level. It can only be used to help find potential areas of high moisture and to "map" the relative size of a high moisture area.

The Tramex Scanner will give false positive readings when placed over nails, pipes, wiring or other metal elements of the wall. Any high reading detected by the Tramex Scanner MUST be verified using an electrical resistance-type meter, such as the Delmhorst BD-2000 with 3" probes. Moisture-Free Warranty does not recognize any moisture reading using the Tramex Scanner without verification using an electrical resistance probe meter.

The Tramex Wet Wall Meter can be used to "map" the size of areas of high moisture once the area has been proven to have high moisture levels using an electrical resistance meter.

MoistureFree Warranty

Moisture Testing Procedures (cont.)

- If the home has wood sheathing, moisture readings are taken ¼ inch into the sheathing. If the home has gypsum substrate, the readings should be taken in line with framing members and only moisture readings of the framing wood should be recorded.

- All areas with recorded readings of 19% or higher will be highlighted, and the area will be scanned to get a general idea of the size of the area affected. If the area appears to extend beyond 12 inches, the inspector may, at his discretion, take additional probe readings. The probable source(s) of water intrusion (e.g. window, door, kickout, etc.) causing the elevated reading should be identified for each location with an elevated reading. *Note: If the home is under warranty, probe readings must be taken 18" apart to verify the area of moisture intrusion for a claim. Scan readings are not accepted for claims.*

- If any probed areas yield a moisture reading of less than 19% but the substrate or framing feels soft or unstable (i.e. the test pins readily penetrate the sheathing or framing), the inspector will determine the approximate size of the affected area. All locations of sheathing with a loss of structural integrity will be highlighted, and the inspector will indicate the probable source of moisture intrusion. If more than one probable source of water intrusion is found, they will all be noted. Always test below the suspected damaged area at the joist band, if possible. Note any high readings or instability in the joist band and, if possible, verify and document the condition of the joist band from the crawlspace or basement.

Mandatory Probe Test locations (electrical resistance-type probe meter):

1. Windows, Doors and Other Penetrations

- All accessible windows, doors, and other penetrations should be scanned with the Tramex Wet Wall Meter. Each miter and mullion should be probed with an electrical resistance-type meter (i.e. Delmhorst J-2000, BD-2000, BD-2100 or similar meter). Always record probe readings regardless of the level. Always probe test in line with the jack stud or framing directly under the penetration. Hide your probe locations below accent bands or trim when possible. Always caulk the probe holes with silicone caulk that matches the exterior color.
- If a reading over 19% is found or if the area has unstable substrate or framing wood, additional probe readings should be taken to determine the extent of the moisture or damage.
- The Tramex Wet Wall meter can be used to map out an area of known high moisture to trace the source location and determine the size of the affected area.
- Always indicate the total area affected by high moisture or damage in the inspection report.

2. Kickout Locations—Probe the following three locations and record all readings:

1. 6 inches below the kickout location, whether flashing is installed or not
2. Center point between kickout and joist band.
3. At the nearest floor line (rim joist/joist band) below the kickout
4. When a kickout location is on a second or third floor, scan and probe test all the way to the lowest joist band of the home or down to the foundation.

- The Tramex Wet Wall meter can be used to map out an area of known high moisture to trace the source location and determine the size of the affected area.
- Always indicate the total area affected by high moisture or damage in the moisture report.

3. Decks, Stairs And Other Attachments

- Probe test directly under decks and other attachments at the left and right terminal ends of the ledger board.
- Framed wall areas under decks and attachments should be scanned with the Tramex meter. Areas indicating possible elevated moisture should be confirmed with the probing meter.

4. All Other Breaches

- Areas under any other breach in the EIFS should be tested using the Tramex Wet Wall Meter (i.e. vents, outlets, lights, utility connections, railings, doorbells, hose bibbs, etc.).

MoistureFree Warranty

Inspection Protocol for Testing Hardcoat Stucco Homes

Please use the following inspection protocol for qualifying a hardcoat stucco home for a MoistureFree Warranty. This information is meant to supplement the EIFS Protocol.

1. First, determine the type (1 coat or 3 coat) system on the home and identify the substrate.

2. Test three (**3**) locations **below every kickout** location (whether flashing is installed or not)
    a. Directly below the kickout (6" to 12")
    b. Joist band at closest floor line.
    c. Show close-up photographs of the flashing or if it is missing.

3. Under double-hung or single-hung windows, probe test several (**at least 2**) windows *per elevation* directly below one of the miter joints and/or mullions.
    a. Also, probe test and document all windows that are showing signs of possible moisture intrusion and/or wood rot.
    b. Note on the report whether the area probed "feels" firm or soft when probed.
    c. If the substrate is soft (ie. deteriorated), map the damaged area and test the rim joist for damage.

4. Under **all** casement, custom, oversized or fixed placement windows, probe under each miter joint and/or mullion joints.
    a. Keep in mind that fixed placement windows sometimes have glazing failures that allow moisture intrusion along the entire length of the window and not just at the miters.

5. Take lots of photographs, in sequence (Elevation, panel, then details, etc.) and close-ups of all problem areas.
    a. Photograph examples of typical sealant joints, kickouts, deck flashing, chimney flashing, etc. It is essential that your photos document any good details as well as negative issues.
    b. Photograph typical window head flashing (is it present, caulked closed or filled with stucco material?), condition of the caulking (hard? flexible? well adhered?, etc.)

6. Note all cracks and separations in the field of the stucco.
    a. Also, look for cracks in the stucco trim and expansion accessories where water can enter.

20227 Railroad Street Cornelius, North Carolina 28031
1-800-400-8679 - Fax (704) 896-3426
www.MoistureWarranty.com

7. If possible, ask the homeowners if they have seen any signs of moisture inside the home and check floor band at those locations for signs of moisture. Document these areas in the report.

8. Determine if the system has any type of insulation component, such as EPS, or blue board behind the system.
   a. Foam insulation and/or the stucco system in contact with or below the ground presents a potential pest control issue (although not a MWC issue).

9. Note whether the system is continuous or broken behind the deck, condition of flashing and flashing terminations, and if the stucco continues below the deck.
   a. Note the substrate under the deck (wood, gypsum, CMU).

10. Note the construction components of the chimney and a close-up of the chimney cap and "shoulders" where the chimney chase widens.

11. Caulk all probe holes with color-matched caulking deep enough to seal the moisture barrier as well as the stucco.

Just a reminder: Make sure to double check your readings when testing traditional hardcoat stucco. Any 99% readings should be verified to ensure that the meter isn't shorting out on the lath or that there isn't an R-Max type foil faced substrate.

Make sure your probes are well insulated with electrical tape or other non-conductive material.

If you have any questions, please contact MWC at 800-400-8679.

20227 Railroad Street Cornelius, North Carolina 28031
1-800-400-8679 - Fax (704) 896-3426
www.MoistureWarranty.com