



ELECTRONIC LEAK DETECTION

WATERPROOFING TESTING TECHNOLOGY

TESTING SOLUTIONS FOR ALL BUILDING TYPES



ABB TESTING

Making Buildings Perform Better



TESTING SOLUTIONS FOR ANY BUILDING

ABOUT ABB TESTING

Allana Buick & Bers, Inc. (ABB) is a full-service Architectural Engineering firm with over 34 years of experience making buildings perform better. We specialize in building envelope services including design, forensics, construction administration, and quality assurance services, like testing.

ABB Testing, LLC is an affiliate of ABB that encompasses all of ABB's testing and verification services.

When testing and verification are used in conjunction with proper design and observations, it can be invaluable. Testing can help discover failures early; remitting the cost of damage and structural repairs.

Typical testing and verification services include mock-up testing, on-site testing, observation for quality assurance, commissioning verification, and code compliance verification.

- ABB Testing provides testing for:
- Horizontal Waterproofing
 - Roofing
 - Lanais, Balconies, Decks
 - Windows, Glazing
 - Exterior Facade
 - Below-Grade

ELECTRONIC LEAK DETECTION (ELD)



ABB Testing provides specialized Electronic Leak Detection (ELD) and membrane performance testing. ELD is most commonly performed on new membranes for commissioning and integrity testing, but can also be performed on existing construction. ELD detects leaks and voids that other testing equipment cannot locate as accurately.

Why ABB Testing?

- ABB Testing's trained technicians have extensive knowledge of all types of waterproofing and assemblies.
- In addition to testing, we analyze the waterproofing membrane. This includes inspection of all details, adjoining materials, and seals.
- ABB Testing is backed by ABB's licensed Architects, Engineers, and building specialists for value-added services.
- If failures are observed during testing, we can provide failure analysis, prepare a remedial plan, and implement the repair scope.

HIGH VOLTAGE SPARK TESTING



Electronic Leak Detection High Voltage Spark Testing

Spark testing is the only ELD test method that does not require water for testing. Spark testing uses high voltage electricity and can effectively test horizontal and vertical areas. This test method may be difficult to test new membranes as they are "sticky" when brooming. Additionally, improper settings of the equipment can damage the membrane. Re-testing after completion of repairs may not be performed immediately.

TESTING HORIZONTAL WATERPROOFING



Electronic Leak Detection Low Voltage Horizontal

Electronic Leak Detection conforms to ASTM test standard D7877. ELD testing utilizes low voltage electricity to locate breaches in waterproofing membranes. ELD horizontal testing is completed with a scanning device (shown on the left) and requires a wet surface. With ELD testing, re-testing of a repaired breach can be completed on the same day.

TESTING VERTICAL WATERPROOFING



Electronic Leak Detection Low Voltage Vertical

ELD testing is versatile and can test vertical membranes with a wet roller attachment. ELD testing pinpoints the exact location of a leak, whereas Electric Field Vector Mapping (EFVM™) uses triangulation. EFVM™ is less precise and does not have vertical testing capabilities.



ELD TECHNOLOGY - A CLOSER LOOK

Advanced ELD Circuitry Works with EPDM

ABB Testing is one of the only testing firms in the US that has the capabilities to perform ELD testing over EPDM, as well as other semi-conductive membranes or coatings. With our advanced circuitry, we have the technology to adjust the ELD equipment in use to the electrical resistance and conductance of the waterproofing membrane.



Electronic Leak Detection Low Voltage Vertical - Platform Circuitry Testing Tools

A wet roller, finger scanning, and glove probing extend the circuit and offer versatile testing methods.



TRUGROUND PRIMER

The conductive primer is a water based epoxy compound that allows for effective and conclusive low or high voltage membrane integrity testing when applied to the substrate directly beneath the waterproofing membrane for non-conductive assemblies.

TruGround® is chemically and mechanically compatible with fully-adhered, mechanically attached, and torch-down membrane systems. Once applied, the roof membrane can be integrity tested for the life of the assembly, making it easy to find any future leaks.

PRIMER APPLICATION

- Water base, Low VOC
- Roll or spray- 30 minute dry time
- Covers approx. 300 sqft per gallon
- Surface resistivity is 10E4 ohms/square
- Cost effective alternative to wire mesh
- Not limited to horizontal planes - can be applied to vertical substrates, penetrations, and irregular surfaces
- 5 gallon pail applied per man, per hour



WHY CHOOSE ELD OVER EFVM™?

In the AEC industries, Manufacturer Warranties and Project Requirements are specifying the use of ELD testing and Electronic Field Vector Mapping (EFVM™); however, the limitations of EFVM™ are lesser known. Here are some benefits and drawbacks to the test methods, and why ABB Testing recommends ELD testing:

Issues with Traditional EFVM™

- Requires a welded wire mesh and is often not directly below the membrane.
- Wetting of membrane may not produce significant leakage to allow water through DensDeck type substrate to get to and make contact with mesh.
- Very technician sensitive (relies heavily on personal experience).
- Open breaches detected cannot be blocked from testing equipment resulting in possible breaches missed where multiple exist.
- Does not test vertical membranes, drains/sumps, vertical transition details and penetrations (all locations outside the trace wire).
- Wire mesh below cover board, not below membrane. Does not follow ASTM D7877.
- Moisture from waterproofing membrane breach must first migrate through the cover board, and come in contact with wire mesh.
- Moisture could pass through the wire mesh opening(s) without contacting the wire mesh.
- Certain wire meshes only cover 20 to 25 percent of total horizontal area.

Benefits of ELD

- Does not require or incorporate wire mesh.
- Requires a conductive primer, except with concrete substrates.
- Can test vertical membranes and penetrations including the drain connection and transitions.



ADDITIONAL ABB SERVICES

In addition to performing ELD testing, ABB Testing is also qualified to provide the following services to the Client:

1. Educate Specifiers on correct language to be used in order to achieve clarity on desired and/or required testing methods for their Projects.
2. Provide proper ELD Specification language for easy plug-in to Project Documents.
3. IfConductivePrimerisrequiredtoperformELDtesting, ABB Testing can assist with where and how material information is inserted into the Specifications. ABB Testing may suggest the best means and methods of applying the Conductive Primer and how to properly ensure continuity bonding between substrate boards and through-membrane penetrations.
4. Provide accredited, educational presentations, which include discussion on low and high voltage circuitry. During these discussions, the limitations of each piece of ELD equipment is discussed - including the vertical ELD scanner, horizontal ELD scanner, horizontal EFVM™, and high voltage.
5. Provide live demonstrations on how to detect breaches in waterproofing membrane systems and assemblies.



GET STARTED TODAY

Contact your local office to inquire further about our testing services, email info@abbtesting.com, or call our general contact number at 1 (800) 378-3405. We look forward to working with you.

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