

VECTOR MAPPING

Membrane Integrity Testing & Electronic Leak Detection

High Voltage, Low Voltage and ELD Fusion®



In Low Voltage Vector Mapping (wet testing) the technician uses metal probes on a wet surface to pinpoint membrane breaches.

Electronic vector mapping is a cutting edge technology that is redefining the art of leak detection and quality assurance in low-slope roofing and waterproofing systems. Vector mapping pinpoints breaches in the roof membrane by tracing the flow of an electric current across the membrane surface. Already Europe's most widely-used method for detecting roof leaks, vector mapping is rapidly being adopted by manufacturers, contractors, and specifiers in the United States.

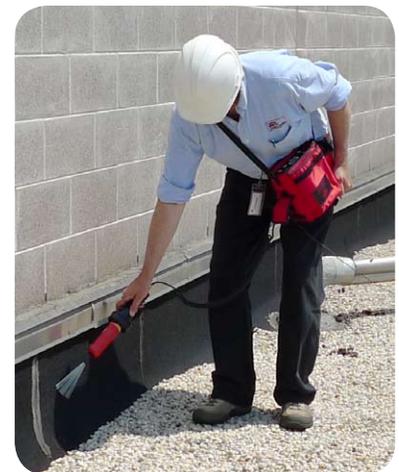
Vector Mapping Is Ideal For:

- Quality assurance testing of new roofs
- Verifying green roof membranes prior to installing overburden
- Pinpointing leaks in existing roof membranes, including most systems with overburden, including vegetation, pavers, ballast, etc.
- Warranty verification

Vector mapping eliminates the dangers and potential damage inherent in traditional flood testing. Unlike the interpretive process of water, flood, infrared, or nuclear testing, vector mapping detects membrane faults directly. It is ideal for quality and warranty assurance needs, for leak testing of green (vegetative) and ballasted roofs, and for leak detection in all low-slope roofing systems in which the membrane is not electrically conductive and the deck can be electrically grounded. Even pinhole leaks invisible to the naked eye can be pinpointed with vector mapping. Repairs can be made on the spot and immediately retested to ensure watertight results.

Low Voltage Method

In low voltage vector mapping, the surface of the roof membrane is moistened (not flooded) to create an electrically conductive medium. A conductive wire loop is laid out on the membrane around a section of the area to be tested. One lead from a pulse generator is connected to this wire perimeter. The other lead from the generator is connected to a ground, typically the structural deck. Leaks or breaches in the membrane are detected when the electric current flows across the moistened membrane and through the breach to the deck, completing the circuit. The technician uses two probes connected to a receiver to determine the direction of the current flow and precisely locate the breach.



High Voltage ELD (dry testing) is ideal for testing flashings and other vertical surfaces.

Nationwide

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Vector Mapping
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since 1984

High Voltage Method

Unlike the low voltage method, high voltage testing is performed on a dry horizontal or vertical surface using a very small current at relatively high voltage for safe and reliable testing. One lead from the portable current generator (charger) is grounded to the conductive roof deck (either metal or concrete). The other lead is attached to a special electrode brush made with highly conductive metal bristles. As the technician “sweeps” the brush electrode over the surface of the roof membrane, electricity will flow through any breach in the membrane. This completes the circuit between the brush and the ground, and immediately pinpoints the location of the fault. Where there are no breaches, the membrane acts as an insulator and prevents the flow of current to the deck.

ELD Fusion® - The Most Complete Testing Available

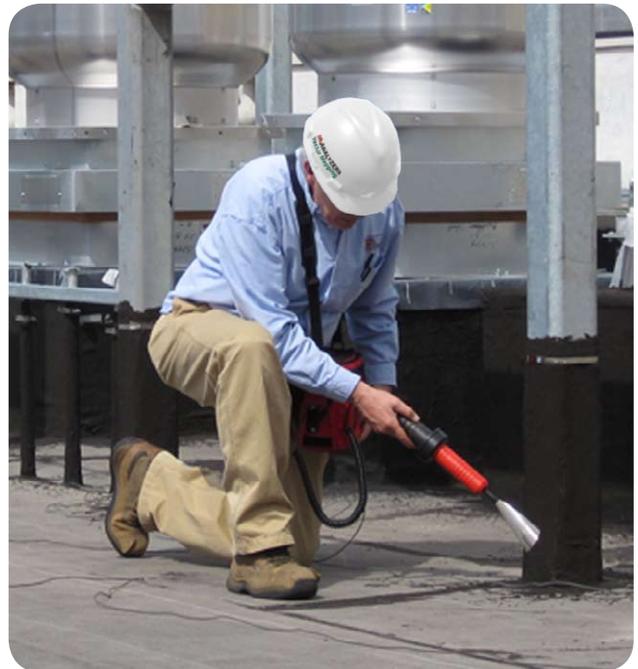
Now you can get virtually 100% testing on your roofing and waterproofing membranes with ELD Fusion®, our advanced combination of High and Low Voltage Electronic Leak Detection methodologies. ELD Fusion combines traditional Low Voltage Vector Mapping (wet testing) on large horizontal areas with High Voltage ELD (dry testing) on vertical surfaces, transitions, and other areas not tested with the low voltage technique. ELD Fusion gives you 100% coverage – and 100% peace of mind that your membrane will be leak free. Get a truly comprehensive evaluation of your membrane with ELD Fusion, performed by our experienced ELD technicians.

Vector Mapping Benefits:

- ▶ Pinpoints membrane defects for efficient repair
- ▶ Repairs can be immediately re-tested
- ▶ Most green roofs can be tested with soil overburden in place (low voltage method)
- ▶ Less expensive, faster, safer, and more reliable than flood testing
- ▶ Sloped roof systems and flashings can be quickly and efficiently tested (high voltage method)
- ▶ Enables direct (non-interpretive) detection of membrane breaches
- ▶ Wet weather tolerant (low voltage method)

Vector mapping applications

- ▶ Insulated and non-insulated low-slope roof systems (excluding metal-coated and carbon black EPDM membranes)
- ▶ Ballasted roofs (low voltage)
- ▶ Ponded and flooded roofs (low voltage)
- ▶ Green roofs
- ▶ Plaza decks
- ▶ Quality Assurance
- ▶ Warranty Verification
- ▶ Membrane integrity testing
- ▶ Pools, parking garages, liners
- ▶ Horizontal and vertical waterproofing membranes



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