Maintenance / Monitoring Services

Electronic Leak Detection (ELD) *Service #* 8130

Electronic Leak Detection (ELD) combines traditional Low Voltage Vector Mapping on horizontal surfaces with High Voltage Leak Detection on vertical surfaces, transitions, and other areas not able to be tested with the low voltage technique, to provide 100% coverage.

How it Works

In Low Voltage ELD, the surface of the membrane is lightly moistened to create an electrically conductive medium. A trace wire loop is laid out on the membrane around the test area. One lead from a pulse generator is connected to the trace wire, and the other lead is connected to a ground, typically the structural deck. Leaks or breaches are detected when the electric current flows across the moistened membrane and through the breach to ground, completing the circuit. Using sensor probes, the technician determines the direction of the current flow and precisely locates any breaches.

High Voltage ELD is performed on dry surfaces so there is no need to spray water or install trace wires. One lead from the current generator is connected to ground the other lead is attached to an electrode brush with highly conductive metal bristles. The membrane acts as an insulator between the two sides of the circuit. As the technician "sweeps" the brush over surface of the membrane, electricity will flow through any breaches to the ground. This completes the circuit and alarms the technician who immediately pinpoints the location of the fault.

Applications

- Quality assurance testing of new and existing roofs
- Roof integrity testing prior to the installation of overburden
- Pinpointing leaks in existing membranes, vegetative and ballasted roof systems, and all low slope roofing systems in which the membrane is not electrically conductive and the deck can be electrically grounded
- Warranty verification