



Electronic Field Vector Mapping Specifications

(4 specifications – 2 high voltage/ 2 low voltage)

New construction and major renovations are the most vulnerable time for a roofing/waterproofing membrane. The membrane is installed as soon as possible in order to watertight buildings so the interior trades can start. However, the membrane is now a work platform and material storage location for all the trades. The extent of membrane protection from these abuses varies from jobsite to jobsite. Dependent on the roof assembly, 70% to 90% of breaches identified are due to construction damages.

Calling for quality assurance testing to assure the membrane water tightness is prudent. This testing should be scheduled when the trades are no longer using the membrane as a work platform or storage area or there are assurances that the membrane will be completely thoroughly protected. With protected membrane roof (PMR) assemblies where the extruded polystyrene insulation is installed over the membrane, installation of the insulation would act to protect the membrane.

Specification Section

Use specifications:

High Voltage – Quality Assurance of Installation

Low Voltage – Quality Assurance of Installation

When you have just installed a new membrane before any overburden is installed (PMR) or are attempting to identify a breach in a conventional roof assembly with no overburden.

Use Specifications:

High Voltage – Reactionary Future Testing

Low Voltage – Reactionary Future Testing

If you want to be able to reduce the discovery area in the event of a leak in the future. This is accomplished by installing surface wiring directly onto the membrane before the overburden is installed.

Vegetated roofs and PMR roof assemblies are the typical roof assemblies tested.

This testing installation is reactionary. Someone in the building will need to identify interior leak evidence before actions will be taken or implemented to locate the breach.

There are limitations that limit the accuracy and/or effectiveness.

Refer to the article posted on our website for more specifics (*Electronic Leak Detection: Quality Assurance Tool – Interface Magazine*).

Testing for breach identification after overburden is installed is completed according to Low Voltage – Quality Assurance of Installation, with altered procedures.

Other Considerations:

- On vegetated roofs, all base flashings must be higher than the soil media level or the structure acts a ground.
- Lightning arrestor systems are a ground.

A second generation of quality assurance testing is available. This testing is pro-active as it monitors the roof continuously and will notify the owner when water breaches the roofing/ waterproofing membrane. This notification occurs before interior damages occur.

For more information contact us at 301.953.7210 or eldmonitoring.com.