

# Roof & Building Leak Detection & Prevention

## GUIDANCE & INFORMATION NOTE NO. 3

### ELECTRONIC INTEGRITY TESTING - HIGH VOLTAGE TESTING



The concept of non-destructive electronic leak testing works on the principal that the waterproofing (felt, single-ply, asphalt, rolled asphalt, hot melt etc.) is an electrical insulator and the substrate below is an electrical conductor (it will not work on tiles or slates or cladding/ sheeting).

If a breach in the waterproofing exists there is a pathway for an electrical current to flow through it to an electrical earth.

High voltage electronic leak testing identifies the precise locations and exact number of breaches in the waterproofing.

This test method cannot be used on all waterproofing and ERC will advise accordingly. At the time of the test the surface of the waterproofing must be exposed, accessible and dry.

During the test a safe high voltage electrical charge is passed over the surface. Where a breach exists, for example, at a hole or split in its surface the test voltage will be conducted by the substrate. Using a conductive brush the test technician locates the locations where the voltage flows to the substrate to pinpoint the breaches.

All breaches in the waterproofing can be traced in this way. The breaches can be repaired at the time of the testing and the repairs retested to confirm that they are watertight or they can be marked on the surface and plan in the diagnostic report issued on completion and repaired at a later date.

High voltage electronic leak testing can be used in quality assurance testing or during investigations to trace existing leaks allowing a waterproofing to be handed-over in a watertight condition preventing leaks or effective targeted repairs to be undertaken to stop leaks.



#### ERC offer a range of services, including

- Electronic Integrity/Leak Testing.
- Building Envelope Leak Investigations.
- Thermal Imaging.
- Roof & Floor Dewatering.
- Expert Witness.
- Roof Surveys.

**i** ERC is an independent specialist Roofing Consultancy and Testing Services Company. ERC work predominantly throughout the UK\* providing specialist specific and/or combination testing regimes to quickly and accurately determine the causes of leaks through any part of the building façade and to identify areas of retained/entrapped water within the construction to main and roofing contractors, building owners and developers in both the commercial and domestic markets.

*\*for inquiries about procuring our services outside the UK please contact head office.*

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