

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 TJC 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 later.

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.



Tyrrell & Jenkins Consultancy (TJC) offer a range of services, including:

- Electronic Leak Testing • Leak Investigations
- Floor & Roof Vacuum Dewatering.
- Thermal Imaging. • Expert Witness.

TJC is an independent specialist Roofing Consultancy and Testing Services Company. We work throughout the UK providing non-destructive electronic leak testing, building envelope leak investigations, independent, specialist roofing technical advisory services to main and roofing contractors, building owners and developers in both the commercial and domestic markets. The company offers an extensive range of testing and investigative surveys that can quickly and accurately identify water entry pathways into and areas of entrapped water within a flat roof construction.

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