

Roof & Building Leak Detection & Prevention

GUIDANCE & INFORMATION NOTE NO. 9

Leak Investigations



A leak investigation is a bespoke regime of testing to pinpoint and identify the cause or causes of a leak or leaks. It is absolutely essential that each leak is identified, understood and correlated to the building as well as the prevailing weather conditions. Good information can significantly reduce the duration of the investigations as it can provide pointers to the cause or causes.

At the outset it is important to have a good overview of the as-built construction. Frequently, this information is not always readily available, may not exist or be very limited, so it is often necessary to work 'blind'.

The techniques deployed to investigate the leaks may comprise one or a combination of invasive and non-invasive tests. However, essentially the investigations are non-invasive and non-destructive.

Moisture Mapping: a 'map' of the internal finishes is obtained as high moisture levels can provide indicators as to the point of entry.

Electronic Leak Testing: breaches in the waterproofing can be identified. Used in conjunction with simulated rainfall testing their contribution to the leak can be quantified.

Flood Testing: used to determine if water penetration through buried or inaccessible areas of the waterproofing is causing or contributing to the leak.

Ultrasound: inaudible to the human ear ultrasound can pass through air gaps, which may translate to water leaks, in glazing and cladding and be used to trace potential leakage pathways through them.

Simulated Rainfall Testing: spraying water at various intensities onto components of the building can identify water leaks through them. A coloured tracer can be used to facilitate locating the leakage pathways.

Thermal Imaging: a powerful non-invasive imaging technique that can trace air and water leakage into a building enabling leak pathways to be found. It also allows areas or zones of entrapped/retained water to be found and pinpoints cold bridges and thermal irregularities in the roofs and walls etc.

Intrusive Inspection: Inspection within cavities using endoscopes can identify the condition therein and water leaks that would not otherwise be viewable.

Visual Inspection: Visual inspection of particular items that have been tested and shown to be leaking will identify those that are also susceptible to leakage.



ERC offer a range of services, including

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

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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