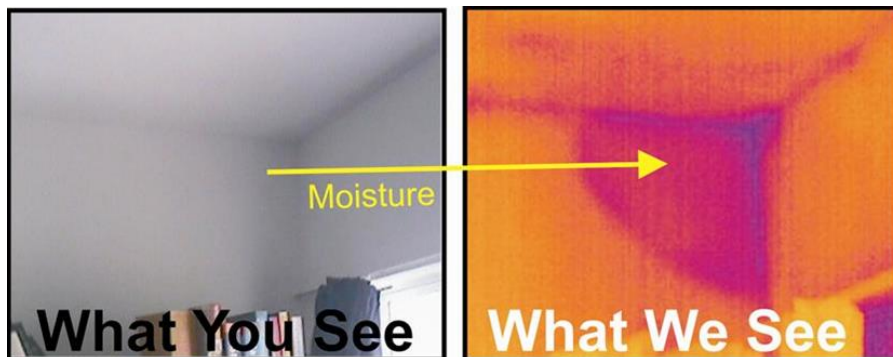


Moisture Ingress Survey Technical Brochure

A moisture ingress survey provides a non-destructive method to identify, quantify and map water presence within building envelopes, insulated panels, cold rooms, roofing systems and structural surfaces. Using thermographic imaging and capacitance-based moisture detection, the survey supports engineering decisions, insurance compliance, and maintenance planning.



Survey Scope

- Thermographic inspection of insulated panels, ceilings, walls and floors.
- Identification of moisture-related ΔT signatures using high-resolution IR cameras.
- Capacitance verification using a calibrated non-destructive moisture meter.
- Mapping of probable ingress pathways (roof leaks, panel joint failure, flashing defects).
- Classification of severity: Surface moisture / subsurface moisture / saturation.

- Engineering recommendations for remediation, insurance reporting and maintenance plans.

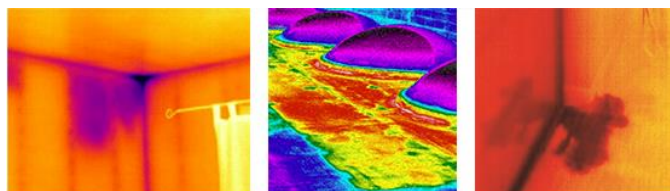
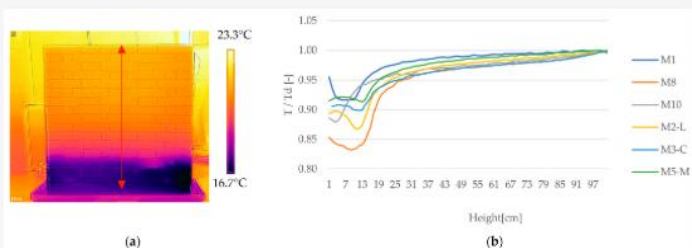


Figure 1. Thermal image processing of mock-ups in laboratory to assess the rising damp level: (a) indication of vertical profile considered and (b) level of rising damp on mock-up, values after 24 h of imbibition.



Diagnostic Methodology

Thermal anomalies are defined by ΔT deviation relative to adjacent reference surfaces. Moisture presence typically appears cooler due to evaporative cooling and increased thermal conductivity. Verification is performed using measured capacitance values:

$$\text{Moisture Index (MI)} = (\text{Measured Capacitance} - \text{Dry Baseline}) / \text{Dry Baseline}$$

Interpretation requires correlation of thermal patterns, environmental conditions, emissivity factors and panel construction type. Subsurface moisture signatures are evaluated with adjusted emissivity and thermal-loading considerations to avoid false positives.

Deliverables

- Full thermographic report (ISO 18434-1 aligned)
- Moisture mapping with ΔT quantification
- High-resolution IR and visual images
- Moisture meter logs and severity classification
- Root-cause analysis and engineering recommendation matrix

For professional moisture diagnostics, insurance compliance surveys and panel integrity assessments, this brochure provides an overview of the methodology and expected outcomes.

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