TREMCO
Lasting Performance

We diagnose.

Data driven diagnostics for roof assets



Hidden moisture can be detrimental to a roof. It wastes energy and can cause damage not only to the roof, but internal fixture and fittings, and even the building's structural fabric. Stop it early and a cost-effective fix can be achieved, if left, an intrusive, disruptive and expensive roof replacement might be needed.

Roof diagnostics means:

Buildings are made of many different components with varying life expectancies, therefore understanding and capturing data for each asset's condition is vital.

For roofs, they are often left until an issue arises. However, to mitigate chances of a disruptive and expensive fix, carrying out a technology led survey can diagnose issues to help catch issues early.

The diagnostic steps

The 'science of early detection' can determine the condition of a roof by identifying, plotting and visually demonstrating areas of concern if present.

This is then followed by refurbishment if issues are found or a proactive preventative maintenance (PPM) programme can be implemented to protect the roof investment. Serviced by the contractual specialist; StructureCare.

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Roof diagnostics

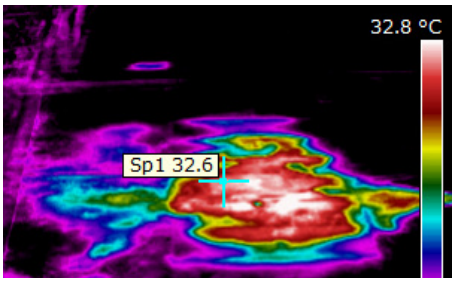
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The science of early detection

We have a range of technologies as part of our survey and diagnostics service that can be used to detect the presence of moisture in your roof's build-up.

Results of Midwave Infrared Technology





Midwave infrared technology

Based on the principle that wet insulation conducts heat more rapidly than dry, we carry out an infrared moisture analysis. A sensitive infrared camera is used to determine varying temperatures to non-destructively pinpoint vulnerable areas. This then demonstrates where moisture has infiltrated the roof, penetrating the insulation below.

Troxler technology

A Troxler measures moisture content by detecting changes in the speed of neutron emittance, this is how we identify areas of water ingress.

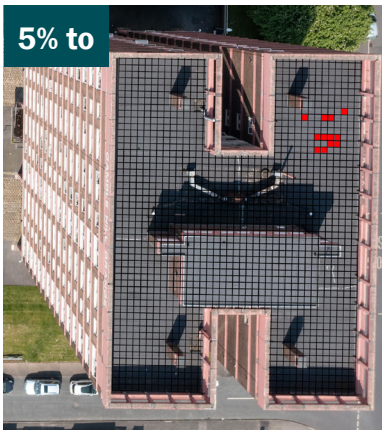
Roof diagnostic service

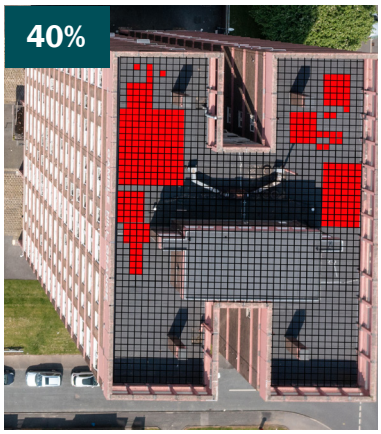
Every analysis starts with a visual inspection of the roof surface, including photos of roof details and construction. The survey then provides:

- Thermal mapping of every square metre of the roof to detect wet, defective areas either through infrared or nuclear technology (dependent on climate variables).
- Wet areas physically outlined for further analysis.
- Thermal images and scaled roof drawings to show size and location of wet areas.
- Verification via core sampling and Tramex equipment. All roof cores are immediately repaired to ensure waterproofing continuity.
- Detailed report to document the results covering the location, the extent of moisture and the recommended action to take.

The benefits

- Accurately identifies wet insulation with minimal invasive testing of the roofing system.
- Takes the guesswork out of roof analysis by using scientific data and comprehensive reporting.
- Knowing the condition of an asset is necessary for asset management, this data can also help with the implementation of planned preventative maintenance (PPM). A programme can be tailored to mitigate water ingress issues in the future.
- If issues are present, and depending on their severity, Tremco can support with reactive maintenance and refurbishment.
- Fundamentally, this data reduces life cycle costs by helping prevent the spread of moisture throughout the entire roof system, avoiding costly replacement. **The cost-effectiveness of early detection - see below example.**





Early detection cost comparison of 3,000m² roof

Full roof replacement = £750,000
vs
Wet insulation range of 5% - 40% and making good areas of wet and a roof refurbishment = £315,000 - £420,000
A net saving of (minimum) = £180,00

If planned preventative maintenance is being carried out and an issue is found, refurbishment could be recommended, costing £290,000.

Values used for representation only - cost will be project dependent.

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