

THERMOGRAPHY

Building Envelope



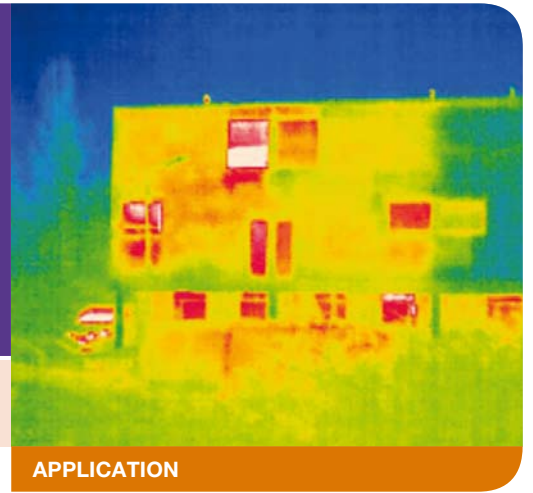
Property Damage Restoration



Temporary Humidity Control



Property Damage Prevention



APPLICATION

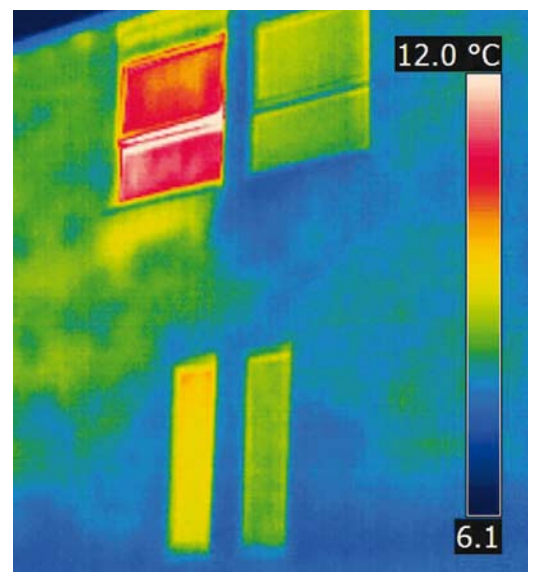
Overview

The term 'building envelope' refers to everything that separates the interior and exterior environments of a building, including the outer walls, windows, roof and floor. A primary function of the building envelope is to provide shelter from cold, rain, winds or excess sun. The envelope of the building arguably has the greatest potential impact on heating or cooling energy consumption and can also influence lighting and ventilation loads. Poor building efficiency can result in infrastructure fabric degradation through condensation, occupier discomfort, poor air quality and an increased energy demand resulting in higher than necessary energy costs and potentially damaging moisture affecting the building infrastructure. An effectively planned maintenance programme is essential in ensuring the preservation of the building envelope and the weather-proofing of the envelope.

In response to this need Munters have developed a highly effective, non-destructive method to measure the air leakage from the building by identifying the difference between the inside and outside of the structure. This immediately and accurately highlights any areas of concern.

Infra-red thermography technology is used to detect any differences. This is an accurate, cost-effective and non-invasive method designed to measure temperature or excessive heat build-up. It has been used for many years as a tool to aid engineers and maintenance personnel in detecting loose connections, over-loaded or damaged components, poor wiring and a host of other potential defects, when conducting routine inspections.

Using infra-red cameras to detect differences in heat emissions, Munters are able to identify problematic areas within the building envelope. Munters recommend at least one survey per year to detect and help monitor areas of concern. Once the thermal camera has detected the differences in temperature, further investigation may be required in order to determine the actual cause of the problem and then what further action to take.



Thermographic image highlights energy loss from a window.



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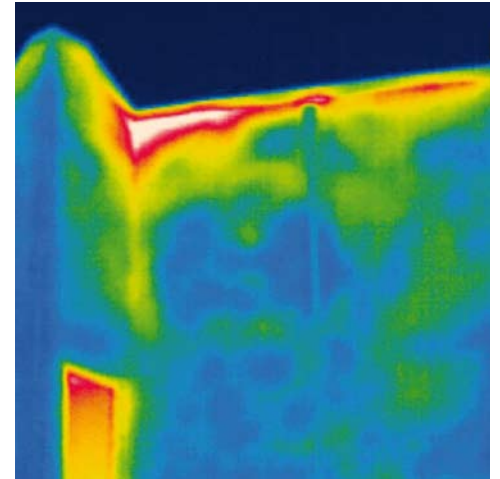
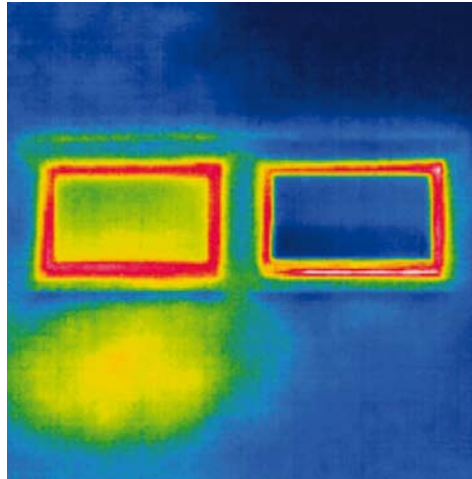


PROCEDURE

The thermal camera requires a direct line of sight in order to obtain a true reading, so prior to the survey all obstructions are removed. Using proven techniques and trained engineers who have passed both Munters Water Damages and Infrared Technology (IRT) level one thermography course, Munters are able to achieve the best possible thermography results.

Two engineers will undertake a visual inspection of the building envelope taking digital pictures and recording detailed measurements. The thermal survey will be carried out several times as the temperature difference will vary depending on internal and external environmental conditions. The thermal inspection is then referenced against the initial inspection.

Following the survey a full and detailed report is issued including digital and thermal images, along with recommendations. It is this information that the customer is able to use to make an informed decision about the most appropriate further action to take.



Infra-red thermographic technology is used to highlight areas of concern in outer walls, windows, roofs and floors.

RESULTS

Munters' range of thermography services detect potential problems not visible to the human eye and therefore enable them to provide customers real cost advantages by effectively detecting hidden leaks and in a majority of cases preventing them.

BENEFITS

- Cost savings
- Non-destructive method
- A more efficient repair
- Reduced impact on the environment
- The provision of a predicted maintenance programme.



Poor building efficiency can result in damaging condensation.