



Commercial Building Thermographic Surveys

SAMPLE REPORT

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By

Pixel Thermographics Ltd

Pixel Thermographics Ltd

Sunrise House
Hulley Road
Macclesfield
Cheshire
SK10 2LP

Tel: 08456 042 703

Email: info@pixelthermographics.co.uk

Web: www.pixelthermographics.co.uk

INFORMATION

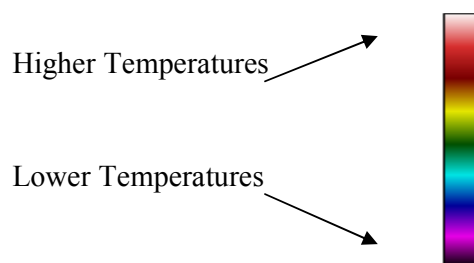
This sample report has been produced to provide examples of the types of defect which are able to be detected during the course of a thermographic survey.

Thermographic surveys are a non invasive and non destructive method of identifying numerous anomalies within the commercial building sector.

When utilized correctly and interpreted accurately the results of thermographic building investigations can be used to prioritise remedial work and maximise benefit to the client.

A FLIR Thermacam SC640 was used to capture the thermal data which is recorded within the report.

The external images were taken under normal heating conditions of the property and highlight any areas of conductive heat loss, structural defects, air leakage and thermal bridging within the building fabric. These have been shown in a 'rainbow high contrast' palette which is better suited to illustrate these losses.



The temperature scale on the side of both the internal and external images has been adjusted to highlight any anomalies and therefore may not reflect the exact temperature of all objects in the image.

Surveys are conducted at suitable times of day or night time to ensure that the solar loading effects of the sun are eliminated and to help with attaining a minimum temperature difference between internal and external temperatures of at least 10°C.

BRIEF DESCRIPTION OF COMMON ANOMALIES

This survey was conducted with the intention of inspecting and highlighting areas of the property showing signs of:

- Thermal Bridging
- Air Leakage
- Discontinuous Insulation
- Water Ingress
- Air Infiltration
- Structural Defects

Thermal Bridging

Thermal bridging occurs where the building structure is not sufficiently insulated to prevent heat being conducted to the external surface of the property. This can lead to condensation and mould growth within the property along with wasting energy.

Air Leakage

Air leakage can occur where paths are available for air within the property to escape the building and thus cause energy wastage.

Discontinuous Insulation

Discontinuous or missing insulation within a property can cause heat to be lost from a building. This can lead to condensation and mould growth within the property along with wasting energy.

Water Ingress

Water ingress within a property can lead to significant damage to the structure and also result in energy loss through damaging insulation.

Air Infiltration

Air infiltration (draughts) within a building can cause significant energy loss.

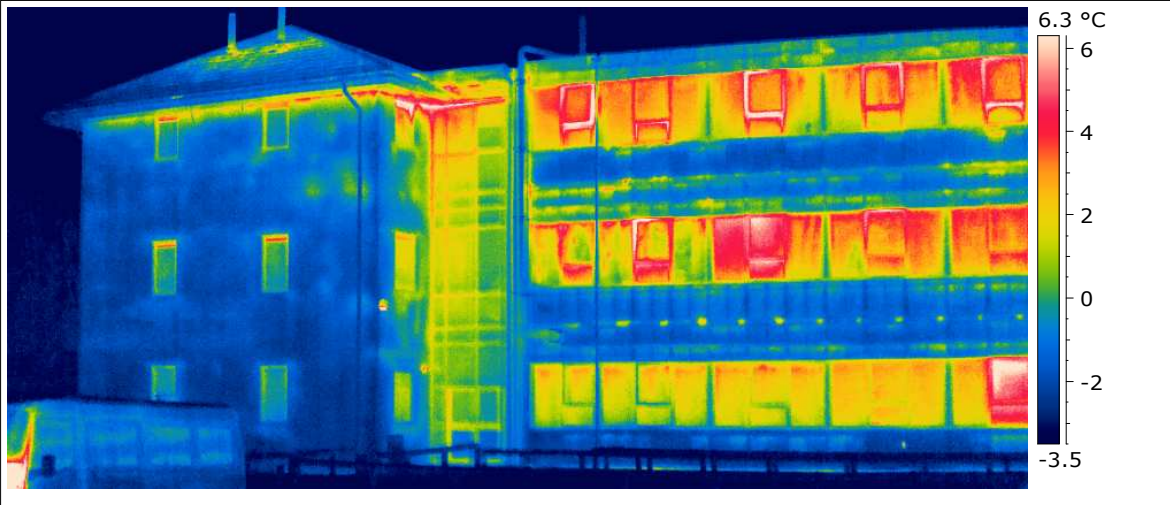
Structural Defects

Buildings over a period of time are subject to movement and degradation of materials which can result in thermal anomalies.

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Area: School Building - Old & New Construction Types

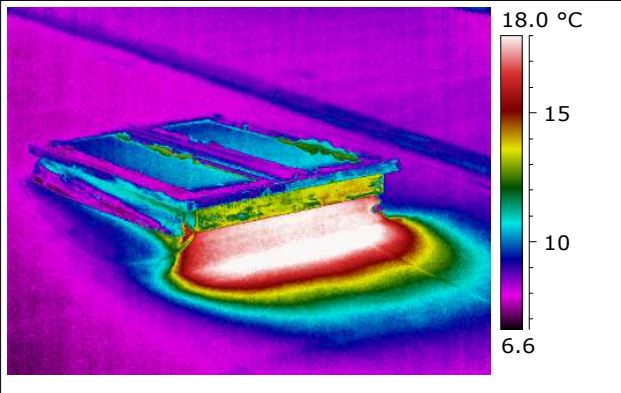


Comment:

Thermal image highlights differences in insulation standards between the walls of the old construction (right) and the new extension (left).

Surveys can highlight discontinuous, missing or ineffective insulation.

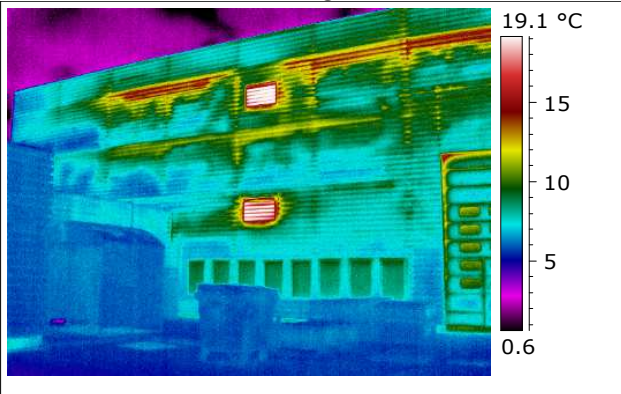
Area: School Building - Air Leakage From Skylight



Comment:

Air leakage noted from skylight of school roof.

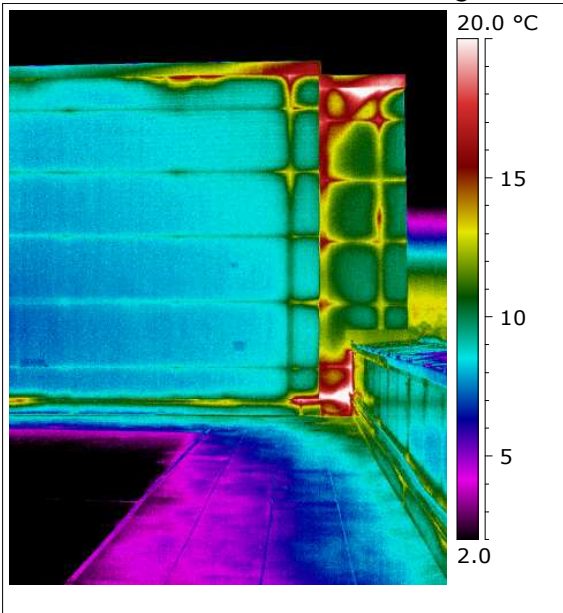
Area: Commercial Building - Discontinuous Insulation



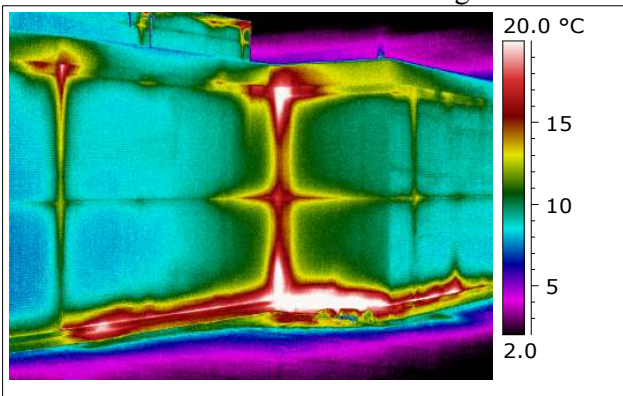
Comment:

Air movement through fabric of warehouse unit indicates significant heat losses.

Area: Industrial Premises - Air Leakage



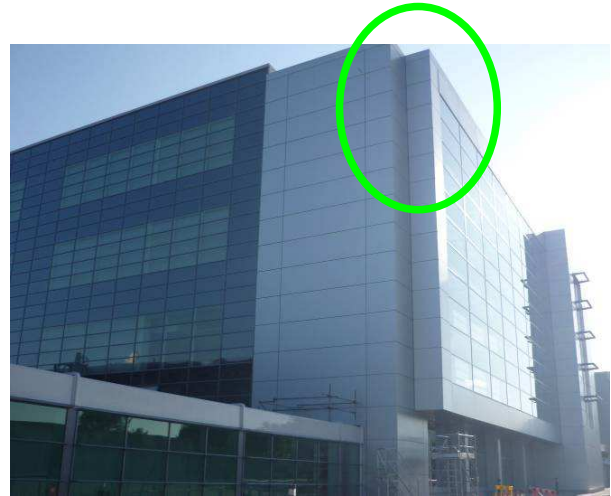
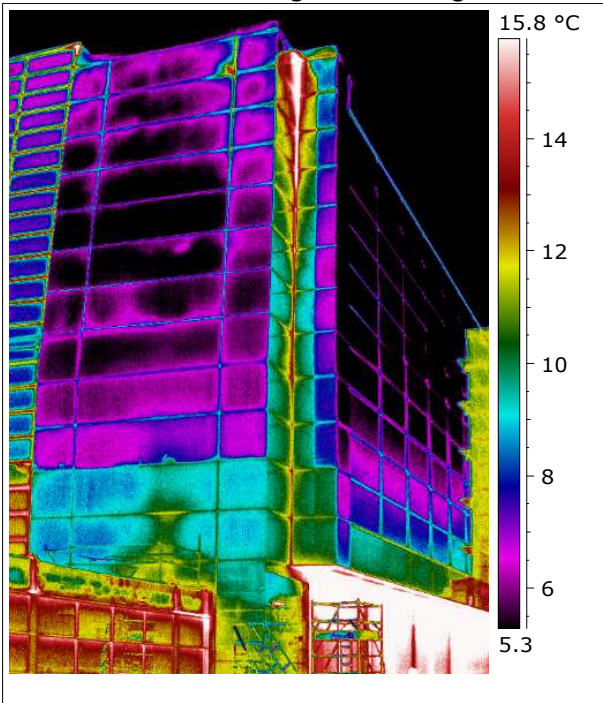
Area: Industrial Premises - Air Leakage



Comment:

The image above highlight air leakage paths throughout the fabric of the building resulting in significant heat losses.

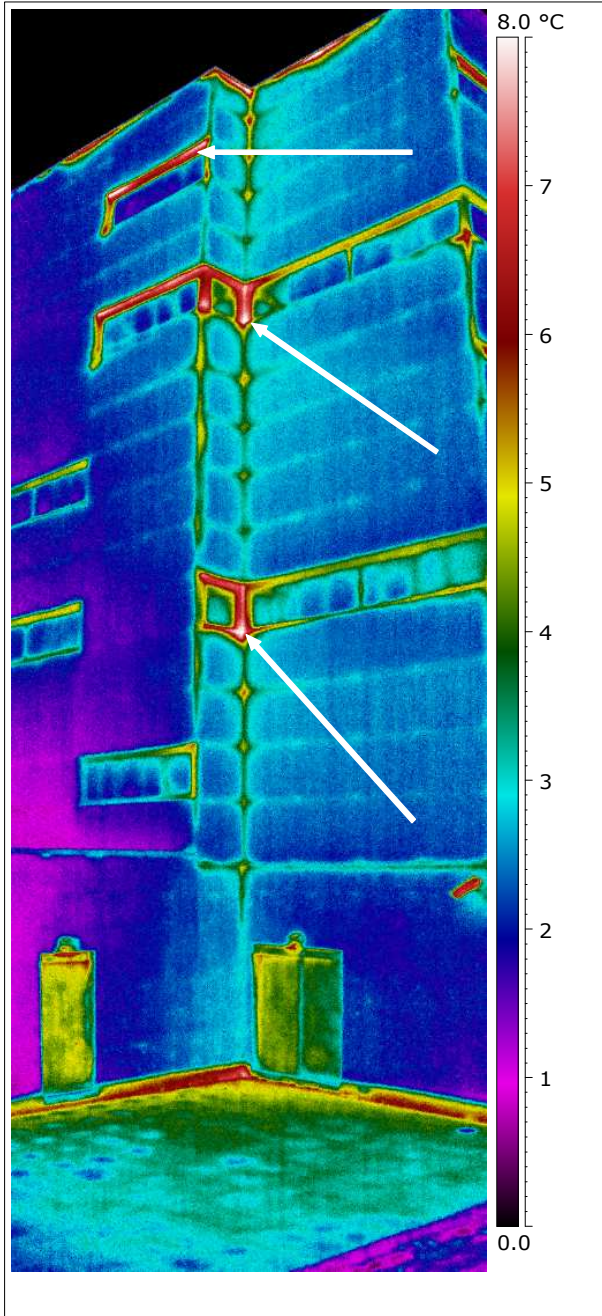
Area: Industrial Building - Air Leakage



Comment:

Using only the highest resolution thermal imaging cameras we are able to inspect leakage buildings and pick out defects at distance such as air leakage from this fabric at the top of this building.

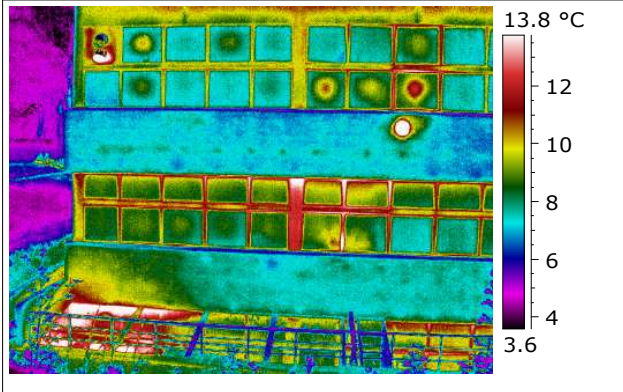
Area: Hotel - Defective Window Frames



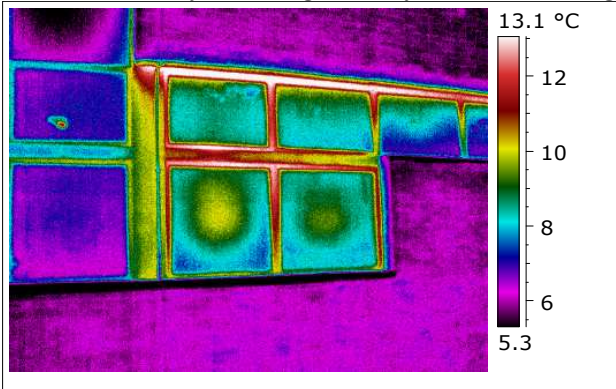
Comment:

Thermal image highlights defective window frames within this area – likely to be caused by defective sealing.

Area: University Building - Faulty Double Glazing



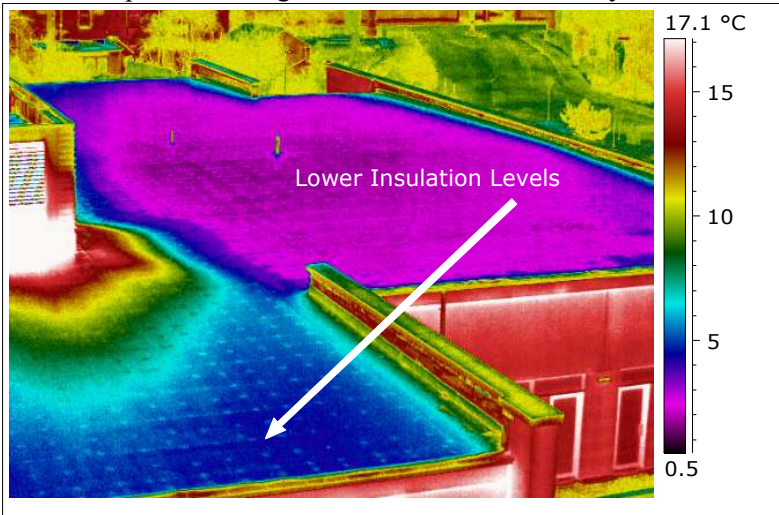
Area: University Building - Faulty Double Glazing



Comment:

The round anomalies within some of the windows of the images above indicate failed double glazing systems.

Area: Hospital Building - Roof Insulation Anomaly

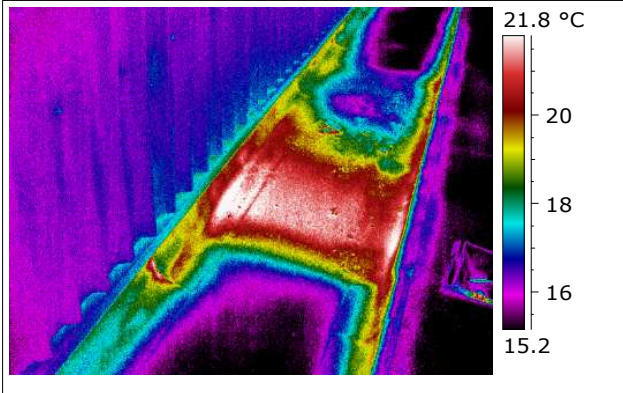


Comment:

The thermal image highlights different insulating performance levels of this hospital roof with the area to the left radiating and therefore losing more heat.

The warm area around the ventilation extract should be ignored.

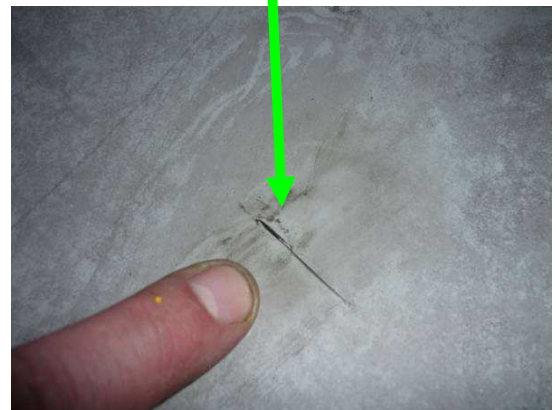
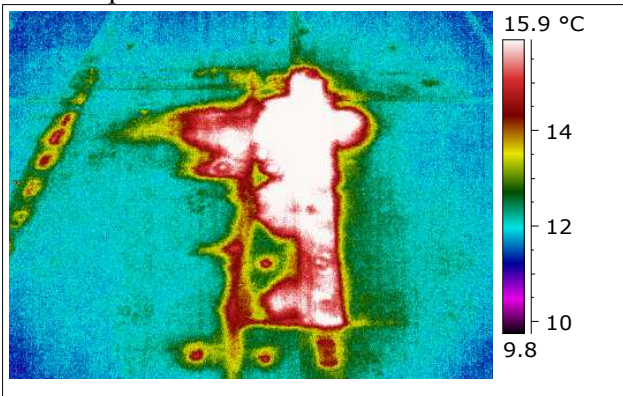
Area: Supermarket - Water Leak in Roof Gulley



Comment:

Water ingress within the roof gully is able to be detected during thermographic surveys and is an extremely powerful way of locating assessing roof leaks across roofing systems.

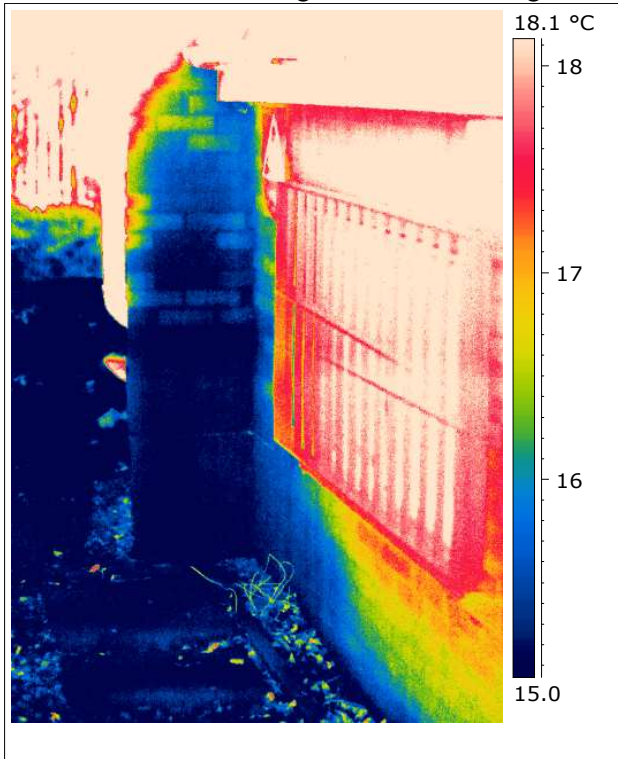
Area: Supermarket - Flat Roof Leak



Comment:

This flat roof leak was located and identified during a survey. Once the water ingress is located is usually straight forward to locate the source such as the slit in the membrane in the image above.

Area: Post Office Sorting Office - Water Ingress in Wall



Comment:

Water ingress or damp penetration surveys on commercial buildings are non destructive and extremely powerful in locating the source.

The client here had spent thousands of pounds excavating earth to locate the source of internal damp when in fact we easily located the source as being from a defective gutter end cap.