boyd wilson electrical

Thermal Imaging Marlborough

THERMOGRAPHY REPORT

ADDRESS:	16B McCallum Street
CONTACT DETAILS:	Denice Oakenfull
THERMOGRAPHY DATE:	23 January 2025
THERMOGRAPHER:	Louis Havenga
CERTIFICATION NUMBER:	ITP-08-2074

23 January 2025

Dear Denice

The dwelling at 16B McCallum Street was the subject of an infrared (IR) survey on 23 January 2025.

- The survey was performed at 5:30am with no thermal loading from the sun on the outside walls of the dwelling.
- There was no evidence of moisture ingress from top or due to capillary effect on the internal or external walls of the dwelling
- There were minor thermal anomalies found on the insulation of the property. These are shown in the report below.
- There were 81 images taken during the survey of the interior, exterior walls ceiling to floor level, eves and gutters, windows and surrounds.
- All Images are stored on for future inquiries and a hard copy with Images can be provided on request.

Understanding Infrared Imagery

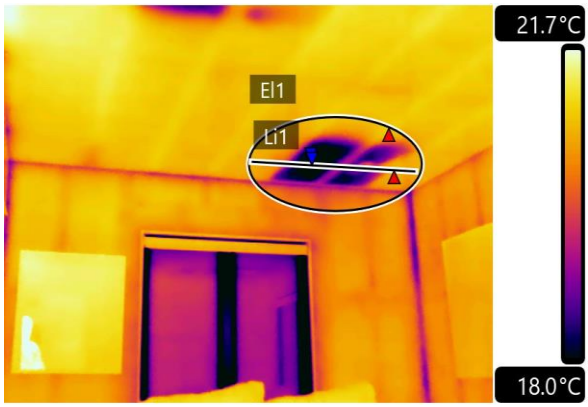
Infrared imagery is often a picture or "thermograph" whose scales (or shades of colour) represent the differences in emitted energy from the surface of an object. As a general rule, patterns in the image that are lighter in shade are warmer and darker patterns cooler. Unlike visible light imagery (0.4-0.7 micrometre wave-lengths), objects observed using infrared images capture infrared wave-lengths in the 3-5 and/or 8-14 micrometre range.

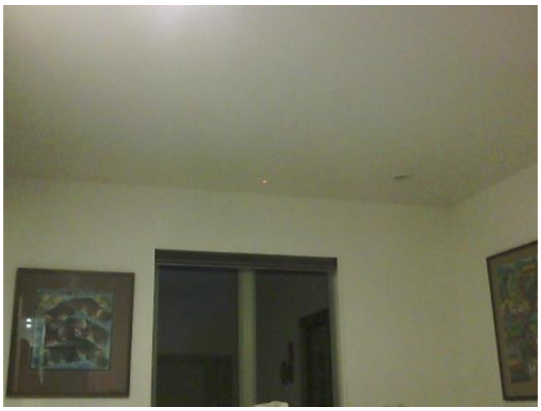
When an image is taken with an infrared camera, it is often recorded onto videotape and/or digitally saved to an on-board storage device. The image may be then modified in a number of ways to enhance its value to the end user. Image files are digitised, saved, then adjusted for colour, contrast and brightness before being scaled and placed into a report file.

Thermographic Reports

Image Camera Model	**FLIR T540**
Image Camera Lens	**FOL10**
Image Camera Serial Number	**79301558**

Bedroom 1 ceiling. First floor (North)





Measurements	
Li1 Average	19.3 °C
Li1 Maximum	20.7 °C
Li1 Minimum	17.9 °C
El1 Average	19.7 °C
El1 Maximum	20.9 °C
El1 Minimum	17.9 °C
El1 Area	0.6 m²
Dt1 (Li1.Max - Li1.Min)	2.8 °C

Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

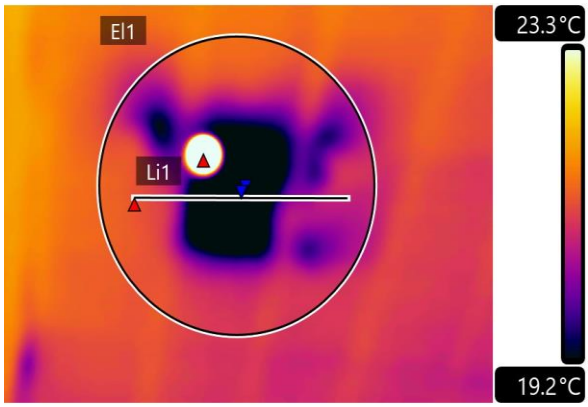
Graph:

Comments

Image shows missing insulation or insulation not touching the plaster board in bedroom 1 ceiling on the first floor.

This is common around light fittings and light fitting that have been removed, cable routes and hard to reach roof cavities.

Bedroom 1 ceiling. First floor (North)



Measurements	
Li1 Average	19.7 °C
Li1 Maximum	21.3 °C
Li1 Minimum	18.1 °C
Li1 Length	0.8 m
El1 Average	20.7 °C
El1 Maximum	53.1 °C
El1 Minimum	18.1 °C
El1 Area	0.7 m²
Dt1 (Li1.Max - Li1.Min)	3.2 °C

Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

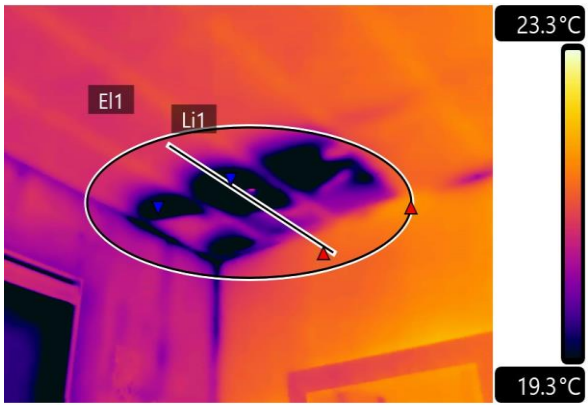
Graph:

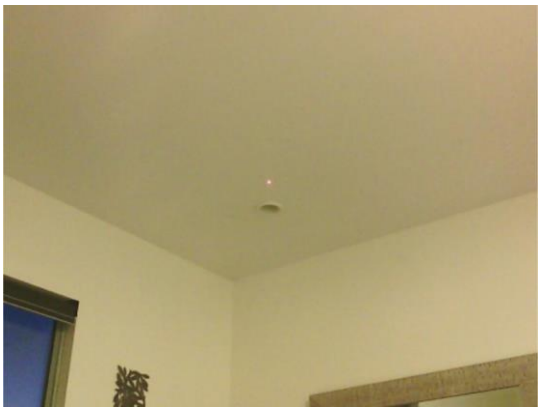
Comments

Image shows missing insulation or insulation not touching the plaster board in bedroom 1 ceiling on the first floor.

This is common around light fittings and light fitting that have been removed, cable routes and hard to reach roof cavities.

Bedroom 1 ceiling. First floor (North)





Measurements	
Li1 Average	20.1 °C
Li1 Maximum	21.5 °C
Li1 Minimum	18.3 °C
El1 Average	20.3 °C
El1 Maximum	22.0 °C
El1 Minimum	18.0 °C
Dt1 (Li1.Max - Li1.Min)	3.2 °C

Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

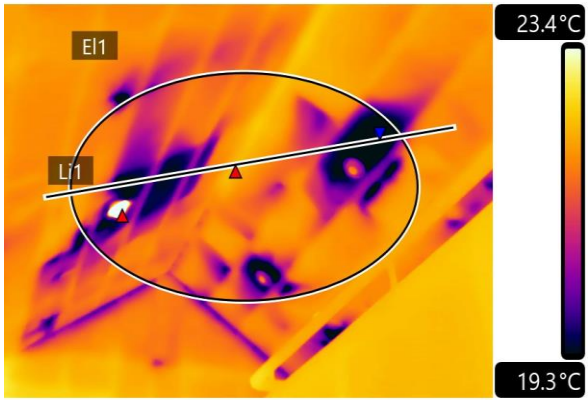
Graph:

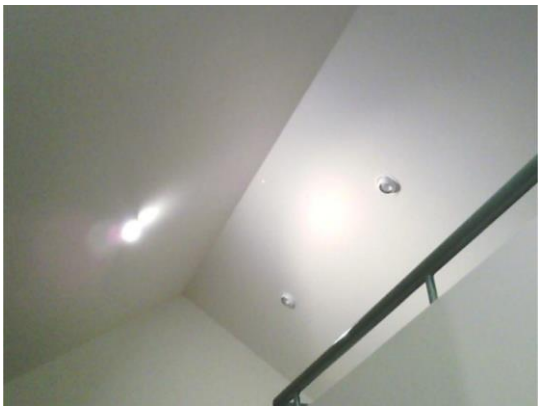
Comments

Image shows missing insulation or insulation not touching the plaster board in bedroom 1 ceiling on the first floor.

This is common around light fittings and light fitting that have been removed, cable routes and hard to reach roof cavities.

Hallway ceiling. First floor (North)





Measurements	
Li1 Average	20.8 °C
Li1 Maximum	22.3 °C
Li1 Minimum	18.6 °C
El1 Average	21.3 °C
El1 Maximum	95.8 °C
El1 Minimum	18.6 °C
Dt1 (Li1.Max - Li1.Min)	3.7 °C

Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

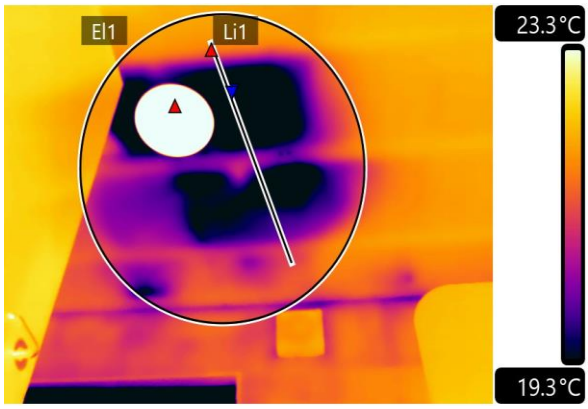
Graph:

Comments

Image shows multiple missing insulation or insulation not touching the plaster board in the first-floor hallway ceiling.

This is common around light fittings and light fitting that have been removed, cable routes and hard to reach roof cavities.

Bathroom ceiling. First floor



Measurements	
Li1 Average	19.6 °C
Li1 Maximum	21.9 °C
Li1 Minimum	18.5 °C
El1 Average	20.7 °C
El1 Maximum	25.2 °C
El1 Minimum	18.5 °C
Dt1 (Li1.Max - Li1.Min)	3.4 °C

Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

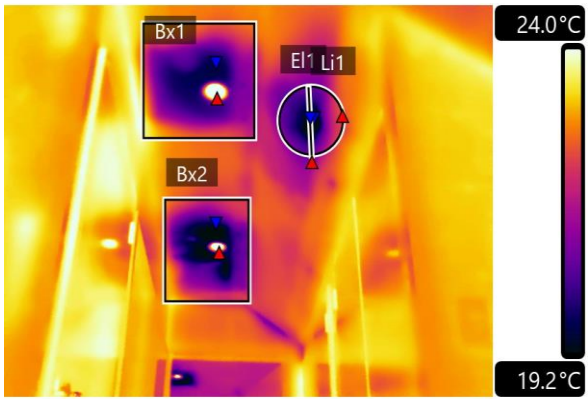
Graph:

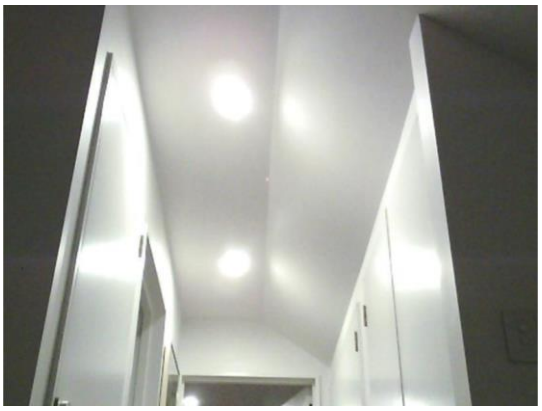
Comments

Image shows missing insulation or insulation not touching the plaster board in the first-floor bathroom ceiling.

This is common around light fittings and light fitting that have been removed, cable routes and hard to reach roof cavities.

Hallway ceiling. First floor (South)

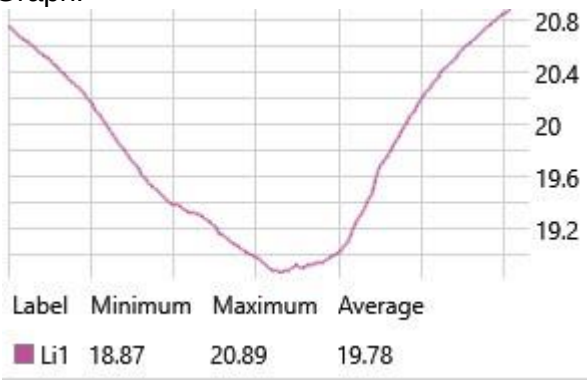




Measurements	
Li1 Maximum	20.9 °C
Li1 Minimum	18.9 °C
Bx1 Maximum	28.5 °C
Bx1 Minimum	19.6 °C
Bx2 Maximum	27.7 °C
Bx2 Minimum	19.0 °C
El1 Maximum	22.5 °C
El1 Minimum	18.7 °C
Dt1 (Bx1.Max - Bx1.Min)	9.0 °C
Dt2 (Bx2.Max - Bx2.Min)	8.6 °C
Dt3 (El1.Max - El1.Min)	3.7 °C

Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

Graph:

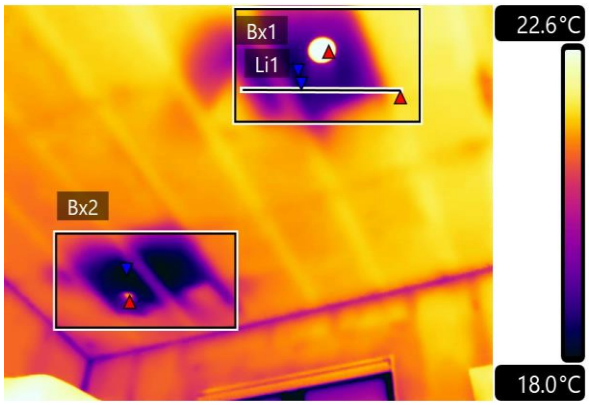


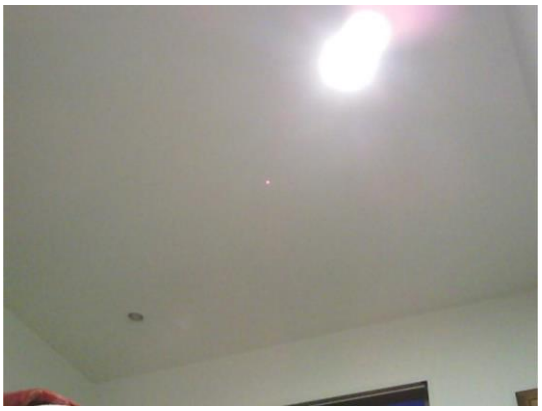
Comments

Image shows missing insulation or insulation not touching the plaster board in the first-floor hallway ceiling.

This is common around light fittings and light fitting that have been removed, cable routes and hard to reach roof cavities.

Bedroom 2 ceiling. First floor (South)





Measurements	
Li1 Average	19.5 °C
Li1 Maximum	21.7 °C
Li1 Minimum	18.5 °C
Bx1 Maximum	28.5 °C
Bx1 Minimum	18.4 °C
Bx2 Maximum	21.3 °C
Bx2 Minimum	18.0 °C
Dt1 (Li1.Max - Li1.Min)	3.2 °C

Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

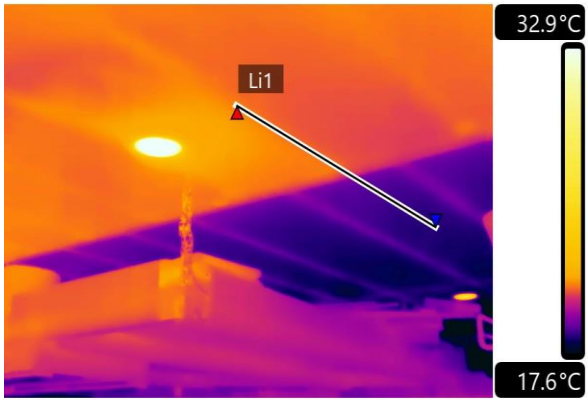
Graph:

Comments

Image shows missing insulation or insulation not touching the plaster board in bedroom 2 ceiling on the first floor.

This is common around light fittings and light fitting that have been removed, cable routes and hard to reach roof cavities.

Garage ceiling



Measurements	
Li1 Average	20.2 °C
Li1 Maximum	21.3 °C
Li1 Minimum	18.6 °C
Dt1 (Li1.Max - Li1.Min)	2.7 °C

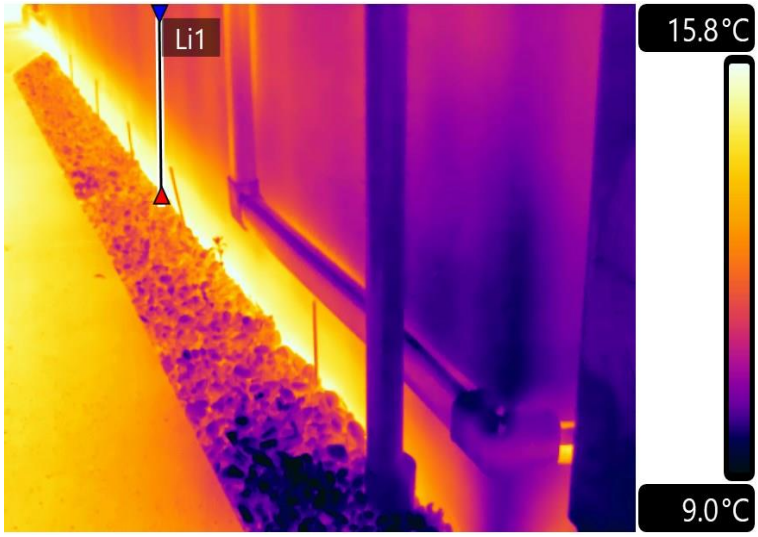
Parameters	
Object Emissivity	0.95
Reflected Temperature	21.0 °C
Atmospheric Temperature	19.0 °C
Relative humidity	62%

Graph:

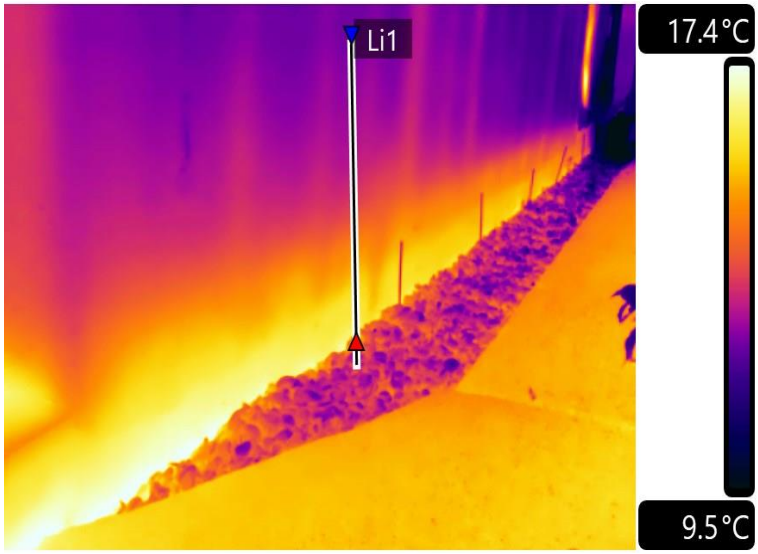
Comments

Image shows missing insulation in the garage ceiling space.

Building Envelope



Measurements	
Li1 Average	13.3 °C
Li1 Maximum	15.7 °C
Li1 Minimum	11.8 °C
Dt1 (Li1.Max - Li1.Min)	3.9 °C



Measurements	
Li1 Average	13.8 °C
Li1 Maximum	16.6 °C
Li1 Minimum	12.4 °C
Li1 Length	0.7 m
Dt1 (Li1.Max - Li1.Min)	4.3 °C

Comments

Images for indication only.

Images shows clear gap between ground level and the building envelope, preventing moisture from entering the wall cladding due to capillary effect.

This is constant throughout the dwelling.