

Basic information on the thermographic surveying of buildings

What is a thermographic survey?

A thermal survey involves taking pictures with a thermal camera. This is similar to taking digital photographs, but the colours in thermal images (thermograms) show temperature variations. Colours correspond to the temperature scale shown on the image.



What information does it provide?

A thermographic survey can be used to analyse how elements such as windows, walls and roofs contribute to the thermal performance of the building. It can also locate problems such as missing or damaged insulation, damp areas, thermal bridging, delaminating render, cracks and air leakage. Missing insulation, for example, will show up as an anomalously warm area on the external wall.

How is a thermographic survey carried out?

Thermographic surveys of buildings are normally carried out in the evening or at night. This is to provide the best temperature contrast between the inside and outside of the building and to avoid temperature variations caused by sunlight.

Best results are obtained when the building has been heated to a temperature at least 10°C above outside air temperature. Usually this involves maintaining heating inside the building at about 20°C, or more, for 24 hours preceding the thermographic survey. The higher the temperature contrast between the inside and the outside, the more visible any problems will be.

Some weather conditions affect thermographic surveys. They cannot be carried out during or immediately after rain as dampness will affect the surface temperature. They cannot be carried out on windy days as wind chills surfaces unpredictably. Thermographic surveys must therefore be planned with the weather forecast in mind.

Preparations by householder for thermographic survey

- The day before the survey is scheduled, check with the surveyor that the weather forecast is suitable.
- Thermal images are taken from outside the building so no access is necessary.
- Heat the building to about 20°C, or more, for 24 hours preceding the survey.
- It can be useful (but not necessary) for the surveyor to measure the internal room temperatures, so arrange in advance if you want/do not want to allow the surveyor into the building.
- Results of the thermal survey should normally be available within 2-3 weeks and will highlight any poor thermal performance or problem areas.



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