

Thermographic Surveys

Thermal imaging is one of the most valuable diagnostic tools for predictive maintenance. By detecting anomalies often invisible to the naked eye, thermography allows us to identify problems before they happen.

Many organisations demand a high level of reliability and availability from their electrical installations. Therefore, a system of condition monitoring on-line is required so that faults can be detected early and downtime planned. The use of infrared thermal imaging as a maintenance diagnostic can identify certain faults at an early stage of development. In particular, the detection of a fault at an early stage allows repair work to be planned and carried out before it becomes a catastrophic failure that may endanger life and/or property and/or business function.

Thermal Imaging or Thermography is the process of using a special camera designed to look only for heat by way of Infra Red (IR) energy waves. Unlike light waves, IR is invisible to the naked eye therefore so is heat. Potential problems can often be found due to an excess of heat being released by the component. If undetected these problems can lead to failure. These failures can result in expensive production loss or downtime and in the most extreme case can lead to fire.

WHY CARRY OUT THERMOGRAPHIC SURVEYS?

A thermographic survey is one of the simplest and most accurate methods employed to monitor and predict when a system might fail. This is known as Predictive Maintenance (PdM). All objects above absolute zero (0 Kelvin or -273°C) emit heat energy and the higher the object's temperature, the higher the infrared radiation that is emitted. This is seen through a thermal camera, or infrared camera, with the warmer the object, the brighter the image. Combining this information and observing that nearly every object heats up prior to failure, makes thermography one of the most important predictive monitoring services available and is becoming more and more popular in the UK in predicting what objects or electrical and mechanical components are beginning to or are about to fail, while in use.

Comparing the temperature of components against ambient temperature gives an indication of fault severity. Thermography is a non-contact and non-destructive type of testing, and is an invaluable resource for predictive maintenance. Virtually no other method will detect the heat rise associated with such faults. This allows remedial work to be prioritised, and response by maintenance team can be scheduled. As there is no surface contact, surveys can and should be carried out under normal working conditions, with minimal or no interruption or disruption of plant operations.

BENEFITS OF THE SERVICE

The benefits of thermography are obvious:

- To comply with the Electricity at Work Act without the need to disrupt power supplies
- Identify problems before they happen
- The ability to quantify the degree of failure
- Allow planned system maintenance to be prioritised and budgeted for
- Non-disruptive as there is no need to shut down services
- Avoid unnecessary, potentially dangerous and disruptive downtime or circuit interruption

Our specialist thermographic engineers carry out a survey while all equipment or services are 'under load' or being used without the need to shut down services and with minimal disruption. The images are stored, and downloaded to specialist analysis software, after which your advisory report is prepared giving maintenance recommendations.

WHY USE ELECHECK?

- ✓ A 'one stop shop' for all your compliance requirements
- ✓ A nationwide company with punctual, polite and efficient 'local' engineers
- ✓ Happy to work outside of 'normal' hours to ensure minimum disruption to business
- ✓ 99% of our clients would recommend us to others*
- ✓ We give advice in straightforward everyday language – without all the jargon
- ✓ Registered, approved and backed by leading industry bodies

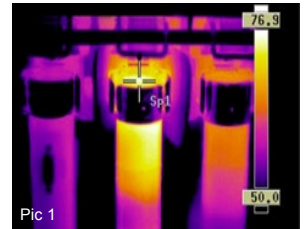
* Customer satisfaction survey 2007

FOR FURTHER INFORMATION PLEASE VISIT OUR WEBSITE

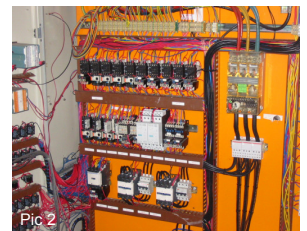
www.elecheck.co.uk

These notes have been produced as guidance only and are not definitive or intended for specific reference. This information is given as guidance only.

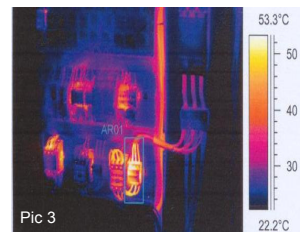
Pictures 1 - Thermographics give a visual representation of any abnormal 'hot spots'. 2 & 3 - This MCB shows a possible overloaded device, invisible to the naked eye. 4 & 5 - This image shows a dangerous increase of over 140 degrees centigrade.



Pic 1



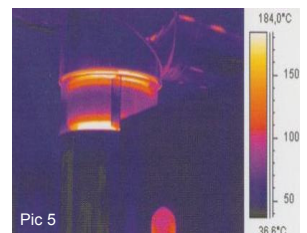
Pic 2



Pic 3



Pic 4



Pic 5