

SPECIALIST SURVEYS – INFRA-RED THERMOGRAPHY INSPECTION



Infra-Red Thermography Inspections

Heat is often an early symptom of equipment damage or malfunction, making it a key performance parameter monitored in predictive maintenance. Infrared predictive maintenance regularly checks the temperature of critical equipment, allowing tracking of operating conditions over time and quickly identifying unusual readings for further inspection.

Infrared thermography inspection is perceived as the most effective faults diagnosis technology, utilizing thermal imaging cameras to produce thermal images (immediately and clearly visible) of invisible infrared or “heat” radiation caused by electrical resistance and mechanical wear based on temperature differences between objects.

With our Infra-Red Thermography Inspections you can:

- Accurately pinpoint problems which can lead to a 10-fold return on investment
- Prevent expensive failures thus reducing maintenance costs by 25% to 30%
- Improve efficiency thus eliminating breakdowns by 70% to 75%
- Reduce non-productive downtime by 35% to 45%
- Avoid shutdowns and lost revenue which could increase production by 20% to 25%

Thermal Imaging Cameras

A Thermal Imaging Camera is a reliable, non-contact instrument for monitoring and diagnosing, which is able to scan and visualize the temperature distribution of entire surfaces of objects or equipment quickly and accurately. A FLIR T-420 Infrared Camera measures up to -4°F to 1202°F (-20°C to 650°C).

Infra-Red Thermography Inspections – what we offer

- Review of inspection records to highlight any problems
- Analyse drawings of the plant
- Assessing equipment/objects
- Review of manufacturer’s instructions
- Conducting qualitative infrared thermography inspections
- Preparation of inspection reports

References

- ASTM E1933-14 - Standard Practice for Measuring and Compensating for Emissivity Using Infrared Imaging Radiometers
- ASTM E1934-99a (2014) - Standard Guide for Examining Electrical and Mechanical Equipment with Infrared Thermography
- ASTM C1060-11a (2015) - Standard Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings
- ASTM C1153-10 (2015) - Standard Practice for Location of Wet Insulation in Roofing Systems Using Infrared Imaging
- ISO 6781:1983 - Thermal insulation - Qualitative detection of thermal irregularities in building envelopes - Infrared method
- ISO 9712:2012 - Non-destructive testing - Qualification and certification of NDT personnel
- ISO/TC 135/SC 8 - Thermographic testing
- ISO 18434-1:2008 - Condition monitoring and diagnostics of machines – Thermography – Part 1: General procedures
- IEC 60079 - Electrical equipment in hazardous areas
- ISO 80079-36:2016 - Explosive atmospheres – Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements
- EN 1127-1:2011 - Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology

Above: Infra-red thermography image (first). Infra-red camera (second). Infra-red thermography image (third).

UK
+44 (0)23 8026 9866
umcuk@umc-int.com

Europe
+31 (0)10 438 6644 (Netherlands)
umc@umc-int.com

www.umc-int.com

Middle East
+971 (0) 455 46198 (United Arab Emirates)
umcme@umc-int.com

Far East
+65 (0) 6795 1173 (Singapore)
+603 (0) 2181 6330 (Malaysia)
umc.seasia@umc-int.com



Performance assured