

WHY IS IT IMPORTANT TO ENSURE YOU USE A CERTIFIED THERMOGRAPHER AND HOW YOUR ORGANISATION MAY UNKNOWINGLY VIOLATE AUSTRALIAN STANDARDS

Thermographic inspections, also referred to as infrared scans or thermal scans, are a critical tool for individuals accountable for the functioning of electrical systems. These inspections are pivotal when carried out by certified professionals. Nevertheless, when the need for such inspections arises, individuals typically depend on their existing electrical or mechanical services contractor or their in-house electrician. Regrettably, complications frequently emerge during this initial phase, leading companies to unintentionally breach Australian standards, thereby exposing themselves to significant risks, including the potential rejection of insurance claims.

THE IMPORTANCE OF THERMOGRAPHIC INSPECTIONS

Thermographic inspections serve two primary purposes, both of which are not mutually exclusive.

Firstly, these inspections guarantee the dependability and integrity of valuable assets. By conducting regular inspections, costly unscheduled electrical breakdowns and potential damage to electrical systems and surrounding structures can be prevented.

Secondly, many insurance underwriters necessitate these inspections. Building insurance policies often require qualified inspectors to conduct regular thermographic inspections of the electrical distribution system at specific intervals, typically annually or more frequently in high-risk environments. Failing to comply with regular inspections that meet the standards may result in the underwriter providing no assistance in the event of a serious electrical incident such as fire, breakdown, or explosion.

THE RISK OF IGNORING STANDARDS

Thermographic inspections are governed by standards that are often poorly understood or ignored. Many organisations unknowingly expose themselves to significant risks and compromise their insurance coverage, building security, business continuity, and employee safety due to a lack of understanding of these standards.

The relevant standards are **AS ISO 18434.1:2014**, which outlines general procedures for thermography, and **AS ISO 18436.7:2014**, which specifies requirements for the qualification and assessment of personnel in thermography.

AS ISO 18434.1:2014, section 17 states that "Thermographers shall be qualified and assessed in accordance with ISO 18436-7." This requirement highlights that certification is essential, not optional. Furthermore, it's crucial to note that an electrician's license does not qualify as a thermographer's certification according to ISO 18436.7:2014.

THE DISTINCT CERTIFICATIONS

AS ISO 18436.7:2014, section 4 classifies personnel involved in thermography into three certification categories, indicating their respective capabilities and limitations. Here are some key points from each category:

Category I:

- Apply specific measurement techniques
- Operate thermal imaging equipment safely
- Perform basic fault detection and severity assessment
- Conduct basic image post-processing
- Maintain a database of results and trends
- Verify the calibration of thermographic measurement systems
- Evaluate and report test results and areas of concern

Category II:

- Select appropriate thermography techniques and understand their limitations
- Apply thermography theory and techniques, interpret survey results
- Specify suitable hardware and software
- Perform advanced fault diagnoses
- Recommend field corrective actions
- Perform advanced image post-processing
- Prepare detailed reports on equipment condition, fault diagnoses, repairs, and effectiveness
- Provide guidance and supervision to Category I personnel

It's important to note that Category I thermographers cannot perform certain tasks such as selecting techniques or recommending field corrective actions.

CONCERNS REGARDING CERTIFICATION

There are two significant concerns:

- Many electrical and mechanical services contractors conduct thermographic inspections without any certification (neither Category I nor Category II), rendering their work invalid under Australian Standards.
- Many contractors perform thermographic inspections beyond the scope of their certification. Category I certifications, which are commonly held by thermographic inspectors in the electrical industry, are often inadequate for the work and diagnoses they carry out. If you rely on a contractor for preventive maintenance and recommendations based on electrical thermographic