

TRAINING TITLE

INFRARED THERMOGRAPHY APPLICATIONS

Training Duration

5 days

Training Venue and Dates

Ref. No. EE091	Infrared Thermography Applications	5	27-31 Jan. 2025	\$5,500	Dubai, UAE
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

The Infrared Thermography Applications training provides hands-on learning on using thermal imaging for non-destructive testing, predictive maintenance, and diagnostics. Participants will gain skills in detecting electrical, mechanical, and structural issues, optimizing energy efficiency, and improving safety across industries such as manufacturing, construction, energy, and building maintenance. This training is ideal for engineers, technicians, inspectors, and safety professionals.

TRAINING OBJECTIVES

After Completion of this course the attendee will understand the following:

- The Level I Infrared Thermography training course geared to the new infrared camera user and focuses on its use for a variety of conditions monitoring /predictive maintenance applications. Attendees completing all training course requirements and all Thermography field assignment will receive Level I infrared Thermography Certification.

WHO SHOULD ATTEND?

- Maintenance Engineers & Technicians: For predictive maintenance and equipment monitoring.
- Electrical Engineers: To detect electrical faults and hot spots.

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- **Mechanical Engineers:** For identifying wear and overheating in machinery.
- **Building Inspectors & Facilities Managers:** To assess insulation, leaks, and energy efficiency in buildings.
- **Safety & Quality Assurance Personnel:** For non-destructive testing and ensuring safety and quality.
- **Energy Auditors & Environmental Consultants:** To assess energy loss and environmental issues.
- **Manufacturing Managers:** For optimizing processes and detecting equipment malfunctions.
- **Researchers & Technicians:** In scientific research and material testing.
- **HVAC Professionals:** To identify issues in heating, ventilation, and air conditioning systems.
- **Fire & Emergency Response Personnel:** For detecting hidden fires or heat patterns during emergencies.
- **Asset Managers:** To ensure equipment and infrastructure are properly maintained.

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

COURSE PROGRAM

Day 1: Introduction to Infrared Thermography

- Overview of Infrared Thermography (IRT) Technology
- Principles of Thermography: How infrared cameras work
- Key Applications: Electrical, mechanical, building, and process industries
- Types of Infrared Cameras and Equipment
- Introduction to Infrared Thermography Standards and Safety

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- **Setting up Infrared Cameras and Equipment**
- **Understanding Temperature Measurement: Emissivity, reflection, and transmission**

Day 2: Thermography in Electrical Inspections

- **Common Electrical Faults Detected with Thermography (e.g., hot spots, loose connections, overloads)**
- **Electrical Panel and Circuit Inspection Techniques**
- **Safety Considerations in Electrical Thermography**
- **Hands-on Practice: Inspecting electrical panels and components**
- **Interpreting Thermal Images for Electrical Systems**

Day 3: Thermography in Mechanical Systems

- **Thermography for Mechanical Equipment: Bearings, motors, and rotating machinery**
- **Identifying Heat Patterns and Anomalies in Moving Parts**
- **Predictive Maintenance and Preventative Applications**
- **Hands-on Practice: Inspecting mechanical equipment using thermography**
- **Interpreting Thermal Images in Mechanical Systems**

Day 4: Thermography in Building and Energy Efficiency Inspections

- **Using Thermography for Building Inspections: Heat loss, insulation, plumbing leaks, and moisture detection**
- **Identifying Energy Inefficiencies and Structural Problems**
- **Building Codes and Standards for Thermography**
- **Hands-on Practice: Inspecting building exteriors, walls, roofs, and HVAC systems**
- **Interpreting Thermal Images in Building Inspections**

Day 5: Advanced Thermography Applications & Reporting

- **Advanced Techniques: Hot Spot Detection, Thermal Mapping, and Specialized Thermography**
- **Thermography for Predictive Maintenance and Process Control**
- **Data Analysis and Reporting: How to generate useful thermal reports**
- **Group Discussion: Best Practices and Troubleshooting**
- **Course Wrap-up and Q&A**

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NOTE:

Pre-& Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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