

# € TRAINING

Advance Infrared Thermography





## Advance Infrared Thermography

### Introduction:

This training program offers participants an opportunity to delve into the intricacies of thermal imaging beyond the basics. It empowers them to harness the full potential of infrared thermography in diverse industrial settings.

### Program Objectives:

At the end of this program, participants will be able to:

- Understand advanced principles of infrared thermography.
- Apply advanced techniques for data acquisition and analysis.
- Utilize infrared thermography for predictive maintenance and diagnostics.
- Implement quality assurance and process optimization using thermal imaging.
- Interpret complex thermal patterns and anomalies effectively.

### Targeted Audience:

- Maintenance Technicians.
- Reliability Engineers.
- Building Inspectors.
- Quality Control Managers.
- Electrical and Mechanical Engineers.
- Thermography Service Providers.

### Program Outline:

#### Unit 1:

#### Advanced Principles of Infrared Thermography:

- Advanced concepts in heat transfer and thermodynamics.
- Principles of thermal imaging and infrared radiation.

- Advanced camera features and specifications.
- Limitations and considerations in infrared thermography.
- Case studies demonstrating advanced applications.

## Unit 2:

### Advanced Techniques for Data Acquisition and Analysis:

- Advanced imaging techniques for optimal data acquisition.
- Image enhancement and processing methods.
- Quantitative analysis of thermal data.
- Advanced software tools for data interpretation.
- Real-world examples of advanced data analysis.

## Unit 3:

### Predictive Maintenance and Diagnostics:

- Advanced applications of infrared thermography in predictive maintenance.
- Detecting and diagnosing complex machinery faults.
- Assessing insulation integrity and identifying electrical issues.
- Developing predictive maintenance programs using thermal imaging.
- Case studies on predictive maintenance success stories.

## Unit 4:

### Quality Assurance and Process Optimization:

- Role of infrared thermography in quality control and assurance.
- Monitoring manufacturing processes using thermal imaging.
- Detecting defects and anomalies in production lines.
- Optimizing energy efficiency and process performance.
- Real-world examples of process optimization using thermal imaging.

## Unit 5:

### Interpretation of Complex Thermal Patterns:

- Advanced techniques for interpreting thermal patterns.
- Identifying and analyzing complex thermal anomalies.
- Understanding transient thermal behavior.
- Analyzing thermal data in dynamic environments.
- Case studies on interpreting complex thermal patterns.