LEVEL 1 Infrared Certification

Infrared Certification Training

#1 Infrared Training Company In The World! 25 Years!

The Academy of Infrared Training is the foremost provider of Infrared Certification Training in the world! We're flexible and can deliver the training you and your company require, where and when you need it.
The Academy of Infrared Training has been training individuals and companies internationally for the past 25 years!

Level I

These courses are designed to meet and exceed SNT-TC-1A recommended practices. A theoretical background is a must for understanding the real world problems that face thermographers in the field today. It will be combined with hands-on operator training which will teach you not only the basics of system operation, but also the finer points of your specific piece of equipment to give you maximum value from your infrared instrument. You will also learn the principles behind the main applications most industries are involved in. You will learn the techniques and reporting procedures necessary to put together an effective predictive maintenance program.

NETA CTD Program Recognized Course
CTDCs: 38 hours

For More Information:
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Level I Infrared Certification Outline

Thermal / Infrared Physics

The Nature of Heat and Temperature

Heat Transfer Mode Familiarization

Conduction Fundamentals
- Fourier's Law (concept)
- Conductivity / Resistance Basics

Convection Fundamentals
- Newton's Law of Cooling
- File Coefficient / File Resistance
- Radiation Fundamentals
- Stephan Boltzmann Law (concept)

Radiosity Concepts
Reflectance, Transmittance, Absorptance, Emittance
Radiometry and Imaging
Spatial Resolution Concepts
Error Potential in Radiant Measurement

Infrared Equipment Operation

Introduction
Thermography Defined
How Images Work
Equipment Overview / Features
Operation of Equipment
- Select the Best Perspective
- Image Area and Lens Selection
- Use of Filters
- Optimizing the Image

Infrared Image and Documentation
Clarity (spatial focus)
Thermal Focus (level and span)
Dynamic Range
Recognizing and Dealing with Reflections
Recognizing and Dealing with Convection

Support Data Collection
Environmental Data Emittance
Surface Modification
Surface Reference Temperature
Support Equipment for Infrared Inspection

Temperature Measurement

Performing Accurate Temperature / Emissivity Measurement
Compensating for Distance and Small Object Size
Field Quantification
Checking Equipment Calibration

Infrared Application Overview

Electrical Inspections
Mechanical Inspections
Furnace Inspections
Detecting Thermal Anomalies Resulting from Differences in:
- Thermal Resistance – Insulation / Refractory
- Thermal Capacitance – Roof Moisture Surveys
- Physical State – Gas / Liquid, Liquid / Solid
- Fluid Flow – Tube Blockages
- Friction – Bearings, Gears
- Exothermic / Endothermic Conditions
- Electrical Resistance, Insulation Voids

Report Generation

IR Software Generic Overview
Elements of a Good Report
Page Layouts
Database Programs
Printing

When you have completed this course and met the requirements you will be a Level 1 Certified Thermographer. You will be able to handle most infrared applications. You will be able to:
- properly collect data
- achieve temperature measurement
- interpret infrared images (thermograms)
- properly document your findings (report)