



# Level III Infrared Certification

## Level III Course Summary

This course is provided to advance a Level II Thermographer to the level at which they are able to initiate and manage an Infrared Thermographic Program. The course material will give them an advanced understanding of the information necessary to direct other thermographers to provide written procedures and purchase suitable equipment.

## Level III Infrared Certification Outline

### Principles and Theory

Conduction, Convection, Radiation  
The Nature of Heat and Heat Flow  
Proper Selection of Thermal/Infrared Testing  
Differences Between IR/T and Other Methods  
*Complimentary Roles of Other Methods Factors that Qualify and Disqualify IR/T*

### Equipment & Materials

Contact Temperature Measurement Equipment  
• Thermometers  
• RTDS  
• Change of State Devices  
Infrared Imaging Devices  
• IR Film  
• Light Intensifiers  
• 2 – 12  $\mu\text{m}$  Infrared Equipment  
Non-Contact Temperature Measurement Devices

### Techniques

Calibration of Infrared Systems  
Emissivity Calculations  
Reflectivity Calculations  
Transmissivity Calculations  
Overview of Passive Application Techniques  
Overview of Active Application Techniques

### Existing Infrared and Related Standards

ASNT – American Society for Non-Destructive Testing  
ASTM – American Society for Testing and Materials  
ANSI – American National Standards Institute  
IEEE – Institute of Electrical and Electronics Engineers

### Infrared Program Initiation and Management

Selecting Equipment  
Understanding Various Certification Procedures  
Written Program Procedures and Documentation  
Managing Level I and II Thermographers  
Safety Standards  
Reporting  
• Database Management  
• Cost Justification  
• Software Programs  
• Inspection Reports  
Preparing for ASNT Level III IR/T Examination

### NETA CTD Program Recognized Course CTDCs: 38 hours

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