



Infrared Application: Building Inspection

Building Inspection Course Summary

This four-day Building Application Course is designed to meet the body of knowledge necessary for the current American Society for Non-Destructive Testing (ANST).

A theoretical background is a must for understanding the real-world problems that face thermographers in the building inspection field today.

Coursework is combined with hands-on operator training which will teach the basics of system operation. In addition, you'll learn finer points of your specific piece of equipment to give you the maximum value from your infrared instrument. You will also learn the principles behind building applications. You will learn the techniques and reporting procedures necessary to compile an effective report.

Building Inspection Course Outline

Introduction/Overview

- Course Overview
- Concepts of Buildings
- Infrared Thermography a Tool

Principles Of The Building Envelope

- Fundamentals of the Envelope
- Three Main Functions of a Roof
- Materials
- The Problems
- Terminology

Thermal/Infrared Physics

- The Nature of Heat and Temperature
- Heat Transfer Fundamentals
- Conduction, Convection, Radiation
- Thermal Loading
- Thermal Capacitance
- The Inspection Window

Radiosity Concepts

- Emittance, Absorbance, Reflectance
- Radiometrics and Thermal Imaging
- Error Potential
- Thermal Resolution

Infrared Equipment Operation

- Instrument Requirements
- Equipment Overview/Features
- Operational Overview
- Thermal Focusing/Dynamic Range
- Image Area and Lens Selection
- Reporting Software

Buildings

- Safety
- Building Construction Principles & Standards
- Conduction- What to Expect
- Why Does a Roof Fail
- Physical Aspects of Moisture
- Locating Moisture Migration
- Moisture Measurement and Mold Growth
- Locating Wet Insulation
- Building Restorations

Field Trip

Building Inspection Field Trip

Thermography

- Energy audits
- Insulation Evaluation
- Air infiltration/exfiltration
- Fundamental Considerations for Inspections
- Pre-inspection
- Required Conditions
- Inspection Procedure/Techniques
- Environmental Conditions/Parameters
- Limitations
- Elements of a Good Building Thermogram
- Types of Thermal Signatures
- Image Interpretation/Pattern Identification
- Recording Techniques
- Support Data Collection
- Methods of Verification
- Generating Professional Reports
- Marketing Building Inspections

NETA CTD Program Recognized Course CTDCs: 38 hours

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