



sUAS THERMOGRAPHY LEVEL I

1. Basic Infrared Theory

- Heat transfer
- Electromagnetic spectrum
- Emittance, reflectance, and transmittance
- Atmospheric transmission
- IR wavebands, imaging systems, and lens materials

2. Infrared Equipment

- Selection criteria
- Range and level settings
- Image and data recording
- Self-directed learning activities for hands-on use

3. sUAS Thermography

- Qualitative applications
- Active and passive thermography
- Daytime versus nighttime inspections
- Required conditions for inspections
- Selecting the correct color palette
- Temperature measurement
- Conducting an inspection
- Safety practices

4. Electrical System Inspections

- Theory and thermal signatures of problems
- Six types of detectable defects
- Conducting an inspection
- Confirming exceptions
- Data recording
- Standards for inspections

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5. Mechanical System Inspections

- Theory and thermal signatures of problems
- Steam systems, high temperature structures, storage vessels
- Conducting an inspection
- Confirming exceptions
- Data recording
- Standards for inspections

6. Infrared Roof Inspections

- Theory and thermal signatures of problems
- Insulation materials and characteristics
- Weather variables and influences
- Required site conditions
- Conducting an inspection
- Thermal signatures of latent moisture
- Verification of data
- Data recording
- Standards for inspections
- Alternate methods of moisture detection

7. Infrared Building Envelope Inspections

- Theory and detectable conditions
- Thermal signatures of problems
- Inspection techniques
- Weather variables and influences
- Required site conditions
- Conducting an inspection
- Verification of data
- Data recording
- Standards for inspections