

Thermal Imaging Training from The Snell Group

Level II Infrared Thermography



Training Overview:

This course is for thermographers who have completed Level I training and or have had from three to eighteen months experience using thermography. The focus of this course is increasing the practical understanding of interpreting thermal images, exploring the complexities of making radiometric measurements and learning models for prioritizing problems.

The course is firmly grounded in applied theory and is packed with examples of real applications and hands-on experiments. The training fully meets ASNT's educational requirements for Level II certification. The curriculum can be adjusted to some extent to best meet your needs and meet the requirements for certification. Previous Level I training is necessary. Pre-requisites: Level 1 Thermographic Applications for Predictive Maintenance.

This course fully meets the educational requirements for certification according to the published recommendations of the American Society of Non-Destructive Testing.

It is strongly suggested that you bring your imaging equipment to optimize the value you will get from the course.

Students will have the opportunity to take a three-part certification examination at no additional charge.

Lodging:

Pembroke Instruments recommends some hotels in the San Bruno area: **Comfort Inn & Suite** 611 San Bruno Ave., Reservations: 650-737-0122, **Courtyard By Marriott** 1050 Bayhill Drive, Reservations: 650-952-3333, **Budget Motel** 850 El Camino Real, Reservations: 650-589-6969, **Villa Motes Hotel** 620 El Camino Real, Reservations: 650-745-0111 and the **Ramada Hotel** 500 El Camino Real, Reservations: 650-871-4000. Have a safe trip and pleasant stay!



Date:

July 20-23, 2010

Course Hours:

9:00 a.m. - 6:00 p.m.

Cost:

\$1,695/person

Location:

*Pembroke Instruments
Training Center
1001 Bayhill Drive
Second Floor—Suite 200
San Bruno, California 94066*

How to Register:

Please use exclusively the attached Registration Form. For any additional information call 415-860-4217 or email: sales@pembrokeinstruments.com



Registration Form-Snell Level II Training July 20-23, 2010

Name: _____ Title: _____
Company: _____
Address: _____
City: _____ State: _____ Zip Code _____
Telephone: () _____ Fax: () _____ Email: _____

Please select one of the following purchase options via credit card; we also accept checks and purchase orders from approved companies.

Registration Fee- \$1695

Visa Mastercard American Express Discover

Cardholder Name: _____

Card Number: _____

CVV Number : _____

Expiration Date: _____

Billing Address: _____

State: _____

Zipcode: _____

Signature: _____

Please fax completed forms to 415-585-0652 . You will be emailed a receipt . You can also call in your information to 415-860-4217. Refunds and credit card chargebacks are only allowed with the written approval by Pembroke Instruments, LLC. The class course does not include transportation, meals, or incidental costs.



**PEMBROKE
INSTRUMENTS**

1001 Bayhill Drive
Second Floor-Suite 200
San Bruno, California 94066
Tel. 650-616-4202

Email: sales@pembrokeinstruments.com
<http://pembrokeinstruments.com>

COURSE OUTLINE/SCHEDULE: Level II Thermography Training

The outline for the proposed four-day training follows. The exact schedule can be arranged as desired to maintain normal working hours.

Day One

- Introductions and course overview
- Keynote presentation: *"Thinking Thermally®"*
- Introduction to quantitative thermography
- Hands-on Equipment Use – IR imaging techniques evaluation
- Energy and Temperature
- Quantitative heat transfer: *radiation*
- Hands-on demonstrations of quantitative heat transfer

Day Two

- Review, questions and answers
- Radiometric measurements: *emissivity, reflectivity, transmissivity, & filters*
- Hands-on exercise: *determining emissivity and reflectivity*
- Radiometric measurements: *calibration, spatial & measurement resolution*
- Demonstrations: *calibration, spatial and measurement resolution*

Day Three

- Review, questions and answers
- Hands on exercise: *determining spatial and measurement resolution for students imaging systems*
- Quantitative heat transfer: *conduction, convection, capacitance and state change*
- Demonstrations: *convection, capacitance and state change*
- Field Work: *quantitative thermal data gathering*
- Student presentations: *quantitative IR presentations*
- Hands-on projects: *thermal problem solving and project presentations*

Day Four

- Review, questions and answers
- Student presentations: *quantitative IR presentations, continued*
- Prioritizing findings: *parameters and using an inclusive model*
- Problem solving exercise: *prioritizing thermal anomalies*
- Course review

CERTIFICATIONS

Students are only required to take the general exam to successfully complete the course. Additionally, students will have the opportunity to take a three-part certification examination. It consists of two written portions and practical where you must show proficiency with your infrared camera. The 40 question general exam will evaluate your general knowledge in infrared theory and all the mainstream applications. The specific exam will be based on either your written procedures or on accepted ASTM, ISO, NFPA, NETA, IEEE, OSHA, EPRI, and BINDT methodologies. The practical exam will allow you to prove you have the skills necessary to perform testing in the field. In the absence of having written procedures, each student will be given a summary of the applicable standard that applies to your work. You will also leave with a copy of a Written Practice. A Written Practice is a suggested guideline on how to organize and manage a certification program for your company. It is a straight forward document and process to set up a program, but it has critical importance in describing the educational experience and testing requirements for certification for your organization. As part of the course fee we will help you after the course to put in place a meaningful and effective written practice. The curriculum and all instructors are overseen by ASNT Level III Certificate Holders