

## GET THE TRAINING YOU NEED IN JUST 2 DAYS!

### Thermography: Level 1 Training

Identifying heat loss and mechanical and electrical hot spots are key to energy maintenance programs. You'll learn to use thermal imaging equipment, gather data, and interpret images in this intensive thermography training. This course is done in two days of in-class training where we discuss infrared theory, heat transfer concepts, condition monitoring, and learn the correct operation of your thermal imaging equipment. Attendees will learn how to take quality thermal images that are clear, concise and easy to interpret. We will also discuss tested practices for setting up a successful thermal program within a facility. The instructor is a Level III thermographer and provides students with broad field knowledge allowing the learning experience to be interesting, fun and resourceful. There are loads of hands-on activities and real life examples from the field that will be discussed. A final test will be administered and students passing with 80% or greater will receive a "Certificate of Completion" for this intense Thermography course.

**Tuesday-Wednesday, April 9-10, 2019. 8 a.m. - 4:30 p.m.**

**Broner Glove and Safety Co.**  
1750 Harmon Road, Auburn Hills, MI 48326  
Cost: \$1595 (includes lunch both days)

To register call: 1.800.521.1318



## 2 DAY LEVEL I CLASS SYLLABUS

It is recommended if an attendee has a thermal image camera they should bring it to class.

### DAY 1

- Introductions/Housekeeping
- What is thermography
- Thoughts on Developing a Thermal Process in your plant!
- History of Infrared
- Defining a number of applications for thermography
- Mastering camera operation
- Vision discussion
- Elements of good thermal imagery
- Level and Span
- Field of View concepts
- Understanding Heat vs. Temperature
- Fourier's Law of Heat
- Newton's Law of Cooling
- Heat Radiation Concepts

### DAY 2

- Understanding the Surface Properties of Materials
- Determine emissivity values
- Background temperatures
- State changes
- Cavity radiators
- Infrared window discussion
- Effective report writing
- Alternate Software – Thermal Trend discussion
- Developing a viable and sustainable predictive maintenance program
- Industrial applications discussed
- Buildings and roofs discussed
- HVAC and other Applications
- What to do next!
- Closing comments
- Final review
- Final Test

**BRONER**  
GLOVE AND SAFETY  
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## WHY TAKE A THERMAL IMAGING COURSE?

Thermal imaging is rapidly becoming the standard tool for troubleshooting, maintenance, and diagnostics in many industries.

Proper training in thermography allows you to identify problems and inefficiencies quickly and effectively - saving your business money, time and effort.

## WHO SHOULD ATTEND?

Building Inspectors  
Building Operators, Maintenance Managers & Technicians  
Electrical, HVAC, & Plumbing Contractors & Technicians  
Code Officials  
Safety Managers  
Energy Auditors  
Equipment Engineers, Designers, Quality Control  
Utility Managers and Technicians  
Roofers

## AVOID THERMOGRAPHY MISSTEPS

Using a thermal imaging camera is easy, however ANALYZING the results requires training, skills, knowledge and experience.

Thermal imaging equipment is highly technical and designed for a wide range of features and applications. This training will help avoid common and costly mistakes in selecting and using your equipment,

## REGISTER TODAY

This 2-day information-packed training is only \$1595 and includes lunch both days.



Name: \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip Code \_\_\_\_\_

Payment Information: Payment must be made in full at least one week prior to the class.

Email or fax form and payment information to: [safety@broner.com](mailto:safety@broner.com) or Fax: 1.800.276.6372

Circle one: MC / Visa / Am Exp / Discover / Check

CC# \_\_\_\_\_

Exp Date \_\_\_\_\_

Name on credit card \_\_\_\_\_

Amount to be charged: \$ \_\_\_\_\_

Send checks payable to: Broner Glove & Safety  
1750 Harmon Rd • Auburn Hills, MI 48326

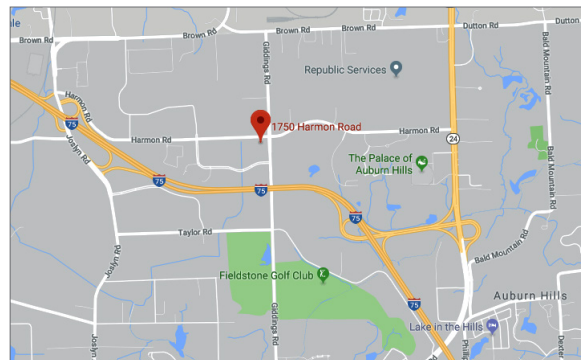
Please invoice my Broner Account one week in advance

## ABOUT THE INSTRUCTOR

John Pratten, B.A., is an ASNT compliant Level III trained thermographer who has conducted courses in North America, Europe, and Asia, including customized training for fortune 500 companies. John worked for Fluke Corporation for 10 years as a Thermography Specialist and Thermography Trainer. John's courses focus on the fundamentals of IR, camera operation and how to set up viable and sustainable predictive maintenance programs to maximize his customer's program investments.



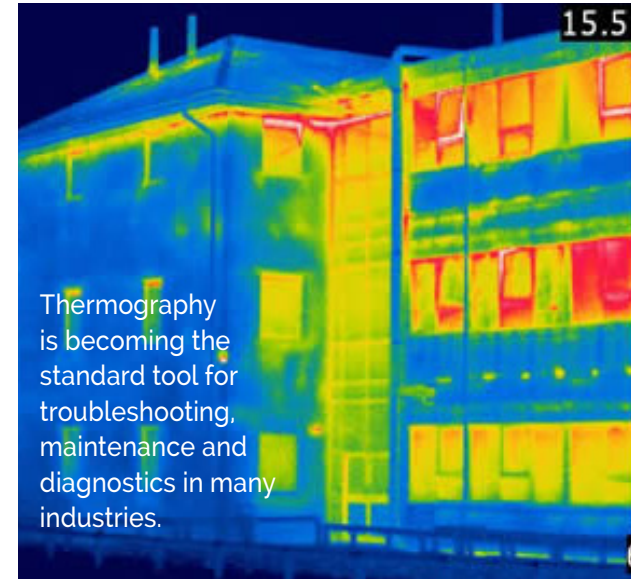
He also performs thermography work and training in building science, and has trained various State Agencies involved with projects to improve the quality of low income housing in Minnesota. John has authored a number of published articles and has a patent in the area of IR. He owns Proactive Maintenance Consultants, LLC, in Eden Prairie, MN.



## PHYSICAL LOCATION

Broner Glove & Safety Company  
1750 Harmon Rd • Auburn Hills, MI 48326  
800.521.1318

## THERMOGRAPHY LEVEL I TRAINING



Thermography is becoming the standard tool for troubleshooting, maintenance and diagnostics in many industries.

**APRIL 9-10, 2019**

Master the skills needed to excel in this thriving field



HOSTED BY:

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