

Category 1 Thermography Certification Course

5 day workshop

Gain an internationally recognised qualification in a rapidly growing industry.

Course Dates:

1st - 5th November 2021

Auckland & Christchurch

Presented by

Eurotec Ltd

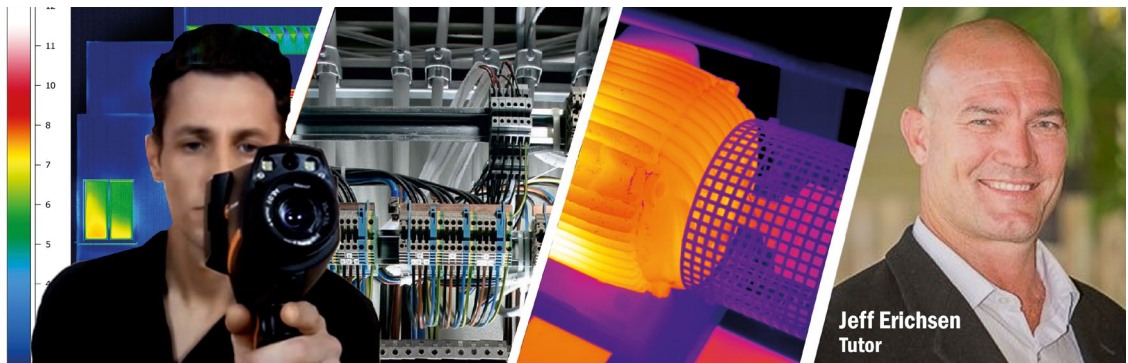
with tutor Jeff Erichsen

No matter what brand of camera you have, this course will teach you how to use your thermal imaging camera to it's full potential!

Director of Operations of the Asia Pacific Region for Advanced Infrared Resources

Jeff Erichsen is an expert trainer and advisor for infrared thermography.*

For more information on Jeff, see Bio on page 4.



Jeff Erichsen
Tutor

*** Due to Covid-19 travel restrictions, Jeff will be conducting the course via Microsoft Teams, and our Eurotec Qualified Thermographers Tom Aldridge and Rohit Prasad, will be managing the classes and assisting with practical lessons.**

Testimonials

"If you are thinking of thermography, this is the course for you. Amazing course material and tutor competency. Awesome value for the price of the course. You will leave this course with a great level of knowledge, confidence and competence."

Neeraj Deshpande, Heat Insight

"The course was delivered in a manner that was easy to understand and by an experienced tutor. The relaxed environment and facilities made learning the course material enjoyable. The ability to use a camera for those who don't own one was an advantage also."

William Shaw, NZDF



To get the most out of the hands on workshops, if available please bring your camera with you. Don't have a camera? Eurotec can provide cameras for the duration of the course.



5 Day Category 1 Certification/Operator Course Outline

This course meets or exceeds the recommended training curriculum of ASNT-TC-1A for Category 1 Thermal/Infrared Certification as well as ISO 18436-7. The course is a good mixture of audio, visual, and kinetic presentation material.

The hands-on workshops ensure that the students leave the course with confidence in their ability to operate their IR equipment. Certification will be granted to students who successfully complete the written requirements. Class size is limited to give maximum interaction between instructor and students.

Introduction to Infrared Thermography and predictive maintenance

Basic Thermal Physics

Introduction to Temperature
Matter, Energy, Temperature
Temperature scales
Introduction to Heat

Basic Heat Transfer Theory

Thermodynamics
Change of State
Specific Heat
Conduction, Convection, Radiation

Electromagnetic Radiation

The Electromagnetic Spectrum
Infrared Explained
Introduction to Planck's Curves

The Infrared Image

How an Infrared Image is Produced

Qualitative Thermography

Operating Your Equipment

How Your Camera Works
Detectors-Focal Plane Arrays (FPA)
3 Main Controls: Focus, Level, Span
Getting a Good Image Workshop

Infrared Radiation Physics

The Stephan Boltzmann Law
Wein's Law
Planck's Law
Emission, Reflection, Transmission
Emissivity

Temperature Measurement Workshop
Emissivity Testing Workshop

Imaging and Analysis Factors

Inspection Techniques
Atmospheric Attenuation
Field of View
Instantaneous Field of View
Instantaneous Measurement Field of View
IMFOV Workshop
Infrared Lenses
Infrared Windows

Applications (As pertinent to class)

Introduction to Applications
Reporting
Electrical Inspections
Mechanical Inspections
Process Inspections
Building Inspections
Flat Roof Inspections
Class Application Discussions
Workshop

Software

General Software Discussion

Category 1 Examination





Quality, personalised training to international standards.



Jeff Erichsen The Director of Operations for the Asia Pacific Region for Advanced Infrared Resources has been involved in the condition monitoring of heavy mobile equipment and fixed plant in the mining industry since early 2013. He stumbled upon the technology in late 2012 and immediately recognised its prospective value in his field and began to heavily research its uses.

Jeff States:

I am a passionate maintenance professional that specialises in the condition monitoring of most machinery operating on a mine site. In 2013 I had to research and review relevant information and ISO standards to then carefully collect and collate the data on the types of machinery I was familiar with. Following that, I spent most of my first year developing my own standards, procedures and methodologies for each type of equipment that I had worked on. This involved many hours of before and after repair testing with thermography and mechanical methods to validate my findings. What we now have is a full working infrared condition monitoring system that offers our clients unprecedented predictive maintenance opportunities.

I have also carried out many thermography surveys on electrical switchboards, distribution boards, motor circuit control boards and power distribution components, sub-stations and lines. This has given me a depth of knowledge in the fascinating field of electrical thermography.

I am an active member of the Australian Professional Thermography Association (AUSPTA) which assists the Australian Institute of Non-Destructive Testing (AINDT) and Standards Australia in the development and implementation of standards in relation to Infrared Thermography.

It was at this time that I was fortunate enough to meet Mr Wayne Ruddock of Advanced Infrared Resources. I took to Wayne's no bull approach immediately and asked Wayne to mentor me, particularly in the area of scientific data collection for the research and development at the Neurophysics Institute in the area of rehabilitation.

I am looking forward to providing you with Infrared Thermography Training in such a thorough, practically focussed training course.

Professional Background:

- *Director and Trainer at Advanced Infrared Resources Australia Pty Ltd.*
- *Director of Operations for the Asia Pacific region for Advanced Infrared Resources Canada.*
- *Director & Full Time Thermographer at Infrared Inspections & Technologies.*
- *Cat 3 Certified thermographer through Advanced Infrared Resources Canada (August 2017)*
- *Cat 1 & 2 ITC (Infrared Training Centre) Certified Thermographer through the University of Melbourne.*
- *Cat 2 AINDT (Australian Institute of Non-Destructive Testing) Certified Thermographer.*
- *Member of AUSTPA (Australian Professional Thermographers Association).*
- *Active research partner with the Neurophysics Institute, Gold Coast, Queensland, Australia. Researching the use of Infrared Thermography in the validating of non-linear biological transitions in blood flow during the rehabilitation process.*
- *Twice presenting at the Sirfrt national condition monitoring forum Australia.*
- *6 times presenting at the AUSPTA national thermography conferences.*
- *20+ years in the mining industry as a heavy mobile equipment fitter.*