EUROTEC People • Technology • Solutions
HVAC • Refrigeration • Electrical • Measurement

Category 1 Thermography Certification Course
5 day workshop

Gain an internationally recognised qualification in a rapidly growing industry.

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!

Course Dates:

9th - 13th May 2022

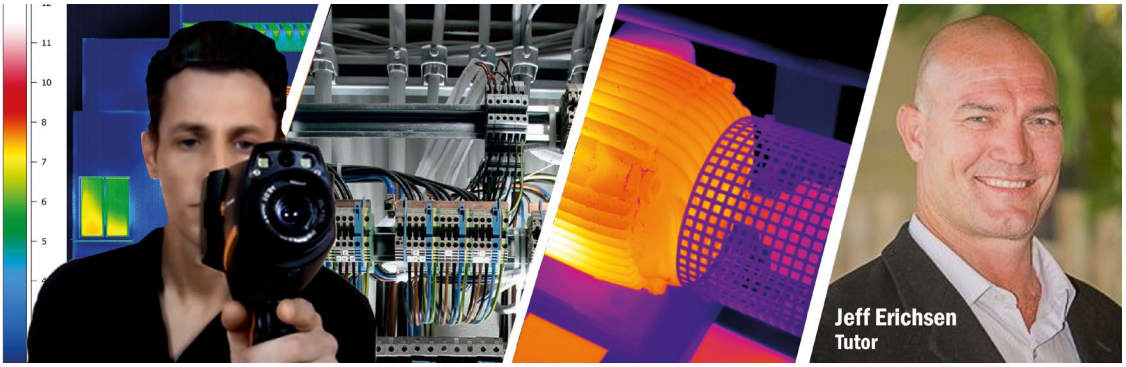
Auckland & Christchurch

Presented by

Eurotec Ltd

with tutor Jeff Erichsen

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.



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.

Cat 1

Category 1 Thermography Certification Course
Registration Form

Name: _____ Company:_____

Address:_____ Post Code: _____

Phone: (Work) _____ (Mob) _____ Email: _____

Fees:

$2400 + GST per attendee. Payment or order number required on receipt of registration.
(Morning Tea, Lunch and Afternoon Tea are provided throughout the course)

Attendees (Please print – Name as to appear in Certificate):

Name	Phone	Email

Payment options please choose one:

Order Number:

Trading Account 1*	
Direct Credit 2*	Account No: 02-0256-0169221-00
Credit Card Number	VISA or MASTERCARD

Exp Date

1* 30 day trading account subject to application approval.

2* For Direct Credit, please email a remittance advice to confirm payment.

Name on Card: _____ Signature:_____

Course Date: Monday 9th - Friday 13th May, 2022

Locations: Eurotec Head Office: 750C Great South Road, Penrose, Auckland. ☐

Eurotec Christchurch Office: 30A Carlyle Street, Sydenham, Christchurch. ☐

Please tick which location you are registering for.

Time: 9am to 5pm (Mon-Thurs), Half Day Friday.

What to bring: Attendees are required to bring a laptop and headphones for use during the course.

Please note: In line with the current government guidelines, participants will be required to have a current 'My Vaccine Pass' to attend the course. The Vaccine Pass will need to be presented when you arrive at our premises and before you can participate in the training.

Email form to: taldridge@eurotec.co.nz or Fax to 09 5253334 (payment or order number required on receipt of registration)

Payment is required in advance. Course fee is non-refundable, but is transferrable to another course date.

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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

AIR advanced infrared resources AUSTRALIA

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.*