



INFRARED
TRAINING
CENTER

*explore the
thermal dimension*





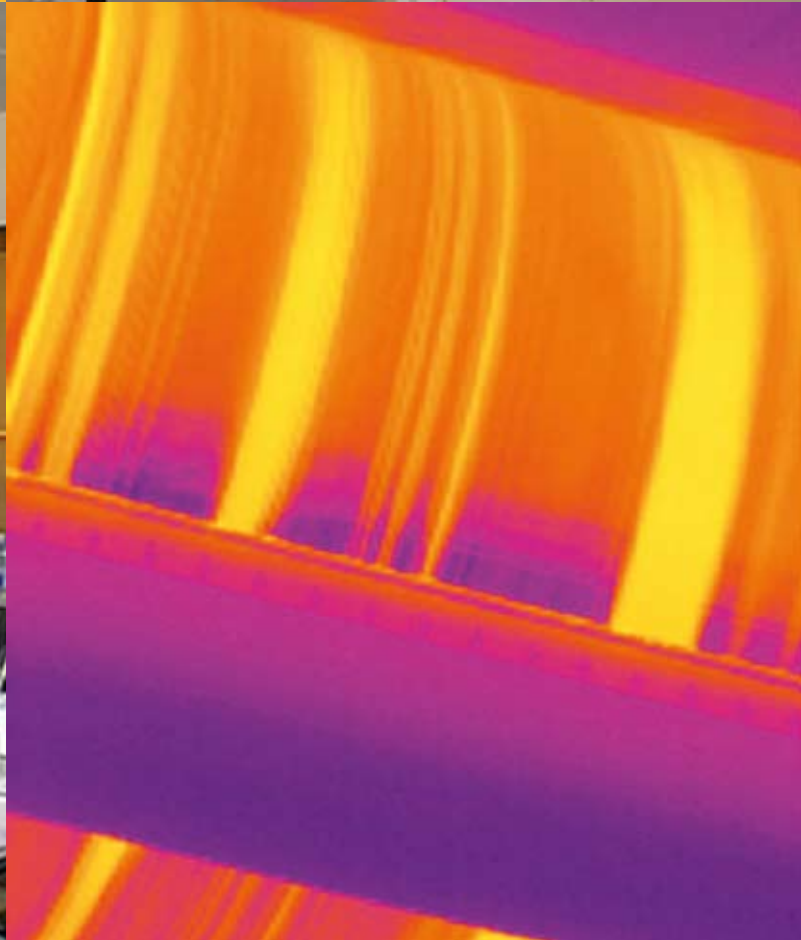
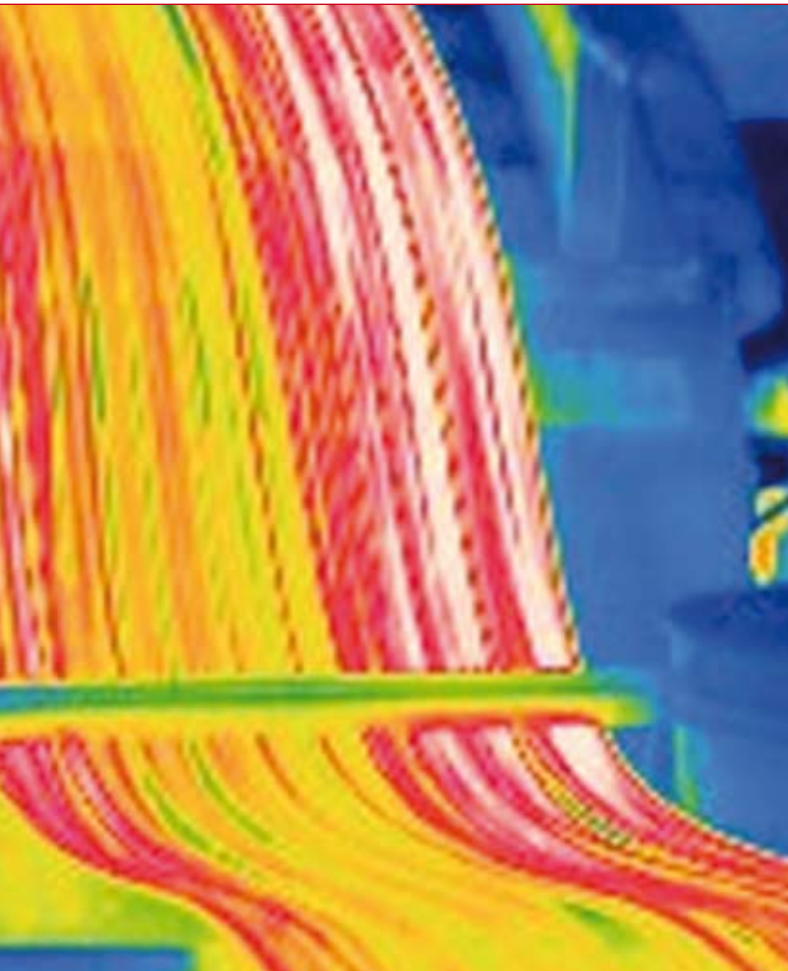
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Welcome to ITC, the leading source of knowledge within infrared science and its applications.

ITC is present in over 50 countries and has instructors that speak 22 native languages. We offer everything from short introduction courses to certification courses. Our instructors are among the most knowledgeable people in the industry.

ITC is proud that its products and services are compliant to industry, national, and international standards. Join our community, our conferences, or our courses at www.infraredtraining.com.



ITC Level 1 Thermography Course

Become a Level 1 certified thermographer
and gain a competitive advantage

Objectives

This course prepares you for qualification as a category 1 certified thermographer. You will learn about the basics of infrared, how to operate the camera under different conditions and for various purposes, how to do an appropriate judgement of the measurement situation in the field and identify potential error sources. You will be able to do IR inspections following written guidelines and to report the result of this inspection.

Description

After a short introduction to thermography you will have hands-on training. The theory sections on heat and infrared will provide you with the basic knowledge needed to use the IR camera in the field, and to recognize and interpret thermal patterns. Strong emphasis will be put on the IR measurement techniques and the influence of emissivity and reflectivity on the measurement results. You will train the measurement on real-life lab equipment and you will also learn how and when to use qualitative and quantitative thermography. A short introduction to inspection routines and reporting principles will finalize the lecture. Now you will be well prepared to create a short case study which you will present in front of the class. The course ends with an exam including multiple choice questions and thermogram analysis.

The class includes exercises and our trainers work with images, sketches, and simple diagrams to illustrate the theoretical parts in a descriptive way.

Who should attend this course?

This course is designed for beginners in thermography with some experience in camera handling and limited IR knowledge, who want to take their first step to become a professional thermographer and want to qualify as a Level 1 certified thermographer.

Pre-requisites

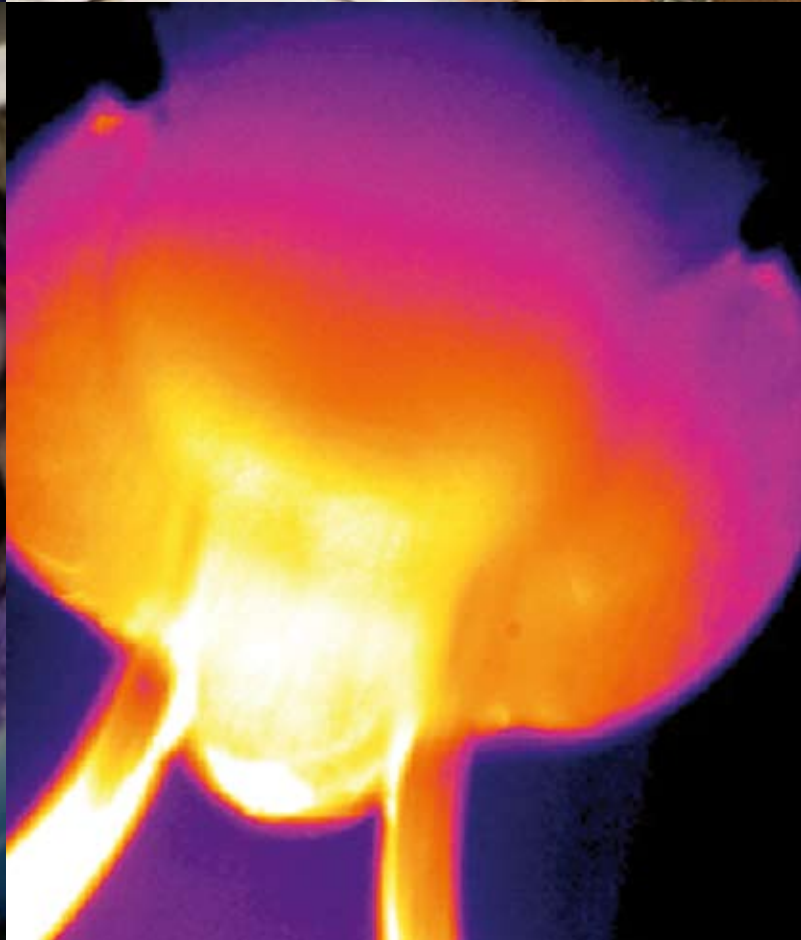
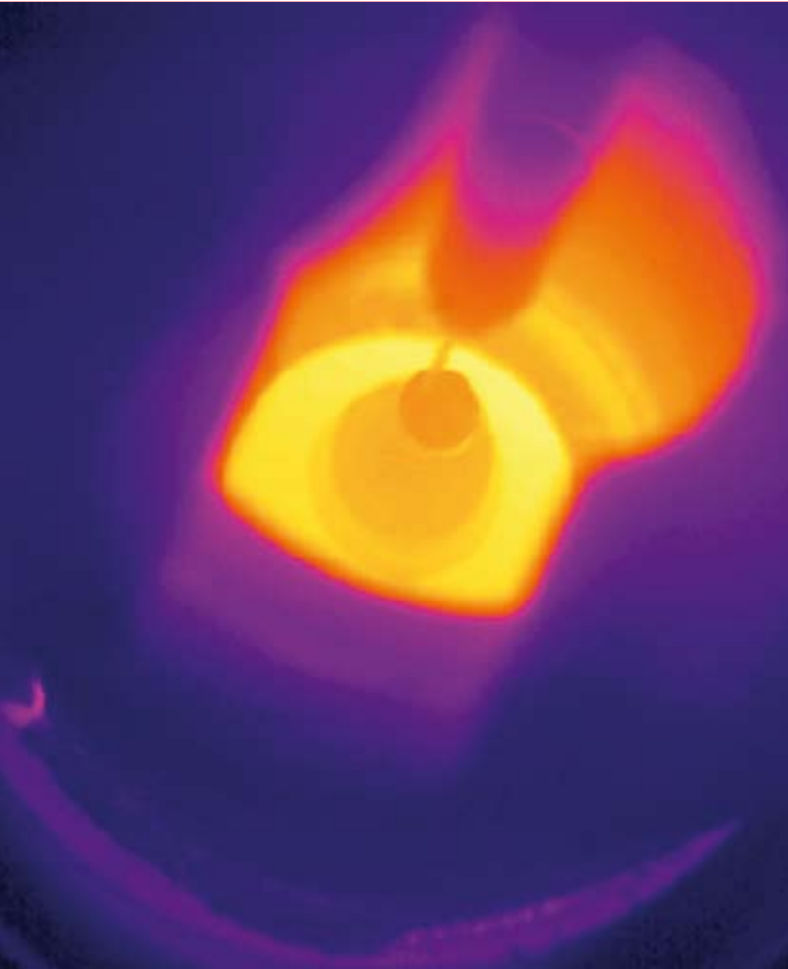
In order to attend a Level 1 Thermography Course, you shall

- be familiar with the basic operation of an infrared camera
- have the recommended experience within thermography according to relevant standards

Proof of education

Participants passing the exam and meeting all relevant requirements will receive a certificate of conformance with certification requirements.

Contact you nearest ITC or visit our website for course schedules.



ITC Level 2 Thermography Course

Become a Level 2 certified thermographer
and increase your IR knowledge

Objectives

This course prepares you for qualification as a category 2 certified thermographer. You will learn about topics in infrared thermography to both deepen and broaden your knowledge about infrared physics, heat science, infrared measurement equipment and its application. As a Level 2 thermographer you shall provide guidance to category 1 personnel in the areas of equipment selection, techniques, limitations, data analysis, corrective actions and reporting.

Description

After a short introduction to certification levels and procedures, and related standards, you will take an initial test. During the course you will repeat and learn more about thermal science and heat transfer as well as gain advanced knowledge on IR theory and IR equipment.

The course ends with a multiple choice exam.

The course includes advanced practical exercises and discussions about the participants' professional experiences and cases from the field. Thermal and infrared science theory are taught by using formulas, diagrams, and graphs. The focus is on steady-state processes, but transient mechanisms are also included.

Who should attend this course?

This course is designed for thermographers holding a Level 1 certificate, who want to increase their knowledge about IR thermography and want to qualify as a Level 2 certified thermographer.

Pre-requisites

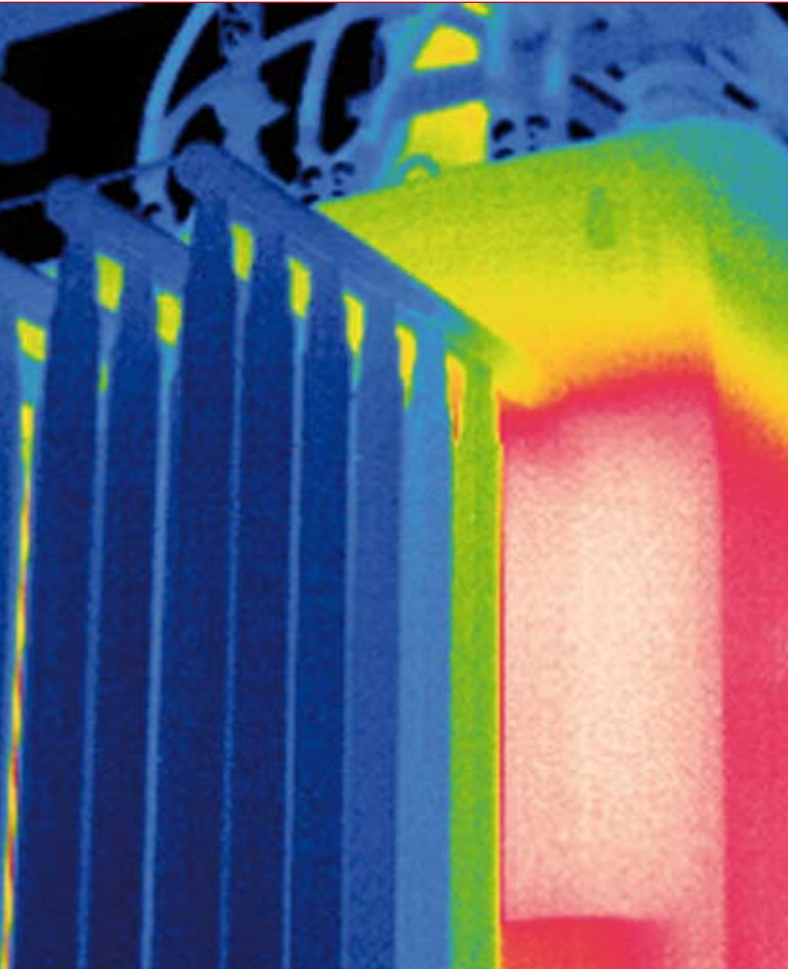
In order to attend a Level 2 Thermography Course, you shall

- hold a valid Level 1 thermography certificate,
- have the recommended experience within thermography according to relevant standards,
- prepare a case study to be presented at the Level 2 course and submitted towards qualification at course closing.

Proof of education

Participants passing the exam and meeting all relevant requirements will receive a certificate of conformance with certification requirements.

Contact your nearest ITC or visit our website for course schedules.



Advanced Application Courses

Take these courses after a Level 1 Thermography Course or combine it with a Level 2 Thermography Course and be recognized as a certified Thermographer with specialized application expertise

Objectives

These interdisciplinary courses bridge the gap between IR thermography, background science and application theory. You will learn about important scientific concepts, such as physics, heat science, or chemistry. You will apply them together with relevant application theory and thus be able to do qualified inspection within your application field on the base of existing laws, standards, and regulations.

Description

The structure and schedule of the application modules may vary, but all of them contain the following learning units.

- Introduction and overview on existing standards and regulations
- Concepts and details of necessary background science
- Details of the specific application, including its theoretical background, typical phenomena, and practical oriented information
- Transfer and application/use of knowledge during the practical labs
- Hints regarding necessary equipment for qualified inspections
- Exam

Who should attend these courses?

These courses are mainly designed for thermographers holding at least a Level 1 certificate who wish to deepen their knowledge within a specific application field.

Some of the classes, such as the Volatile Gas Detection Courses, may also address persons with little IR experience, who are specialized experts in their field and need to learn how to use an IR camera as a complementary measurement tool.

Pre-requisites and recommendations

In order to attend an Advanced Application Module, you should

- hold a valid Level 1 thermography certificate or
- have equivalent IR related education and experience.

It is recommended to have some insight in the field of application the course addresses.

Proof of education

Attendees may obtain a diploma of attendance. Participants successfully completing this course may obtain a declaration of continuing education.

To find out more about your applications of interest, contact you nearest ITC or visit our website for scheduled Advanced Applications Courses.

Short Courses General Thermography and Basic Camera Operation

Learn what you need to start using your IR camera for professional purposes



Objectives

These courses provide you with the most important basics of IR thermography theory and applications, camera operation and software usage.

Description

After a short introduction to the history of IR thermography you will learn about the basics of thermography and the basics of emissivity and reflected apparent temperature. During the hands-on session you will operate the camera and in different measurement situations. After an overview on electrical and industrial inspections you will also learn how to analyze and to report your findings. The courses include practical exercises and key labs on emissivity and reflected apparent temperature.

Who should attend these courses?

These courses are designed for beginners in thermography who would like to get familiar with their camera and to learn about the basics of infrared and its applications.

Pre-requisites and recommendations

ITC recommends a basic technical understanding.

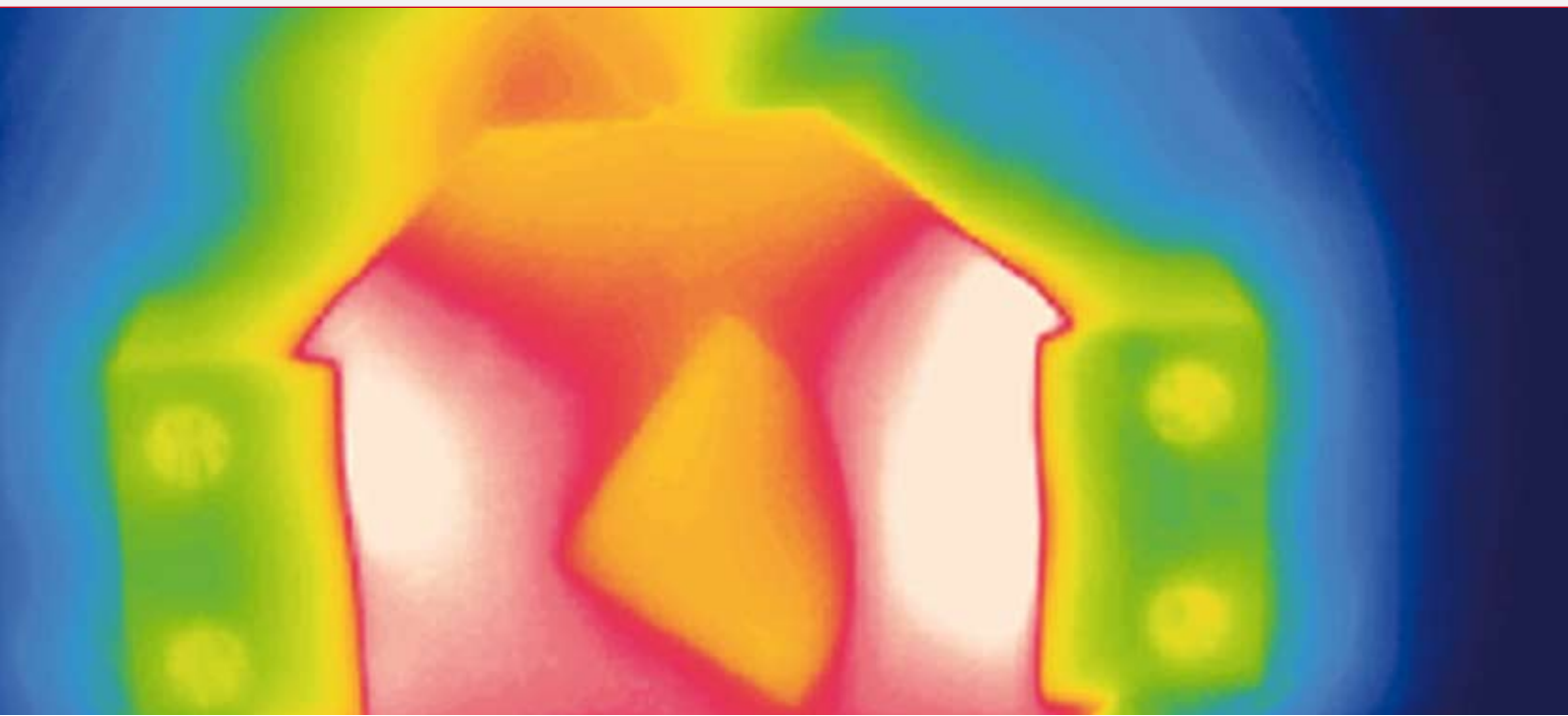
Proof of education

Attendees may obtain a diploma of attendance. Participants successfully completing this course may obtain a declaration of continuing education.

For course schedules, contact your nearest ITC or visit our website.

In-house Training

Obtain the thermography training you need in your own working environment and learn how to use IR thermography the best for YOUR inspections and measurement applications



Objectives

An on-site training can be customized upon your needs. The participants will learn about IR thermography, inspections, measurements, applications, and reporting corresponding to the level needed for performing measurements and inspection in their working environment. The trainer will give useful advice on how to best implement IR thermography in your business.

Description

An on-site course can be any course, from a 1-day introduction to general thermography, over a customized application course to a complete certification course.

Who should attend this course?

Employees of a company or certain departments who would like to minimize travel costs and receive the training directly on their daily working site.

Pre-requisites and recommendations

Please refer to the pre-requisites and recommendations applicable to the kind of course the in-house training is equivalent to.

Proof of education

Participants attending an in house training are eligible for proof of education according to the specific course description.

Contact you nearest ITC for a customized offer.

Why should YOU attend thermography training?

Most probably there are as many motivations as individuals using IR cameras. However, we can assure you that training is the smartest way to put your thermography future on solid ground.

- A training course is the fastest way to get to work – you become familiar with your equipment, the measurement parameters and the potential applications.
- A training course is the fastest way to get the job right – you gain the necessary knowledge to avoid mistakes and avoid presenting incorrect results.
- A training course is the fastest way to make a network – you will meet fellow thermographers and learn more about what the ITC community has to offer.
- A training course is the fastest way to become a professional – you benefit from decades of field experience and knowledge of our instructors.

And, of course, it is more fun to explore the thermal dimension™ with a group of likeminded people. Contact your nearest ITC to get started.



Testimonials

A well run and enjoyable course

Wayne Whyte, attended Level 1 training in New Zealand

Excellent, one of the best trainings I received!!

Pascal Delhaze, predictive maintenance coordinator at Johnson Matthey, attended Level 1 training in Belgium

Never before, I experienced something like this class; it was the best training I ever attended!

Dr. Layer, Building Expert, attended Level 1 training in Germany

"I have great pleasure in saying a big thank you for the wonderful training session you conducted during the week for our Level 3 Certification. It was indeed a very resourceful time we had and I must say that I gained quite a lot from attending the course. This should go a long way in making us effective and successful infra-red program managers."

(Alfred Ombima, Elex Engineering Services Ltd., Kenya)

"The instructor was superb; delivery was concise and indeed managed to get an interest and contribution from all delegates! An informative, well presented and structured course of which I've significantly benefited from."

(Participant of an on-site Level 1 training in the petrochemical industry, Scotland)

"I am very satisfied with the course structure; interesting content and very informative in an entertaining way."

(Building expert, attended Level 1 training Norway)

"Duration and content met exactly our expectations"

(Participant of a 2-day on-site training at BMW, Germany)

"In our organization, IR application is limited to our FCCU reactor and regenerator. Though we had purchased IR camera around 5 years back, we could start using it around 3 years back. This was mainly due to lack of knowledge in IR application. However, we were able to use the camera more effectively after ITC training. With IR we could even detect problems in our FCCU well in advance."

(Participant of an on-site Level 1 training in the petrochemical industry, India)

"This course was very useful to me and everything was excellent."

(Participant of Level 1 training, IT consulting company, Korea)

"A very well presented and informative course. Highly recommended."

(Participant of Level 1 training, South Africa)

"This was a very useful training. The trainer has good mastery of his area of subject."

(Participant of Level 1 training, Malaysia,)

"The course was very suitable to me and I am looking for the Level 2 after pass my exam."

(Participant of Level 1 training, Cement Industry, Tanzania)

Why did the Implementations and Engineering department of CEMIG Generation Transmission and SA recruit ITC for training?

"At CEMIG, IR thermography is an essential technique to detect failures in their early stages, and investment in equipment and training resulted in financial return for the company. We needed to learn how to do qualified thermographic inspections of our asset in order to reduce failure probability, what means to save costs."

(A. Gomes, CEMIG, Brazil about Level 1).

The **Infrared Training Center (ITC)** is the leading source of knowledge within infrared science and its applications.

ITC holds training courses in nearly 50 countries and over 20 native languages featuring our trademark hands-on laboratories and practical exercises. Our global network of training and examination facilities includes wholly owned subsidiary operations as well as an extensive network of partners operating under a proven licensing model.

Courses

ITC offers certification courses; advanced application courses and web based learning; as well as access to subject matter experts, custom solutions and on-site services.

Instructors

ITC instructors are the most experienced trainers and thermographers in the business holding expert ASNT, EPRI, EN, BINDT and ISO qualifications whose knowledge contributes to the success of our customers.

Certification

ITC certification courses prepare the candidate for a certification exam in compliance to national and/or international standards. A certificate is written testimony of demonstrated competence by successfully fulfilling conditions and procedures showing compliance with requirements.

Standards

Products and services of the ITC are in compliance with ISO 17024 and ISO 18436.* Courses in North America meet or exceed ASNT SNT-TC-1A guidelines and are accredited by NETA. Our quality management system for training, education and certification of professional users of thermal infrared sensors and systems is certified ISO 9001.

ITC staff actively participates in working groups and panels for recommendations, normative references, standards and directives within our business and market segments – because of this involvement we can focus on key learning objectives for participants of ITC programs.

Community

The ITC online community at <http://www.infraredtraining.com/community/> makes it possible to exchange ideas, problems and solutions on our message boards, access our monthly newsletter and learn about the applications of infrared thermography. For support of FLIR products, we extend an invitation for you to visit <http://flir.custhelp.com>.

Conference

InfraMation is the world's largest annual infrared applications conference. To learn more, visit <http://www.inframation.org>.

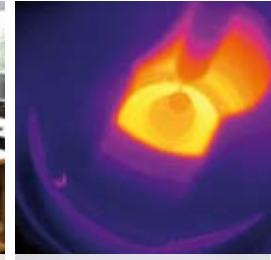
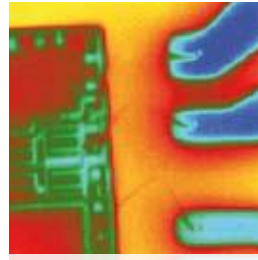
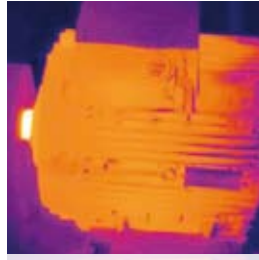
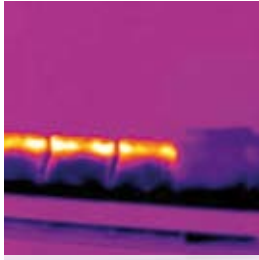
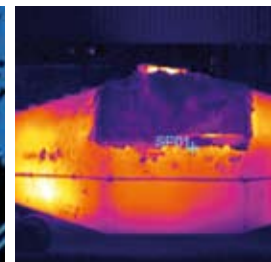
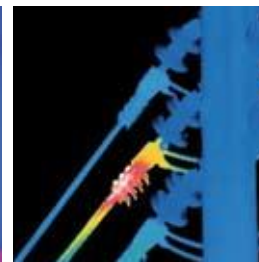
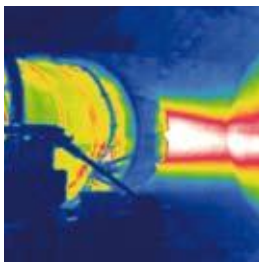
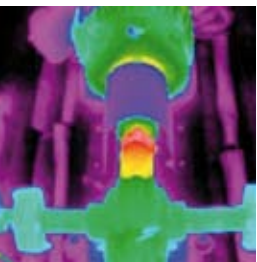
Contact

To contact our North American Operations, please email to info_us@infraredtraining.com. For inquiries concerning EMEA, Asia-Pacific & Latin America, consult our global training directory on-line, ask your local FLIR representative or email to itc@flir.se.

The Infrared Training Center (ITC) welcomes you to explore the thermal dimension with us. TM

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**Europe, Middle East, Africa, Asia-Pacific and Latin America*



ITC
Rinkebyvägen 19
SE-182 11 Danderyd, Sweden

Phone: +46 (0) 8 753 25 00
Fax: +46 (0) 8 753 26 01
E-mail: itc@flir.se

www.infraredtraining.com

Europe, Middle East and Africa Operations

ITC BeNeLux

Uitbreidingstraat 60 - 62
B-2600 Berchem (Antwerp)
Belgium
Phone.: +32 3 287 87 10
Fax: +32 3 400 00 68
E-mail: itc@flir.be

ITC France

10 rue Guynemer
F-92130 Issy les Moulineaux
France
Phone.: +33 1 41 33 97 97
Fax: +33 1 47 36 18 32
E-mail: itc@flir.fr

ITC Germany

Berner Strasse 81
D-60437 Frankfurt am Main
Germany
Phone.: +49 69 95 00 9011
Fax: +49 69 95 00 9040
E-mail: training@flir.de

ITC Italy

Via L. Manara, 2
I-20051 Limbiate (MI)
Italy
Phone.: +39 02 99 45 10 01
Fax: +39 02 99 69 24 08
E-mail: itc@flir.it

ITC United Kingdom

2 Kings Hill Avenue
Kings Hill
West Malling, Kent, ME19 4AQ
United Kingdom
Phone.: +44 1732 220 011
Fax: +44 1732 843 707
E-mail: sales@flir.uk.com

American Operations

ITC Americas

25 Esquire Road
North Billerica, MA 01862
USA
Phone: +1 978 901 8000
Fax: +1 978 901 8832
E-mail: info_us@infraredtraining.com

ITC Canada

5230 South Service Road, Ste. 125
Burlington, Ontario L7L 5K2
Canada
Phone: +1 800-613-0507
Cell: +1 905-841-4818
Fax: +1 905-639-5488
Email: paul.frisk@flir.com

ITC Latin America

Av. Antonio Bardella 320
Alto de Boa Vista,
18085-852, Sorocaba, SP
Brazil
Phone: +55 15 3238 7890
Fax: +55 15 3238 8071
E-mail: lia.mariano@flir.com.br

Asia Pacific Operations

ITC Australia

10 Business Park Drive
Notting Hill, 3168
Australia
Phone.: +61 3 9550 2800
Fax: +61 3 9558 9853
E-mail: info@flir.com.au

ITC China

Unit 22C, Hua Du Mansion,
828-838 Zhang Yang Road
Pudong
SHANGHAI 200122
China
Phone: +86 21 5469 7628

ITC Hong Kong

Grand Central Plaza,
Tower 2, Room 1613-16
138 Shatin Rural Committee Rd.
Shatin, N.T.
Hong Kong
Phone: +852 2792 8955
Fax: +852 2792 8952

ITC Japan

Nishi-Gotanda Access Bldg. 8F,
3-6-20, Nishi-Gotanda, Shinagawa-ku,
Tokyo, 141-0031,
Japan
Phone.: +81 3 6277 5681
Fax: +81 3 6277 5682
E-mail: info@flir.jp

ITC South Korea

6th Floor, GuGu building
145 - 18, Samsung-dong, Kangnam-gu
SEOUL 135 - 090
South Korea
Phone.: +82 2 565 2715
E-mail: kenneth.jeon@flir.com.hk

Global Operations

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We have an established network
of qualified training centers
- to locate the one nearest
to you, email itc@flir.se .

