



Thermal imaging for building diagnostics

Discover a wide variety of applications



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1 Introduction



FLIR Systems: the world leader in thermal imaging cameras

FLIR Systems is the world leader in the design, manufacturing and marketing of thermal imaging systems for a wide variety of commercial and government applications.

Rapidly emerging markets and organization

Interest for thermal imaging has grown considerably over the last few years in a large variety of markets. To face this increased demand, FLIR Systems has expanded its organization drastically. Today we employ more than 4,000 people. Together, these infrared specialists realize a consolidated annual turnover of more than 1 billion US dollars. This makes FLIR Systems the largest manufacturer of commercial thermal imaging cameras in the world.

Manufacturing capabilities

FLIR currently operates 6 manufacturing plants: three in the USA (Portland, Boston and Santa Barbara, California) one in Stockholm, Sweden, one in Estonia and one near Paris, France.



FLIR, Sweden



FLIR ATS, France



FLIR, Boston, USA



FLIR Santa Barbara, USA

All markets and all applications

FLIR Systems is totally focused on thermal imaging cameras. No other manufacturer produces more thermal imaging cameras than FLIR Systems.

FLIR Systems is active in all markets where thermal imaging cameras are being used: electrical / mechanical, building, automation / process control, maritime and security are just a few markets in which FLIR Systems thermal imaging cameras have proven their worth.



2 The thermal imaging camera and how it works

A thermal imaging camera records the intensity of radiation in the infrared part of the electromagnetic spectrum and converts it to a visible image.



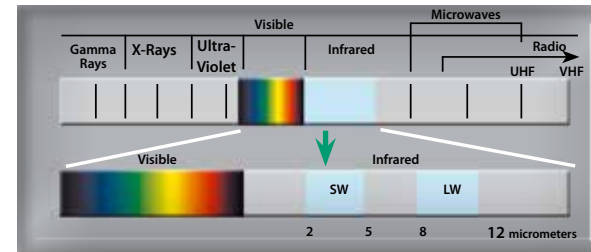
What is infrared?

Our eyes are detectors that are designed to detect electromagnetic radiation in the visible light spectrum. All other forms of electromagnetic radiation, such as infrared, are invisible to the human eye.

The existence of infrared was discovered in 1800 by astronomer Sir Frederick William Herschel. Curious to the thermal difference between different light colors, he directed sunlight through a glass prism to create a spectrum and then measured the temperature of each color. He found that the temperatures of the colors increased from the violet to the red part of the spectrum.

After noticing this pattern Herschel decided to measure the temperature just beyond the red portion of the spectrum in a region where no sunlight was visible. To his surprise, he found that this region had the highest temperature of all.

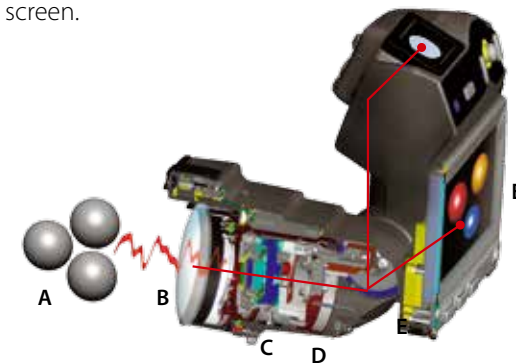
Infrared radiation lies between the visible and microwave portions of the electromagnetic spectrum. The primary source of infrared radiation is heat or thermal radiation. Any object that has a temperature above absolute zero (-273.15 degrees Celsius or 0 Kelvin) emits radiation in the infrared region. Even objects that we think of as being very cold, such as ice cubes, emit infrared radiation.



We experience infrared radiation every day. The heat that we feel from sunlight, a fire or a radiator is all infrared. Although our eyes cannot see it, the nerves in our skin can feel it as heat. The warmer the object, the more infrared radiation it emits.

The thermal imaging camera

Infrared energy (A) coming from an object is focused by the optics (B) onto an infrared detector (C). The detector sends the information to sensor electronics (D) for image processing. The electronics translate the data coming from the detector into an image (E) that can be viewed in the viewfinder or on a standard video monitor or LCD screen.



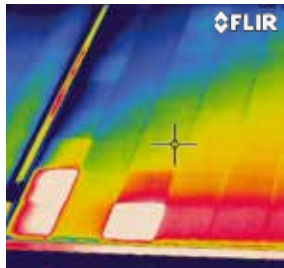
Infrared thermography is the art of transforming an infrared image into a radiometric one, which allows temperature values to be read from the image. So every pixel in the radiometric image is in fact a temperature measurement. In order to do this, complex algorithms are incorporated into the thermal imaging camera. This makes the thermal imaging camera a perfect tool for building applications.

3 Why use thermal imaging?

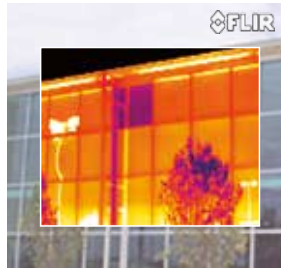
Thermal imaging cameras for building applications are powerful and non-invasive tools for monitoring and diagnosing the condition of buildings, solar panels and windmills. With a thermal imaging camera you can identify problems early, allowing them to be documented and corrected before becoming more serious and more costly to repair.

FLIR thermal imaging cameras:

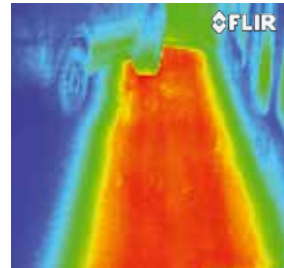
- Are as easy to use as a camcorder or a digital camera
- Give you a full image of the situation
- Identify and locate the problem
- Measure temperatures
- Store information
- Tell you exactly what needs to be fixed
- Help you find faults before real problems occur
- Save you valuable time and money



Defects in photovoltaic cells.



Thermal inspection of a window installation.



Heated pavement, but only a part of it is working.

FLIR Systems offers a wide range of thermal imaging cameras. Whether you use thermal imaging for an inspection of large buildings or for a domestic residence, FLIR will have just the right thermal imaging camera for you.



Why use thermal imaging cameras?

Why would you choose a FLIR thermal imaging camera? There are other technologies available to help you measure temperatures in a non-contact mode. Infrared thermometers for example.

Infrared thermometers versus thermal imaging cameras

Infrared (IR) thermometers are reliable and very useful for single-spot temperature readings, but when scanning large areas, it's easy to miss critical parts like air leakages, areas with insufficient insulation or water intrusion. A FLIR thermal imaging camera can scan entire buildings, heating and HVAC installations. It never misses a potential problem area no matter how small this might be.



IR thermometer, temperature measurement in one spot



FLIR i3, temperature in 3,600 spots

Find problems faster and easier with extreme accuracy

It is easy to miss a critical building problem if you are only using a spot IR thermometer. A FLIR thermal imaging camera will give you a total view of the situation and instant diagnostic insights. It not only locates a construction problem in a building but shows the full extent of problems.

4 Building inspections

Inspecting buildings using a thermal imaging camera is a powerful and non-invasive means of monitoring and diagnosing the condition of buildings. Thermal imaging technology has become one of the most valuable diagnostic tools for building inspections. A thermal imaging camera can identify problems early, allowing them to be documented and corrected before becoming more serious and more costly to repair.

A building diagnostics inspection with a thermal imaging camera can help:

- Visualize energy losses
- Detect missing or defective insulation
- Source air leaks
- Find moisture in insulation, in roofs and walls, both in the internal and the external structure
- Detect mold and badly insulated areas
- Locate thermal bridges
- Locate water infiltration in flat roofs
- Detect breaches in hot-water pipes
- Detect construction failures
- Find faults in supply lines and district heating
- Detect electrical faults



5 Our customers testify

FLIR Systems has many customers that are active in a wide variety of markets. FLIR Systems thermal imaging cameras are being used by a wide variety of people.

All of them have discovered the benefits that thermal imaging has to offer. They know that thermal imaging cameras are helping them to save time and money on a daily basis.

Many have chosen for a FLIR Systems thermal imaging cameras. They have acknowledged that FLIR Systems produces the most advanced, the most ergonomic and the most user friendly systems.

On the following pages you will find a couple of short testimonies of users of FLIR thermal imaging cameras. It are these users that are the best promotion for thermal imaging technology and for FLIR Systems.

Do not take it from us. Read what the users of FLIR thermal imaging cameras have to say.



Swedish hospital maintains heating and ventilation system with thermal imaging

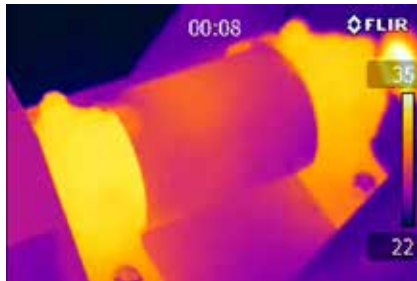
In hospitals climate control is of critical importance, to ensure both hygiene and comfort for the patients and personnel. The technical staff of a Swedish hospital, has acquired a FLIR thermal imaging camera to inspect and maintain the Heating Ventilation Air Conditioning (HVAC) system.



Inspection of a mechanical component.



Inspection of a fuses in an electrical cabinet.



The thermal image shows mechanical components of an electromotor heating up due to friction.



The thermal image clearly shows which fuses are too warm and will soon need to be replaced.



FLIR thermal imaging cameras can be used to detect a multitude of different heat related building issues.

"The camera provides us with the right information and allows us to make well based decisions with regard to maintenance of the HVAC system and for troubleshooting all kinds of building issues", says one of the hospital technicians.



Thermal imaging cameras help preserve Italy's cultural heritage

The Altamura, Italy, based survey company IR HotSpot investigates historical buildings with a FLIR thermal imaging camera, looking for water damage and other building defects.

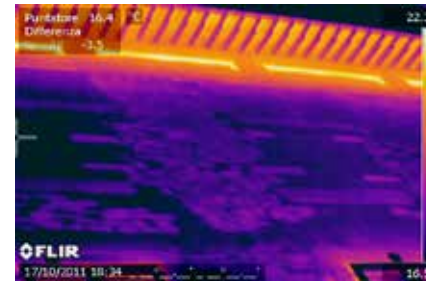
"There's a large amount of different building issues you can detect with thermal imaging technology and there is no risk at all for the building. It is a non-invasive method, so it is completely safe.", explains Rosario Piergianni, thermography expert at IR HotSpot.



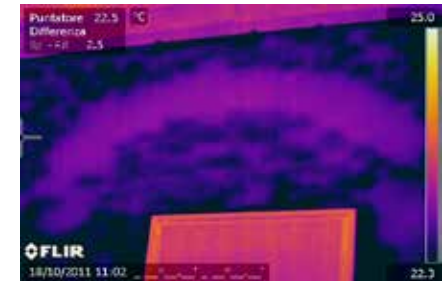
Inspections with a FLIR thermal imaging camera can help preserve cultural heritage.



This thermal image reveals the underlying texture of the walls and pillars of the apse.



Evaluation of the infill masonry between the Accademia Gallery and the cloister of the Academy of Fine Arts.



This thermal image shows that below the surface this wall contains arches for better weight distribution.

Inspecting building insulation, HVAC systems and refrigeration units with thermal imaging

The most obvious use of the camera for a company that specializes in building and Heating Ventilation Air Conditioning (HVAC) systems is for HVAC maintenance.

Björn Blomgren of the Nybro, Sweden, based service company Hammarstedts: "When I bought the camera I was afraid that I would not use it often enough but as I went along I found more ways of using the FLIR thermal imaging camera. It really is a very versatile tool."



Björn Blomgren demonstrates the use of the FLIR thermal imaging camera.



A thermal imaging camera can be used for a wide variety of applications.

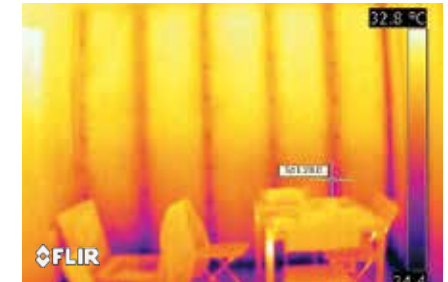


Thermal image and visual image of an electric water pump.

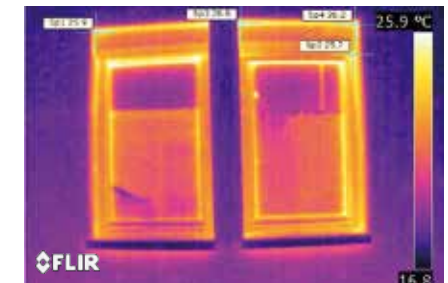


Thermal imaging camera from FLIR helps to optimize low-cost housing solutions

As part of its many charity projects ArcelorMittal has developed steel based housing solutions for Romanian families in need. The houses needed to be simple, safe, decent, and above all: well insulated.



This thermal image shows that the bearing profiles in the indoor partition wall contribute to thermal bridges between the apartments. The new prototype therefore had improved indoor partition wall insulation.



These thermal images show heat leakages from the vented hood and from the lintels of the windows and doors in both the heated and in the non-heated apartments. Room and door insulation was consequently improved.

"I use this camera regularly and it really is a great tool for energy audits. It is light, compact and easy to use and it provides exactly the thermal data you need for this type of inspection.," explains Francis Lamberg, thermography expert at ArcelorMittal Liège Research.

Rockwool recommends FLIR thermal imaging cameras

Insulation material manufacturer Rockwool is considered by many to be the global market leader in the insulation business. Rockwool Germany has started a thermal imaging project, recommending FLIR thermal imaging cameras.



This thermal image shows an example of an insulation failure in a residential building that is used in Rockwool's thermography course.



Rockwool marketing manager Verena Pieper joins in with the participants in the Rockwool training course.

"As the stonewool insulation market leader we wanted to work with the market leader in thermal imaging, so that's why we turned to FLIR," explains Verena Pieper, the marketing manager responsible for the thermography program at Rockwool.

FLIR thermal imaging camera helps to find water leakage at swimming pool

The conventional method to find the leakage would be to open up the pavement around the pool but that was not an option. That would take too much time. That is why a thermal imaging survey of the pool's surroundings was done.

Thermography consultant Fabrizio Contino of the Sardinia based consultancy agency Termografia Express: "The use of a thermal survey with my FLIR thermal imaging camera has saved time, effort and money."



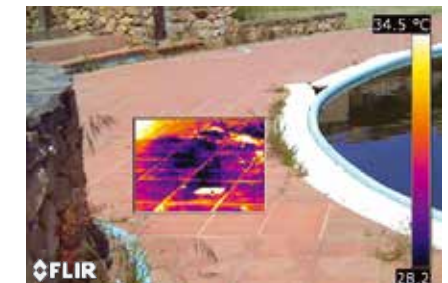
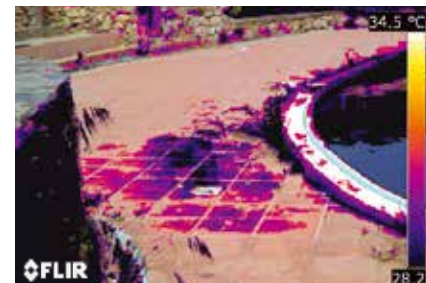
The FLIR thermal imaging camera clearly localized the water leaks.



Visual image



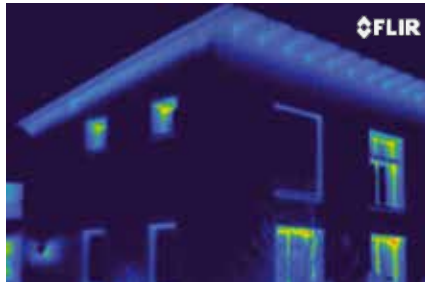
Thermal image



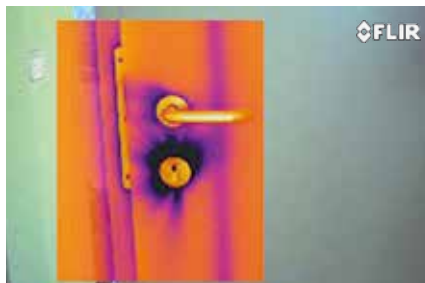
These images show how the visual image and thermal image can be combined into a Thermal Fusion image (left) or into a Picture-in-Picture image (right).

FLIR thermal imaging cameras optimize passive housing constructions

As energy prices soar, the market for low-energy house building is becoming promising all over Europe. FLIR thermal imaging cameras are used to check the building substance and air circulation during and after the construction phase.



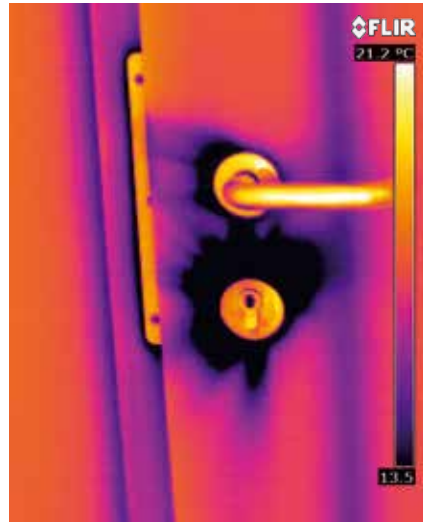
Thermal image shows insulation quality of a low energy house.



Air leaks in door with considerable temperature difference.



Air leak during blower door inspection, Picture in picture image.

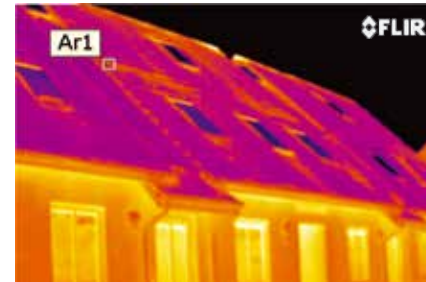


Air leak during blower door inspection.

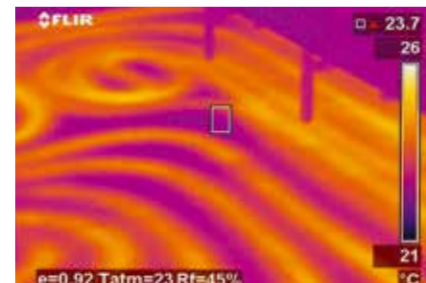
Markus Meyer, owner of AIROPTIMA, a building consulting company specialized in HVAC issues for residential buildings and in particular eco houses: "A FLIR thermal imaging camera combined with the blower door procedure is a perfect instrument to detect temperature differences in a non-contact and non-destructive way".

Thermal imaging clearly shows building issues

Whether you're looking for poor or inadequate insulation, air leakage, heating and plumbing issues, water damages due to leaks or condensation or mold problems, thermal imaging provides an invaluable tool to identify and locate these problems.



This thermal image shows that the roofs of these houses are not isolated properly.

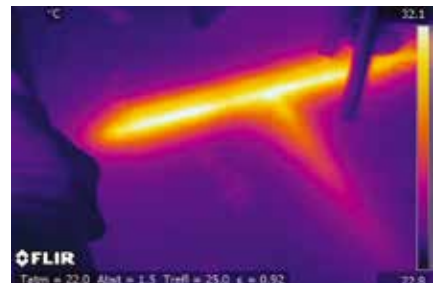


A FLIR thermal imaging camera is also an excellent tool to make under floor heating visible.

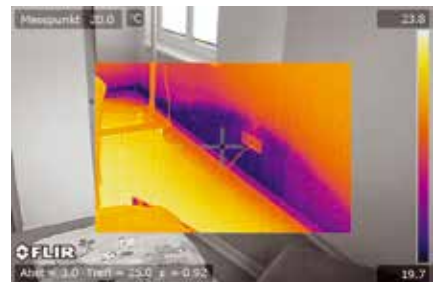


This case of water damage clearly shows the advantage of the Picture-in-picture feature, since the client can quite easily see where this thermal image is located, while this would be more difficult with only the thermal image.

Wolfgang Böttcher: "With a FLIR thermal imaging camera you can see where the building's insulation isn't doing its job properly. With the exact measurements of the FLIR thermal cameras you can gather whether the insulation leakage is significant and if so suggest necessary changes."

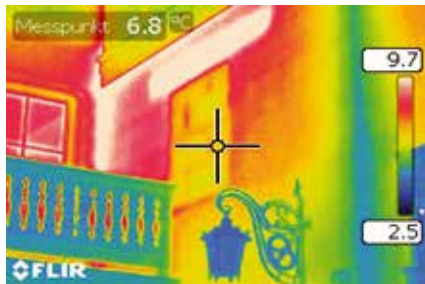


This thermal image shows where the hot water pipe has been installed beneath the floor.



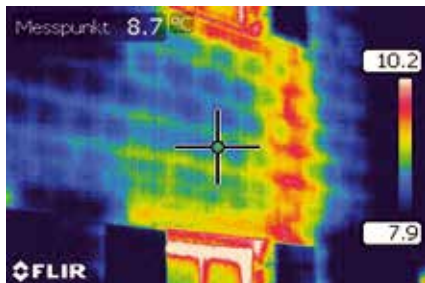
FLIR thermal imaging camera tells truth about walls and facades

Building insulation quality becomes a pressing issue as heating costs soar. A thermal imaging camera for building applications and the expert's eye can do a lot to save on energy.

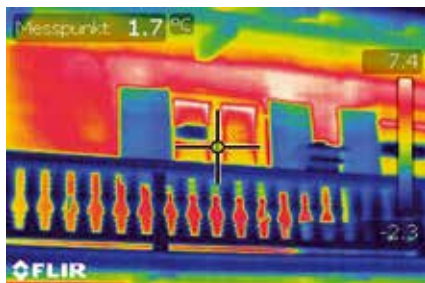
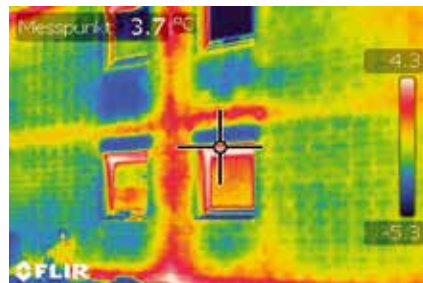


A former window - closed with bricks or plaster of a better quality

"The customer finds the technology quite impressive," explains Günther Buchstaller, a master bricklayer and plasterer who has specialized in water damage assessment and thermal inspections.



Examples of inefficient piping insulation between a kitchen and a bathroom

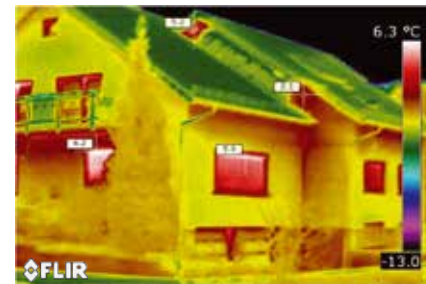


Bad insulation above balcony window

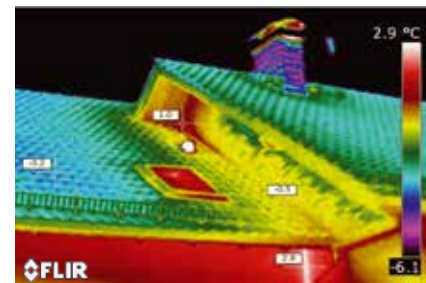
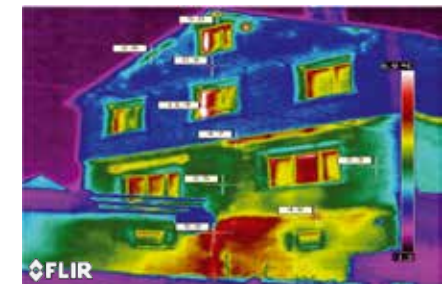


Thermal imaging helps Globus Baumarkt identify insulation problems

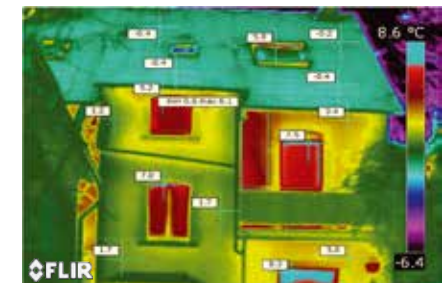
Thermal imaging is powerful tool for determining the energy efficiency of buildings. The German home improvement retailer Globus Baumarkt has recognized that fact and has obtained 25 FLIR thermal imaging cameras for energy audits.



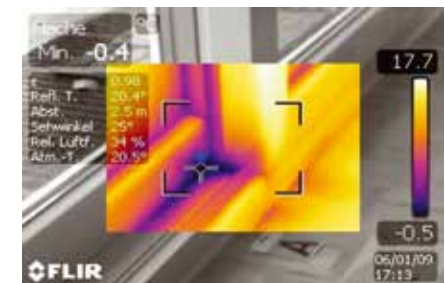
With a FLIR thermal imaging camera you can accurately measure the temperatures in several locations with only one thermal image.



A FLIR thermal imaging camera instantly gives you a complete overview of the situation.



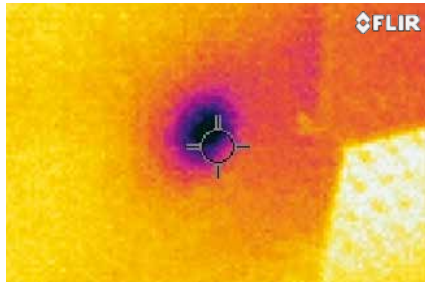
"We chose a thermal imaging camera from FLIR because FLIR cameras are a first class product. It's what specialists like architects and engineers use. For us the brand name FLIR stands for quality," according to the store manager Christof Warnick of Globus Baumarkt.



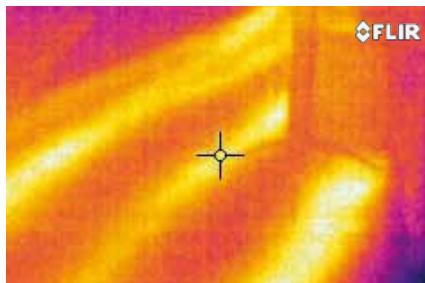
The Picture-in-Picture feature is very useful, especially in combination with Blower Door tests.

Thermal imaging cameras save repair time and heating costs

A hospital is good example of a facility management-intensive object. Thirty-six skilled workers are busy to keep regional health care facilities up and running, day and night. FLIR handheld thermal imaging cameras have become appreciated instruments for the many fields of application.



Electrical trunking made visible by the infrared camera.



With a thermal imaging camera you can clearly see the piping of underfloor heating.



"Our thermal imaging cameras help to save money, improve quality and simplify communication.," says Karl-Eric Bramming, maintenance and operations manager at the Västmanland district hospital group.

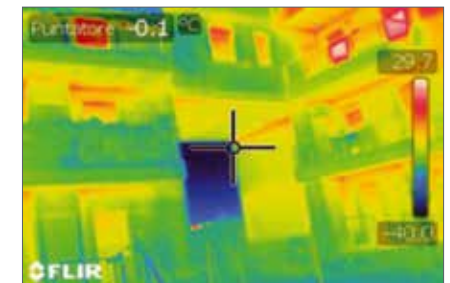
FLIR thermal imaging cameras provide solid proof for court case

All over the world building issues lead to court cases. The biggest challenge in finding out the truth is to obtain solid facts. In many cases related to building issues, thermal imaging cameras from FLIR systems can provide exactly the kind of information needed to draw the right conclusions.

"We inspected the disputed apartments from both the outside and the inside and we found some significant heat leakage and thermal bridges.," explains Eviana Faccin, thermal consultant at Multites, Italy.



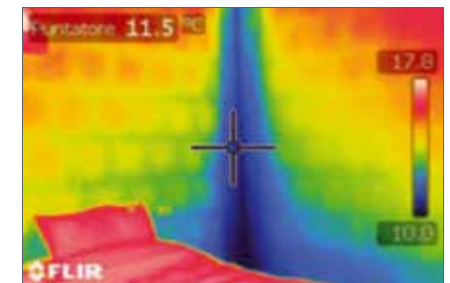
Visual image of the heat leaking from the building.



This thermal image clearly shows heat leaking from the building.



The temperature difference between the cold area in the corner and the rest of the wall is over 5°C.



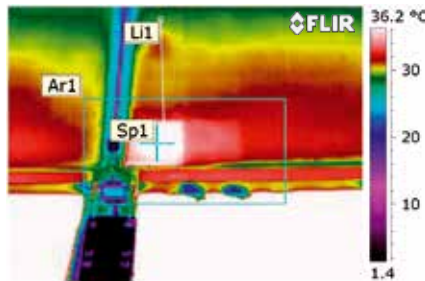
Ikaros Solar uses FLIR thermal imaging cameras to monitor installed solar panels

More and more solar module professionals are discovering thermal imaging cameras as a solar panel inspection tool.

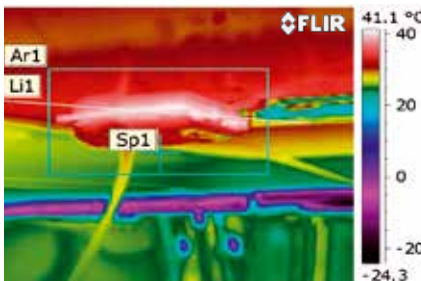


Visual image of a solar cell.

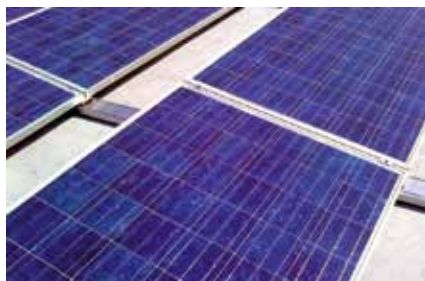
“Thermal imaging cameras are a great tool to find out whether there is something wrong with a solar panel and to find and identify the problem,” explains Danny Kerremans, technology engineer at Ikaros Solar.



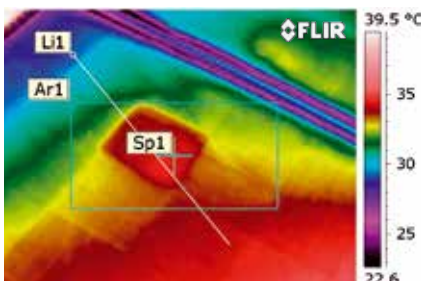
Faulty solar cells produce an excess of heat, making them easy to spot with thermal imaging technology.



The thermal imaging camera can also be used to scan the other components, such as this faulty connector.

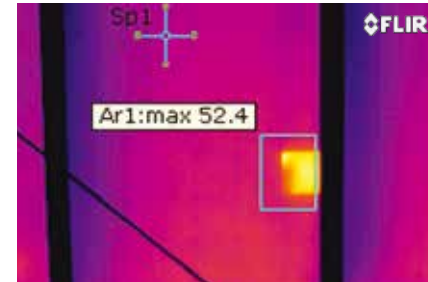


With a thermal imaging camera you can quickly locate issues such as this damaged cell, so the problem can be solved promptly.

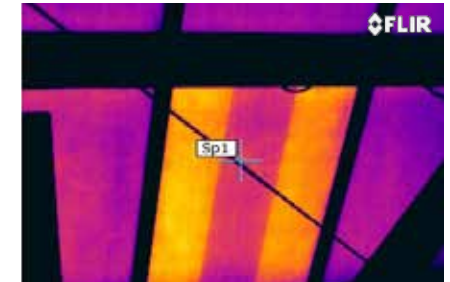


FLIR thermal imaging cameras help to ensure the quality of solar modules

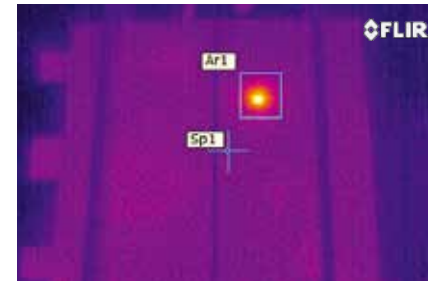
To ensure good quality during the full lifetime cycle of a solar module, FLIR thermal imaging cameras can play an important role.



This thermal image shows a hot spot due to cell breakage in a standard 60 cell module.

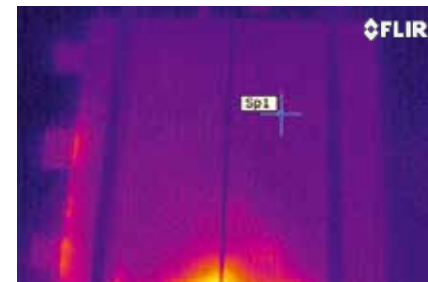


Two strings of cells show up hot in the thermal image, which indicates broken bypass diodes.

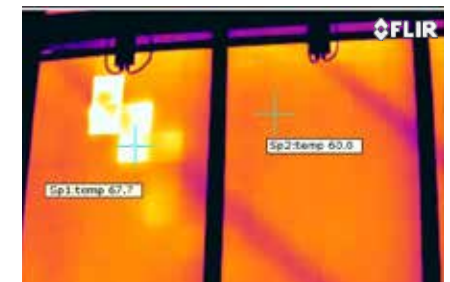


This thermal image of a cell shows a hot spot that indicates a local shunt due to silicon material defects

“We use FLIR thermal imaging cameras intensively both in our R&D department and in the field,” explains Oliver Frank, Team Manager R&D at SOLON.



This thermal image shows that this cell has flaws in the edge isolation, which causes local shunts.

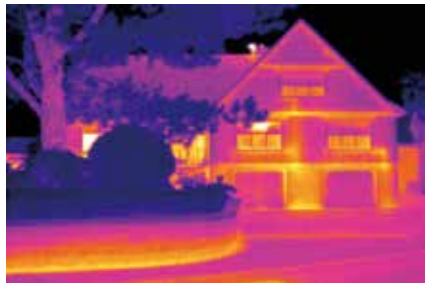


A shadow caused by an overhead power line causes a reversed current.

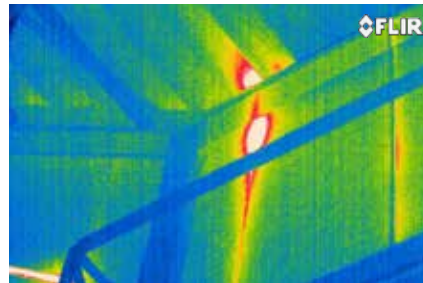
Insulation of commercial walk in freezers checked with thermal imaging

Cooling requires a lot of energy. It is therefore very important that no outside heat leaks in. To make sure that the freezer's insulation is working properly FLIR thermal imaging cameras are being used.

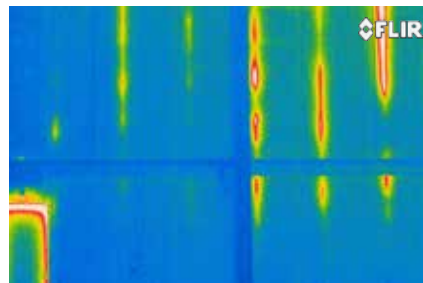
"The best way to detect insulation defects is by using thermal imaging cameras. Other methods, like spot pyrometers, really are not an option. It is simply too easy to miss problems with a spot pyrometer that you can relatively easily detect using thermal imaging," explains Dennis van Est, thermal imaging specialist at the Uden, Netherlands, based Thermografisch en Adviesbureau Uden.



This thermal image shows an example of improperly connected joints between insulation panels, causing heat leakage.



Improper welding has caused heat leakage in this section of the freezer insulation, as shown in this thermal image

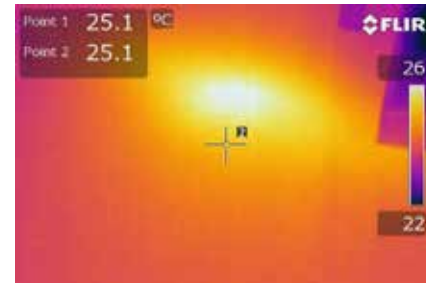


Thermal imaging helps to find water leakage and condensation

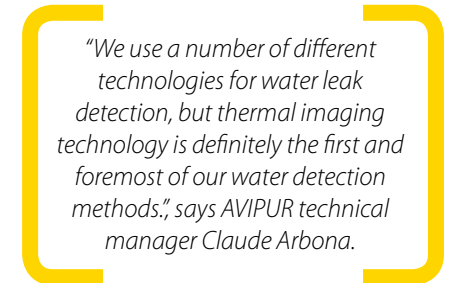
Water leakage in residential buildings can have serious consequences. It can cause problems with structural integrity, mold development and in case of a leak in the plumbing it also leads to higher water bills.



The thermal image clearly shows that an underfloor hot water pipe is leaking.



This hot water leak clearly shows up in the thermal image.



"We use a number of different technologies for water leak detection, but thermal imaging technology is definitely the first and foremost of our water detection methods," says AVIPUR technical manager Claude Arbona.



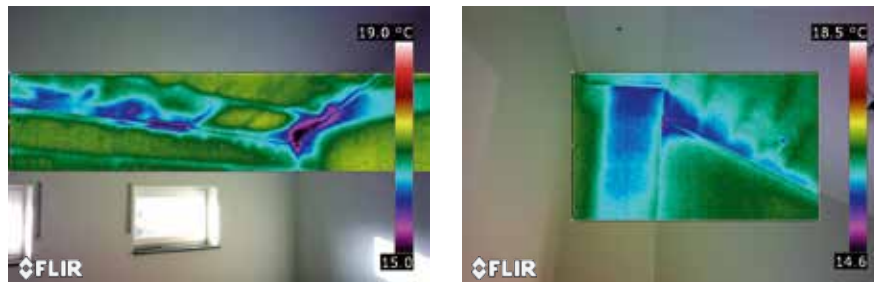
Hot water pipes hidden behind the wall are leaking. In this case visual signs of water leakage are present. The thermal imaging camera helps to pinpoint the leak location.



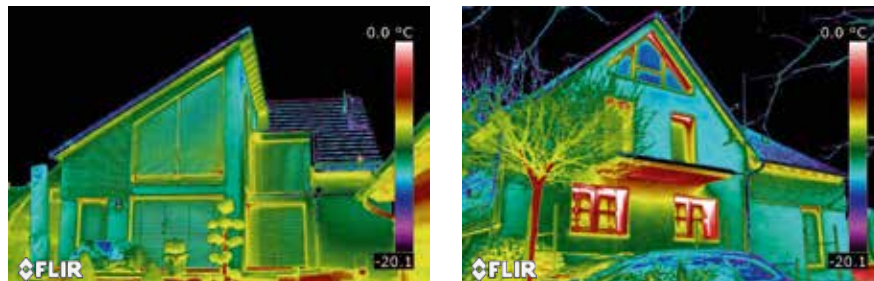
Finding water leaks with a FLIR thermal imaging camera

Water that enters building materials such as plaster or plywood due to leakage can cause serious damage to the building's structure. Mold can develop which may cause health hazards. In many cases there are little to no visual signs.

"We use thermal imaging cameras for a variety of applications. Apart from water leakage inspections we also use them for building insulation inspections, BlowerDoor inspections, mold detection, underfloor heating maintenance, general plumbing inspections and maintenance of heating, ventilation and air conditioning (HVAC) systems." explains the managing director Jörg Herrmann.



These Picture-in-Picture images show water leaks which are invisible to the naked eye, but show up clearly in the thermal image.

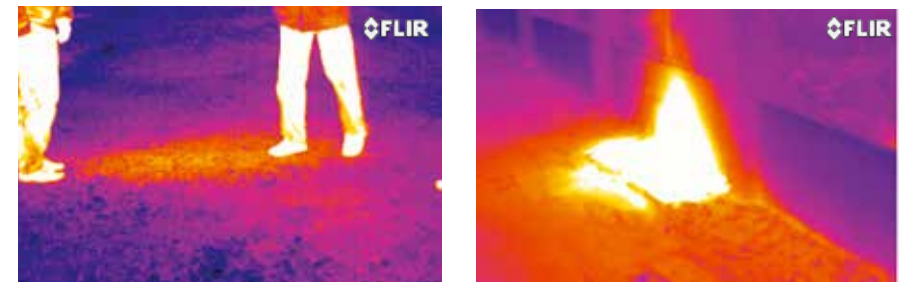


Thermal imaging cameras are an excellent tool to verify whether insulation repairs are effective.

Thermography finds water leaks in district heating networks

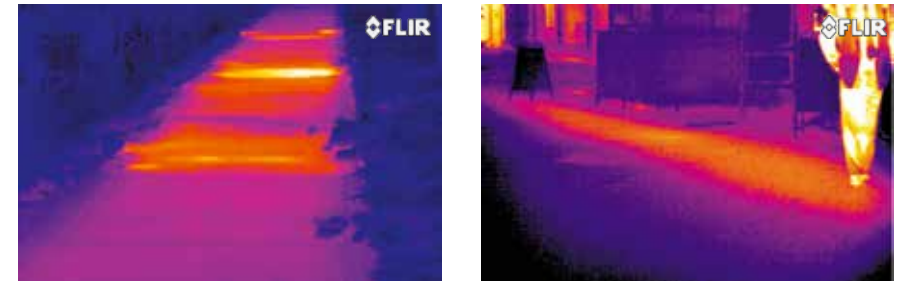
Leaking heating pipes cost owners of district heating networks a great deal of money, both in the form of repair costs and through losses of heated and processed water. Checking the district-heating network with a thermal imaging camera is quick and easy, and saves valuable time and money.

"Many plants carry out a check in the spring in order to find out what happened during the winter when the load was high.", Arne Schleimann-Jensen explains. "This makes it easy for them to schedule any necessary repairs during the summer."



With a thermal imaging camera the exact location of the leak is easily spotted.

Thermal images provide detailed information that is invaluable to accurately locate leaks or damages..



Thermal imaging cameras make the underground pipes of a district heating network clearly visible. Leaks in the network can easily be spotted

6 FLIR Systems, world leader in thermal imaging cameras

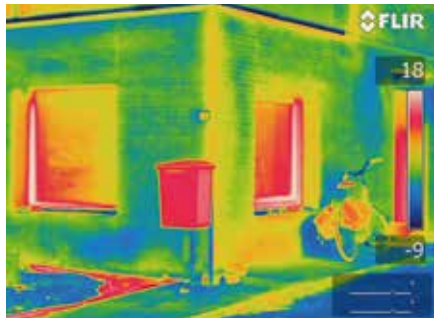
FLIR Systems manufactures the most advanced thermal imaging cameras on the market today. Depending on the model they are equipped with unique, time-saving features.

Multi Spectral Dynamic Imaging (MSX)

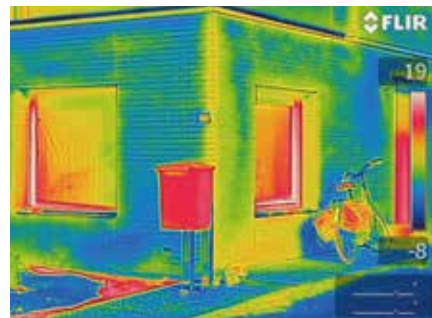
A new, patent-pending fusion based on FLIR's unique onboard processor that provides extraordinary thermal image details in real time.

- Real-time IR video enhanced with visible spectrum definition
- Exceptional thermal clarity to highlight exactly where the problem is
- Easier target identification without compromising radiometric data
- Quality so good, you won't need a separate digital photo for reports

Unlike traditional thermal fusion that inserts an IR image into a visible-light picture, FLIR's new MSX embosses digital camera detail onto thermal video and stills.



Thermal image of a building.



Thermal image of the same building, now using the MSX-setting. Note that more details are visible, making it easy to locate ventilation grids and see brick structure.

Image sketch

This new FLIR Systems feature allows to clearly indicate on a saved image the location of the problem area both on the thermal and the visual image. This can be done immediately on the touch screen of the camera. The indications you make on the thermal image will automatically appear in your report.



WiFi compatibility

Allows to wirelessly transfer images from your thermal imaging camera to a tablet PC or smartphone.



Continuous auto-focus

A solution with two digital cameras allows for continuous autofocus of the thermal images. As a result the camera is fully automatic.

MeterLink

FLIR MeterLink technology makes it possible to transfer, via Bluetooth, the data acquired by an Extech moisture meter into the thermal imaging camera.



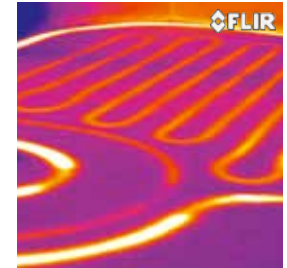
MO297 Moisture meter

7 Thermal imaging: a wide variety of applications

As more and more people are discovering the benefits that thermal imaging cameras have to offer, volumes have gone up and prices are coming down. This means that thermal imaging cameras are finding their way to more and more markets. FLIR Systems has the correct camera for every application.

Building diagnostics

Building professionals look for insulation losses and other building related defects with a thermal imaging camera. Finding insulation losses and repairing them can mean huge energy savings.

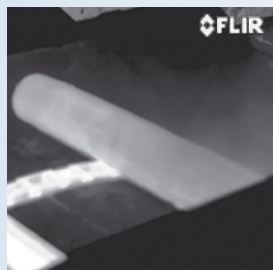


Electrical / Mechanical

In industrial environments thermal imaging is used to find hot-spots that can lead to failures in electrical and mechanical installations. By detecting anomalies at an early stage production breakdowns can be avoided and money can be saved.

Security

Our security customers benefit from thermal imaging cameras because they help them to secure facilities like ports, airports, nuclear facilities, warehouses, estates and many more against intruders.



Cores & components

FLIR Systems also markets a wide variety of thermal imaging cores that other manufacturers integrate in their own products.



Border security

Border security specialists protect their country's border against smugglers and other intruders. With a thermal imaging camera they are able to see a man at a distance of 20 kilometers away in total darkness.

Science / R&D

Thermal imaging also plays a pivotal role in both applied and fundamental R&D. It can speed up the design cycle so that products can go to market faster. For these demanding applications FLIR Systems markets extremely high performance thermal imaging cameras.



Maritime

On both yachts and commercial vessels, FLIR thermal imaging cameras are being used for night time navigation, shipboard security, man-overboard situations and anti-piracy.



Transportation

FLIR thermal imaging cameras are installed in cars for driver vision enhancement. They help the driver to see up to 4 times further than headlights. They are also installed in specialty vehicles such as fire-trucks, mining and military vehicles.

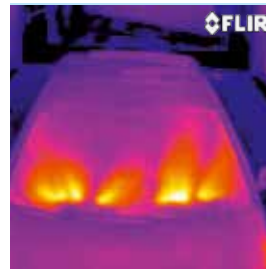


Personal vision systems

Outdoor enthusiasts can see clearly at night with the help of a thermal imaging camera.

Automation / process control

Thermal imaging cameras are also installed to continuously monitor production processes and to avoid fires.



Firefighting

Firefighters are able to see through smoke. It helps them to find victims in a smoke filled room and also to see if fires are well extinguished. It helps them to save lives.



Law enforcement

Police officers use the power of thermal imaging to see without being seen. They can easily find suspects in total darkness without giving away their position.

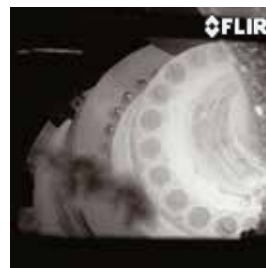


Extech

Under the Extech brand, FLIR systems is marketing a full line of test and measurement equipment.

Optical gas imaging

Gas leaks can also be detected seamlessly with a thermal imaging camera.



8 Selecting the correct thermal imaging camera manufacturer

Since thermal imaging cameras have become increasingly popular over the last few years more and more manufacturers are starting to produce thermal imaging cameras.

Regardless of your application, there are some considerations to take when investing in a thermal imaging camera.

The correct camera for the correct application

Choose a thermal imaging camera manufacturer that offers you a choice. Different applications require different types of thermal imaging cameras. First time users have different needs than those that have already discovered the benefits of thermal imaging. Different image qualities are available. A reliable manufacturer offers you a thermal imaging camera that is completely suited for your application.



Choose a system that can grow with your needs

As you start to discover the benefits thermal imaging has to offer your needs will undoubtedly change. Go for a manufacturer that is able to take your first camera back and offer you a more advanced model. Make sure that accessories are available. Lenses are important. Some applications require a wide angle lens, others are better served with a telephoto lens.



Software is important

For practically all applications it is important to have the correct software. It will help you analyze and report your findings. Make sure that the hardware manufacturer is able to deliver you the correct software as well.



Service

Once in operation a thermal imaging camera rapidly becomes a vital piece of equipment. Make sure that the manufacturer can service your camera in the shortest period of time if a problem should occur.

Training

Using a thermal imaging camera is as easy as using a camcorder. There are however some things you need to take into account. A reliable thermal imaging camera will be able to give you initial or extensive training so that you can get the most out of your thermal imaging camera.



9 Send us your application

On the previous pages you could read how some of our users are using FLIR thermal imaging cameras.

We are always looking for new application stories and new customer testimonies. If you have an interesting application please contact us. We will be happy to include you in the next edition of this booklet.

Please fill out the following form, scan it and send it to flir@flir.com or fax this form to +32 3 303 56 24

Company : _____

Name : _____

Address : _____

Postal Code : _____

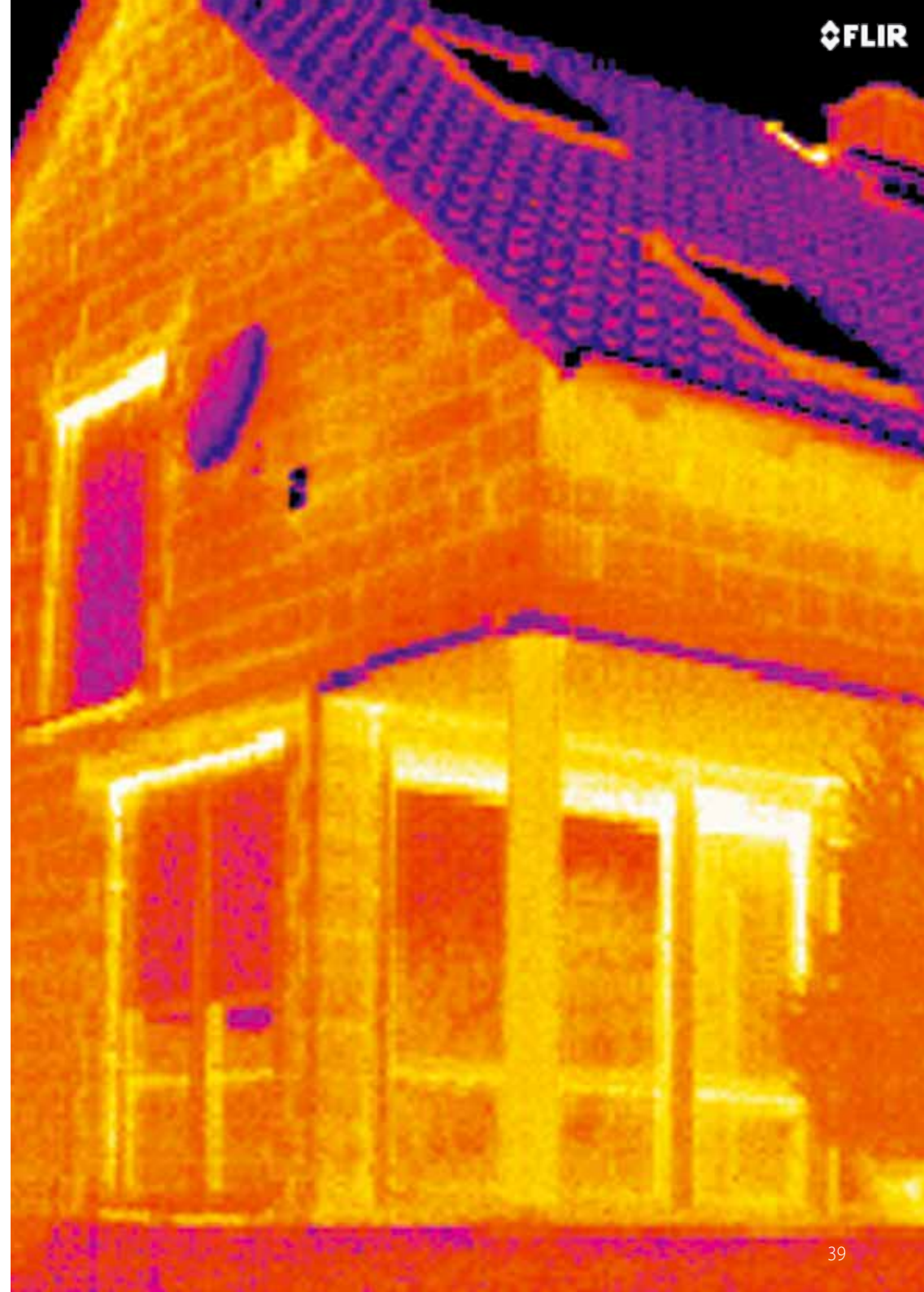
City : _____

Country : _____

Tel : _____

Application : _____

Short Description : _____





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