MultiHeat NEWS

Your guide to affordable & energy-efficient infrared heating panels

Infrared is growing in popularity in the UK as an efficient, easy-to-install and cost-effective form of heating for homes, workplaces, yoga and therapy studios, garden rooms and offices, and many other types of building.

What are the benefits of infrared heating?

The heat characteristics of infrared light and heat have been known about for centuries and, more recently, infrared heating has been embraced in a big way in Austria, Germany, USA and China.

In this booklet, we aim to explain what infrared heating is, how it works, the benefits it offers and how it can provide the solution to your own heating requirements.

Multiheat & Energy Systems

We are a specialist supplier of infrared heating panels to homeowners, businesses and installers.

We have been supplying infrared heating panels since 2007 and are always happy to provide experienced and helpful advice so that you achieve the best results.

Buy infrared heating panels

We would be delighted for you to purchase your infrared heating panels from our online shop at **multiheat-infrared-heating.co.uk**. Every new panel carries a five-year manufacturer's warranty.

More about infrared heating

Turn to the pages listed right to read about all aspects of infrared heating. You can find even more detailed information on our blog and social media accounts or please call us on **01237 451759**.

What is infrared energy?

Infrared energy has been used for thousands of years in traditional healing and cooking with little understanding of what it is.

It was renowned astronomer and musician Sir Frederick William Herschel who discovered the area of the light spectrum which produces heat, the infrared, in the 1800s.

When using different coloured filters to observe sunlight, Herschel noted differing amounts of heat passing through the various colours and decided to do more research.

Splitting the light spectrum

He directed sunlight through a glass prism to create a spectrum (the rainbow created when light is divided into its colours) and then measured the temperature of each colour. He found the temperatures increased from violet to the red end of the electromagnetic spectrum.

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. This area has become known as the infrared part of the spectrum.

This was the first time that someone demonstrated that there were types of light that we cannot see with our eyes.

Infrared end of spectrum

The infrared part of the spectrum lies next to the red end of light and alongside microwaves. It can be divided into three categories:

Near infrared

We know that some infrared heaters generate an orange/red glow as they are generating energy from the near infrared part of the spectrum, in the area of .72 to 1.5 microns closest to red visible light.

Medium and far infrared

For the purposes of the infrared heating panels supplied by Multiheat, the range is very specific. Heating panels generally fall into the category of medium to far infrared and the most efficient produce energy in the 5.6 to 10-micron range.

Microwaves

Microwaves warm by heating molecules from deep inside food, from inside out. Microwaves are over 1000 microns: a long way from the far infrared range our panels use.

Is infrared safe?

We encounter a lot of naturally generated infrared heat every day without harm.

The sun gives off infrared energy as the warmth we feel on our bodies. Natural infrared from the sun penetrates the upper layers of skin, encouraging movement of blood and carrying warmth around the body.

A human being generates infrared energy which can be seen by a thermal imaging camera to a maximum of about 10 microns.

How does infrared work?

What are panels made from?

Infrared heating panels generally comprise a heating element, to convert electricity into infrared heat, which are often set in epoxy resin and sealed inside an outer casing of carbon, aluminium, glass or similar.

A choice of outer casing enables different finishes to complement the building decor.

How do panels heat?

Infrared panels heat objects (buildings, furniture, people) using infrared radiation.

Domestic infrared heaters have an output of between .72 and 10 microns from the electromagnetic spectrum. 8 microns is the optimum far infrared range and most heating panels will emit between 80% and 90% of energy from this range.

In-built safety sensors cut off power if they detect the panel becomes too hot.

How do we feel infrared?

Infrared radiation is reflected, absorbed or transmitted when it hits an object. The degree to which an object reflects or absorbs radiant heat is measured by its emissivity factor.

Heaters can have a decorative glass front, which acts as a window allowing energy to pass through, or can have an absorbing surface, such as marble or stone, which releases energy as secondary radiation similar to a storage heater.

The infrared energy passing

from the heater is also absorbed or reflected from objects in a room. With all objects warmed, they too radiate energy to warm the air.

In summer, objects become much warmer to the touch than in winter due to the infrared heating from the sun. At 21°C in the summer we can happily walk around in a t-shirt, but in winter an indoor air temperature of 21°C would still require a sweater, simply because the objects within the room are cold and therefore creating a chilling effect. Colder surroundings make us feel cold.

Retaining maximum heat

Most household objects absorb and radiate warmth; however, infrared wavelengths pass through glass and air. Old double-glazed windows can lose infrared rays, whereas new double glazing fitted in the past 10 years can have efficient treatments to retain warmth. Considering size and quality of windows in a room is important when calculating infrared heating requirements.

What does infrared cost?

Infrared panels are not only affordable to purchase, they are also low cost to install, run and maintain.

Simple fixing

Fixing infrared panels is clean, quick and without disruption – just screw to a wall or ceiling.

Panels weigh from 3kg to 7.5kg and measure as little as 2.5cm deep.

It's unlikely that you'll need to pay for redecoration after fixing.

Straightforward installation

A single panel can be installed by plugging into an electrical socket, while a combination of panels can be hard wired into a circuit by a qualified electrician.

Apart from compact thermostats and programmers to control heating timing and temperature, there is usually no other associated equipment. You don't need extensive pipes or space for large boilers or water tanks.

Daily heating costs

With continuing uncertainty over the cost of heating fuels, infrared offers the advantage of low-cost heating.

Almost all electrical energy is converted into infrared heat with as much as 98% of this being radiated through a room.

Because electricity tariffs differ and panels are supplied in different sizes and wattages, we cannot quote precise running heating costs.

A generic example, based on a well-insulated room and use of a thermostat/programmer to maintain a temperature of up to 21°C, would be for a 600-watt panel using electricity on a tariff of 13p per unit, would cost 7.5p per hour to raise the temperature to the required level and then as little as 3p an hour to maintain this.

Infrared panels can be used in conjunction with solar photo-voltaic systems, running off excess generated power, or to top up other forms of heating where required.

Maintenance-free heating

Infrared panels have no moving parts and require no servicing.

The panels Multiheat supplies come with a five-year guarantee, although are likely to continue heating efficiently for much longer.

Environmental impact

Most infrared panels do not include components that are harmful to the environment.

Meet the Multiheat team

Multiheat is a specialist supplier of infrared heating panels established in 2007. We are always happy to provide experienced and helpful advice. Call us on **01237 451759**.

Kevin Woodward has a background in finance and administration, having worked previously for large corporate companies in the UK and overseas.
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Multiheat office

We are based in beautiful rural North Devon, surrounded by llamas, goats, chickens and dogs, horses, cows and sheep, and our warehouse is close by in the town of Bideford.

Because we are rurally based we do not have a showroom – this helps keep our costs down – and you can purchase our panels at our online store at **multiheat-infrared-heating.co.uk**.

We are always happy to help customers over the phone or via email, and offer a 30-day money back guarantee for customers to buy a panel and try it in their own home.

Infrared information online

You can find more information and advice on infrared heating on our **multiheat-infrared-heating.co.uk** blog. We also tweet as **@infraredheating** and post on **Google+** and **Facebook**. Please follow us or ask us your infrared heating questions and we will be pleased to answer them.

Home & business heating

Infrared heating panels are suitable for heating most homes and many types of business premises.

Infrared in the home

One of the main considerations when installing domestic heating is the appearance of heaters and the space they occupy.

Fortunately, infrared heating panels are not only flat and unobtrusive, but are supplied in a number of materials, finishes and colours to complement most types of room and decor.

These include plain white carbon fibre, which is slightly matt and non-reflective and makes it ideal for fitting to the ceiling, to stunning glass panels, which reflect light and movement.

Heating mirrors are a bonus to any bathroom, as they do not mist up, and cast gentle warmth across the room.

Picture panels are also available to conceal heaters under stunning photographs. Pictures cannot be changed so make sure you choose an image you will be happy to live with for many years.

Infrared panels are ideal for heating garden rooms and offices.

Infrared in businesses

Infrared is suitable for heating businesses, to keep employees and customers warm, and to better control heating budgets and fuel costs.

Infrared panels are attractive, effective and efficient in offices and are useful for heating desks within a large, cold area. Programmers give full control of the energy use, times and temperatures, to prevent excessive energy consumption and to lower heating bills.

Panels fitted into suspended ceilings are virtually invisible and do not occupy valuable floor or wall space.

Multiheat's infrared panels are used by hot yoga studios across the UK and in therapy rooms, treatment studios and spas.

Purchasing & installing

Infrared panels are easy to install. They can be screwed to a wall and ceiling and plugged into an electrical socket or wired into a circuit by a qualified electrician.

Brands and Suppliers

A handful of well-known infrared heating panel brands are available in the UK, generally from German or Austrian suppliers.

Many have an excellent reputation for reliability and safety. Safety certificates and standards are the same whether panels are manufactured in Europe or China and most panels are reliable and long lasting.

Look out for the logos for **TUV Rheinland, CE** and **NEN1010**.

Ensure your supplier recommends the most suitable panel for your specific building space and conditions, and advises on installation to meet all regulations.

Calculating size of panel

In general, the calculation to choose the right size heater for your room is 50 watts per square metre or 25 watts per cubic metre.

This assumes a standard ceiling height of 2.4 metres and a good solid and well-insulated building.

A 3 x 4 metre room is 12 sq m times 50 watts = 600 watt panel required.

Other factors can include:

- Particularly cold buildings
- Sun rooms/lots of cold glass
- Garden rooms
- Reception desks in large spaces
- High ceilings/large halls
- Rooms used for therapy, yoga, swimming pool changing rooms or for the elderly

In these cases, discuss the type of space fully with your supplier to ensure they specify a suitable panel.

Fitting infrared panels

Single room heater

An infrared heating panel can provide room heating in conjunction with central heating or as a standalone heater. The heater can be screwed to a wall and the cable cut short to neatly fit to the closest plug socket. Simple affordable timers and thermostats which fit to the plug point are available from DIY shops.

Multiple panels

A number of heating panels in one large area can be hard wired by an electrician on their own electrical circuit to one thermostat and programmer.

Complete home central heating

An electrician can hard wire all heaters in a property into one or two dedicated circuits on a fuse board.

Programmers can be fitted to individual rooms or zones of a building to provide localised control for comfort and energy efficiency.

More advice

Multiheat offers advice for all infrared heating panel heating requirements.

MultiHeat

Infrared heating panels

Affordable and efficient electric heating

**Infrared warms the whole room,
not just the air.**

**Comfortable, long lasting warmth,
using less energy and costing less money.**

01237 451759

www.multiheat-infrared-heating.co.uk