



ETHERMA EZ-2000



SOLAMAGIC ECO+ 2000

CASE STUDY

FLEXIBLE INFRARED HEATING SOLUTIONS

FOAM MANUFACTURING BUSINESS | BIRMINGHAM, UK

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THE EXISTING SITUATION.

The industrial premises were built with no insulation in the walls or roof structure. The building had been divided into two offices, a main production area and a staff room. The offices and staff room were heated by wall mounted 2 kW electric convactor heaters supplemented with temporary plug-in electric heaters by the desks. The main factory area used a 23 year old 146.6 kW oil fuelled boiler/hot air blower with a short air ducting system which left many 'cold-spots'. There was also a significant heat loss through the corrugated sheet roof as the warm air quickly rose to the ceiling without benefitting the staff.

The existing heating system was proving to be ineffective and becoming increasingly costly to maintain and run as the boiler's efficiency decreased with age.

THE CHALLENGE.

Due to the poor building fabric and the different activities undertaken across the site, the new heating system had to directly heat the occupants (rather than the air) and allow for different heating requirements in each area. For example, in the factory, individual heating zones were required over the work benches to directly warm the staff without wasting valuable energy attempting to heat the unoccupied areas. The dispatch desk (located by the large factory door) was used for short periods and only required heating when occupied. In the offices and staff room, an energy efficient ambient heating solution was required to improve the staff's thermal comfort and maximise floor space which was needed for desks and filing cabinets.

Effectively controlling the heating was an important consideration to optimise the thermal comfort and to ensure as little energy as possible was consumed during its use. This was also a pre-requisite to obtain grant funding (33% of total project cost) from the European Regional Development Fund, specifically given to enable small and medium sized businesses to improve the energy efficiency of their premises.

THE SOLUTION.

By using a range of ETHERMA's ingenious infrared products each with a different infrared wavelength, the various heating requirements could be accommodated. In the factory, suspended ETHERMA EZ-2000 medium-wave infrared heaters were used to directly heat the operatives at the work stations. The individual heaters were controlled by a manual on/off switch and motion sensor to avoid them being left on by mistake. Over the dispatch desk a SOLAMAGIC short-wave infrared heater was used to provide immediate spot heating, controlled by a manually activated timer so it was only on when the desk was in use.

In the purchasing office a wall mounted LAVA® BASIC-DM 1000W long-wave infrared panel was used, whilst in the sales office ETHERMA TC-300 long-wave infrared panels were slotted into the suspended ceiling grid. Installing the infrared heating within the ceiling grid provided a discrete installation and ensured the optimum distribution of heating throughout the space, avoiding cold spots and keeping the walls and floor space free.

CASE STUDY

FLEXIBLE INFRARED HEATING SOLUTIONS

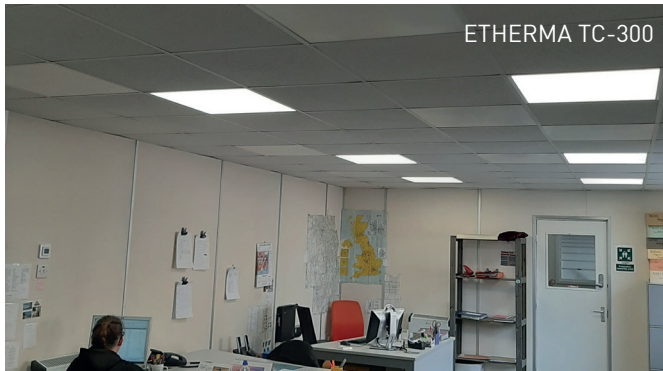
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Precise control of a heating system is crucial to ensure occupancy comfort, save operating costs and avoid wasting energy. Consequently, the purchasing office heating was controlled by a wireless programmable wireless thermostat which simplified the installation process and the sales office heating by an eTOUCH eco wall mounted programmable thermostat.

In the staff room, the wall mounted LAVA® BASIC-DM infrared panel was controlled by a plug-in programmable thermostat.

Overall a total 158.6 kW of convection heating was replaced with **15.45 kW** of infrared heating. This **90% reduction** in the heating load reduced the weekly heating cost by £332 and the business's annual **carbon footprint by 13.17 tonnes**.



@LCW_ERDF

We're a

Low Carbon Workspaces

AJB Foams Ltd

received a Low Carbon Workspaces grant to install infrared heaters, ceiling insulation & LED Lighting reducing their carbon footprint by


13.17 tonnes CO₂e / year*

Daniel Cope
Low Carbon Workspaces Programme Manager
October 2019

...that's the weight of 29 polar bears!


* Savings methodology on the reverse of this certificate

www.lowcarbonworkspaces.co.uk




Low Carbon Workspaces
Grants to reduce business energy costs

Delivered by:



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eTOUCH eco



ET-14A



SOLAMAGIC ECO+ 2000



LAVA® BASIC-DM

COMPETANCE AND QUALITY FOR OVER 35 YEARS.



With ETHERMA you have a competent partner for your heating solutions with more than 35 years of experience. ETHERMA relies on constant innovation, highest product quality and modern design. We support you with a comprehensive service to ensure you use the most suitable product solution for your project. ETHERMA is an Austrian company with international reputation, producing high quality electrical heating systems for our clients, custom-made and manufactured right here.

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