

# HCP Radiant Heating – helping to meet energy efficiency and infection control targets

The Department of Health (DH) has set targets for the NHS to reduce its carbon emissions by 15% by 2010, and with regulation from the EU Emission Trading System and Energy Performance in Buildings Directive now in place, reducing carbon emissions and capturing the associated cost savings is a priority.

The choice of heating system will play an important part in meeting these targets. Like the sun's rays HCP Radiant Heating solutions heat objects rather than air. Therefore energy is not wasted bringing large volumes of air to a comfortable temperature before building occupants feel the heating benefits (See Fig. 1).

Internal air temperatures can therefore be reduced, while still maintaining high comfort levels. As a result less energy is used by the heating system, particularly when compared to all-air-systems.

HCP's Radiant Heating systems also reduce energy consumption through the level of zone control offered, enabling selected parts of a large area to be heated over others. Additionally, Radiant Heating panels contain less water than standard radiator systems, resulting in a further reduction in energy consumption and potentially the size and cost of the central plant.

The mounting of a heating system at high level can also help meet DH guidance on infection control. Radiant Heating systems are easy to access and their flat surfaces are easy to clean. They help meet infection control targets by reducing the cross infection risks associated with traditional wall-mounted radiator systems. Current deep-clean guidance requires the removal of any radiator covers and cleaning behind radiators (*Improving cleanliness and infection control*. DH. 1 November 2007). This can be both difficult and time consuming.

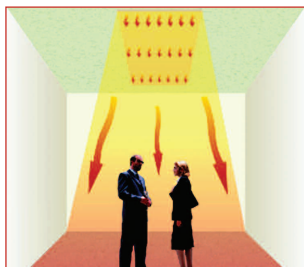


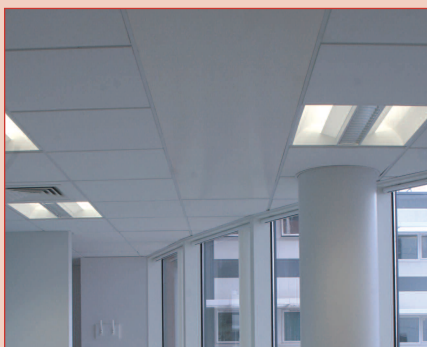
Figure 1: Radiant Heating.

Ceiling mounted Radiant Heating panels from HCP were chosen for the £60 m Cardiothoracic Centre (CTC) at Basildon Hospital.

Architects Nightingale Associates recognised this as a space saving and hygienic solution for the Centre: "Our client was keen to ensure that we maximised the use of floor space. Of particular concern to them was where desks and computers abutted radiators. They felt this used up valuable space and also made cleaning more difficult. The current focus on infection control within hospitals combined with the space requirement was a key driver to us selecting radiant panels as a heating solution for this scheme," commented Graham Harris from Nightingale Associates.

Radiant Heating panels have been used in the ward areas, offices, meeting rooms, reception areas and corridors.

Planned maintenance of the product is minimal due to the lack of moving parts within the panel. This means that regular maintenance work will have little impact on either the building's occupants or the Trust.



Cardiothoracic Centre, Basildon Hospital.

HCP supplied and installed 230 linear metres of radiant heating panels to a new-build Mental Health Unit at Barnet Hospital. The project utilised HCP's new Dutch fold anti-ligature panels, which provide a secure heating solution for institutions such as hospitals and prisons.

A gasket was installed between the slightly undulating plasterboard ceiling and the precision engineered aluminium radiant heating panels to alleviate the differences in the tolerances between the two surfaces.

This means the radiant heating panels are mounted flush with the ceiling plane, significantly reducing occupant's opportunities to locate a ligature point.

Mental Health Unit, Barnet Hospital.



In addition, Radiant Heating systems reduce air and therefore dust movement in an occupied space leading to reduced cleaning requirements and increased hygiene and occupant comfort.

Mounting a heating system at high level also frees up valuable floor and wall space, leading to increased space flexibility. This reduces both the chances of accidental damage and burning. Anti-ligature options are available and are specified in Mental Health Units to minimise the risks of accidental harm.

Due to the lack of moving parts, Radiant Heating systems have low operating costs, as well as minimal maintenance requirements, which is a key consideration as whole-life cycle costs become increasingly important. The panels can be manufactured in a wide range of sizes and come fully assembled and tested; facilitating rapid lead times and reduced installation times.

HCP's Low Temperature Hot Water (LTHW) Radiant Heating panels are available in two different systems; the Radiant Ceiling Tile (RCT) and the Radiant Ceiling Module (RCM). RCT's are available in lengths of up to 3,000 mm, while RCM's consist of a number of panels linked together, up to a maximum length of 9,000 mm. Both can integrate within a suspended or plasterboard ceiling, or be suspended directly from the structural soffit. Radiant Heating panels offer a flat, smooth-faced radiant heating surface which is available with an anti-bacterial coating.

"The human body relies as much on radiant heat transfer as it does on air temperature, but all too often M&E specifiers think only in terms of air temperature," commented John Staunton, Room Comfort Brand Manager. "HCP's Radiant Heating panels offer many benefits over other heating methods and as they are ceiling mounted, free up valuable floor space."

They are an ideal space heating solution when low operating temperatures and rapid warm-up times are required. Radiant heating panels provide outputs of up to 500 W/m. Manufactured from aluminium and copper, radiant heating panels offer a space saving, low maintenance and fully recyclable heating solution, which is quick to install.

Because of the opportunities to reduce energy use and carbon emission, and the part they play in meeting infection control targets, Radiant Heating systems are an ideal heating system for healthcare environments.

# HCP

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