Integrated service modules bring light to Places for People

SAS International has supplied its integrated service modules (ISM) with micro prism optic lighting for the Places for People headquarters in London.

With the current financial crisis affecting all sectors within the construction industry, with a heightened affect on the commercial property market, it is vital that all members of a building's design team explore a number of alternatives to see how the running costs of both new build projects as well as the existing building stock can be reduced.

When combined with the likelihood that the new 2010 building regulations will demand another 25% reduction in carbon emissions, it is of the utmost importance that specifiers and designers embrace energy efficient and sustainable technologies. It is important that whatever air-conditioning solution specified it must still provide a high level of occupant comfort resulting in an improved level of productivity.

In an effort to reduce energy use, the recently published British Council for Offices (BCO) Guide to Specification recommends the minimum summer design air temperature for offices is raised from 22°C to 24°C. Using energy efficient air conditioning systems, such as chilled beams and radiant chilled ceilings, in tandem with such a change, will help reduce a building's running costs and meet carbon emission targets.

Using higher operating temperatures of 14-17°C, radiant chilled ceilings, chilled beams and Integrated Service Modules (ISMs), sometimes referred to as multi-service chilled beams, are able to offer a cost-effective and energy efficient alternative to traditional air conditioning systems. This means that for large parts of the year water at outdoor temperatures, evaporatively-cooled water or ground-sourced water can be used.

UK FIRST

Energy-efficient ISMs featuring both active chilled beams and Micro Prism Optic (MPO) luminaires were installed as part of a significant refurbishment project at Places for People's headquarters in central London. The ISMs featured are both truly innovative and visually striking and marks the first major UK project that combines

active chilled beams with MPO technology.

The ISMs were specified by Fulcrum Consulting and Chris Puttick, project engineer, commented: "The ISMs helped us to achieve a number of key design considerations; particularly the exposure of the existing concrete soffit by elegantly combining the electrical and mechanical systems such as the cooling, ventilation and lighting."

"This helped maximise the space and reduce the peak cooling loads. The energy efficiencies and low maintenance requirements of ISMs will significantly reduce the whole life cost for the system."

SAS International also worked closely with designers Pollard Thomas Edwards Architects on the 1,700 square metre project on Gray's Inn Road.

USING THE BUILDING'S THERMAL MASS

The ISMs, which feature throughout the three-storey building, have been positioned above desks and meeting room tables to match the architectural aesthetics and achieve correct environmental comfort and illuminance (lux) levels. In most refurbishment projects maximising the floor to ceiling height is a common design challenge. Within this project the feeling of height is achieved by positioning ISMs above desks and meeting room tables. As ISMs are fixed directly to the concrete soffit, the thermal mass of the building is exposed. Additionally night purging through the ISM is used to pre-cool the concrete slab, further reducing cooling load requirements.

MPO technology minimises direct and reflected glare in conformity with both EN12464 and CIBSE LG7. The luminaries are linked to a DALI lighting system and a combination of passive infra-red absence detection and daylight sensors ensure lighting energy consumption is kept to a minimum.

While not appropriate for every project there is no reason why this technology cannot be applied to most new and refurbished office developments, as well as within other environments such as schools, universities, airports, hospitals and libraries. The finished building demonstrates how a project can benefit from the whole design team working together from the start to achieve the optimum outcome. The result is an environmentally friendly and modern working environment.