

# call for energy efficiency sees increase in use of fibre optics

The use of fibre optic lighting in commercial premises is on the increase. Absolute Action's Emma Dawson-Tarr explains why.

Ever increasing international pressure for the conservation of world resources and the protection of our environment continues to fuel the search for energy efficiency in all that we do. In the lighting industry for instance, this call for energy efficiency brings forward constant improvements in three areas – in lamps which produce more light proportional to the electricity consumed; in control gear and transformers which absorb less energy to operate the lamps; and in luminaire reflector design to optimise the light distribution from lamp/gear combinations. As these advances take place, they also benefit fibre optic lighting systems, whose efficiency is dependent upon how much light can be generated at the source.

However in fibre optic lighting, another dimension of development has been the strides forward that have been made in the transmission of the fibre optic cables themselves. It is the advances here, in combination with high-efficacy lamps and gear, that is leading to the growing use of fibre optic lighting systems in the commercial environment.

So we have a highly energy efficient form of lighting, particularly because as many as fifteen substantial light outputs can be powered by a single 150w lamp projector. There are a number of other benefits inherent in these systems – the projectors can be mounted remotely in easy maintenance area and the fibre optic cables can be many metres long to transmit light wherever it is needed. The light output is free of harmful UV emissions and completely cool, keeping ambient temperatures low and so reducing the load on air conditioning systems.

One of the best examples that illustrates the use of fibre optic lighting systems, is in the control room office area for the BP Oil Platform, BP Andrew, within the South London HQ of civil engineers, Brown & Root. An entire office floor of forty work stations, meeting areas and communal visual communications facilities are illuminated solely by fibre optics. The project was completed in just six weeks from concept to commissioning.

All the downlighting, uplighting and desk lighting that is needed are provided by ten fibre optic systems, using the Spectralux 6000 system. Nearly 160 light heads have been generated from only 1.5kW of power consumption. Here, special recessed and cowed output fittings were designed to deliver anti-glare ambient lighting so that no light reflections conflict with data on computer screens and video imaging communication boards. Task lighting is brought to each workstation desk through individually dimmable fibre optic heads, the fibres being integrated within office systems cable management. Also discreet meeting zones receive controlled levels of illumination precisely to the conference gathering.



This bronze is illuminated solely by fibre optics from Absolute Action

All light sources are independently dimmable from the main control panel to allow for preferential balancing of illumination levels around the office space.

The brief for another office area, coincidentally also concerned with oil, the Jawabe Oil Services headquarters in St John's Wood, London, was for enhancement of the company's corporate image and careful provision for security, all combined with style and discretion. Fibre optic lighting was chosen for this project for its low energy consumption, the absence of heat and its aesthetic contribution to the interior.

For the reception area, four separate fibre optic lighting systems have been installed, each drawing only 170W in energy (680W overall), a total of 51 outputs were powered. This replaced an equivalent Wattage consumption of some 1,785W if alternative low voltage systems had been installed, making a saving of in excess of 1,100W.

Fibre optic light output has also been specially designed for anti-glare lighting for VDU use, and high level task lighting essential for the security desk.

Outside office buildings, fibre optic lighting can make a dramatic effect when installed in external canopies. Absolute Action has worked with a number of architects to achieve the right effect. A recent example of a canopy project was for the old P&O building on Leadenhall Street, in the City. Absolute Action used 330 individual fibre optic light outputs to give uniform illumination. The illumination is controlled by a micro processor, itself developed by Absolute Action, which changes the colour of the light at regular intervals. The six light projectors are housed behind the main door in the reception area for easy access, the light being carried over quite some distance in the canopy using substantial fibre optic harnesses. For more information, call Absolute Action on Tel: 020 8874 7477. ■