

Effective and dynamic lighting can also preserve our heritage

Emma Dawson-Tarr of London-based Absolute Action talks about some recent installations and new developments in fibre optic lighting systems

Nowhere is the issue of lighting more crucial, or more constrained by critical industry standards, than in the world of our heritage. We are all aware of the damage caused by some of the earliest lighting installations, under which texts faded into illegibility and fabrics into a colourless wash. Then followed a reactionary era of gloom - with light levels so low that the viewer's appreciation was significantly impaired.

Today, the tension between illumination and conservation persists - but new lighting technologies creatively deployed enable display lighting which is dynamic, effective - and sympathetic to the needs of both the conservator and the viewing public.

So how does the museum curator achieve good lighting and proper viewing of ancient artefacts without causing damage to these items by the very process of illumination?

Of the tools available to lighting designers today to satisfy both aesthetic and conservation criteria, few bring such reliable solutions with so little risk of danger, damage or intrusion as fibre optic lighting.

The benefits of this lighting mostly stem from the system's ability to drive multiple light outputs from a single source. Not only does the heat and electricity remain remotely from displays, but the light which travels along the fibre is also filtered from all damaging ultra violet and infra red rays.

Also the light outputs are extremely small and unobtrusive, therefore easily accommodated into existing display structures for glarefree, sympathetic lighting. And where maintenance is necessary for lamp replacement, the remotely located projector is easily accessible without any disruption to displays and exhibits.

Of the many recent advances in fibre optic technology, two are the Articulate System and the Gradient Dimming System developed by Absolute Action. The first comprises a system of miniature rods and connectors to give

designers infinite variety in setting output heads, with the freedom to use different heights, angles and interchangeable focusing lenses.

This new system allows on site flexibility for changing the lighting to suit new and continuously changing exhibits. The newly introduced Gradient Dimming System brings for the first time a gradual dimming control to fibre optic lighting, giving a seamless dimming process which can be timed and controlled as required.

Two recent installations illustrate well the versatility and advantages of fibre optic lighting. At the new museum at Washington and Lee University in Virginia, USA, fibre optic lighting has been used to good effect in displays to commemorate the life of General Robert E. Lee. There is a wide diversity of exhibits from his life and times, ranging from bullet-torn uniforms, pistols and brass insignia to letters and water colours. Each display case has its own dedicated fibre optic lighting, featuring a low voltage 50w halogen light source, which powers up to 34 optical light heads per system - there are no less than 600 light heads installed. A combination of the miniature Articulate system and recessed miniature plate and ball fixtures with interchangeable lenses were used.

Thomas V Litzenburg Jnr., is clearly delighted with the lighting which he says 'sets the exhibition apart'. The director and curators in the museum were given full training in the use and modification of the fibre optic systems and have been provided with a comprehensive set of spare components.



Fibre optic lighting in the Scarborough Art Gallery can be adjusted for either low level illumination or more intense lighting



Miniature Articulate fibre optic lighting systems illuminate the display cases at Lee Chapel Museum in Lexington, USA

In this country, the Scarborough Art Gallery has also received the fibre optic treatment. Here, Absolute Action provided a complete service for the art gallery from specification through to installation, commissioning and training. A special new aluminium track extrusion was developed and installed as a rectangular array centrally in the ceiling. This was then used to carry fibre optic track fixtures and modified fittings from the Articulate system, with interchangeable lens heads to give all-round directability.

In this case, five 150w, 3000K metal halide projectors, powered a total of 100 fibre optic output heads for the complete lighting of the art gallery. Once again, training has been provided on site for the future modification of the lighting system when artworks are changed.

These projects, and many others around the world, demonstrate the huge scope and potential for fibre optic lighting and its constantly advancing technology for the museum environment into the 21st century.

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