

cool lighting design with fibre optics

Tony Rimmer of Imagination talks about the benefits of fibre optics in lighting design...



Some of imagination's schemes using fibre optic Lighting. (from Left to right) Linen Hall in Regent Street, London; Orange Imaginarium @Bristol; and the Predators Exhibition at the Natural History Museum

Fibre Optic lighting plays such a key role in modern lighting design nowadays so when I was asked to write this piece I started to think about the recent lighting projects that Imagination had created using fibre optic lighting. Many of our projects over the last ten years have been brand experiences; spaces that have been designed to stimulate and excite the senses. Fibre optic lights seem to lend themselves to this kind of experiential design and it produces a tangible, interactive light effect which is very different to any other.

This kind of interactive lighting effect can be clearly seen in our work on the Orange Imaginarium, which was produced for the children's science centre @Bristol, back in 2002. Orange were sponsoring a space for 6-14 year olds, which had to be fun, stimulating and modern but without being an overtly branded area. In the world of the Orange brand, the future is about enhancing real people's lives not just building faceless technology.

Orange wanted a brand experience, which would create a 'Search and Find' atmosphere for children. It was about investigating, exploring and discovering the space rather than trying to display a lesson for children to learn. The Orange Imaginarium is made up of a black box area, which has a forest of fibre optic lights, suspended from the ceiling. The lights change magically as the visitors interacted with the space and visitors find themselves in control of an immersive, interactive light

and soundscape. They can create their own experiences as they explore the space. An area that really emphasises the benefit of using fibre optic lights is the section called 'Chase the Rainbow'. This section is towards the centre of the space, where a patch of fibre optic lights has an intense orange glow. A message on the floor invites visitors to "Chase the rainbow".

As visitors enter the section, the orange light moves away, sweeping across the rest of the space. The rest of the fibre optics emit a pure white light whilst the orange light continues to move through various degrees of intensity, like a Mexican wave of orange light. The fibre optics enables the environment to be all encompassing and interactive while remaining safe for children. Each fibre is suspended from a steel grid in the ceiling able to support the weight of an adult. The floor has a black mirror finish that creates a sense of infinite depth and the fibre optic strands reflect to create columns of light. The whole experience is an immersive one which visitors can become part of, instead of an exhibit to be simply looked upon. In so many cases children are told not to touch but with the use of fibre optics it gives them the opportunity to play and have fun with the environment. Another benefit of using fibre optic lights is their size and ability to be flexible. In our work with the Natural History Museum's Predators Exhibition, 2001, we needed very dramatic lighting but within small areas, such as cabinets and display

cases.

The exhibition was divided into three main zones. Each area was highlighted by a different colour to accentuate the mood and theme change. In-between the three zones were display cases showing various palaeontological objects. These cases required very focused levels of light with no UV and each one had to be sealed to maintain a constant temperature.

The display cases had a very definite style that blended with the exhibition and fibre optic lights were the only light source that could achieve all of these requirements. Fibre optics were supplied and commissioned by Absolute Action, as they had a wealth of experience in lighting museum artifacts. Each set of lens fibres had varying degrees of negative density filters fitted to suit the amount of light falling onto the areas of interest, this allowed us to essentially dim each tail without using dimmers. With no heat generated and each lens fixed into place the display cases required no maintenance. As well as being cost and safety effective the use of fibre optic lights against a black background produced a striking and eye catching end result. But fibre optic lighting doesn't always just work for the small-scale projects. They can have great effect within large scale lighting projects too. Linen Hall, which is based within Regent Street, is a building which we were asked to design a lighting strategy for. Our client was the Crown Estates, who are responsible for the up-keeping

and development of some of the largest streets in London (including Regent Street). The lighting of Linen Hall has set a precedent for the rest of the street and was the first building to follow the strategy. The architecture along Regent Street is very detailed and has an abundance of interesting architectural features. These features are usually lost during the day but at night with the new sympathetic lighting scheme we designed, it allowed us to highlight the features. Problems had arisen with previous lighting schemes, many features were too high on the building's facade and they had become impractical to light, as a cherry picker is required to maintain them. But using fibre optics (again supplied by Absolute Action) has created many advantages; the lenses can be installed, focused and left, several points of interest can be lit from one light source and the projector and lamp can be safely accessed.

One drawback highlighted at Linen Hall was not to exceed the recommended length of harness, as the degradation of light is significantly reduced over long distances. We also noted that the same lamp but different manufacturer produced unacceptable variations in the quality of light. All in all fibre optic lighting is a tried and tested technology, which has been a great addition to the lighting designer's pallet.

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