

SUNPIPE: The Copper Box

Natural Lighting

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- **Building Name:** The Copper Box
- **Building Location**
 - » City: London
 - » Country: United Kingdom
- **Building Type:** Sports Arena
- **Market Sector:** Leisure
- **Architects:** Make Architects
- **Consulting Engineers:** ARUP
- **Installation Date:** Completed March 2011



Originally named the Handball Arena, the Copper Box was built to be the goal ball venue for London 2012 Olympics & Paralympics. As one of the legacy buildings of the Olympics, the Copper Box will be adapted to become a multi-sport arena for local community use, athlete training and other multi-use events.

Make Architects, responsible for the design set out a strict environmental criteria for the project of sustainable energy. Along with rainwater harvesting, the use of natural daylight would assist in reducing carbon and energy costs. Having used the SUNPIPE® natural daylight systems on previous projects Make Architects entered in to discussions with Monodraught Ltd in May 2008 to investigate the possibilities of using this technology on the project. Make Architects specified a system that could deliver a 4% daylight factor.

Working with ARUP the Consulting Engineer, Monodraught presented a scheme that included 88 number 1500 mm diameter light pipes positioned strategically around the field of play. The systems also needed to be adaptable for when lower light levels were required so light shut off dampers were included along with special acoustic laminated glass.

Due to the nature of the project and the amount of congestion expected near the Olympic site, the systems were manufactured off site and delivered in sections ready to be installed on site.

Key benefits

- Estimated annual savings of 40% against electrical lighting costs
- Double glazed, high impact resistant glass
- Low U & G values
- Automatic damper controls to regulate sunlight
- Low maintenance, long life systems
- 4% daylight factor achieved
- Offsite pre-fabrication

Images are used with the kind permission of Mr Hugo A. Sanchez hugo.al.sanchez@gmail.com

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