

All England Lawn Tennis and Croquet Club



ME engineers are proud to be part of the Wimbledon Centre Court refurbishment team. ME engineers were responsible for the design of the building services systems within the bowl including the environmental conditioning system, the sports and bowl infill lighting solutions and the power systems to the retractable roof. The refurbishment of the building presented a variety of design challenges, Centre Court is provided with one of the lowest roofs in any professional sporting venue worldwide.

The sports lighting solution needed to meet the stringent criteria expected by the BBC and BSkyB for the broadcast of high definition TV, whilst maintaining a glare free environment for the players. Working with the architects Populous, the BBC and professional players, a combination of indirect and direct lighting techniques were developed to provide a diffused blanket of light onto the playing surface.

This is the first time that indirect sports lighting has been utilised in a world-class sporting venue.

The closing of the roof presents another unique challenge. Whilst the environment needs to be controlled, the more important issue is the prevention of condensation on the playing surface. To achieve this, extensive thermal modelling and computational fluid dynamics was undertaken to determine the optimum design solution.

The design criteria was satisfied by providing dehumidified, conditioned air which is supplied across the underside of the roof, and simultaneously over the playing surface, ensuring that both the fabric and grass surface remain dry. An environment conducive to tennis is achieved within 30 minutes of the roof being closed.

"The technical expertise and innovative approach provided by ME engineers were key factors in the successful delivery of this project. Throughout the design detailing and during the very complex construction process the support provided by ME engineers was of great value to the whole team in creating this unique world-class sporting venue"

Mike Bridges, Managing Director – GallifordTry

