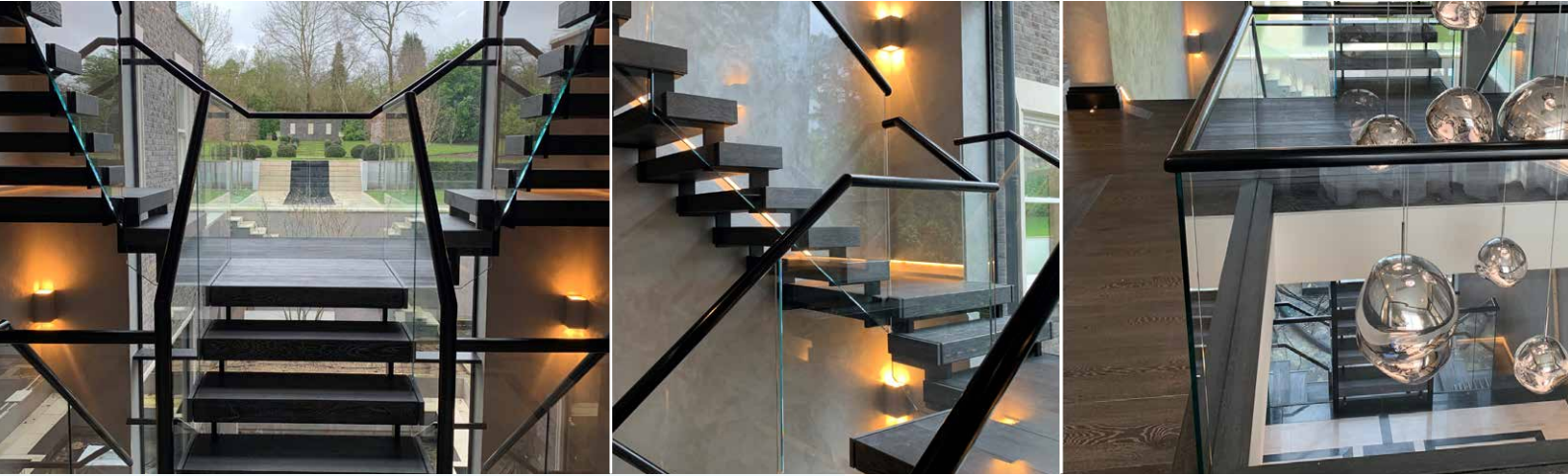


STAIRCASE BALUSTRADE MAXIMUM VISIBILITY



The design of a glass balustrade needs to take into account the requirements from both an aesthetic and a regulations perspective. Balancing these elements whilst meeting the customers' expectations is key to the design process. The choice of which type of glass, the fixing method and whether a handrail is incorporated greatly impacts on the time required and more importantly the overall cost.

Our client Lumin Haus, a property developer based in Watford asked for our early input into a bespoke staircase they needed for a prestigious 12,000 square feet new build residence in Radlett, Hertfordshire. The staircase filled the central atrium of the property, spanning four floors with a full height glazed screen to one side.

THE CHALLENGE

The client wanted a glass balustrade but didn't want the glass to impact on the design of the atrium or effect visibility out into the garden. The main staircase consisted of a welded steel framework with hardwood tread covers and end caps. The cantilevered treads over sailed the stepped stringer with each having 2 threaded treads to attach the glass. The decoration, lighting, timber treads and marble flooring to each level had to be completed prior to installation of the glass due to the design of the stair treads and continuous LED illumination to the perimeter wall. A central steel scaffold tower was not possible as it would impact transit up and down the stairs for both the glass and other trades and also pose a greater risk to the installed glass and marble floor during its dismantling so a timber scaffold was erected and dismantled at each level with installation commencing from the top. The staircase comprised 40 individual panels which were templated prior to manufacture in glass using 12mm MDF to ensure the glass to glass joints would be perfect and the shape of the hardwood handrail could be determined. Special fixings also had to be manufactured to secure the landing panels to each level direct to the slab which was recessed by some 100mm off the fascia board.

THE RESULT

With the knowledge of a handrail being used we specified 15mm Low Iron glass in order to reduce any greenness when looking directly through the glass which is associated with thick standard glass. This meant the view through the glass was identical to the view outside of the glass meaning the walls, ceilings and garden view was consistent from all directions. Also with the addition of a handrail we were able to specify toughened glass rather than multi-pane laminated glass in order to give a perfect polished edge appearance. The glass fixing bolts were then covered with hardwood timber caps to give a floating appearance. A separate balustrade was installed between the 1st floor and main lobby with the glass retained in heavy duty aluminium channels recessed below the floor.