

CERTIFICATE OF MERIT

UNILEVER HOUSE, LEATHERHEAD

ARCHITECT - DN-A

STRUCTURAL ENGINEER (MAIN FRAME) - MOTT MACDONALD

STRUCTURAL ENGINEER (FEATURE STEELWORK) - WEBB YATES ENGINEERS LTD

STEELWORK CONTRACTOR (MAIN FRAME) - CAUNTON ENGINEERING LTD

STEELWORK CONTRACTOR (FEATURE STEELWORK) - ALLOYFABWELD LTD

MAIN CONTRACTOR - BOWMER & KIRKLAND LTD

CLIENT - LANDID AND RREEF

Leatherhead proved to be the ideal location for Unilever to bring together its separate UK business units into a single headquarters building.

The design process resulted in a three storey office building springing from a podium deck. Taking advantage of the natural fall across the site provided the opportunity for undercroft parking. Both the podium deck and the building are steel framed structures.

The office accommodation is arranged in a number of linear wings wrapped around a central full height entrance atrium and an external courtyard. A series of secondary atria spaces on either side of the courtyard ensures clear circulation patterns and houses lift cores and feature stairs.

The central atrium, the heart of the building, acts not only as a first impression on visitors, but also as a space to showcase and launch new products. The three storey space is top-lit by a striking northlight roof comprising a series of steel stressed-skin prismatic arch trusses which span across the 18m width and support glass infill panels in between. To create the trusses, standard D100 profiled steel decking sheets were used. They fall into the three-dimensional hyper form with ease and form a shear diaphragm, unifying steel corner angle sections to create a stiff 'Toblerone' box-like truss. The trusses were pre-fabricated offsite and lifted into place in one piece. The use of standard materials and lack of any applied internal finishes made this a cost-effective solution, with spectacular visual results. For consistency, the exposed structural steel deck ceiling has been carried through to the secondary atria, where it was installed flat.

The fully glazed south-west facing façade to the entrance atrium received an elegant external louvred brise soleil screen. Besides protecting the atrium from the sun's heat and glare, this screen serves two further functions: The hangers support maintenance walkways at each storey level, suspended between the louvre screen and the glazing. Fabricated from slim steel box sections and perforated sheet, they act as a truss and double up as lateral support to the curtain walling. Therefore mullion back boxes are kept small and unobtrusive and the need for further internal columns and intermediate supports was eliminated.



Each atrium is fitted with a helical feature stair. The steel stairs were fabricated with an internal stringer extended in height to double up as the balustrade. This piece of steel needed to be relatively thick (at 24mm) and shaped into a tight radius helix which would be extremely difficult to roll. A novel alternative solution was found when the sub-contractor proposed to cut the stringer from a large diameter tubular section. The stair was constructed around this and the stringer/balustrade profile cut afterwards.

Vertical support to the frame was primarily provided by CHS columns. This meant the columns within the large expanse of open plan office space could be fire protected with intumescent paint and remain exposed. The perimeter column line is located inboard, clear from the external wall to allow for maximum freedom in façade glazing configuration and for glass to glass corners, exploiting the views of the countryside.

Cellform beams allow for service runs within the depth of the steelwork which ensured generous ceiling heights could be maintained

whilst keeping the overall storey height and, therefore, cost low. This relatively light solution also proved effective with regard to keeping the foundations minimal.

The adaptability of the steel frame means a potential second phase could be implemented for future expansion.



judges' comment

Three speculative office buildings have been integrated by atria providing generous circulation, under a design/build contract. Large steel-framed floors are on three levels, but the highlights are the atria. The reception atrium is dominated by northlights of stressed-skin prismatic trussed decking and glazing. Helical plated stairs land on wish-bone brackets at floor levels, and full-height glazed walling, brise-soleil and maintenance walkways are all combined with economy and elegance.

This shows that design & build can produce dramatic results.