



# The Sainsbury Centre for the Visual Arts

**Client**  
University of East Anglia, Norwich  
**Architects**  
Foster Associates  
**Structural Engineers**  
Anthony Hunt Associates  
**Steelwork Contractor**  
Tubeworkers Limited

**Judges' comments**  
The Sainsbury Centre for the Visual Arts, on the University of East Anglia campus at Norwich, takes to extreme degree the concept of the flexible shed. One lordly space embraces exhibition areas, teaching spaces, restaurants, offices and the senior common room of the university. Theoretically it can house other functions as needs

change in future years; for our ideas on university art galleries will surely be different in twenty-five years' time. Within the big shed are free standing buildings to enclose the smaller spaces, to define the zoning of the building and to provide habitable platforms at high level – from which the space, the structure and the exhibits can be enjoyed.

The idea of adaptability and change is taken through to the skin both at the sides and on top, where glazed panels can replace solid ones or vice versa if occasion demands more or less natural light. Internally the ceiling and walls are faced with see-through white metal louvres which filter the light, both natural and artificial, providing glimpses of the structure and

services and giving an ambience of calm. It does not come naturally to the English to carry through an architectural concept all the way without compromise. The price of such consistency may well be shortcomings in some aspects but it has given us a space of magnificence and of nobility – and these are rare and precious qualities in the architecture of our time.

The structural concept of this 133m x 34m x 10m high building was to provide a large scale, lightweight, elegant structure fabricated off site for accuracy and speed. To achieve the required degree of fit for all other major elements, which were also prefabricated, the structure was fabricated to tolerances far closer to mechanical engineering standards than to structural ones. The roof structure alone contains more than 3,000 points which had to be located within 3mm of their defined position; close co-operation from drawing board to site being essential to ensure this level of accuracy.

The main structure is a steel lattice framework with 2.5m deep by 1.8m triangular trusses in 168.3x4.5 CHS grade 50C (bottom chord) and 114.3x4.5 CHS grade 50C (top chords). These trusses, at 3.6m centres, are supported on the external legs of triangular towers positioned 34.4m apart. The towers, of similar dimensions and member sizes to the girders, act as vertical cantilevers with rocker and sliding bearings between towers and trusses to allow for deflection and expansion movement. Wind forces generated from the ends of the building, which span from ground to roof, are taken out by double warren bracing in the top and bottom planes of the roof trusses at each end of the building and adjacent to the two expansion joints along the building's length.

Approximately 290 tonnes of steel are contained in the main structure, which was erected on site in eighteen weeks. Intermediate mezzanine floors have a structural steelwork frame of castella beams on CHS columns with precast concrete floor units; these being independent of the main structure.

