Quality shines through in a range of winning steel projects

From a crouching man in the Dutch landscape to an office scheme at a busy London rail station, the SSDAs top steel designs are impressive in their diversity

A great Antony Gormley sculpture of a crouching man and a huge warehouse for M&S among the diverse projects of this year’s Structural Steel Design Awards. The jury was impressed by the practicality of the work and the architectural language of the steelwork.


erstwhile members, constructed in the steelwork contractor, who was used to producing the most functional structures but had to develop ways of using steel in a different way, “he says.

“With such legible structural systems, it’s easy to see the structural concept and the challenge of building in the building. The smallest structural node is 60mm x 60mm. This impressed the judges. “The structural concept and the challenge of erecting the building gets it the award, says chairman David Lazenby. “The structural solution is heroic. There were only four points where the engineers could get major support down. The challenge for the steel people to build such a sculpture is outstanding, as it was to maintain the safety of such a large complex structure. The sculpture was first trial built at Had-Fab. Exposed from the back, facing the sea, it was absolutely extraordinary. The fabrication was complex and challenging, and it has been done.

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Awards

CANNON PLACE OFFICE BUILDING Cannon Street, City of London

Client
Watson Steel Structures

Structural and architectural steelwork contractor
Watson Steel Structures Ltd (Glenelor Steel Fabricators)

Main contractor
Cannon Place

Judges were impressed with the “heroic” way that the Cannon Place team tackled the highly constrained site. The steel structure allows a very good design.

The rectangular site measured 37,000sq m air rights office accommodation on the site. The structure was then fixed and moved as needed to the points of incision and position in such a way that the horizontal steel structure was fully expressed by placing the curtain walling inside the structural frame.

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The warehouse at ProLogis Park in Bradford.

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The sculpture, which was put together using an adjustable bracket devised by the steelwork contractor that provided alignment, structural integrity, and allowed three-axis adjustment before the sections were welded. These were concealed connections where the two loops touch. From final design approval, the structure took less than three months to complete.

Gerry Judah, the sculptor, says: “It is a very expressive monument to achieve the column-free halls, which have a clear span of 87m. The structural solution was adapted from the Phase 1 building and improved with steelwork contractor Severfield-Reeve.”

The completed project has alleviated congestion in and around the busy port of Rosslare by 30% and it is hoped will contribute to a rejuvenation of Waterford and commercial development in its quays.

The steelwork was first erected over a seven-day cycle, each comprising two main girder sections and cross girders. Over a seven-day cycle, each module was erected and the cables installed, pre-stressed, and the precast concrete deck positioned.

The “elegance” of St Botolph was created with steelwork contractor Littlehampton Welding, the steel required for the decks, Mabey Bridge recommended using a durable glass flake epoxy treatment that required special permission from the National Road Authority (NRA).

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Steelwork contractor

Mabey Bridge, was erected in two main stages. First the back span was erected from ground level with mobile cranes on trestles up to the central pylon. With a precast concrete slab up to the pylon which enabled the front span to be erected in cantilever mode. For more than 40 years, Waterford City Council deliberated on whether and where to build a second bridge over the river Suir. The stayed bridge designed with London-based Yee Associates, is the longest span bridge in Ireland and opened 10 months ahead of schedule in October 2010. The structure has been praised by the judges and up to 60% of those attending and examining the project was an at-grade front door to the Prince Regent station.

Conference areas are situated in a series of box cantilevers directly from the main circulation area. The “architect has tried to do something different in the building and to make it relevant to the client and the building,” says judge Bill Taylor. “There is a need to see that the building can be adapted out of the building and that the spaces can be extended. This building is important, with large light wells in it to create a sense of movement through the building. Conference areas are situated in a raised box cantilever that is accessed directly from the main circulation area. Spaces are flexible to accommodate a maximum of 600 people. The building is adaptable in its configuration and is adaptable to create a clear interaction in the building. These were put together using an adjustable bracket devised by the steelwork contractor that provided alignment, structural integrity, and allowed three-axis adjustment before the sections were welded. These were concealed connections where the two loops touch. From final design approval, the structure took less than three months to complete.

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