

# Know your boundaries

The design for an industrial/warehouse scheme in Beckton, east London is the first project to incorporate a new fire engineered boundary wall specification developed by the British Constructional Steelwork Association and Steel Construction Institute, into both its design and construction.

Located close to the A13 trunk road in east London, the Valor Park East Circular (phase two) development is comprised of four industrial/warehouse units that vary in size from 2,529m<sup>2</sup> to 7,603m<sup>2</sup>.

Helping to satisfy the local demand for flexible and future-proofed industrial space, on a prime London site, the units are said to be highly energy efficient and have achieved EPC A-5 and BREEM 'Excellent' ratings. The buildings also include ESG credentials such as EV charging stations, LED lighting, green roofs and PV roof panels.

Each of the units is a steel portal-framed structure, a design that provides speed and ease of construction as well as the long-span flexibility, which is always necessary for such projects.

Traditionally, steelwork has dominated the single-storey non-domestic building (warehouses) market and during 2024 it had an impressive 94.1% market share.

According to the annual survey commissioned by Steel for Life and the British Constructional Steelwork Association (BCSA), and conducted by independent market research consultants Construction Markets, this important sector accounts for almost 50% of the overall UK structural steelwork market by tonnage.

Attributes such as cost-effectiveness, adaptability and its contribution to the circular economy through reuse and recycling are all factors that continue to be valued by developers, contractors, designers and building users

alike, making steelwork the go-to material for warehouses.

All of these factors came into play when the client, design and construction team unsurprisingly chose a steel-framed option for this project. However, what makes this scheme different is that the design has incorporated a new

BCSA specification for boundary walls, see <https://bcsa.org.uk/resources/fabrication-technical-design/industry-specifications/>

The specification comes into force in July, so the Valor Park project, working ahead of this launch date, is the first to fully adopt the updated boundary wall guidance principles (see NSC

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## FACT FILE

Valor Park East Circular (Phase two),  
Beckton, London

Main client: Valor Real Estate Partners

Architect: UMC

Main contractor: Glencar

Steelwork contractor: Nationwide Structures

Steel tonnage: 1,050t



The park is conveniently located close to the A13 trunk road.

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As the name suggests, boundary walls are the elevations of buildings that are close to other structures or a site boundary. In the event of a fire, these nearby buildings could be in danger if the conflagration was to spread, leading to increased insurer risk.



The Valor Park scheme has now been completed.

The fire engineered boundary wall specification aims to mitigate this risk by providing designers a clear methodology to be followed by parties responsible for delivering an effective and definable boundary wall.

The specification, although designed for single-storey portal frames provides designers with a method of analysing the cladding load path offering designers, for the first time, a justifiable solution to prove how the cladding is kept in position and remains vertical in the event of a fire.

The load path on Valor Park consists of a completely re-engineered secondary cold-formed steelwork arrangement, designed at elevated temperature to carry the weight of the wall cladding back to intumescent coated hot-roll capable members. The new BCSA approach demonstrates that the cladding hangs as an effective fire curtain ensuring a fire is contained on boundary elevations.

The integrated fire engineered boundary wall solution delivered on this project was the result of collaboration between Glencar, Nationwide Structures – the scheme’s design and build steelwork contractor, GeoRoof Roofing & Cladding, Kingspan Structural Products and Kingspan Insulated Panels.

The latter supplied the building envelope for all four units. This consisted of the cold-formed steel Multibeam purlins and Multichannel side rails, along with the fire resisting horizontally laid Quadcore KS1000MR AWP composite cladding panels to achieve the required 60-minutes fire integrity and 15-minutes fire insulation requirements.

Derek Gibson, Technical Manager at Kingspan Structural Products was a member of the Working Group (WG) that developed the new specification.

He says: “The aim of the WG was to agree on a satisfactory mechanism for load transfer in the fire condition, so that those responsible for specifying, designing and/or executing a project’s through-wall system have a clear understanding of the required performance criteria and a logical process for how it might be achieved.

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During an 18-week programme, Nationwide Structures erected the four units at Valor Park, using a couple of 60t-capacity mobile cranes.

Two of the buildings, known as Unit 100 and Unit 300 are twin-span structures, with the former consisting of two 36.5m-wide spans supporting a hipped roof and the latter being slightly smaller with two 33m-wide spans supporting a hipped roof.

These buildings feature a 15m height to the underside of the haunch.

The other two buildings also have hipped roofs, but are smaller single-span structures. Unit 200 being 42.5m-wide with a 10m height to the underside of the haunch and Unit 400 having a width of 47.5m and having a 12.5m height to the underside of the haunch.

Approximately 75% of elevations on Units 100 and 300 were protected, while the locations of the smaller buildings meant only 50% of the Unit 400 and 25% of Unit 200 were considered boundary walls.

“We are absolutely delighted to have played a part in this project - it truly showcases the spirit of collaboration,” says Dan Hoskin, Commercial Director at Nationwide Structures.

“When it comes to designing fire boundaries, no single person holds all the answers. Working alongside our partners, it has been inspiring to see such a proactive and united effort from everyone involved. We are incredibly proud of the team here at Nationwide Structures, they have demonstrated their commitment to our company values, as well as our ongoing commitment to advancing the standards within our industry.”

Warehouses require administrative spaces and modern schemes invariably include internal office floors. Valor Park is no exception, with the larger, Units 100 and 300, containing two-storey offices with a plant deck situated above, and the smaller Unit 200 and 400 including single-storey offices.

Glencar Operations Director Greg Wright, commented: “Nationwide Structures played a fundamental role in the successful delivery of the Valor Park project, bringing their technical expertise and proactive approach to the design and installation of the steelwork. Their professionalism, collaborative mindset, and technical excellence were instrumental in delivering this high-quality, future-proofed development.” ■



Boundary walls have been fitted with heavier secondary steel connections to make them compliant with the new specification.