



The 45-storey East-Tower



Dominating the evening skyline

References

Schöck prevents thermal bridging at prestigious Landmark development

The iconic Landmark project at 22 Marsh Wall, situated close to the heart of London's Canary Wharf, is fast taking shape. Four structures make up the development, but the focus is on the two high-rise towers, the 31-storey West Tower; and the 45-storey East Tower – which at a height of 140 metres means it would look down on the majority of residential developments anywhere in Europe. The building also houses 386 apartments, the most residential units in any one building in Docklands. The East Tower is a mixed use, high density development with sustainability and ecology high on the agenda. A series of public spaces are being developed with the focal point being a central square with cafes and restaurants which will help regenerate the local area and establish the development as a destination in its own right.

The exteriors of the towers are façades set behind a continuous skin of glazing, which gives the structure a lightweight reflective surface that allows the building to change in appearance depending on the quality of natural light. Avoiding the risk of thermal bridging is vital on the project, as elements such as balconies and

other cantilever connections which project through the building envelope, breaking the insulation layer in the process, are notorious for creating this phenomenon. Low internal surface temperatures in the area of the thermal bridge can cause serious condensation, leading not only to structural integrity problems, but the occurrence of mould growth too, which can have serious implications for the occupants in the form of respiratory problems. There are very few effective solutions to combating the various negative aspects of thermal bridges, but one proven answer is the Isokorb® thermal break module developed by Schöck.

The specific connectivity solution designed into the scheme is the module known as the type K, specifically for concrete-to-concrete connections. This consists of a high thermal efficiency (HTE) pressure bearing pad made of high-density micro-fibre reinforced concrete, a highly effective HCFC-free Polystyrol hard foam insulation layer and stainless steel connectors – all of which result in the best thermal performance achievable. The type K Isokorb® has outstanding thermal insulation properties and dramatically reduces thermal energy loss in connective areas by guaranteeing the homogeneity of the thermal envelope between cantilever structures and



Concrete balconies thermally separated by Schöck Isokorb® K

the internal floor. It also transfers load and maintains full structural integrity, while at the same time enabling inner surface area temperatures to remain well in excess of those likely to cause mould formation and condensation – both of which are completely eliminated in room areas adjacent to the balconies.

The products in the Schöck range are unique in being the only thermal break solutions to allow connections to be made not just between concrete-to-concrete, but concrete-to-steel and steel-to-steel as well. Additionally, the concrete-to-concrete and concrete-to-steel ranges are the only BBA certificated thermal break modules available on the market. The project has been undertaken on a design and construct basis, with the core constructed using the “jump-form” technique ahead of the concrete floors.

Kevin Keegan, Construction Director at Reddington’s comments: “We are using over 1200 Schöck Isokorb® units and with the demanding build schedule on such a high profile project, the ease of installing the modules really helps. They are relatively light and can be fitted easily by one man and it is also possible to adjust and fine-tune on site to optimise the fitting tolerance”.

The Isokorb® range complies with the regulation stipulating that in the UK, the temperature factor used to indicate condensation risk (f_{RSI}), as described in BRE IP1/06 – a document cited in Building Regulations Approved Documents Part L1 and L2 and Section 6 in Scotland – must be greater than, or equal, to 0.75 and for commercial buildings it must be greater than, or equal to 0.5.

A leading European supplier

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