Case study

27/04/2016

For immediate release

Continuous ribbon balconies require effective thermal insulation

The Chiswick Point development, at Bollo Lane, in West London, is a £20m contemporary mixed-use residential scheme offering 124 one, two and three bedroom residential apartments, including three penthouses. The apartments are either south facing single aspect, or dual aspect with some even enjoying a triple aspect. A sustainable approach was important, with all of the units designed to meet Level 4 of the Code for Sustainable Homes, and the Lifetime Homes code. Constructed in two blocks of six and nine storeys, the frame is mainly reinforced concrete, with the concrete frame floors and cladding providing thermal mass, which absorbs energy and slowly releases it to help reduce temperature fluctuations.

Long continuous ribbon balconies provide solar shading to the two blocks and provide the residents with a very pleasant outlook across the London Wildlife Trust nature reserve at the rear of the development. The continuous balconies are a major feature of the scheme and with several hundred metres of them winding across the two blocks, effective thermal insulation was imperative if thermal bridging is to be avoided. To minimise any condensation problems and subsequent mould growth as a result, plus the avoidance of thermal outflow, Schöck Isokorb type K heat-insulating load-bearing elements are installed at various strategic positions along the large expanse of balconies. The Isokorb type K provides high thermal resistance by using stainless steel bars to act as tension and shear reinforcement, plus high-strength HTE pressure bearing modules.

Research at the Oxford Institute for Sustainable Development (OISD) at Oxford Brookes University shows that as a result of airtightness and fabric U-values being improved in UK building, thermal bridge heat losses are responsible for an increasing percentage of the overall building heat loss. It is common for thermal bridges to account for 20% - 30% heat loss in multi-residential units (as calculated by thermal modelling) and balcony connections can be a major contributor to the thermal bridge heat loss if effective thermal isolation is not included in the design.

Schöck offers a number of highly effective solutions to various thermal bridging situations. In addition to concrete-to-concrete capability, the Isokorb range provides totally verifiable solutions for concrete-to-steel, steel-to-steel and even a maintenance free alternative to wrapped parapets. All solutions meet full compliance with the relevant UK building regulations and offer BBA Certification and LABC Registration. The requirement that the temperature factor used to indicate condensation risk (the fRsi value), in residential buildings, must be equal to or greater than 0.75 is comfortably met by incorporating the Isokorb. It also complies with the Government Standard Assessment Procedure, SAP 2012, concerning CO2 emissions from buildings and respectively heat losses through non-repeating thermal bridges. The lambda values of the Isokorb enable energy loss to be reduced by as much as 84% to 91% in various connective situations.

For a free copy of the Schöck Thermal Bridging Guide and / or the Schöck Specifiers Guide – contact the company on 01865 290 890 or visit www.schoeck.co.uk

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Notes to the editor

A leading European supplier

Schöck has grown to become Europe's leading supplier of innovative structural load bearing insulation products. The main product is the Schöck Isokorb – a thermal break for various types of cantilever constructions in new buildings and for renovation. Its headquarters are at Baden-Baden in southern Germany and there are subsidiary companies in Great Britain, France, Austria, Switzerland, Italy the Netherlands, Belgium, Poland, Hungary, Russia, Japan, Canada and the USA. Sales teams and partners operate in many other European countries and also Australia and South Korea. Schöck is committed to providing the highest level of technical back up and comprehensive customer service to the construction industry.

Images – All photographs by Schöck Ltd

[Chiswick Point.jpg]

Rear of the development with ribbon balconies clearly evident

[Two blocks.jpg]

The two blocks outlook on to a wildlife park

[Side view.jpg]

Side view of one block

[Chiswick Point_Corner.jpg]

Unusual aspect of the ribbon balconies wrapping to the corner