

Case study



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For immediate release

Schöck Isokorb for major North London estate redevelopment

Kings Crescent Estate, in Stoke Newington, North London is undergoing an ambitious five-year redevelopment project as part of the London Borough of Hackney's wider Estate Regeneration programme. Three new buildings between five and twelve storeys high are under construction, with a number of the existing estate buildings, dating from the 1960s and 1970s, being retained and refurbished to provide continuity and transition. A community centre and mixed-use space for retail and small business offices are also being incorporated. In addition, a number of the existing garage units are being converted into new street accessed ground floor units. The plan is to recreate a neighbourhood of high quality housing and pleasant tree-lined streets that sits comfortably with the surrounding Victorian townscape of terraced and semi-detached housing close to Clissold Park. There are solar panels, green and brown roofing, plus a combined heat and power plant. These are expected to achieve savings of 25 percent of the carbon dioxide emissions that would otherwise have been generated by the development.

The residential element of the scheme will result in up to 765 new homes, intended to offer at least a one-for-one replacement for the present amount of housing on the site. Half the homes will be affordable, with the remainder aimed at the private market. It is claimed to be the only scheme in London to combine new build construction of council homes with the refurbishment of existing council stock.

Two major consequences of thermal bridging

As you would expect there are a significant number of balconies throughout the development and this means the risk of thermal bridging at the many cantilever balcony connections. There are two major consequences of this. One is local heat loss, resulting in more energy being required to maintain the internal temperature of the building. The other being condensation, which is more serious for the building occupants. Low internal surface temperatures, in the area of the thermal bridge, can cause condensation if they are below the dew point. This is likely to result in structural integrity problems with absorbent materials, such as insulation products or plasterboard – or worse, the development of mould growth. This can be a concern in any location, but in a residential situation, there are serious implications in the form of asthma and allergies, particularly for older people and children.

To counter any such risk, the design incorporates two types of structural break units from the extensive Schöck Isokorb range. First there is the Isokorb type KS, a concrete-to-steel connectivity module that sits between the outer and inner structural connection points and blocks the outflow of heat through the use of a high-quality polystyrene insulation core. This core sits inside a compression module that has stainless steel bars passing through it, which take the tension and shear forces between the building frame and the balconies. Secondly there is the Isokorb type QS module. In principle the type QS has the same functionality as the KS, but it does not transfer bending moment. Therefore where steel inset balconies at Kings Crescent are supported along the back edge by external columns, which is a shear load only, the type QS offers a more economic solution.

Verifiable performance standards

The diverse range of Schöck Isokorb load-bearing thermal insulation solutions guarantees totally verifiable performance standards, meets full compliance with the relevant UK building regulations and offers BBA Certification and LABC Registration. In addition to providing highly effective connectivity solutions for

concrete-to-steel thermal bridging situations, the Schöck Isokorb range also offers a modular product for concrete-to-concrete and steel-to-steel applications. There is even a maintenance free alternative to wrapped parapets. When any Isokorb product type is incorporated into residential buildings, the required fRsi value – the temperature factor used to indicate condensation risk that must be equal to or greater than 0.75 – is always comfortably met.

The range 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 enabling 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 Thermal Bridging Solutions brochure – contact the company on 01865 290 890 or visit www.schoeck.co.uk

- Ends –

Design Team

- Architects: Karakusevic Carson Architects with Henley Halebrown Rorrison Architects
- Landscape and Public Realm: Muf Art + Architecture
- Planning: Tibbalds Planning and Urban Design
- Engineering: Peter Brett Associates

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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.

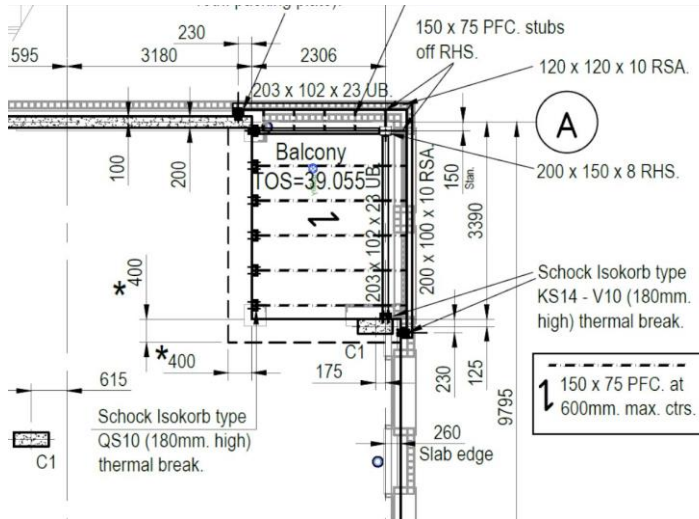
Images and captions



Architects image of final project courtesy of Karakusevic Carson

General work in progress images of the site (Schöck Ltd)





Drawing detail from the project (Schöck Ltd)