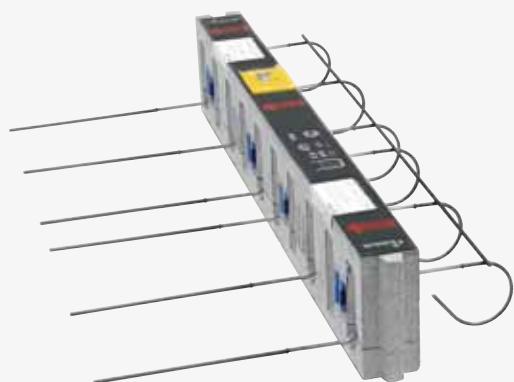




The new East Park Design Centre at Loughborough University



Schöck Isokorb® type Q

## References

### Creative solutions from Schöck at new University Design Centre

The new £14.7m East Park Design Centre at Loughborough University is a striking addition to the campus and the first project in a wider master plan for the modernisation of the mainly 1960's East Park area.

Designed by Burwell Deakins Architects, the 7,500m<sup>2</sup> development is rated BREEAM excellent and offers a wide range of facilities including teaching and lecture spaces, research laboratories, workshops, computer suites, offices and a café.

A highly distinctive feature of the building is the saw-tooth design on the south façade and the extensive use of zinc cladding and sheer glass surfaces on the external envelope. On the south and west elevations there are external solar fins (or shades) to protect against excessive glare and heat gain; and the curtain walling specification incorporates opaque insulated glazed units which minimise excessive heat loss in winter. Internal ducts enable the deep plan workshops to be naturally ventilated, reducing the requirement for

mechanical ventilation.

A critical consideration in the design is the prevention of thermal bridging and its consequences. Quite apart from the regulatory need for a major reduction in local heat loss and CO<sub>2</sub> emissions, there are other factors too. If low internal temperatures around the thermal bridge are below the dew point of the air, condensation will form. This in turn can lead to structural integrity problems with absorbent materials. Worse still, it encourages mould growth, which has serious implications for building occupants and may cause them to develop certain medical conditions such as respiratory problems and dermatitis.

The most sophisticated solution for the prevention of thermal bridging, in connective situations, is the market leading Isokorb® range of thermal break modules from Schöck. Quite apart from its unique design characteristics and outstanding thermal efficiency, it is a range with unrivalled application options. The Isokorb® allows connections to be made between concrete-to-concrete, concrete-to-steel and steel-to-steel; with one of the modular connection types even allowing the retro-fitting of balconies in certain situations.



Three variants of the Isokorb® range have been incorporated.

The East Park Design Centre is a concrete frame construction, and three variants of the Isokorb® range for connecting reinforced concrete-to-reinforced concrete have been incorporated. The Isokorb® type Q30 has been installed to serve as a shear force transfer element where 'cold' external staircases or landings connect to an internal 'warm' structure in the building. The Isokorb® Q30 also has F90 fire protection. Additional stability for the walls is required in certain areas of the new Design Centre and this is achieved through the incorporation of standard HPC load bearing thermal insulation units, which are connected to the slab. Bespoke Isokorb® units complete the picture, designed to separate corbels attached to the internal slab.

These three different solutions demonstrate that although the Isokorb® range is best known for its effectiveness at balcony and walkway connections, it performs equally

well when other structural design features demand thermal separation.

The Isokorb® range comfortably exceeds the requirements of the UK regulation (BRE IP1/06) which stipulates that the temperature factor used to indicate condensation risk ( $f_{RSI}$ ), must be greater than, or equal to, 0.75 for dwellings, residential buildings and public buildings.

Also, there is compliance with the Government Standard Assessment Procedure, SAP 2009, concerning CO<sub>2</sub> emissions from buildings and respectively heat losses through non-repeating thermal bridges. Here, the lambda values of the Schöck Isokorb® enable energy loss in various connective situations to be reduced by as much as 84% to 91%. All products provide BBA Certification and LABC Registration.

For your free copy of the Specifiers Guide and /or the Technical Guide contact Schöck Ltd on 0845 241 3390 or visit [www.schoeck.co.uk](http://www.schoeck.co.uk)

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