

Case study



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For immediate release

Schöck Isokorb proves ideal for Velux Headquarters building

The industrial landscape leading out through the north eastern outskirts of Vienna is, perhaps surprisingly, a seemingly endless accumulation of dull unimaginative commercial buildings. Endless that is until you reach Wolkersdorf, some twelve miles away, where attention is drawn immediately to the Austrian Headquarters of Velux, the major Danish window and skylight company. Velux has been on this site for some 30 years and inevitably the original building had seen a number of modifications over that period. So the decision was taken to develop a completely new administrative facility, much more in keeping with the contemporary style of the company.

Designed by architect Werner Zita, it is a building in stark contrast to what has gone before and draws on the local ambition to introduce more modern architectural styles to this otherwise traditional wine district area of Lower Austria. The unusual sloping roofs stand out immediately, and as Zita explains: "The linear layout of the building does not conform to any conventional right angles and is an attempt to reflect the undulating local landscape".

Built on two levels, with 1750m² of usable area, the new headquarters incorporates offices, showrooms and training rooms, with a car park underneath the structure. Critical to the design of the building is the Velux core concept of bringing fresh air and daylight into living and working spaces; so natural light floods into the building at every opportunity, helping to create a hospitable and friendly environment.

Preventing thermal bridging was a challenge

The facade and roof are made from a titanium zinc outer shell and the varying textures are achieved through the use of longitudinal sectioning. An angled standing seam technique is used in the steep roof areas, with a horizontal open slat facade in the entrance areas and on vertical surfaces. Balconies are widely incorporated around the perimeter of the new Velux building and the prevention of thermal bridging was an early design consideration. It is critical because the resultant heat and energy loss are only two of the consequences if thermal bridging should occur. Condensation and mould growth can develop as well, which may lead to potential health and respiratory problems for the occupants. So with balconies around the building connected to the edge of the internal reinforced concrete slab, preventing the possibility of thermal bridging at these connectivity points is crucial.

As a result, the designers of the Velux building incorporated one of the most effective countermeasures on the market, the Isokorb structural thermal break unit from Schöck. It is a range that allows connections to be made between concrete-to-concrete, concrete-to-steel and steel-to-steel. The many different unit types available, combined with their ability to enable the transmission of shear, bending moment, tension and compression forces, also means that the options available effectively run into thousands when the different combinations are taken into account.

Concrete-to-steel balcony connectivity

For this particular application the Isokorb type KS from Schöck was the ideal solution. It is 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 high quality polystyrene insulation foam. This polystyrene core sits inside a compression module that has stainless steel bars passing through it – and these in turn take the tension and shear forces between the building frame and the balconies. The Isokorb thereby enables a thermally insulated, load bearing connection to be made between reinforced concrete and steel

construction components, and at the same time provides a clean and unobtrusive connection detail.

A 20 page 'Specifiers Handbook' is available which provides an overview and introduction to the Schöck Isokorb, and there is a comprehensive 236 page 'Technical Guide' which displays in detail the complete range of thermal break applications for all construction types.

For your free copy of the Schöck Specifiers Guide and / or the Technical 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.

Pics and captions



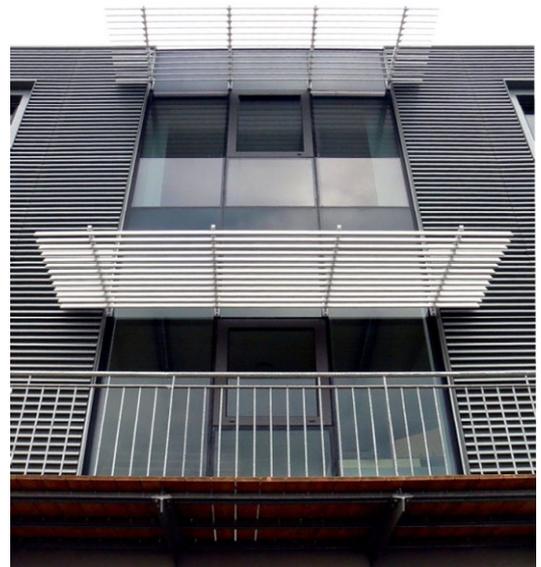
The unusual sloping roofs stand out immediately

[photo: Stefan Huger]

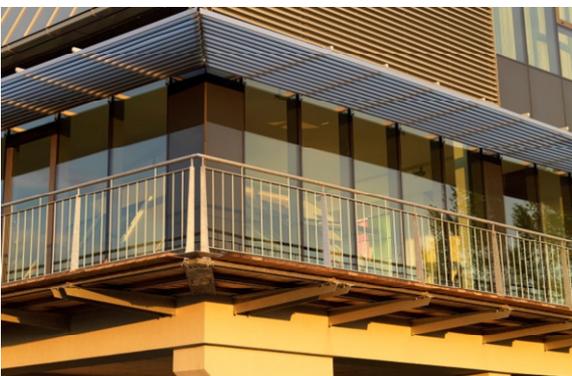


Early site work at the Velux Headquarters

[photo: Werner Zita]



A different aspect of the building exterior
[photo: Manfred Hluma]



Balconies around the perimeter of the building

[photo: Stefan Huger]