

# Case study



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For immediate release

## **Schöck meets demanding Embassy Gardens balcony specification**

Stretching along the south bank of the Thames from Battersea to Vauxhall, the Nine Elms area in London, for so long a neglected stretch of industrial land, has become the largest development zone in Central London. It is around 480 acres in area and the last time Londoners saw such a scale of redevelopment was after the Great Fire of London in 1666. Over the next ten years Nine Elms will see 20,000 homes built, along with new schools, parks, cultural centres, a pedestrian and cycle bridge over the Thames; and the opening of two new London Transport underground stations as part of the Northern Line extension.

The residential and commercial heart of this huge development is Embassy Gardens, London's new diplomatic precinct on the riverside. It forms the backdrop to the new US Embassy, scheduled to relocate from Grosvenor Square during 2017. The blocks are arranged around raised courtyards, with retail and commercial frontages at ground level that connect the Embassy Square, Linear Park and River Frontage through a network of streets and a central square. There are differing building heights to minimise overshadowing and overlook and the buildings incorporate a wide array of public and amenity spaces including communal courtyards, roof gardens, private terraces and balconies.

The first release of apartments in Embassy Gardens is the Ambassador Building, adjacent to the new US Embassy. It comprises six distinct cores, which house not only the residential apartments boasting high ceilings, abundant natural light and walnut parquet flooring throughout – but also a fully equipped private members club to rival the best in any international hotel.

The development has inevitably attracted a sophisticated level of residents who demand the highest standards of detail throughout these buildings; and one of the key features is the wide variety of balcony types, each governed by unit size and orientation.

### **OISD confirms need to minimise thermal bridging**

With such a demanding specification involving different balcony types, the minimisation of any possible thermal bridging problems is crucial. This is something highlighted in research findings from the Oxford Institute for Sustainable Development (OISD) at Oxford Brookes University. It shows that with increasingly improved airtightness and fabric U-values in UK buildings, 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% of the 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. And the company able to offer the ideal range of solutions to the differing thermal connectivity demands posed by the complex balcony designs at the Ambassador Building is Schöck.

### **Verifiable performance standards and full compliance**

The diverse range of Schöck Isokorb load-bearing thermal insulation products guarantees totally verifiable performance standards, meets full compliance with the relevant UK building regulations and offers BBA Certification and LABC Registration. The specific requirements at the Ambassador building involved firstly the Schöck Isokorb type K for concrete-to-concrete connectivity. The type K units were incorporated into the cast in-situ cantilever balconies on the road facing external elevation; and where there was a shear force transfer element required, also involving concrete-to-concrete loggia's or supported balconies, the Isokorb type Q was installed. A further variation, Isokorb type K-WU units were also used as slab to wall thermal breaks.

The Isokorb type KS for concrete-to-steel were used on the internal courtyard balconies; and to assist the structural engineer in keeping the transverse beam continuous between the external columns, Schöck SLD dowels were also used to support the propped cantilever walkway externally.

In addition to providing highly effective connectivity solutions for concrete-to-concrete and concrete-to-steel thermal bridging situations, the Schöck Isokorb range also offers a modular product for steel-to-steel applications and 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](http://www.schoeck.co.uk)***

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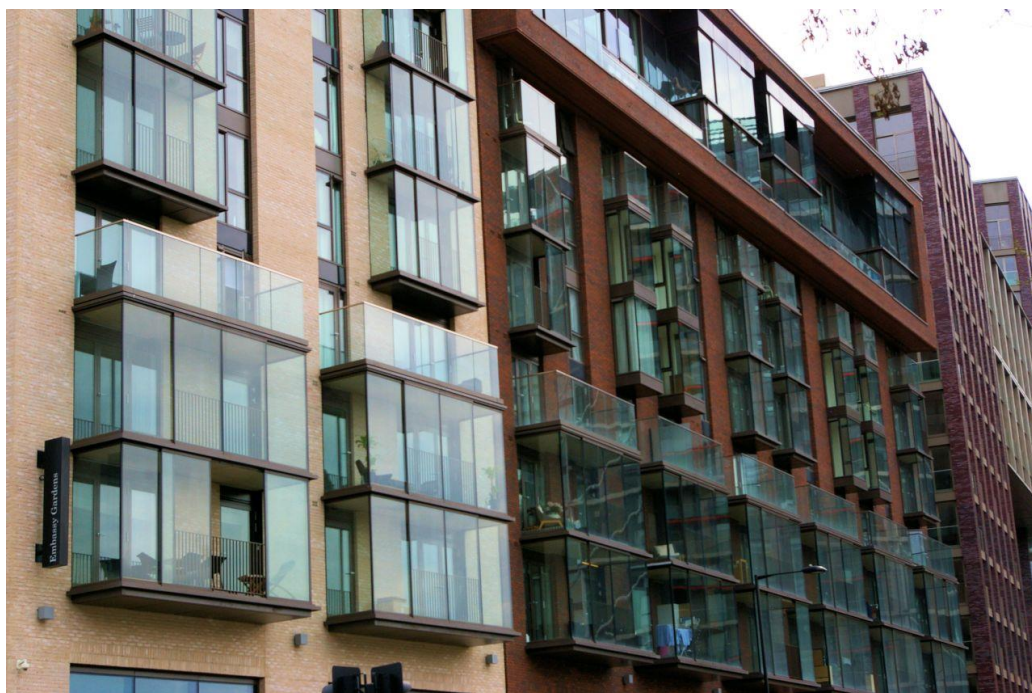
## Notes to the editor

### **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**

[EG 7 HR]



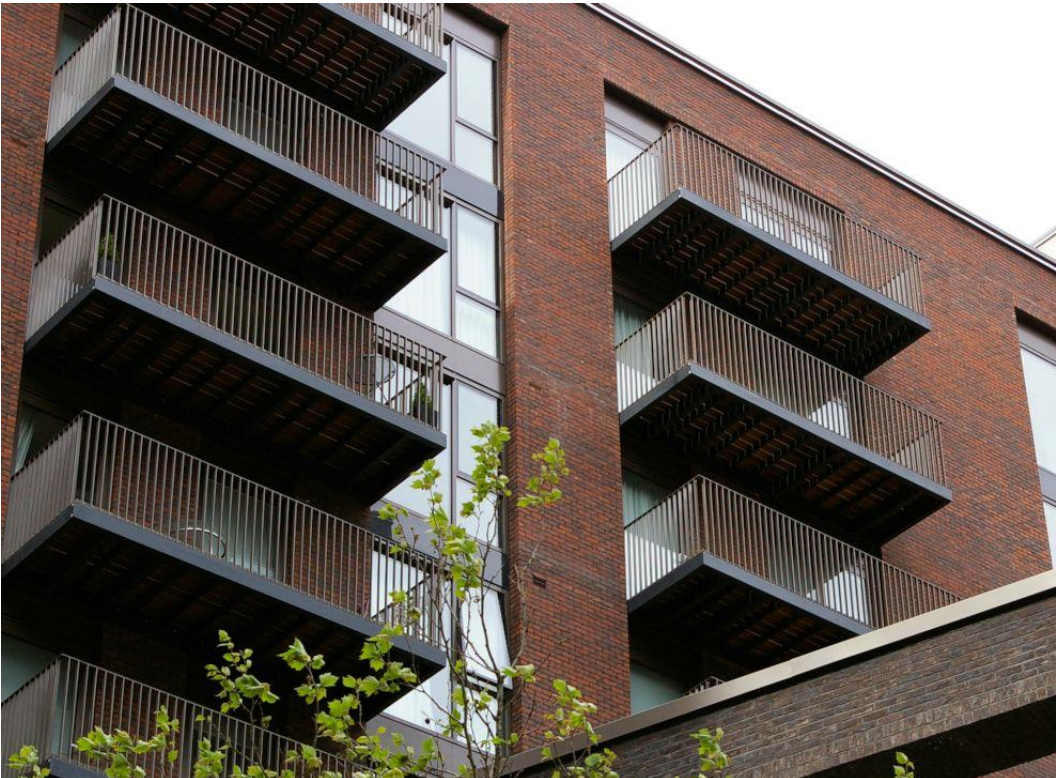
***Cast in-situ cantilever balconies on the road facing external elevation***

[EG 4 HR]



***The rear of the development with the new US Embassy under construction in the background***

[EG 8 HR]



***Part of the inner courtyard***

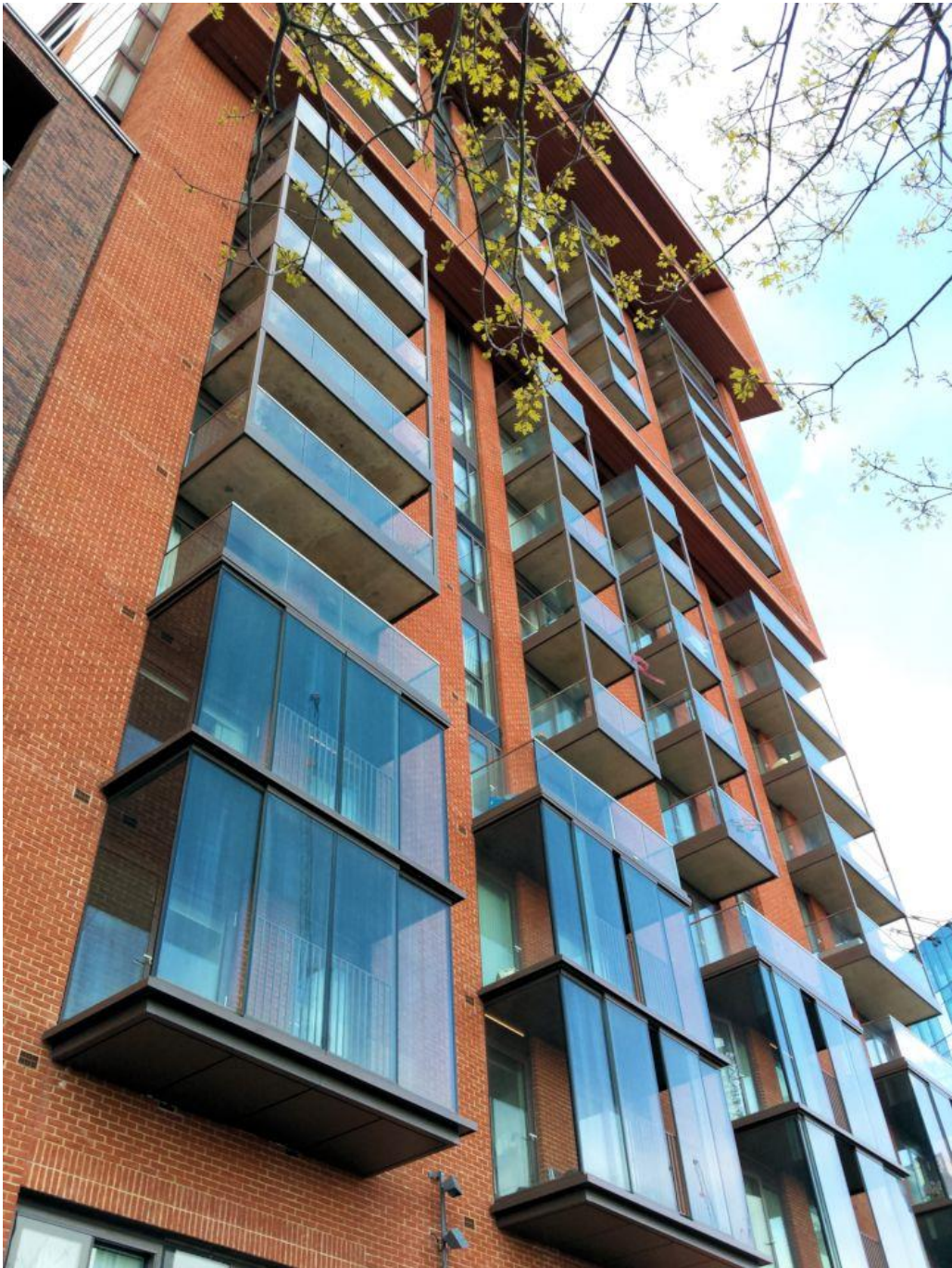
[EG 2 HR]



[EG 5 HR]



[EG 3 HR]



***General views of the development***