

Case Study: Gyle Square, Edinburgh

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Kawneer achieves record air pressure test result on £2.1million façade contract

Kawneer's 1202 zone drained curtain walling system, installed at the Gyle Square office development in Edinburgh, achieved the best air pressure test result, as part of a whole building pressurisation test, that main contractor HBG and Oxfordshire-based testing house Building Sciences had ever witnessed.

Building: Gyle Square

Location: Edinburgh

Architect: Michael Laird Architects

Main Contractor: HBG Construction

Installer: Charles Henshaw & Sons

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Kawneer's exceptionally air tight solution in Edinburgh

The Kawneer 1202 zone drained curtain walling system was installed by Charles Henshaw & Sons as part of a £2.1million façade contract for Gyle Square, a speculative office development in Edinburgh designed by Michael Laird Architects for Highland Properties Assets (South Gyle) Ltd. The building achieved a test result of 2.16 m³/h/m² at a rate of 50 Pa. The target standard is for air permeability not to exceed 10m³/h/m² at an applied pressure difference of 50 Pa.

The test was carried out by Building Sciences in accordance with CIBSE TM 23 pressure test procedures, which form part of revised Document L in England and Wales and became statutory for buildings over 1000 square metres in October 2003. The test does not actually form part of the Scottish Regulations' Document J. However, to ensure the long-term marketability of Gyle Square, Highland Properties felt that it was important to ensure a good, environmentally friendly air permeability result. Alan Macgregor, project architect, comments: "The client was very clear from the outset of the project of its intention with regard to air permeability so we designed air tightness into the building from the earliest stages. The result on the part of Henshaw and Kawneer was outstanding, and typical of the overall success of the contract."

Having originally specified another system for the Gyle Square project, Michael Laird Architects changed its mind at the last minute. Alan Macgregor explains: "Henshaw is a local Edinburgh company that we know will deliver as we've worked with them before and used the Kawneer range. We didn't believe that the Kawneer system was capable of achieving some of the design detailing that we required on this particular project, but Henshaw assured us otherwise and we decided to take their word for it. The Kawneer system did indeed achieve everything that we had wanted from the originally specified system."

Gyle Square is a 15,500 square metre, three-storey building with a central, open courtyard. Kawneer's 1202 zone-drained curtain walling system, featuring AA®601 casement windows, has been installed on all externally facing elevations. To the internal courtyard elevations, the system has been installed into rendered walls. One particular design feature required by the architect of the curtain walling focuses on two of the building's five flights of stairs. There are three 'secondary' staircases in the building and two that occur next to the two main entrances. These are actually external, 'feature' stairs and are bolted onto the building. Alan Macgregor explains: "It was our intention to make the two external staircases as light as possible. We were looking for glass to glass corners and very little structure, which we achieved. The glass actually goes up right over the top of the staircase to form the roof and back down the other side. There is very little visible of the actual structural fixings from the curtain wall sections back to the structural steel, and the fixings themselves are quite discreet."

Another design feature that the architect is particularly pleased about is the aluminium pressed channel that occurs on each column line and at each floor level. The channel feature was designed and manufactured by Henshaw. Alan Macgregor again: "We've been trying to achieve this particular architectural detail for the past 13 years on a number of different buildings and with Henshaw's help we've finally done it on Gyle Square. The aluminium has been pressed to mimic a steel 'C' section. Once installed it looks as though the curtain wall is broken up into bays, which is not the case because the system actually runs down behind the feature channel."

Kawneer's systems have a silver anodised finish and are fitted with high performance solar control glass to the south and west facing elevations and low emissivity glass to the north and east facing ones. The spandrel panels located at the top and bottom of each bay have a neutral coloured rear panel and a clear glass front with a horizontal fritted line to give them depth. The main contractor was HBG and the overall project cost was £13 million.

Please contact our Architectural Services Team if you have a project you would like to discuss: Tel: 01928 502604 / Email: kawneerAST@arconic.com

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