Kawneer systems prove their adaptability in St Andrew Square

*Curtain walling and doors by Kawneer feature in Edinburgh’s World Heritage Site.*

Architectural aluminium glazing systems by leading UK manufacturer Kawneer were specified for a landmark office building in the Edinburgh New Town Conservation Area for their ability to meet a diverse range of requirements.

CDA (Comprehensive Design Architects) in conjunction with Hoskins Architects specified three types of Kawneer’s curtain walling and two types of doors for the £42 million redevelopment of 3 to 8 St Andrew Square on a prominent corner of the sensitive World Heritage Site.

The Kawneer AA®110 capped and SSG (Structurally Silicone Glazed) curtain walling with a 65mm sightline and a bespoke 80mm wide system, complemented by series 190 heavy-duty and 350 severe-duty commercial entrance doors, have been used on the offices on the second to sixth floors of number 6 and on some elements of the eight retail/restaurant units on the ground, first and basement floors of numbers 3 to 8.

The development comprises 112,000ft² of Category A office space, now let in its entirety to Standard Life Investments, arranged around a full-height atrium, with roof terraces at the fourth and sixth floors, ground floor reception and double-height entrance on St Andrew Square, parking/bike storage at basement level and welfare facilities at lower ground floor.
Formerly the headquarters of the Scottish Provident Institution, the site had been developed in piecemeal fashion over the years, culminating in a series of interlinked buildings that were no longer fit for purpose. The poor-quality office space, in a prime city centre location, had lain empty for 12 years.

The key aim was to create a sustainable future for the site which had been severely compromised prior to the redevelopment. The brief recognised the importance for the elevations to be of the highest architectural quality, to complement and stand alongside adjacent buildings surrounding the Square and beyond and to create economically-viable, high-quality Grade A office space.

The building takes advantage of natural daylight and the spectacular views to the Castle, over St Andrew Square and to the Forth beyond by framing the views rather than creating vast expanses of glazing. Bronze feature picture windows and the Kawneer curtain walling mullions contrast visually with the background and frame the stunning views.

Specialist sub-contractor Charles Henshaw & Sons were appointed by the client’s team in 2008 for their façade knowledge and in conjunction with CDA and Gareth Hoskins Architects they addressed critical issues such as live load movement and deflection, resulting in the bespoke 80mm Kawneer system.

After a two-year build by main contractor Bowmer & Kirkland, the site is now transformed, with the nine-storey building clad in stone and glass with bronze feature picture windows and bespoke Aurubis “bronze” metal fins attached to the curtain walling by Kawneer, part of the Arconic group.

CDA project director Gareth Thompson said: “The project required different types of curtain walling, capped and SSG, not to mention the bespoke fin caps. The adaptability of Kawneer’s systems played a critical part in achieving the design and successfully resolving the complexities of the different types of curtain walling.”

Henshaw deputy managing director Graham Chung said: “Kawneer were introduced to the project in 2008 as part of the Henshaw supply chain for their experience and ability to accommodate bespoke elements.”

The project brief was to clear the site, retaining the Category A listed building at number 3 and Category B listed building at number 6-7 St Andrew Square, and build a speculative office development with retail units below, including high-end residential apartments on the upper floors of number 3, and basement parking.
The original redevelopment design dating from 2007 was based on the standards and regulations current at that time, as the development was programmed to start on site in early 2009. Due to the economic downturn the then owners, Stockland, put the project on hold with the aim of securing a major pre-let for at least some of the office space before proceeding. At the same time they investigated hotel use for a variety of operators.

Standard Life Investments and Peveril Securities purchased the development in December 2013 on a speculative basis with the intention of implementing the consented scheme. Following an initial design review some changes to the brief were targeted to improve the quality of the investment. Further improvements were instructed during construction to meet the client’s aspirations and tenant’s requirements, including BREEAM 2011 “Very good” rating.

The office floor plates were severely compromised by the retention of number 6-7. As a 1960s modernist building it did not meet current floor to ceiling standards resulting in changes in level at interfaces with the new office space that prevented floor plates from being entirely open plan.

Following lengthy negotiations, Historic Scotland removed number 6-7 from the register of listed buildings allowing for its complete demolition. Planning and Conservation Area consents were granted for a new frontage and improvements to the office floor plates including removing the previous changes in floor level and creating additional net floor area.

After receiving planning consent allowing Class 1, 2 or 3 use for the retail units, six of the eight units were let to high-quality restaurant operators. A full-height riser, passing through the office floors, and external gantry were introduced to accommodate the tenants’ ventilation ducts rising to fresh air above roof level.

Overall structural stability of the steel frame has required a complicated solution due to the lack of a full-height central core to provide stiffness and largely glazed elevations restricting bracing locations.

What started out as a speculative office development with flexibility for up to 14 office suites has ended up being let on open market commercial terms as corporate offices for Standard Life Investments. The resulting changes to both the landlord and tenant briefs were developed while construction was ongoing, requiring numerous variations to the building contract which were successfully incorporated.

The bespoke metal fins attached to the Kawneer curtain walling were fabricated from a proprietary aluminium bronze flat sheet, Aurubis Nordic Royal, an alloy of copper with aluminium and zinc, with a rich golden through-colour.
As they were especially made for the project, extensive research was carried out to establish the best method of forming their tapered profile by folding the flat sheet and achieving a high quality finish.

Nordic Royal has a natural mill finish that is initially bright, eventually losing some of its sheen as the surface oxidises. Further research was carried out with mock-ups having a variety of grit finishes to speed up the oxidization process and fine-tune the appearance of the bronze patina that will develop over time.

When viewed from straight-on the fins are almost invisible, allowing uninterrupted views in and out. When viewed from an increasing angle the visibility progressively closes up until completely blocked by the fins and the elevations appear solid. The appearance of the building continuously changes as you walk around it and will continue to do so with time as the fins develop a rich patina.

In a statement to the BCO, CDA said: “The highest quality was demanded by the site context and brief. Build quality was addressed at the design stage by selecting materials and construction methods offering proven performance and low maintenance. During construction approved control samples of finishes and materials were retained on site to benchmark the acceptable quality.

“The innovative façade treatment, where the ‘bronze’ fins are integral to the curtain walling system, was developed alongside façade specialists to ensure the desired aging effect of the fins will be achieved. The appearance of the building will mature, befitting the historic setting, as the fins mellow over time.”

ENDS

Photo: Bowmer & Kirkland @bandkphoto

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