

WestQuay Watermark leisure quarter

WestQuay Watermark is a premium leisure and dining hub located on a redeveloped brownfield site in the city centre of Southampton.



End client:
Hammerson

Architect:
ACME

**Building envelope
sub-contractor:** Lakesmere

**Mechanical & electrical
consultant:** Hoare Lea

Technology used:
Passivent Aircool® ventilators

Formerly a Pirelli factory, the £85m centre plays an important part in Southampton's environmental and economic regeneration and is home to over 20 restaurants, a multiplex cinema and a bowling alley as well as a new public plaza in front of the city's historic walls.

With a 'BREEAM Excellent' rating, the building's unique cladding and cantilever design has created an architectural landmark on the south coast. Following the granting of planning permission in February 2014, the scheme was completed in February 2017.

passivent



Ventilation
& Air Quality



Natural
Daylight



Moisture
Removal

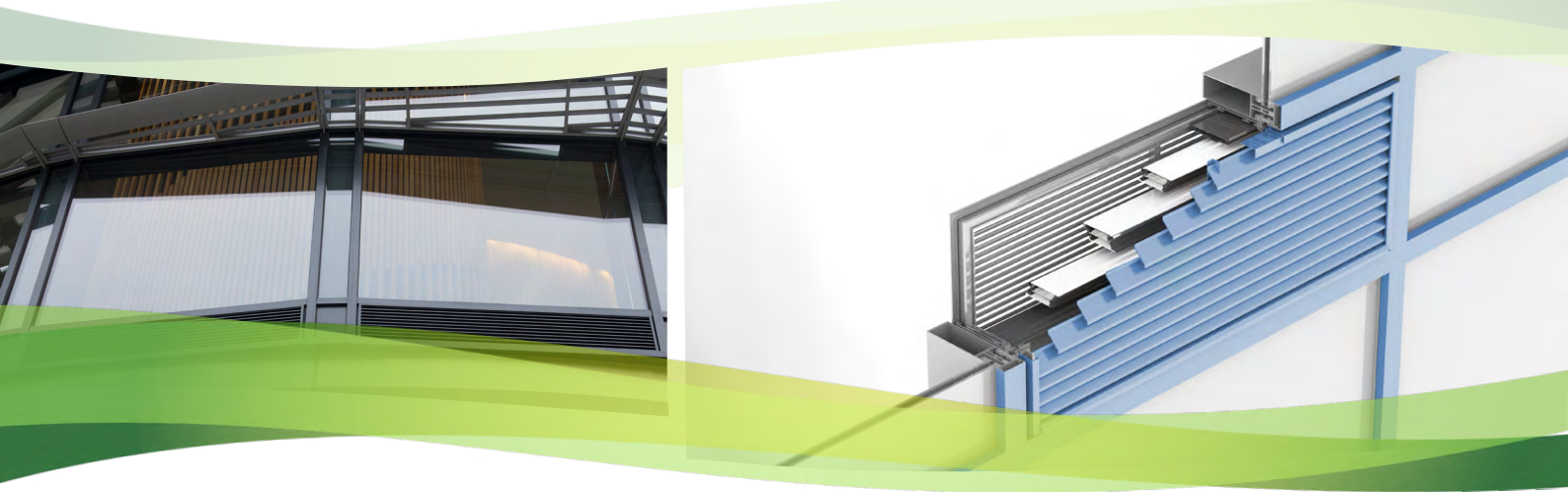
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**building
product design**

The challenge

The development's unique architectural design posed particular challenges in designing and delivering the ideal ventilation strategy. These challenges included the need for an effective ventilation system that did not compromise the aesthetically pleasing design, by integrating seamlessly with the uniquely faceted construction of the building. At the same time the system had to be energy efficient, cost-effective and low maintenance.

The requirement for the free movement of air to provide a comfortable internal space for users was complicated by the large expanse of glazing used in the design of the building, making overheating a real concern. Timing was also important due to the nature of the building design, the complex build programme, the multiple trades involved and the need to minimise the risk of damage on site. Flexibility was another key stipulation, with the chosen system needing to react to the continually changing environment inside the centre such as day and night-time temperatures and also the varying levels of footfall. Finally, Southampton's location meant that the product would need to be robust to protect against the coastal elements.



The solution

A robust ventilation strategy using Passivent Aircool® controllable ventilators was specified by consultants Hoare Lee. The installation was managed by building envelope company, Lakesmere, who installed the roof and curtain walling, plus a host of architectural features and ancillaries.

Passivent collaborated with a multi-functional team from Lakesmere to ensure the design fully met Hoare Lee's specification. The technical team also supported Lakesmere in calculating the quantity and size of ventilators needed to meet the total free area of 44.54m², as well as producing bespoke drawings for a total of 157 Aircool ventilators, supplied across eight different curtain walling screens in various areas of the development. The complex project needed significant programme management by Passivent who ensured that the ventilators were manufactured and delivered on time to enable the phased build. Thanks to a well-managed design period at the start of the project, the installation ran smoothly and ensured that the risk of product damage whilst on site was minimised.

Aircool ventilators were installed at high and low levels within the façade to ensure a good through-flow of air. Aircools continuously adjust the airflow by means of their low voltage, modulating actuators, which constantly control the air and CO₂ levels to match the changing internal environment. The ventilators were also designed to suit the multi-angled façade with bespoke louvres custom-made for the faceted curtain walling system. A number of 'blank' units were supplied for continuity of appearance where there was no need for actual ventilation.

The system includes removable actuator covers for ease of maintenance. Aircools were manufactured from aluminium with ABS thermal breaks and specifically for the WestQuay development, marine grade powder coating with a 25 year guarantee was used to provide a robust and weather resistant finish.

Nick Beswick, sales director at Passivent said: "Aircool is ideal for installation in external façades such as WestQuay. It is discrete and, compared to mechanical ventilation, is cost effective to install, adaptable and requires minimal maintenance. It is favoured for many projects due to its ability to be integrated within a building management system"

Colum Ellard, Lakesmere's glazing manager said:

"Passivent's Aircools look great both internally and externally and the finish was excellent. Passivent ensured that the ventilators were delivered on time and in the quantities and sizes needed for each phase of the build. The Aircools' design meant that the ventilators were straightforward to install and the ability to seamlessly integrate them within the building management system was a real benefit."

Passivent offers natural and hybrid ventilation solutions for a broad range of sectors including education, commercial, leisure, care, healthcare and residential.

