smart
architectural aluminium

Project Portfolio

A SELECTION OF COMMERCIAL PROJECTS
SHOWCASING SMART SOLUTIONS

smart
architectural aluminium

Project Above
2 Kingsway, Cardiff

Architect
AWW Architects

Having worked closely with the Smart technical support team, I have been delighted not only with the breadth and depth of their knowledge, but also their commitment to working closely with my team to deliver a first-class project.

Ultimately, of course, it is about the product. The fact that we have a highly-satisfied client and residents happy with the first-class fabricator/installer speaks volumes about the whole process and the part Smart played in it."

David Davies, Partner, Guardian Surveyors LLP

Our dedicated, experienced team provides a full support service to architects at every stage of a project - from initial concept right the way through to project completion.

At the design stage, we are able to provide advice on the most appropriate system and glazing to not only meet the architect's design vision, but also with regard to structural, thermal and acoustic performance requirements for each particular project. Having identified the most appropriate products, our team will prepare a comprehensive project-specific report based on the National Building Specification (NBS) protocol.

We also have product and design information available in a number of formats as required, including DWG and BIM files, as well as an online tool (The Smart Green Guide) to perform BREEAM Green Guide calculations for various window profiles and systems.

Once the product selection has been made, we then work closely with the design team to build a full and complete specification in preparation for the tender stage, at which point we will advise main contractors of a number of fabricators and installers with whom they could work. As a proud member of the Made in Britain network, manufacturing is carried out at our purpose-built plant in the south west of England.

Working through to completion of the project, we are able to provide professional advice and guidance throughout the process, attending site meetings and visit as necessary.

bsi. ISO 9001 Quality Management FM21582

bsi. ISO 14001 Environmental Management EMS554307

bsi. OHSAS 18001 Occupational Health and Safety Management OHS571955

bsi. ISO 50001 Energy Management ENMS634370

CAB

CENTRE FOR WINDOW AND CLADDING TECHNOLOGY

MADE IN BRITAIN

The Boat House

LIME KILN ROAD, BRISTOL

SPECIFICATIONS

PROJECT
The Boat House/ Purifier House
Lime Kiln Road, Bristol

ARCHITECT
AWW
Baldwin Street, Bristol, BS1 1QB

MAIN CONTRACTOR
Linden Homes
Bristol, BS8 1EH

Originally built in the 1880s, Royal Mail's Mount Pleasant sorting office has now been modernised, with a major feature of the refurbishment programme being the replacement of the exiting uPVC windows in the main administration building with the Smart Alitherm Heritage window system.

With a design that was inspired by its stunning location, The Boat House features Smart's EcoFutural range, with fixed frame, casement and tilt and turn windows as well as single and double doors specified. Each of the systems is framed perfectly by the striking timber cladding of the building's façades, with the EcoFutural windows and doors combining not only to deliver elegant aesthetics, but also outstanding thermal performance, durability and low maintenance.

EcoFutural offers an integrated range of high performance windows and doors. Featuring Smart's chambered polyamide thermal break within its profiles, the system is perfectly suited to commercial applications where exceptional thermal efficiency is a key requirement. The system delivers excellent weather performance and high security, with a range of window and door formats available to suit the needs of each individual application. The large format tilt and turn windows for The Boat House were specified both for their versatility and ease of operation.

EcoFutural

Purifier House

LIME KILN ROAD, BRISTOL

Alitherm Heritage windows, together with Smart commercial doors and ground floor framing,were installed as part of Linden Homes' development of the Grade II listed Purifier House, which is situated alongside the Boat House in Bristol's Harbourside area.

Once a gas purifying station, Purifier House dates back to the 1820s and was in regular use up to the 1960s. The building then fell into a state of disrepair and became derelict in the 1970s. As it is situated in the City Docks Conservation Area, Purifier House was listed to Grade II status in 1985 – although all that remained of it was its existing walls, which were strapped and braced to avoid further deterioration. Linden Homes' redevelopment transformed Purifier House into elegant waterfront homes in one of Bristol's most vibrant locations.

28 Apartments have been created above ground floor retail and café space which overlooks the Harbourside and provides a valuable addition to the area.

The selection of Alitherm Heritage for the scheme allowed the buildings iconic arch-headed and bullseye windows to be re-created in modern materials, maintaining its distinctive appearance while delivering the thermal and performance benefits of a modern aluminium window system.

Alitherm Heritage

Kingston Hospital

KINGSTON-UPON-THAMES

SPECIFICATIONS

PROJECT	ARCHITECT	MAIN CONTRACTOR
Kingston Hospital Kingston- Upon-Thames	**Pellings** 24 Widmore Rd, Bromley BR1 1RY	**ARJ** Rutherford Cl, Stevenage SG1 2EF

In 2014, the Kingston Hospital NHS Foundation Trust embarked on a major refurbishment programme to replace the windows and doors of the hospital's Esher Wing. The work was commissioned not only to improve the building's aesthetics, but also improve thermal performance, reduce energy costs and deliver improved patient, visitor and staff comfort.

The fenestration fabrication and installation work was carried out in just eight months, with the hospital continuing to operate throughout. Around 1,200 Smart EcoFutural windows were installed, each nominally six metres wide by three metres high and a combination of tilt and turn and bottom-hung casement windows, as well as seven sets of Smart Wall double doors and the MC 600 curtain wall grid system. The end result is a much-improved appearance and a building which is warmer, weather-proof, more energy-efficient and better ventilated.

Paul Dancey, Operations Manager of BMI's Coombe Wing which formed part of the refurbishment programme said: "The whole project was exceptionally well managed, with the clear communications between all parties a vital component of its success. As a result of the programme, we now have state-of-the-art windows which have considerably improved patients' comfort and provided an enhanced working environment for all hospital staff."

EcoFutural

Mount Pleasant

CLERKENWELL, LONDON, EC1A 1BB

SPECIFICATIONS

PROJECT	ARCHITECT	MAIN CONTRACTOR
Mount Pleasant Clerkenwell, London, EC1A 1BB	**Boyes Rees** Cardiff, CF10 3AL	**Mace** London, EC2M 6XB

Originally built in the 1880s, Royal Mail's Mount Pleasant sorting office has now been modernised, with a major feature of the refurbishment programme being the replacement of the exiting uPVC windows in the main administration building with the Smart Alitherm Heritage window system.

The new windows replicate the aesthetics of the building's original bronze fenestration, echoing its slim sight lines and finish (the building originally featured large bronze windows, but in a 1980s refurbishment, these were replaced with white uPVC units). Each of the Smart window units is an impressive eight metres wide by four and a half metres high and was manufactured in a dual colour format, with the external profile featuring a bronze polyester paint finish and the internal profile standard white.

Given the exceptional scale of each window unit, and their corresponding performance requirement, Smart's technical services team designed and developed a bespoke, 85mm coupling mullion to reinforce and strengthen the system, while retaining its characteristic slim profile. As part of the redevelopment, new Alitherm Heritage windows were also installed around the building's stairwell – these were externally-beaded to allow maintenance to take place without having to access the lift shaft.

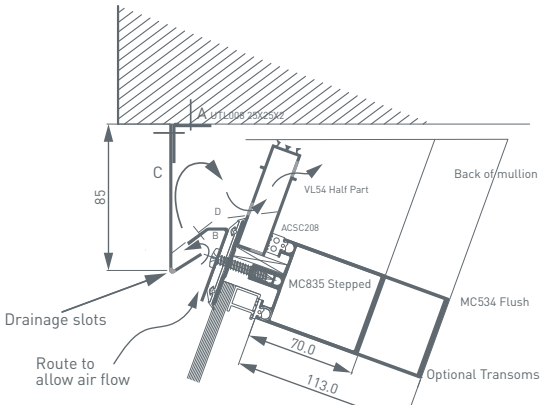
Alitherm Heritage


FRUITERERS
GOLDSMITHS

City Market

PLYMOUTH

TRICKLE VENTILATION DETAIL – SECTION VIEW



The multi-million-pound redevelopment of the Plymouth City Market featured a range of Smart Architectural Aluminium's windows and doors. Located in the west end of the city, the market's structure features an iconic wave-like roof and geometric design, elements which led to it being granted Grade II Listed Building status..

Smart's Alitherm Heritage Windows were specified for the project, the system having been designed and developed to suit sensitive refurbishment projects such as this. However, unusually the specification called for single-glazing and so Smart manufactured a new die to create a single-glazed bead for the system to meet the client's requirement.

For the remodelled entrances, Smart's Commercial Door system was selected, supplied in a polyester powder coated white finish and the Alitherm Heritage windows in a silver anodized finish.

The programme was not only technically challenging, given the building's unorthodox shape and listed status, but also logistically complex. As it is such a busy market, the work was phased to keep disruption to both traders and the public to an absolute minimum, with a lot of installation work taking place outside the market's normal opening hours.

SPECIFICATIONS

PROJECT
City Market, Plymouth
Plymouth

CLIENT
Plymouth City Council
Plymouth

PROJECT CONSULTANT
AECOM
London, E1 8FA

Innovation

To provide a permanent ventilation system for the top of the market's main façade, the design team produced curved trickle ventilation and new baffle details. Consequently, if any water did manage to permeate through the roof, it would drain straight back out of the building.

University of Roehampton Library

WANDSWORTH

SPECIFICATIONS

PROJECT	ARCHITECT	MAIN CONTRACTOR
University of Roehampton Library Roehampton, London SW15 4PY	**Feilden Clegg Bradley Studios** Toll Bridge Rd, Bath BA1 7DE	**Osbourne** City, AB1 2CD

Completed in August 2017, the award-winning University of Roehampton library is at the heart of the university's 54 acre campus in Wandsworth, providing a light, modern and spacious environment for the university's students and staff...

The new building features a range of Smart's systems, including EcoFutural doors, Smart Wall and MC Wall curtain walling. Given that the library has been designed to be a passive building in terms of energy, with highly-insulated facades and high levels of air-tightness, the highly thermally-efficient EcoFutural system was specified for the library's doors, with the striking large-format units a key element of the building's design.

The design of the curtain wall system also created a dramatic façade, featuring concealed transoms which have enabled seamless 'glass-to-glass' joints to be used, as well as accommodating a series of masonry panels which were hung from it.

The versatile, high performance door system has been used to excellent effect to enhance the aesthetics of the new Roehampton library building, and has also been used in a range of new build and refurbishment projects across the UK, including both commercial buildings and residential developments.

Smart Wall

Killykeen Holiday Village

KILLYKEEN FOREST PARK, IRELAND

SPECIFICATIONS

PROJECT	CLIENT	INSTALLER
Killykeen Holiday Village	**Silvertown Properties Limited**	**Super Seal Window Systems Limited**
Co. Cavan	London, EC1V 3AG	Northern Ireland

Set in 74 acres of forest parkland and located on the shores of Lough Oughter in County Cavan Ireland, Killykeen Holiday Village provides 28 luxury log cabins for guests, as well as range of leisure facilities.

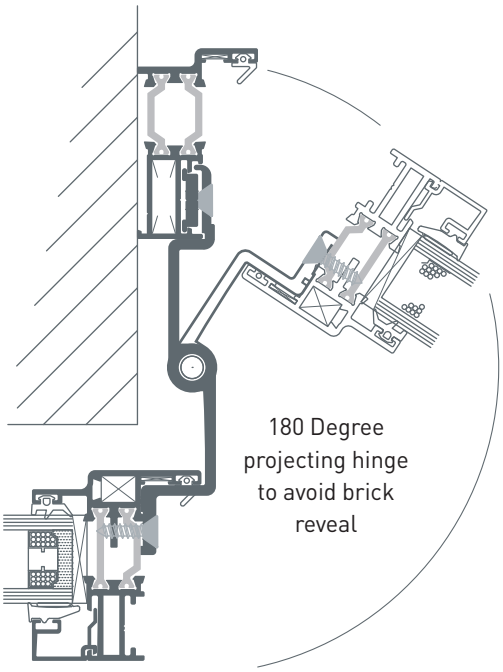
The site was acquired by Silvertown Properties Limited in 2016 and a year later the planning for a full refurbishment of the park's log cabins began. The requirement for the windows and doors was to match the aesthetic of the existing steel fenestration systems, with a mixture of both on-site refurbishment work and off-site modular construction required. Smart's Alitherm Heritage window and French door systems were chosen for the project, the range providing the perfect solution to meet both the project's refurbishment and off-site modular construction requirements.

Designed to meet the aesthetic and performance needs of this prestigious project, the Alitherm Heritage system features the slim profiles and sight lines that are associated with traditional steel products, its timeless elegance being accompanied by outstanding thermal performance, durability and longevity.

Alitherm Heritage

Hallfield Estate

WESTMINSTER COUNCIL



Located in a conservation area and including many Grade II listed buildings, the redevelopment of the 1940s Hallfield Estate featured Smart Architectural Aluminium's Alitherm Heritage windows and doors.

A great example of post-war, modernist design, the estate featured external staircases and open walkways with traditional steel windows. Due to the narrow walkways, the main windows open inwards, while higher vents open outwards to allow natural ventilation.

Smart developed new tilt and turn vent sections specifically for the project, maintaining the slim sight lines of the steel windows which were being replaced. A new rebate reverser section was also developed by the company for windows at the higher level, to enable the bespoke combination of open-in and open-out windows to operate.

Narrow balconies also caused some complications with the design of the Alitherm Heritage door, such that if double doors were conventionally hinged in the middle of the door frame, too much space would be lost when the doors were being opened. To solve this, the design team developed a 'parliament' hinge, this design enabling each door to easily open individually, with the new hinges being installed on the slave door and a conventional hinge on the master, which is opened first.

The transformation of the estate was remarkable, with the new, modern systems maintaining the design concept of the original fenestration, while delivering a modern, high-performance solution.

SPECIFICATIONS

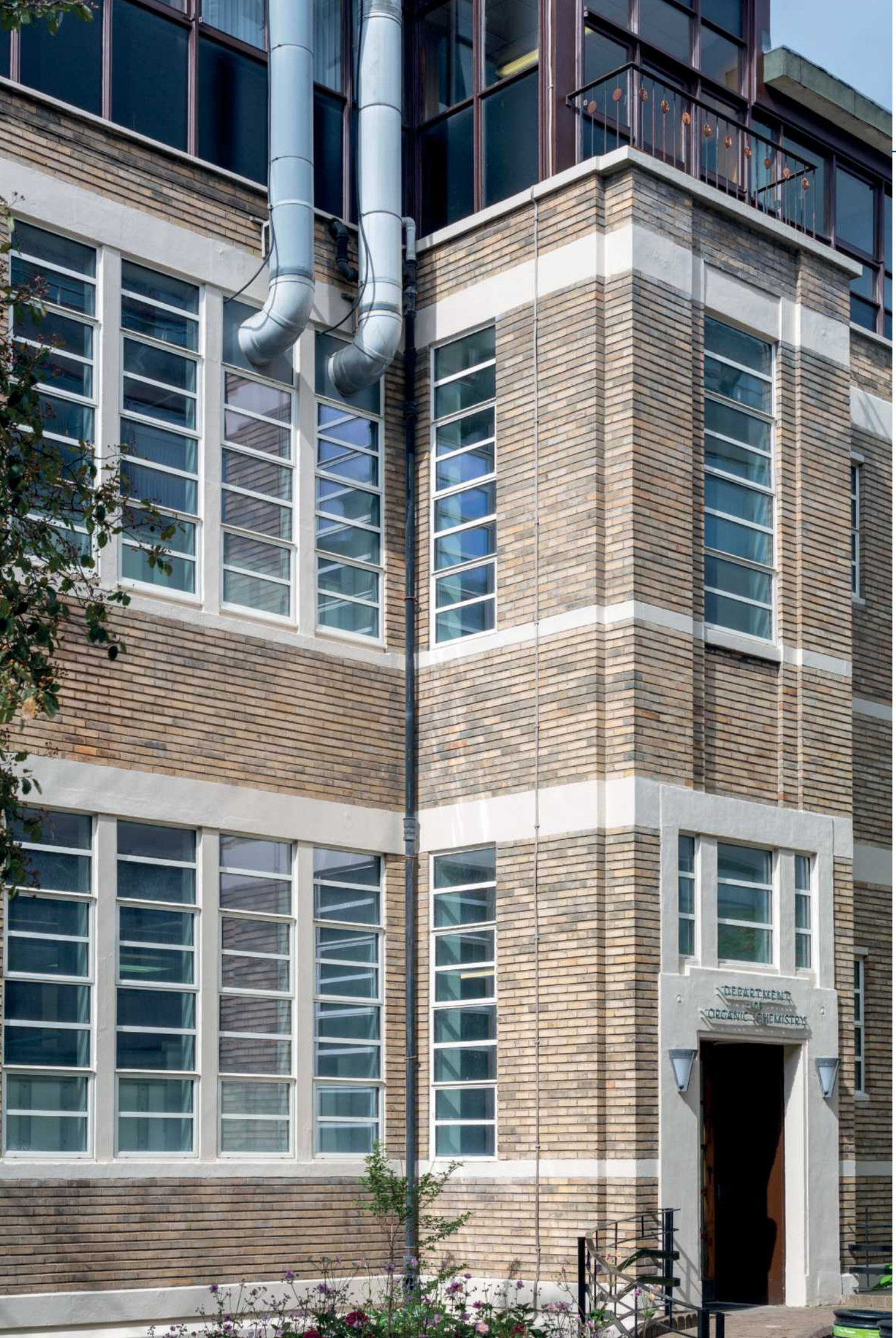
PROJECT
Hallfield Estate
London, AB1 2CD

ARCHITECT
Architect Name
Street Name, City, AB1 2CD

MAIN CONTRACTOR
Contractor Name
City, AB1 2CD

Innovation

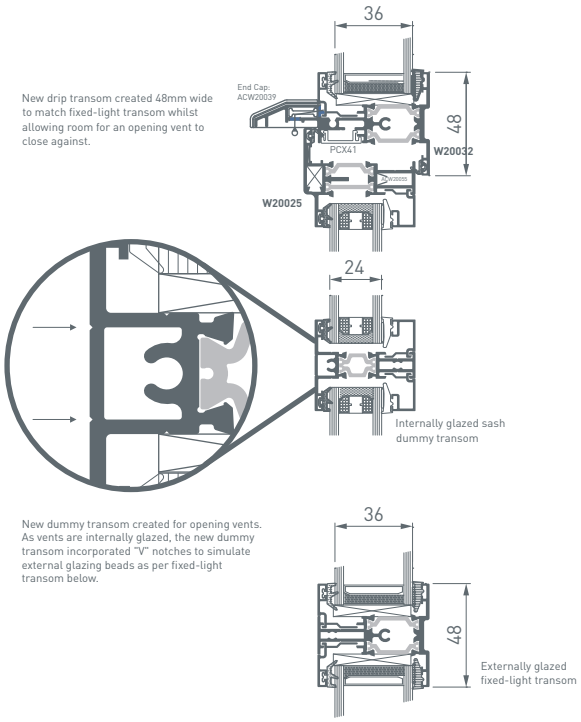
To provide a permanent ventilation system for the top of the market's main façade, the design team produced curved trickle ventilation and new baffle details.
Consequently, if any water did manage to permeate through the roof, it would drain straight back out of the building.


DEPARTMENT
OF
ORGANIC CHEMISTRY

Joseph Black Building

UNIVERSITY OF GLASGOW

NEW DRIP TRANSOM AND DUMMY TRANSOM DETAIL



SPECIFICATIONS

PROJECT
Joseph Black Building
Glasgow, AB1 2CD

ARCHITECT
Architect Name
Street Name, City, AB1 2CD

MAIN CONTRACTOR
Robertson Construction
Newton-le-Willows, WA12 0JQ

Innovation

The team designed a new cill and gasket details to ensure that an almost exact match to the original design was achieved. The design team also developed new window couplers at four metres to enable eleven metre vertical runs of windows to be installed, faithfully recreating the original curtain walling design.

The refurbishment of this iconic building was designed to give it a completely new lease of life, preserving its design heritage while improving its efficiency and performance. As a result the building is now a better research, learning and teaching environment for staff and students.

The building is home to the University's School of Chemistry and houses a combination of lecture rooms, laboratories and offices. The refurbishment programme was therefore subject to detailed planning to reduce impact on the building's users.

The first phase of work covered the replacement of all the windows and doors in the external envelope of the 17,000m² building, with more than 1,100 Smart Alitherm Heritage windows being installed. A stunning feature of the building is the 10.8m-tall window units, installed above the main reception and stairwells, the design of which has been faithfully recreated using the Alitherm Heritage system.

In terms of matching the original window profiles, it was critical that the design maintained the essence of the building's 'art-moderne' design and replicated the lines of 1930's steel windows.

Alitherm Heritage has helped maintain this aesthetic integrity, but at the same time enabled the staff, students and estates management team to benefit from the comfort, performance and cost efficiencies that modern aluminium materials deliver.

Electricity House

BRISTOL

SPECIFICATIONS

PROJECT	ARCHITECT	MAIN CONTRACTOR
Electricity House Bristol, BS1 4TB	**Stride Treglown** Bristol, BS8 3NE	**Crest Nicholson** Crest House, Surrey, KT16 9GN

Situated within a conservation area, the imposing, Grade II-listed Electricity House has been restored to its former glory and has been transformed into a mixed-use development of 85 high-specification luxury apartments and commercial space.

Many of the original Art Deco features have been recreated, including the style of the window and door systems from Smart, specified both for their authentic appearance and outstanding performance. Smart's Alitherm Heritage system provided the perfect solution for windows from the first to the fifth floor of the building, with Smart EcoFutural system providing an equally elegant and thermally-efficient solution for the fifth-floor balcony doors. 10 Sets of double doors were also specified, together with seven sets of Smart Wall commercial doors for the ground floor retail areas – including one automatic door for the disabled access entrance.

In excess of 300 windows were supplied and installed, and despite the exceptionally slim lines of the Alitherm Heritage system, the units accommodated 36mm double glazed units to cater for the different acoustic requirements of the project.

Smart Wall


ELECTRICITY HOUSE
EH
0117 2444 047

Christopher Ingold Building

LONDON

This major refurbishment programme was commissioned due to the increasingly poor performance and energy-inefficiency of the building's original, single-glazed windows.

Some 600 Smart Alitherm Heritage windows were installed, together with Smart Wall screening and commercial doors for the entrance, and Smart's MC 600 curtain wall system for the building's main façade. 30 oriel bay windows were replaced on both the front and rear elevations, each five storeys high, with a further 150 windows installed in the building's courtyard.

As much of the project was carried out in term time, the installation teams worked to a meticulously planned programme to keep disruption to the department's staff and students to an absolute minimum.

Developed to precisely match the slim profiles of traditional steel windows that are a feature of many heritage projects and listed buildings, Alitherm Heritage nevertheless delivers the exceptional thermal performance associated with modern aluminium systems.

SPECIFICATIONS

PROJECT
Christopher Ingold Building
London, WC1H 0AJ

ARCHITECT
TBA
Street Name, City,
AB1 2CD

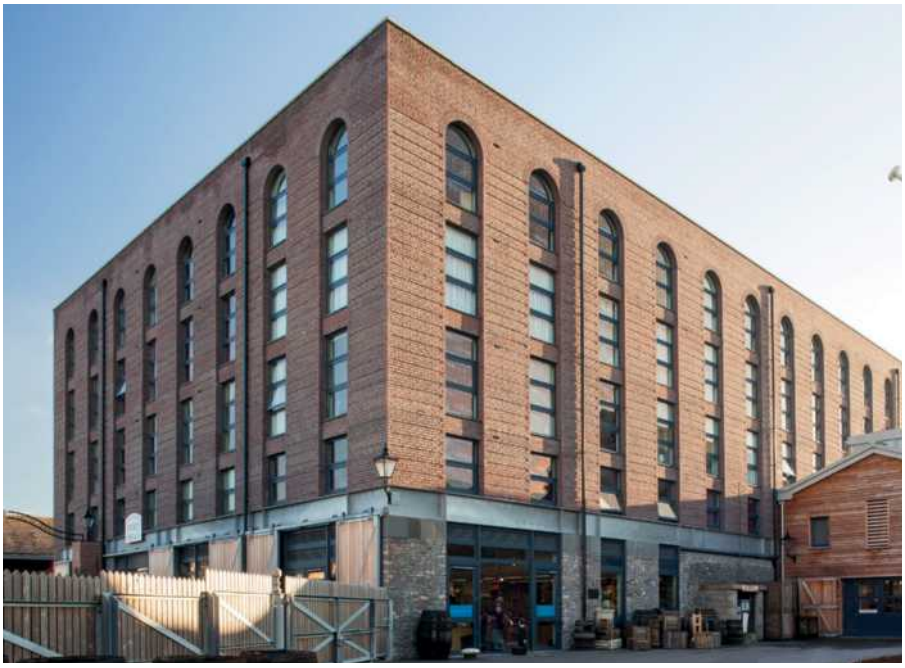
MAIN CONTRACTOR
Sykes & Son
Sykes House, London,
WC1N 1PG

Innovation

A very narrow corner post detail with 'glass-to-glass' corner joints was designed to match the original window profiles and sight lines for the Oriel Bay windows were maintained. The result was an almost exact match to the original design.

ss Great Britain

BRISTOL



SPECIFICATIONS

PROJECT	ARCHITECT	MAIN CONTRACTOR
ss Great Britain Great Western Dockyard, Bristol, BS1 6TY	**Stride Treglown** Bristol, BS8 3NE	**Linden Homes**

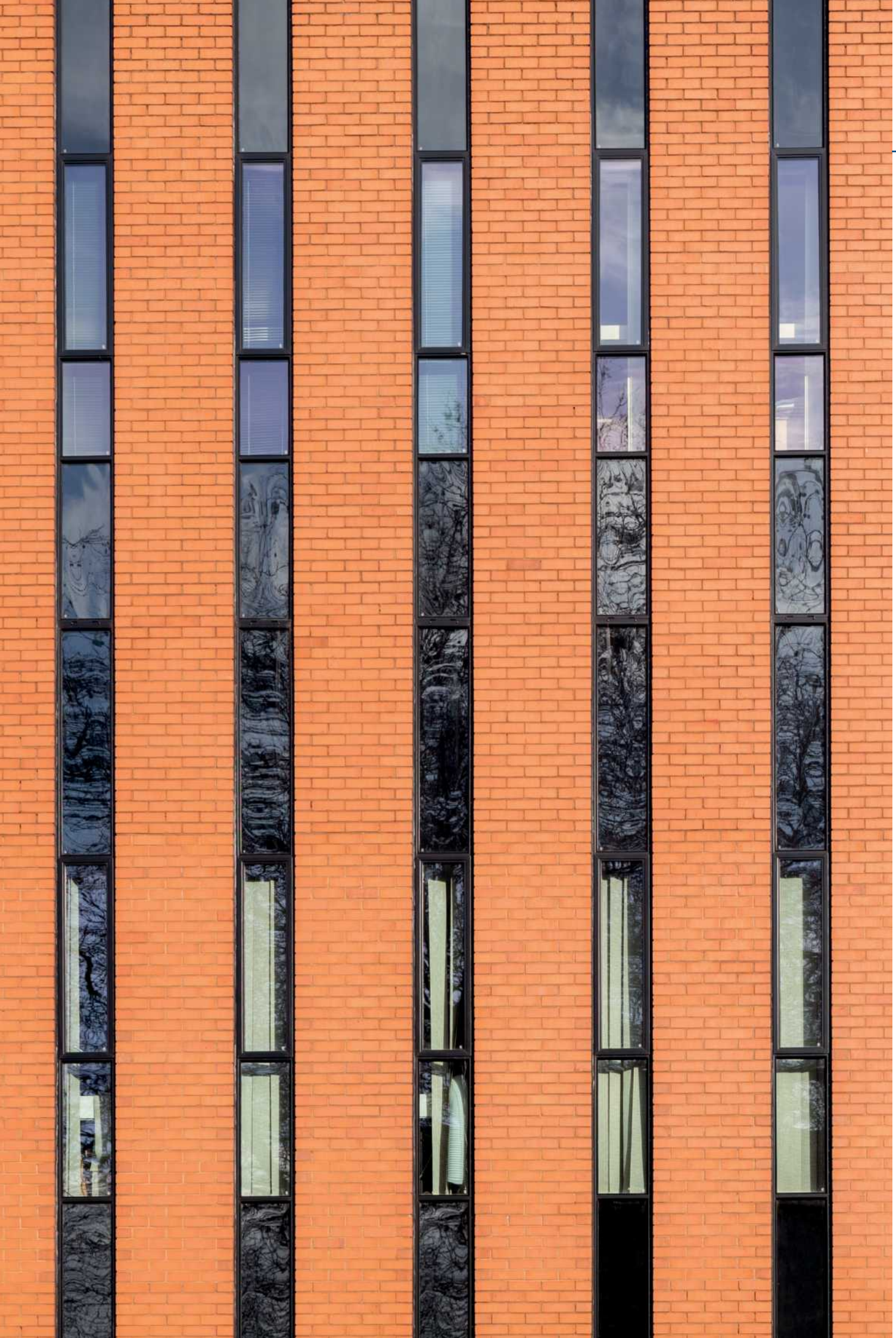
Located within Bristol's harbour regeneration area, this development forms part of the historic Great Western Dockyard which is home to Brunel's ss Great Britain iron ship.

The high-profile project was part new-build and part refurbishment, with the scheme ultimately delivering a new visitor centre and museum on the site, as well as 145 one and two bedroom apartments in three main blocks and bespoke accommodation for the new 'Brunel Institute' conservation and learning centre. The new building was designed to reflect Brunel's original Steam Engine Factory that was built in the 1830s, with the brickwork and window and door detailing echoing its original features.

A combination of some 600 Smart EcoFutural tilt and turn and casement windows and EcoFutural doors, were installed in the building, with the window combination design producing the look of 'dummy doors' on the building's balconies. The front elevation also appears to feature arch-headed windows, although these are actually square-headed on the inside, with feature panels on the external face forming the arch. Internally, the building's walkways feature narrow window 'strips' in the kitchens of the apartments, allowing light and air into rooms, without compromising privacy.

EcoFutural Door


GIFT SHOP
GIFT SHOP



Kilburn Building

MANCHESTER UNIVERSITY

The Kilburn Building was opened in 1972, its distinctive design featuring very narrow, yet tall windows stacked on top of each other.

Smart supplied the new windows and doors for the year-long refurbishment programme, which saw a transformation of this academic building for the university's school of computer sciences. The distinctive window dimensions were potentially problematic as they could become vulnerable to leakage due to the amount of coupling profiles required to join them together. Over 1,000 separate coupled joints were required, meaning over 2,000 coupler ends required sealing. At the time of the refurbishment, the Centre for Window and Cladding Technology published a guidance document, recommending consideration for the fact that external sealant joints can break down over time and allow water to get trapped behind the external seals. Unless provision is made for this 'leakage' water could escape and damage could occur to the structure.

✦

SPECIFICATIONS

PROJECT
Kilburn Building
Manchester, AB1 2CD

ARCHITECT
Architect Name
Street Name, City, AB1 2CD

MAIN CONTRACTOR
Contractor Name
City, AB1 2CD

Innovation

To address this potential issue, the design team designed an innovative bespoke "drained" coupler extrusion, which featured dedicated end caps that could provide a drainage route for any water that managed to by-pass the external seals. The couplers could also be fitted under factory conditions, so windows simply had to be lowered during installation, with the next window simply positioned in place on top of it.

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