

# PERSPEKTIVES





We are full of admiration for architecture that can stand the test of time. Kawneer solutions draw on a long tradition of innovation to help architects, contractors and glaziers create exciting, next generation buildings. Our industry-leading façades offer greater performance, protection and productivity for years to come.

Kawneer works closely with its partners to adapt high performing aluminium systems to their exact specifications, offering expert technical support and design inspiration throughout the supply chain. Our brand essence of building legacies is something that extends well beyond the construction process. It's about delivering inviting spaces that leave a lasting impression, where people can build successful businesses, happy lives and bright futures.



# WE ARE HERE TO INSPIRE AND BUILD LEGACIES

Perspektives is an opportunity to share with you the views of Kawneer's thought leaders, alongside a portfolio of our most ambitious global developments. These include iconic buildings that have transformed skylines and communities, leaving a lasting impression on the environments in which we live, work, innovate, relax and enjoy time with our colleagues, families and friends.

I still like to surprise anyone who thinks we are simply a storefront company. The evolution of Kawneer over 115 years has been exciting, challenging and remarkable. Our systems have witnessed unforgettable live music and sporting events, withstood devastating storms and protected world leaders. They have also been there to help celebrate countless births, graduations, first days and first dates.

With an ever-growing multicultural population and shift to urbanisation, we need to look at new ways of building in tighter spaces and minimising our impact. To make a sustainable difference, we must be innovative and embrace a new generation of fabricators and the digital evolution.

From healthcare and education, to hurricane protection and security, the strength of our technology and breadth of our portfolio are being used to answer a diverse range of societal challenges.

Our teams always try to anticipate trends to see how far we can advance our products, whilst meeting the demands of developing building codes and understanding which construction methods will prevail.

Operationally, we work hard to create best practices in health and safety, improve processes to conserve multiple resources and equip ourselves with exceptional capability to achieve more. We want to be the first in mind and actively participate in thought leadership groups that inspire new talent and move our industry forward.

Our people define Kawneer. I have the pleasure of working alongside incredibly talented and committed individuals every day. Providing us with a real competitive edge, they are the backbone of our business and values.

Kawneer folklore states that our employees always take note of a building's windows, doors or curtain wall when entering a building, because every Kawneer product is distinguished and unique. That's the tremendous sense of pride we get from the benefit our products bring to the buildings, local communities, and the world we all share.

**Diana Perreiah**  
**President, Arconic Building  
& Construction Systems**

# BUILDING ON THE PAST TO ADVANCE THE FUTURE

Kawneer solutions draw on a long history of innovation to create next-generation technologies that inspire architects, contractors and glaziers to create buildings with better performance, protection and productivity. Kawneer has led the façade industry with innovative, high-performing building envelope solutions for more than a century. With locations across North America and Europe, Kawneer manufactures a broad range of architectural aluminium systems, from curtain walls and entrances to framing systems and windows.



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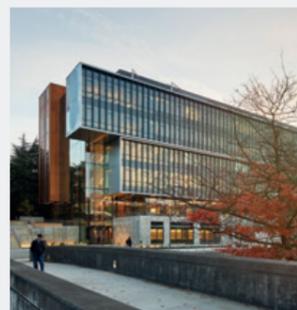
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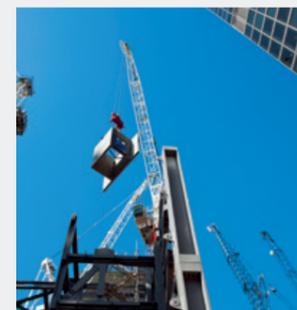
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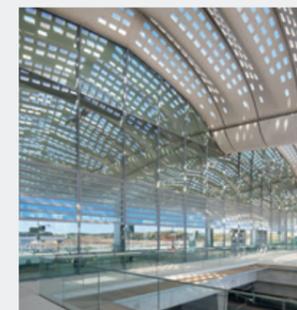
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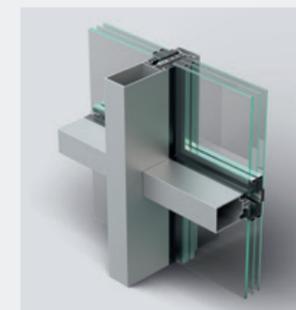
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# BUILT ON MORE THAN A CENTURY OF INNOVATION

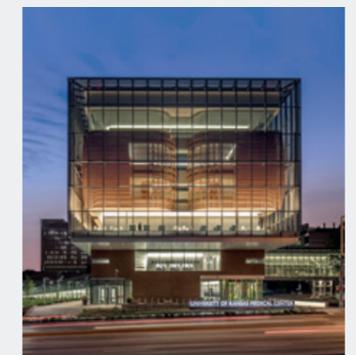
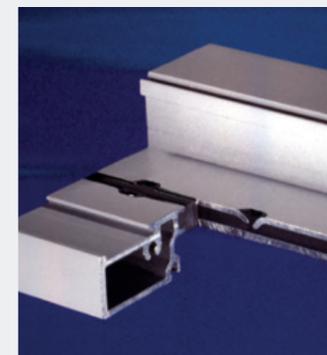
Our story begins with a skilled cabinet maker named Francis Plym. Born in Sweden and brought to the US by his father when he was two, Francis was hard-working, loved machinery and above all respected craftsmanship. Serving as a draughtsman in Minneapolis, he later became an architect, married Jane Barber and moved to Kansas.

After inspecting a rotting wooden frame on the glass window of a new building, Francis worked on his invention of two resilient yet flexible copper mouldings, with ventilation openings and a gutter to carry away rainwater. He applied for a patent in 1906, before taking a model to Henry Weis' sheet metal shop located near the Kansas River, nicknamed the 'Kaw'.

## TODAY

Having shaped the façade industry for over 100 years, Kawneer continues to lead the way with innovative, high-performing and sustainable solutions. As part of Arconic's Building and Construction Systems (BCS) business, we have the technical expertise and product capability to help create iconic buildings around the world.

Through strong partnerships, we provide added value services to customers and give back to our communities and the environment. Committed to innovation, our design expertise, combined with product flexibility and recyclability, inspires architects, contractors and fabricators to create and build better buildings. Together, we're changing the face of buildings by continuing to push the boundaries of innovation to ensure that Kawneer is the aluminium partner of choice for the next 100 years.



### 1900s

Francis Plym's father-in-law, H.O. Barber, invests in the Kawneer Company, initially making window mouldings, then doors, windows and whole façades. Francis transforms the front of the shop with large display windows, pioneering the change to modern storefronts as a method for promoting new innovative solutions.

### 1910s/20s

Kawneer also produces components for a variety of car makers. Plym is offered contracts to move his manufacturing plant to Detroit, but he remains true to architecture and stays in Niles. Kawneer supplies the first metal air frame sections for World War I biplanes, while also becoming the first manufacturer to use aluminium in architectural products.

### 1930s/40s

Storefronts account for about three quarters of business at the beginning of the 1930s. Kawneer is the largest American user of aluminium for architectural purposes. As the growing demand for Air Force products takes over, the plant is quickly devoted to making aircraft parts for the war effort in the 1940s.

### 1950s

Kawneer's post-war architectural aluminium products are robust, lightweight, functional and efficient. Kawneer introduces the first unitised curtain wall which revolutionised the post-war building boom. With four major areas of production – architectural products, aircraft, appliances and mill products – Kawneer operates from eight manufacturing plants in the United States and Canada.

### 1960s/70s

Kawneer develops 'dual moment corner construction' – the first fabrication method of its type and basis for the lifetime warranty still used today. Kawneer becomes the first US architectural aluminium systems company to extend into Europe, opening UK, French and German manufacturing and distribution facilities.

### 1980s/90s

In the wake of the 1970s energy crisis, Kawneer continues to innovate with new thermal technology patents. Alcoa acquires Alumax and Kawneer becomes a subsidiary of the fully integrated aluminium company. Kawneer redesigns its curtain wall products in North America, which remain the foundation of the core curtain wall range today.

### 2000s/10s

Alcoa expands its building and construction portfolio in Europe, adding to the Kawneer footprint in Germany and the Netherlands. Kawneer acquires Traco, further developing its window product portfolio. Alcoa splits into two publicly traded entities and Kawneer becomes part of the new Arconic Corporation.

### 2020s

Addressing the ever-increasing demand for high-performing products, Kawneer continues to focus its innovation on sustainability. This includes ultra-thermal product enhancements, as well as a commitment to provide complete product transparency, by disclosing information through a wide range of industry standards.

# EDUCATION

**University of Washington Life Sciences Building**, Seattle, WA, USA

**Canolfan S4C Yr Egin University of Wales**, Carmarthen, UK

**University of Kansas Medical Center Health Education Building**, Kansas City, KS, USA

**Graafschap College**, Doetinchem, Netherlands

**Alfred R. Goldstein Library, Ringling College of Art and Design**, Sarasota, FL, USA

**Georges Frêche High School**, Montpellier, France

**Elson S. Floyd Cultural Center**, Washington State University, Pullman, WA, USA

**Nelson Mandela High School**, Pibrac, France



UNIVERSITY OF  
WASHINGTON LIFE  
SCIENCES BUILDING

Seattle, WA, USA

## VISION

The Life Sciences Building is designed to reflect the union of nature and technology. A major component of the glazed system was incorporating vertical photovoltaic (PV) glass fins into the chassis and curtain wall system. The first of its kind, it required a custom façade solution, additional testing and complex wiring solutions.

## TRANSFORMATION

Kawneer worked closely with the architect to develop and deliver a custom unitised chassis and prefabricated 2500UT Unitwall® System, integrating the vertical photovoltaic glass fins. GLASSvent® UT Windows, a Trifab® 601UT Framing System and AA®3200 Thermal Sliding Doors were selected to meet state energy and thermal performance requirements.

## REALISATION

The first UW campus building to meet the Architecture 2030 Challenge, its innovative façade design captures heat from the sun to generate year-round lighting on four floors of offices. It also features panoramic outdoor views, significant daylighting and a unique elevator core wrapped by custom-milled slabs from 200-foot Douglas fir trees.



**Location:** Seattle, WA, USA

**Client:** Mission Glass

**Architect:** Perkins + Will

**Date:** 2018

**Size:** 15,700m<sup>2</sup>

### Photographer

Kevin Scott

### Products Used

2500UT Unitwall® System (standard and custom)

Clearwall® Curtain Wall System

GLASSvent® UT Windows (standard and custom)

350/500 Heavy Wall™ Entrances

Flushline® Entrances

Trifab® 601UT Framing System

AA®3200 Thermal Sliding Doors

 PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA



### 2500UT Unitwall® System

The 2500UT pre-glazed insulated curtain wall was chosen for its patented polyamide thermal break and aesthetic qualities, including no exterior applied joint seals.



# CANOLFAN S4C YR EGIN UNIVERSITY OF WALES

Carmarthen, UK



## VISION

Our glazing systems were key to this state-of-the-art building at the heart of Wales' creative and digital future. With an award-winning design based on the 'trinity' of the university, tenants and community, creating a distinct character for each level was challenging for a façade almost entirely constructed from curtain wall.

## TRANSFORMATION

The AA®110 zone-drained curtain wall system with 65mm sightlines was used alongside Kawneer's thermally superior AA®720 doors and 190 series automatic entrance doors. An active façade, the system protects the interior from the weather while allowing air to flow through. Extensive features included fin capping to characterise the different elements of the façade.

## REALISATION

Vertical faced caps give a strong vertical emphasis to the curtain wall, with differing sizes and finishes designed to produce a 'flickering effect'. The building is designed to encourage occupiers to collaborate and exchange ideas, and to inspire a creative, new generation. The project won a prestigious RICS Wales award for best commercial building.

## Products Used

AA®110 Curtain Wall  
AA®720 Doors and Window Vents®  
190 Doors™

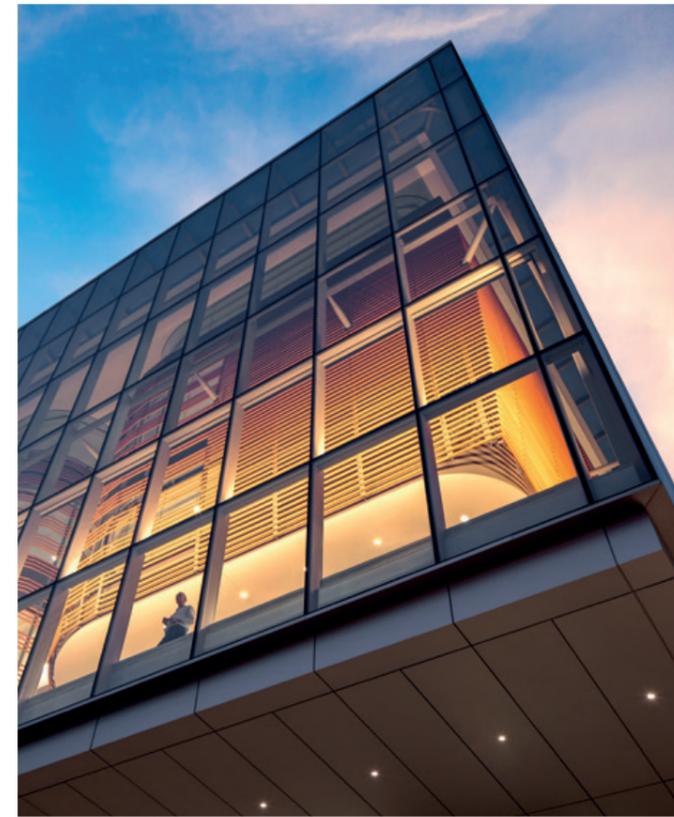


**Location:** Carmarthen, UK  
**Client:** APiC UK  
**Architect:** BDP  
**Date:** 2018  
**Size:** 3,600m<sup>2</sup>

**Photographer**  
Fotohaus, Craig Auckland

# UNIVERSITY OF KANSAS MEDICAL CENTER HEALTH EDUCATION BUILDING

Kansas City, KS, USA



**Location:** Kansas City, KS, USA  
**Client:** Jim Plunkett, Inc. (JPI Glass)  
**Architect:** CO Architects  
**Date:** 2017

## VISION

KUMC enlisted Kawneer to help achieve a landmark structure that meets modern design, sustainability and educational standards. Featuring a distinctive building-within-a-building, the transparent 'lantern box' design surrounds two interior structures embedded with terracotta 'ribs', as well as a green roof and temperature controls.

## TRANSFORMATION

To reduce the original budget, a custom-glazed veneer system based on Kawneer's 1600 Wall System®1 Curtain Wall and 1600 Wall System®2 Curtain Wall was attached to structural steel tubes to support large expanses of glass. 500 Wide Stile Entrances and 500 Heavy Wall® Entrances accommodate the building's high traffic.

## REALISATION

Visually appealing and high-performing, Kawneer's curtain wall systems, storefront framing and entrances enhance natural daylight and illuminate the building at night, enabling students, staff and visitors to view the dynamic world within. A glass-enclosed pedestrian bridge spanning 23m<sup>2</sup> serves as an additional space to gather, study and connect.

## Products Used

1600 Wall System®1 Curtain Wall  
1600 Wall System®2 Curtain Wall  
Custom glazed veneer 1600 Wall System®  
Trifab® VersaGlaze® 451 Framing System (front set)  
Trifab® VersaGlaze® 450 Framing System (center set)  
500 Heavy Wall® Entrances, 500 Wide Stile Entrances

 PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA

**Photographer**  
Bill Timmerman

# GRAAFSCHAP COLLEGE

Doetinchem, Netherlands



## VISION

Taking inspiration from the surrounding trees, Graafschap College wanted a new and innovative type of building envelope design for 5,600m<sup>2</sup> of extensive sports facilities. A unique façade that would increase natural daylight and outside visibility, so as to enhance comfort and learning performance for students and staff alike.

## TRANSFORMATION

To deliver a light and airy atmosphere throughout, this project brought together Kawneer's AA®100 & RT 72 Reflex curtain walls and doors, alongside block windows with hidden wings. Combining functionality and style, the finished result has established a bright, open educational environment dedicated to concentration and collaboration.

## REALISATION

With a limited height and transparent façade featuring a rust-brown organic tree design, Graafschap College is a unique building that fits seamlessly into its environment and welcomes in lots of natural light. The thermal façade is highly insulating, while the weather-resistant metal construction helps to reduce the internal heat load.



**Location:** Doetinchem, Netherlands

**Client:** Polybouw

**Architect:** cepezed

**Date:** 2019

## Products Used

AA®100 Curtain Wall

RT 72 Reflex\*

  PRODUCTS ONLY AVAILABLE IN EUROPE AND BENELUX AND GERMANY

**Photographer**

Dirk Verwoerd

# ALFRED R. GOLDSTEIN LIBRARY RINGLING COLLEGE OF ART AND DESIGN

Sarasota, FL, USA



## VISION

The 4,227m<sup>2</sup> Alfred R. Goldstein Library is a state-of-the-art building that aims to transform how users engage with the library's collections and services. Accommodating tall spans of glass with varied visual dimensions to connect visitors to exterior landscapes and terraces was challenging in a hurricane-prone area.

## TRANSFORMATION

Kawneer's 1600 Wall System®1 Curtain Wall and 1600 Wall System®2 Curtain Wall, together with a Trifab® 451UT Framing System, met high wind and potential airborne debris requirements. Vertical curtain wall mullions ascended to the undersides of the upper floor concrete decks. Weatherproof glazing bathed the interior with light, while extended face caps gave different dimensions to the exterior aesthetic.

## REALISATION

A stunning architectural statement for the community, this contemporary 24-hour facility takes full advantage of the Florida sunshine, while protecting it from the elements. Varied building openings requiring unique anchoring conditions bring the outdoors into the gathering spaces for creative collaboration and excellent campus views.

## Products Used

1600 Wall System®1 Curtain Wall  
1600 Wall System®2 Curtain Wall  
Trifab® 451UT Framing System  
350 IR Entrances



PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA

**Location:** Sarasota, FL, USA

**Client:** Key Glass

**Architect:** Shepley Bulfinch

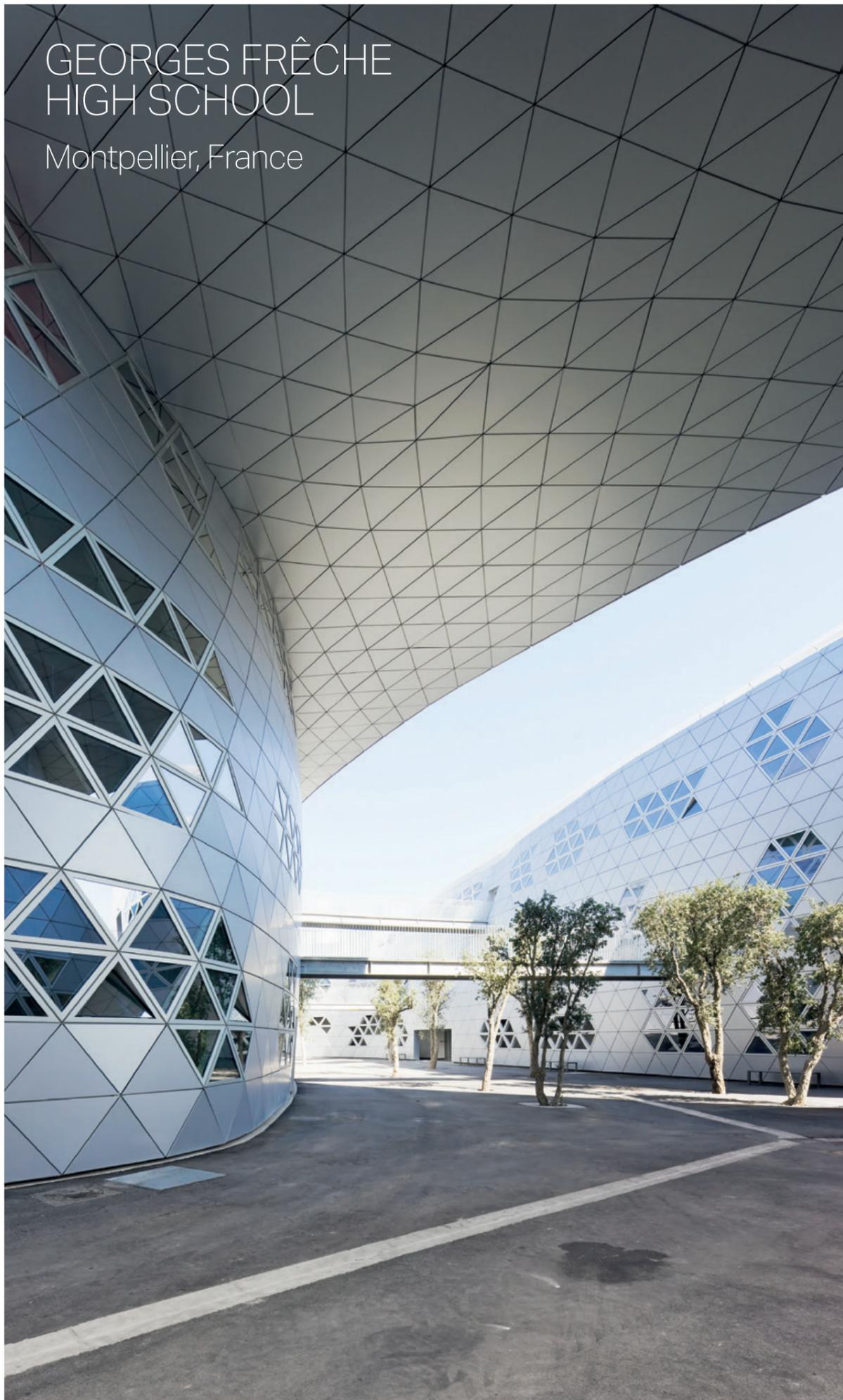
**Date:** 2017

**Size:** 4,227m<sup>2</sup>

## Photographer

Ryan Gamma Photography

GEORGES FRÊCHE  
HIGH SCHOOL  
Montpellier, France



**VISION**

This highly complex technical and acrobatic challenge involved a tailor-made, artisanal approach carried out on a grand scale. An organic building combining rigid lines and curves, the aluminium wings of the Georges Frêche Hospitality High School unfold in a single structural gesture, complemented with bright and futuristic glazed triangles.

**TRANSFORMATION**

Innovation played a crucial role in overcoming the technicalities of the four-year project. With a desire to reduce the aluminium view from 210mm to 186mm, 360 sets of mesh were designed to support the 5,000 triangular glazed window frames, which shaped the sculpted light from within and included 600 openings.

**REALISATION**

Colour distinguishes each floor, with the large triangular bay windows distributing generous daylight and visual comfort through the outer laboratories, classrooms, gourmet restaurant and brasserie, into the central workshops. The finished result is a privileged, futuristic centre of learning in Montpellier for as many as 1,000 hospitality students.

**Location:** Montpellier, France

**Architect:** Massimiliano and Doriana Fuksas

**Date:** 2012

**Size:** 25,000m<sup>2</sup>

**Product Used**

1204 Curtain Wall

 PRODUCT ONLY AVAILABLE  
IN SOUTHWEST EUROPE

**Photographer**

Sergio Perrone

# ELSON S. FLOYD CULTURAL CENTER WASHINGTON STATE UNIVERSITY

Pullman, WA, USA



## VISION

Inspired by the native Palouse Prairie landscape, the building's curved walls and overlapping roof pay homage to the rolling hills and topography of the area. Large panes of glass, no 90° angles, a tight timeline and strict state energy codes all added complexity to this unique installation.

## TRANSFORMATION

3D models addressed the curved rooflines and walls from planning to execution. The Kawneer 1600 SS Curtain Wall System with screw spline joinery was segmented and shop-fabricated off site. Fiberglass pressure plates enhanced thermal performance, as did the roadblock capabilities of Kawneer's AA®425 Thermal Entrances.

## REALISATION

Our expert systems provide strong connectivity and support to the intentionally organic, undulating shape, while also meeting high standards of energy efficiency, inspiring design and smooth construction. The LEED Gold® project offers the community awe-inspiring architecture that celebrates heritage and cultural acceptance.



**Location:** Pullman, WA, USA

**Client:** Skaug Brothers Glass

**Architect:** GGLO Design

**Date:** 2017

**Size:** 1,486m<sup>2</sup>

## Products Used

1600 SS Curtain Wall System

1600 Wall System®1 Curtain Wall

500 Wide Stile Standard Entrances

AA®425 Thermal Entrances

Trifab® VersaGlaze® 450 Framing System 1-3/4" sightline

 PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA

## Photographer

Bob Perzel, Perzel Photography Group

# NELSON MANDELA HIGH SCHOOL

Pibrac, France



## VISION

Located in rural surroundings, Nelson Mandela High School has an undulating and elegant silhouette. Its two S-shaped volumes meet via a large entrance hall, giving access to classrooms, offices, the amphitheatre and inner courtyard. Kawneer's breathable joinery was specified as the best technical solution to actively improve energy performance.

## TRANSFORMATION

To give a natural appearance, the architects covered the façade with a rust-coloured metal cladding and large bay windows. KALORY 'R' breathable, visible sash windows provided strong thermal insulation, while around 30 KALORY fixed and opening frames equipped with rolling shutters were installed in the adjoining accommodation.

## REALISATION

Benefiting from ample daylight, our breathable sash windows house stores inside the glazing and are also equipped with a dust filter to prevent the passage of pollens or insects, making it ideal for the quality of air in schools or health establishments. Resulting in a bright and comfortable learning environment for all.



**Location:** Pibrac, France

**Architect:** Kardham Cardete Huet Architecture

**Date:** 2018

## Products Used

KALORY R

KALORY Windows

 PRODUCTS ONLY AVAILABLE  
IN SOUTHWEST EUROPE

## Photographer

Xavier Boymond

# HEALTHCARE

**Anna Freud National Centre for Children and Families**, London, UK

**ProMedica Health and Wellness Center**, Sylvania, OH, USA

**Citylabs 2.0**, Manchester, UK

**Reims Bézannes Hospital**, Bézannes, France





ANNA FREUD NATIONAL  
CENTRE FOR CHILDREN  
AND FAMILIES

London, UK

## VISION

Kawneer's parallel opening window vents were specified for a mental health project like no other. Our glazing systems helped bring to life the spectacular new £40 million headquarters of the world-famous Anna Freud National Centre for Children and Families, near King's Cross Station in Central London.

## TRANSFORMATION

Some 88 of Kawneer's AA®100 SSG parallel opening vents were used as concealed windows within the AA®100 mullion-drained curtain wall, to maintain the same aesthetic as the clean façade. All of the glazing systems feature a diagonal frit on the glass, with AA®720 Doors at the main entrance and on the top floor roof terrace.

## REALISATION

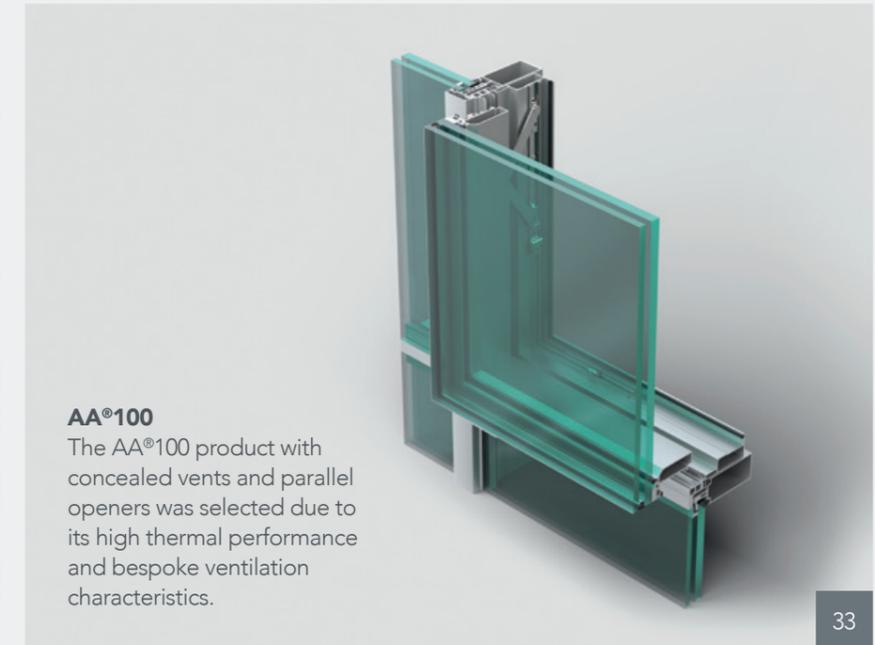
Based on the established AA®100 SSG POV system, the parallel opening design benefits from excellent ventilation characteristics combined with thermal performance, creating private, light-filled spaces and panoramic views over London. This challenging build was made possible due to the technical excellence of our team who were able to meet and overcome some niche challenges. The finished result is a building that has outstanding aesthetics and performance.



**Location:** London, UK  
**Client:** JPJ Installations  
**Architect:** Penoyre & Prasad  
**Date:** 2019

### Products Used

AA®100 SSG Parallel Opening Vents  
AA®100 Curtain Wall  
AA®720 Doors\*

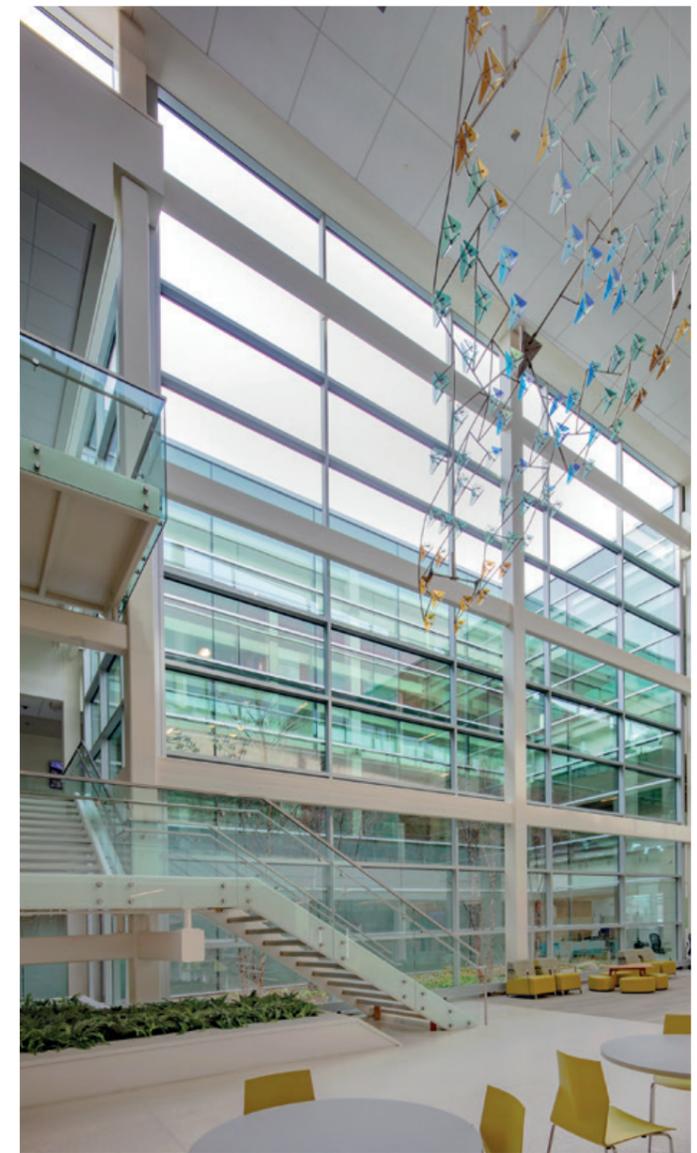


### AA®100

The AA®100 product with concealed vents and parallel openers was selected due to its high thermal performance and bespoke ventilation characteristics.

# PROMEDICA HEALTH AND WELLNESS CENTER

Sylvania, OH, USA



## VISION

For the 21,368m<sup>2</sup> ProMedica Health and Wellness Center, Kawneer was tasked with the challenge of a curtain wall system featuring custom 3" horizontals, to support the large lights of a central glass atrium bridging two narrow courtyards.

## TRANSFORMATION

With a sleek, modern aesthetic, the 1600UT System™1 Curtain Wall and 1600UT System™2 Curtain Wall increased natural daylight and enhanced thermal performance. The precision installation involved custom engineered outriggers and vertical support plates modified from Kawneer's Versoleil® SunShade, complemented by baguettes with a natural terracotta-like painted finish.

## REALISATION

The result is a contemporary community building design that promotes energy efficiency, better connects staff and patients, and allows an abundance of natural light to enter throughout the year. Our custom sunshades and horizontal tubes also add a unique element and texture to the finished façade.

## Products Used

1600UT System™1 Curtain Wall  
1600UT System™2 Curtain Wall  
190 Narrow Stile Entrances  
350 Medium Stile Standard Entrance  
Versoleil® Sunshade (custom outrigger and blades)  
Trifab® 450 Door Headers



**Location:** Sylvania, OH, USA  
**Client:** Toledo Mirror & Glass  
**Architect:** HKS  
**Date:** 2018  
**Size:** 21,368m<sup>2</sup>

**Photographer**  
Bob Perzel, Perzel  
Photography Group

# TAKING PROTECTION TO THE EXTREME

## HURRICANE AND SECURITY SYSTEMS FOR AN ADDED LINE OF DEFENCE

Of all building design requirements, safety and security are the highest priorities. Buildings need to protect our everyday lives and be able to withstand the potential dangers of extreme climatic conditions, vandalism, crime or even terrorism. As conditions become more challenging and extreme, the emphasis and requirement of high performing products become greater.

## PREPARED FOR IMPACT

In terms of window and door security, most clients tend to favour aluminium and other metals over alternative materials. The weight to strength ratio of aluminium is much superior to other materials, and it can be extruded to various thicknesses. To maximise aluminium's structural performance, additional material such as steel is often used in the open cavities of the profiles, increasing its structural strength.

The overall performance of a system is largely associated with how the glazing is fixed, while the shape of the profile provides the structural need. For low level security, regular window gaskets can be used on both sides. For higher level security it is more typical to secure the glass to the framing system on the interior with structural silicone. Glass resistant to blast, known as 'glass for blast', must be able to flex, absorb the energy and push it back out, as the load impact only lasts milliseconds.

At Kawneer, we can utilise the same products, and then apply different laminated glazing infills to achieve the required result. The weak points of the frame are in the horizontal to vertical joints. Normally, glazing beads are snapped into place, but in blast mitigation and impact applications, they are typically screwed or fixed to withstand higher pressures. The use of PVB interlayers in laminated glass, combined with a strong bond of structural silicone glazing (SSG), helps secure the glass into the framing and creates systems with the highest levels of protection.

## WEATHERING THE STORM

In North America, testing for hurricane impact regions validates the ability of façade systems to perform under extreme conditions.

Hurricane situations demand a rigid glass that can take the impact of flying debris and air pressure fluctuations as the storm approaches and passes. To simulate the flying debris, testing is conducted with a piece of timber being shot from a high-pressure air cannon. After impact, the test specimen is pressure tested to simulate the pressure fluctuations of storm cycles. Building envelopes are never truly 'hurricane proof' – they are designed to specific standards that provide better protection. Keeping the vertical walls intact during a storm event is essential to preventing roof failure and possible catastrophic damage to the structure.

Similarly, the U.S. Federal Emergency Management Agency (FEMA) has a tornado impact standard, which is most often used on essential facilities such as healthcare, educational and municipal buildings. The tornado standard typically only applies to one area of the building or one building on the campus where people seek refuge, as North America's southern states and famous central Tornado Alley are subjected to increasingly destructive weather conditions.

A wide range of Kawneer products and specifications are suitable for hurricane impact, blast protection and security purposes. However, one size does not fit all; we must test our products with third-party glazing as a complete system to offer solutions tailor-made to specific conditions and codes. Knowing where the products are going to be installed, the unique requirements of that geographic location and the glazing methods required to meet stringent standards, we can ensure that our architectural aluminium systems are purpose-designed for their environment.



Donnie Hunter  
Director, Global Product  
Management



# CITYLABS 2.0

Manchester, UK



## VISION

The gateway to Europe's largest clinical-academic campus, Citylabs 2.0 is part of a £95m expansion to provide a laboratory and offices for QIAGEN's Global Centre of Excellence for Precision Medicine. Kawneer was chosen as the leading curtain wall system supplier to realise the beautiful and modern aesthetic of this challenging and state-of-the-art design.

## TRANSFORMATION

Kawneer's AA®110 SSG (Structurally Silicone Glazed) and AA®110 Curtain Wall with 65mm sightlines was specified throughout, complemented by the inclusion of fritted glazing and spandrel panels. Combined with the AA®100 version on the ground floor entrance, the curtain wall almost completely wraps the £25 million development.

## REALISATION

Installed in just 25 weeks, this large project features unique etched glass whose striking whirl effect was designed for solar control. Together with our two aluminium curtain wall systems, the building formed a sustainable design that achieved every requirement in terms of aesthetics, thermal performance, acoustics and movement.

## Products Used

AA®110 SSG Curtain Wall

AA®100 Curtain Wall



**Location:** Manchester, UK

**Client:** Bennett Architectural  
Aluminium Solutions

**Architect:** Sheppard Robson

**Date:** 2020

**Size:** 8,500m<sup>2</sup>

**Photographer**

Adrian Lambert

# REIMS BÉZANNES HOSPITAL

Bézannes, France



**Location:** Bézannes, France  
**Architect:** Jean-Michel Jacquet  
**Date:** 2018  
**Size:** 40,000m<sup>2</sup>

## VISION

Reims Bezannes Polyclinic is a 40,000m<sup>2</sup> flagship healthcare facility comprising a main building and two others featuring offices, a radiology unit, medical lab and nuclear medicine department. The architectural challenge was to choose innovative products designed to help preserve health, with safe materials that are easy to handle and clean.

## TRANSFORMATION

With the facilities distributed in a linear pattern and merged to form a whole, Kawneer suggested the KALORY 'R' window system. As stores are housed inside the glazing, people can manage the solar gains without touching it, resulting in the windows staying clean and avoiding any potential breakages.

## REALISATION

Departing from traditional rules, the hospital combines functionality and quality of life, featuring flexible and adaptable spaces in line with modern office architecture. Offering the height of comfort and hygiene, the landmark project received the 'Best Healthcare Development' award at the 2019 MIPIM Awards.

## Products Used

KALORY R Windows  
KANADA Doors

 PRODUCTS ONLY AVAILABLE  
IN SOUTHWEST EUROPE

## Photographer

Xavier Boymond

# RESIDENTIAL

**Sluishuis**, Amsterdam, Netherlands

**Erie Basin**, Manchester, UK

**The Pearl**, Silver Spring, MD, USA

**Pontsteiger**, Amsterdam, Netherlands

**Left Bank**, Birmingham, UK

**Haut**, Amsterdam, Netherlands

**L'Arbre Blanc**, Montpellier, France

**Alexan on 8th**, Atlanta, GA, USA

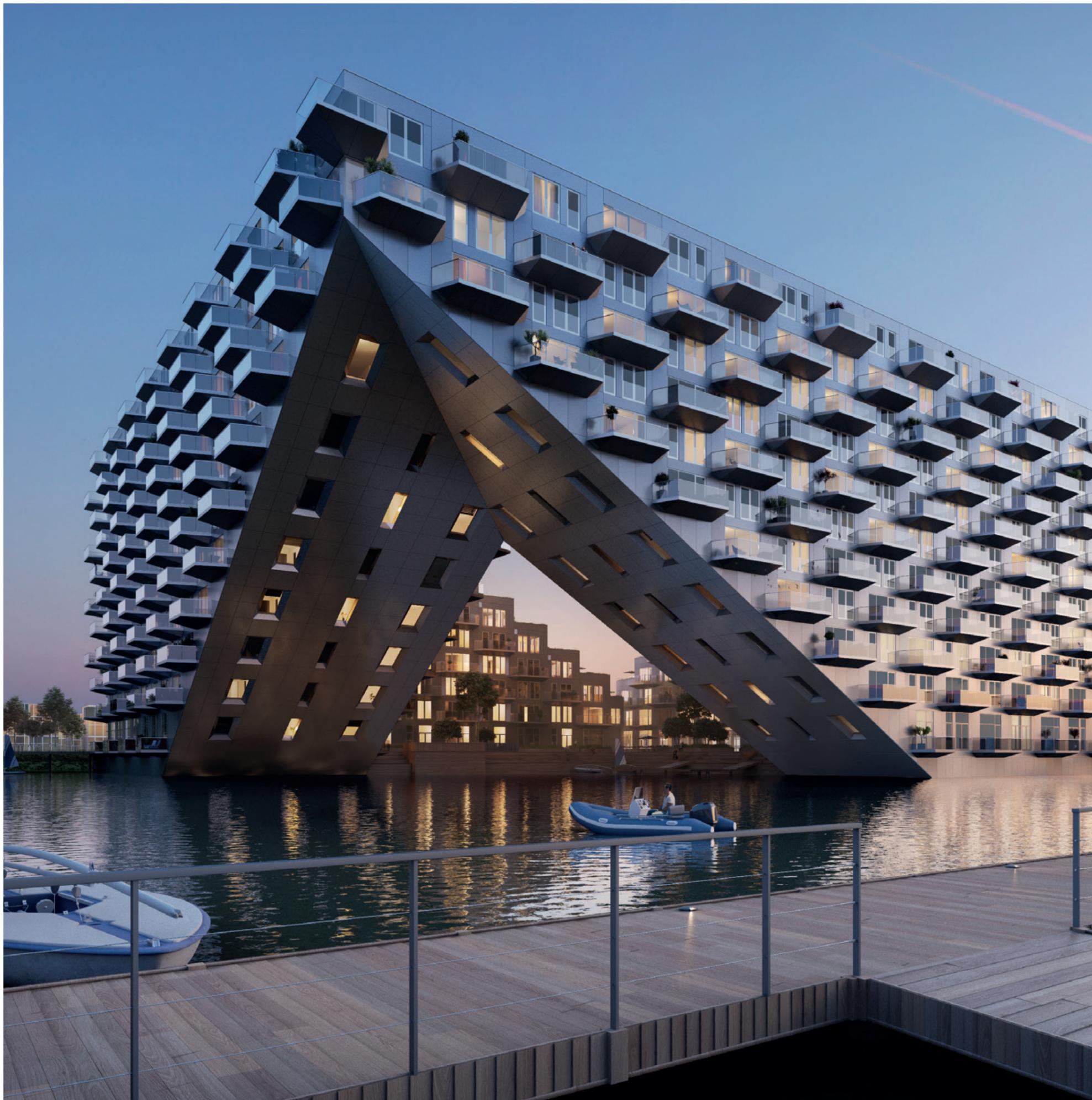
**Lorentz Torens**, Leiden, Netherlands

**Arcadio Villa**, Marbella, Spain

**STATE Amsterdam**, Amsterdam, Netherlands

**St Albans Place**, Leeds, UK

**Havenlofts**, Rotterdam, Netherlands



SLUISHUIS  
Amsterdam, Netherlands

## VISION

Completely built on water, Sluishuis features 442 energy-neutral residences. The classical courtyard building has a large opening on one side to bring in daylight and water, as well as offer idyllic lakeside views, while cascading landscaped terraces form a natural transition from the cityscape on the other.

## TRANSFORMATION

Kawneer's new AA®5110 triple-glazed window system and sliders were specified, put together in a local factory and transported as one, with untreated aluminium frames on the outside to give a naturally oxidated effect and be visually appealing from every vantage point.

## REALISATION

Boasting ambitious sustainability initiatives, this complex building generates more energy than it will actually use. From reusing green concrete, wood and aluminium, to balanced ventilation, triple glazing and heat recovery, it's a striking new gateway to IJburg that fully embraces the idea of living on the water.

**Location:** Amsterdam, Netherlands

**Client:** Vorm Bouw + Besix

**Architect:** Facédo

**Date:** 2022

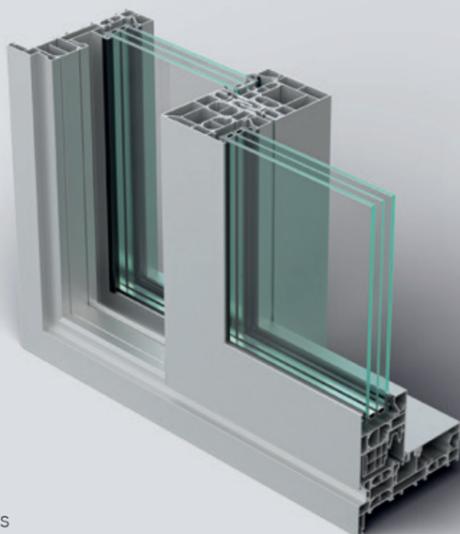
### Photographers

BIG, Barcode Architects, Vorm Bouw & Besix

### Product Used

AA®5110 Doors

 PRODUCT ONLY AVAILABLE  
IN BENELUX AND GERMANY



### AA®5110 Sliding Door

The AA®5110 Sliding Door was selected for its high thermal performance, wind and water tightness, and unobstructed external views of the surrounding area.



# ERIE BASIN

Manchester, UK



## VISION

Chosen for their 'robustness and quality', Kawneer glazing systems were specified for the design of two linked, 16-storey BTR (Build-to-Rent) towers at ERIE BASIN in Salford Quays. This was the last plot to be developed in one of Britain's fastest-growing property hotspots, next door to MediaCityUK.

## TRANSFORMATION

Our AA®100 zone-drained curtain wall featured as a connecting strip to copper-coloured rainscreen areas, with the AA®110 version on link bridges and floor-to-ceiling screens facing the quay. Ultra-thermally efficient entrance doors complemented open-out casement window inserts, and all systems were installed over an eight-month period.

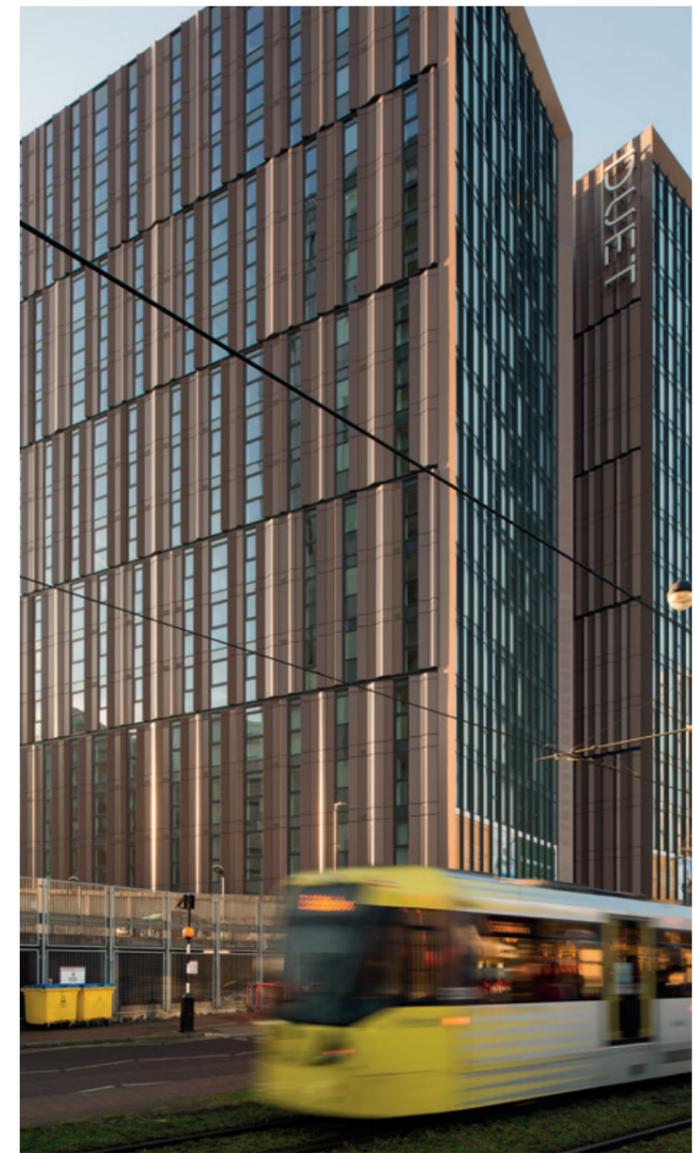
## REALISATION

The curtain wall is integral to the visual impact of the north and south picture-frame gable ends, while the alternating strip curtain wall glazing to the east and west elevations enhances the rhythm of the dynamic folded aluminium rainscreen façade on this 20,438m<sup>2</sup> prominent dockside development.



## Products Used

AA®100 Curtain Wall  
AA®110 Curtain Wall  
AA®541 Casement Windows\*  
AA®720 Doors\*

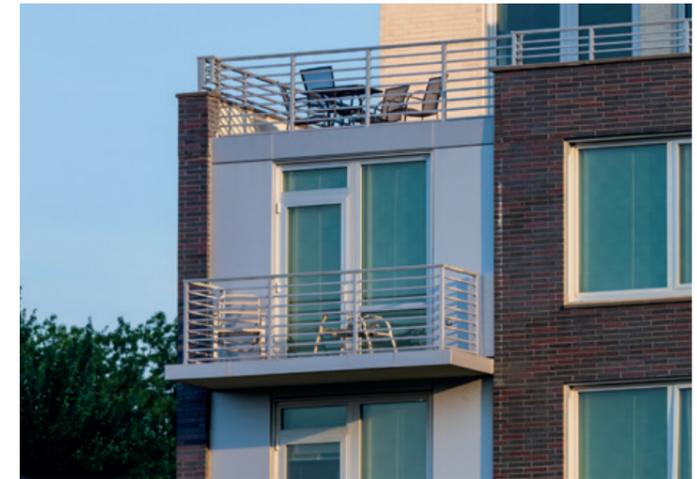


**Location:** Manchester, UK  
**Client:** FK Group  
**Architect:** Sheppard Robson  
**Date:** 2019  
**Size:** 20,438m<sup>2</sup>

**Photographer**  
David Millington Photography

# THE PEARL

Silver Spring, MD, USA



## VISION

This complex multifamily design called for a mix of Kawneer products, tailored to provide high thermal and structural performance for large floor-to-ceiling windows. By creating voluminous natural lighting, ventilation and open views of The Pearl's green surroundings, the design would balance the need for urban amenities, while connecting residents with nature.

## TRANSFORMATION

A butted installation of architectural-grade NX-3800 Thermal Windows with structural mullions, created a sturdy window wall appearance. Custom receptors bridged the larger wall sections, positioned thermal breaks, added structural support and connected windows to the various trim depths and cladding materials on the façade.

## REALISATION

The Pearl is an ultramodern apartment complex that draws upon nature, light and luxury. Its range of expansive windows, terrace doors and curtain wall systems enhance the bright and airy atmosphere, providing a comfortable and connected community, with ample views of Rock Creek Park and the surrounding green spaces.

## Products Used

- NX-3500 Windows
- NX-3100 Windows
- NX-3800 Windows
- NX-8900 Terrace Doors
- 1600 Wall System®1 Curtain Wall
- 1600 Wall System®2 Curtain Wall
- Trifab® VersaGlaze® 451T Framing System (front set)
- Trifab® VersaGlaze® 450 Framing System (center set)
- 350 Heavy Wall™ Entrances



PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA

**Location:** Silver Spring, MD, USA

**Client:** Engineered Construction  
Projects, LTD

**Architect:** Design Collective

**Date:** 2017

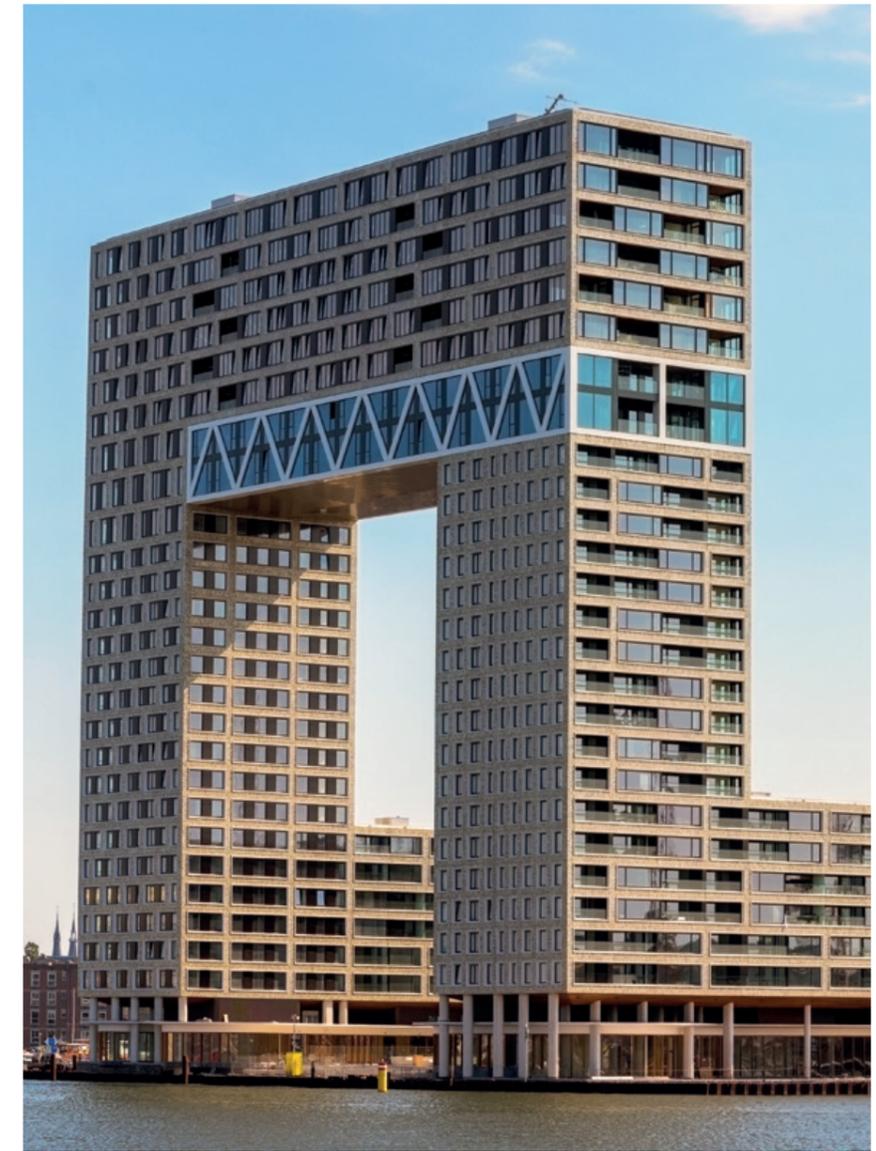
**Size:** 29,264m<sup>2</sup>

## Photographer

Bob Perzel, Perzel  
Photography Group

# PONTSTEIGER

Amsterdam, Netherlands



## VISION

Pontsteiger is an integral part of transforming the former lumber port of Houthaven into an aspirational neighbourhood. This spectacular residential building is an incredibly complex project, involving a 'bridge' constructed with four steel lattice trusses hung between two 90m high towers, emanating from the IJ river.

## TRANSFORMATION

Customised RT 72 Reflex windows and doors were fitted to both the low-rise commercial plinth and prefab curtain wall of the high-rise section, enhancing thermal performance and protecting residents from high winds. This flexibility enabled each storey to be constructed within a single week.

## REALISATION

The iconic cube design of Pontsteiger is heightened further by our systems, which make the most of the natural light and offer captivating views over the city, as well as towards the IJ river. It's hardly surprising that the project has already won a string of international building awards.

## Products Used

RT 72 Reflex



**Location:** Amsterdam, Netherlands

**Client:** Rollecate

**Architect:** Arons en Gelauff

**Photographer**

Dirk Verwoerd

# LEFT BANK

Birmingham, UK



**Location:** Birmingham, UK  
**Client:** APiC UK  
**Architect:** Glancy Nicholls Architects  
**Date:** 2019

## VISION

Left Bank 2 is the second of Birmingham's tallest, exclusively-residential towers to feature our aluminium curtain wall systems, specified to handle the challenging wind loads. The brass-clad towers take historical reference from the brass and metalworking heritage of the neighbouring Brasshouse building.

## TRANSFORMATION

Kawneer's AA®100 zone-drained and capped curtain wall, delivered the required performance to deal with the elevated positioning and challenging wind loads on the 33-storey tower. We complemented the system with AA®720 top-hung ventilator windows on the first to top floors, and AA®190 TB Entrance Doors on the ground floor.

## REALISATION

Maximising daylighting and views across the city, our glazed elements played a significant role within the aesthetic detailing of the aluminium façade design. The glass-to-glass corner windows were a major feature and helped to achieve the sustainable target deliverables for the development's 217 luxury apartments.

## Products Used

AA®100 Curtain Wall  
AA®720 Windows\*  
AA®190 TB Doors\*\*

# HAUT

Amsterdam, Netherlands



**Location:** Amsterdam, Netherlands  
**Client:** De Groot en Visser  
**Architect:** Team V Architectuur  
**Date:** 2021

## VISION

Towering above the city at 73m high with 21 floors, HAUT is set to be the tallest wooden residential building in the Netherlands and the new icon on the River Amstel. Yet it's also purposely small-scale, with each level containing only three homes.

## TRANSFORMATION

To further enhance the distinctive wooden construction, Kawneer has proposed an energy-efficient generating façade, with triple glazing and fully recyclable aluminium frames. Large isolating AA®3572 Doors and RT 72 HI+ Windows featuring sliders will emphasize the high ceilings and spacious terraces.

## REALISATION

Unique in its architecture and exceptional in its sustainability, HAUT will create the new standard for healthy building and luxury living in the city, with generous glazed areas offering its residents unrivalled views of the Amsterdam skyline.

## Products Used

AA®3572 Doors  
RT 72 HI+ Windows\*



PRODUCTS ONLY AVAILABLE IN EUROPE AND BENELUX AND GERMANY

## Photographer

©Zwartlicht & Team V Architectuur

# L'ARBRE BLANC

Montpellier, France



## VISION

L'Arbre Blanc represents the dazzling whiteness of southern stones and Mediterranean joie de vivre, combined with the purity and refinement of Japanese culture. Rising 17 floors, this landmark luxury apartment building also features an art gallery, restaurant and offices, together with a simply stunning rooftop bar.

## TRANSFORMATION

The 110 apartments enjoy illuminated overhanging terraces, each designed with lightweight metal spars and an aluminium tray underside allowing rainwater to run into downspouts arranged in the thickness of the façade. KALORY Speci'AL K Windows are complemented with KANADA Folding Doors to take advantage of the panoramic city views.

## REALISATION

A living symbol of contemporary Montpellier, L'Arbre Blanc has become a glowing beacon in the city skyline, located on the picturesque banks of the River Lez. It's a unique, bright and modern place to call home, offering residents and visitors spectacular scenery for miles in every direction.

**Location:** Montpellier, France

**Architect:** Agence Sou Fujimoto Architects, Agence Nicolas Laisné Architecte, Agence OXO architects

**Contractor:** Groupe Promeo, Evolis Promotion, Opalia Immobilier, Crédit Agricole Immobilier

**Date:** 2015

**Size:** 10,225m<sup>2</sup>

## Products Used

KANADA Folding Doors

KALORY Windows

 PRODUCTS ONLY AVAILABLE  
IN SOUTHWEST EUROPE

## Photographer

Xavier Boymond

# ALEXAN ON 8TH

Atlanta, GA, USA



## VISION

Alexan on 8th is a 20-storey apartment building featuring more than 836m<sup>2</sup> of retail space in the dense district of Midtown Atlanta. Working within demanding time and space constraints, the architects entrusted Kawneer to help deliver a range of glazed solutions that increased comfort through accessibility, enhanced natural daylight and thermal performance.

## TRANSFORMATION

To help address space constraints, Kawneer's sliding doors were factory fabricated, marked and delivered in stages ready to assemble and glaze at each room. Our AA<sup>®</sup>425 Thermal Entrances delivered a high thermal performance, helping to keep occupants comfortable and safe.

## REALISATION

Kawneer engineering and manufacturing, combined with precision project management and installation, resulted in a seamless project that brought the design team's vision to reality in a premium location. Helping to improve the quality of living space attracted glowing reviews from residents.

**Location:** Atlanta, GA, USA

**Client:** Glass Systems

**Architect:** Rule Joy Trammell + Rubio, LLC

**Date:** 2019

## Products Used

- AA<sup>®</sup>425 Thermal Entrances
- 350 Medium Stile Doors
- FG 523T Window Wall (custom 5" depth system)
- FG 623T Window Wall (6" depth system)
- 2000T Terrace Doors
- 1600 Wall System<sup>®</sup>3 Curtain Wall
- 1600 Wall System<sup>®</sup>1 Curtain Wall
- Trifab<sup>®</sup> VersaGlaze<sup>®</sup> 450 Framing System

 PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA

## Photographer

Bill Gnech, The Apple Group

# LORENTZ TOWERS

Leiden, Netherlands



**Location:** Leiden, Netherlands  
**Client:** ASW  
**Architect:** Neutelings Riedijk Architecten  
**Date:** 2020

## VISION

Located directly by Central Station, the multifunctional Lorentz Towers combine offices, shops and eateries with two robust residential towers. It provides an iconic new gateway to the cosmopolitan city of Leiden, welcoming some 70,000 visitors every day.

## TRANSFORMATION

Two towers projecting from a striking dark plinth building called for a high-performance, flexible façade solution. The architects chose the proven capabilities of Kawneer's AA®100 Curtain Wall system and RT 72 Reflex doors and windows to meet the aesthetic and performance requirements of the high-profile design.

## REALISATION

Redeveloping this urban gateway into an attractive, vibrant place to live, work and shop, the Lorentz Towers are part of an exciting large-scale municipal plan to transform the entire area over the next decade, connecting the station and historic centre of Leiden.

## Products Used

AA®100 Curtain Wall  
RT 72 Reflex\*



PRODUCTS ONLY AVAILABLE IN EUROPE AND BENELUX AND GERMANY

## Photographer

Dirk Verwoerd

# ARCADIO VILLA

Marbella, Spain



## VISION

Kawneer helped develop the complex and sophisticated construction of Villa Arcadio, an exclusive family home in the Marbella urbanisation of La Zagaleta. Avant-garde design taken to its purest expression, the architects played with cubic geometry modules, selecting materials of the highest quality to comply with every requirement.

## TRANSFORMATION

Our wide range of cladding solutions included an AA®100 Curtain Wall, KASTING Sliding Doors, a large KANADA Entrance Door, KASSIOPÉE Windows with a hidden sash and KALORY Windows. Utilising them, the architects were able to achieve large openings designed to measure, as well as the required insulation.

## REALISATION

The impeccable design strips away everything that is not essential to shape a construction that is characterized by the predominance of straight lines. Exhibiting a strong connection between the interior and natural outdoor environment, it was awarded Best Residential Villa 2016 at the European Property Awards in London.



**Location:** Marbella, Spain

**Architect:** Maiz and Diaz architects

**Date:** 2017

**Size:** 3,800m<sup>2</sup>

## Products Used

AA®100 Curtain Wall  
KASTING Slider Doors\*  
KASSIOPÉE Windows\*  
KALORY Windows\*  
KANADA Entrance Doors\*

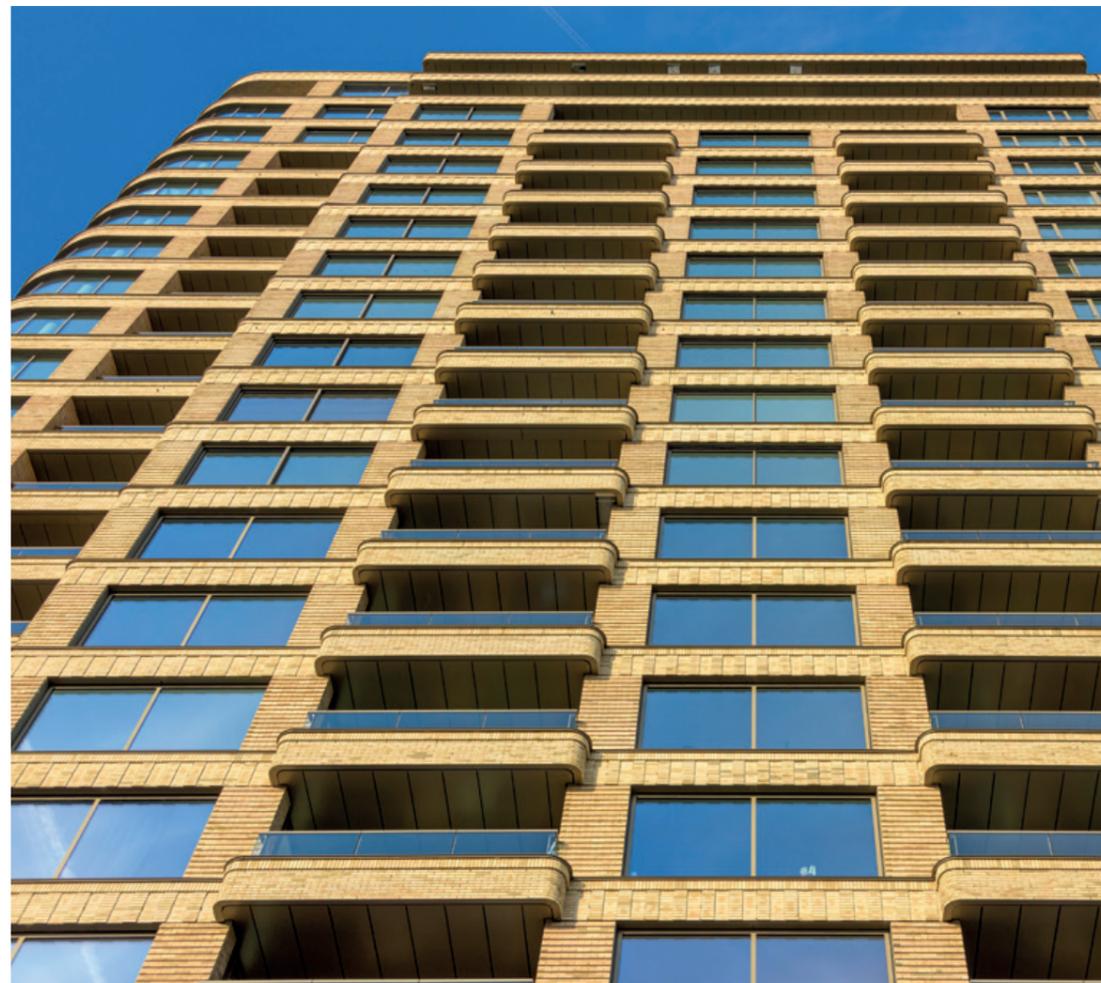
  PRODUCTS ONLY AVAILABLE IN EUROPE AND \*SOUTHWEST EUROPE

**Photographer**

Xavier Boymond

# STATE AMSTERDAM

Amsterdam, Netherlands



## VISION

STATE is an iconic new luxury apartment building whose triangular shape and pointed façade take inspiration from the world-famous Flatiron Building in New York. Our goal was to provide a high-performing flexible window system to accommodate its striking panoramic views and also deliver fall through protection.

## TRANSFORMATION

Kawneer's RT 72 Reflex windows achieved a clean, modern aesthetic to complement the neo-Renaissance style. Almost spanning from floor to ceiling, they offer panoramic views and enhance thermal performance, with the installation of fall through protection to ensure that residents feel completely safe and secure.

## REALISATION

Optimising natural daylight and beautiful views across the skyline and River Amstel, our rounded feature windows add to the energy efficiency, luxurious comfort and refined brick façade of this striking 22-storey, 70m high landmark, situated next to one of Amsterdam's newest hotspots, the Amstelkwartier.

**Location:** Amsterdam, Netherlands

**Client:** Facédo

**Architect:** ZZDP

**Date:** 2019

## Product Used

RT 72 Reflex

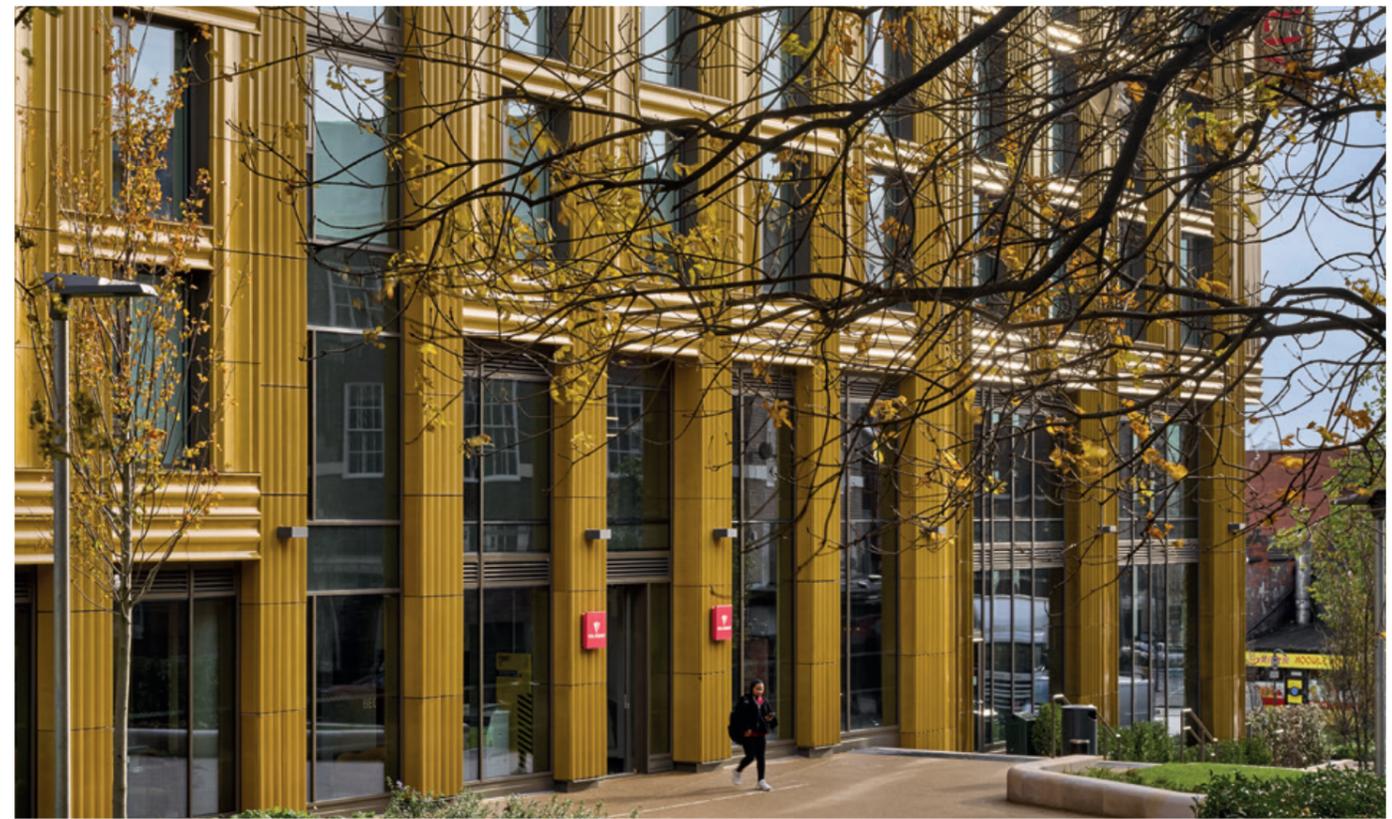
 PRODUCT ONLY AVAILABLE  
IN BENELUX AND GERMANY

## Photographer

Dirk Verwoerd

# ST ALBANS PLACE

Leeds, UK



**Location:** Leeds, UK  
**Client:** FK Group  
**Architect:** Feilden Clegg Bradley Studios  
**Date:** 2019

## VISION

Built on a former car park site, St Alban's Place provides student accommodation in a 7, 11 and 18-storey building of 376 serviced studio apartments. Its façade draws on Leeds' traditional architectural ceramic and fabric industries, expressed as a woven pattern of glazed ceramic cladding, designed by FCB Studios.

## TRANSFORMATION

With equal consideration to the operational performance and styling of the apartment building, a range of Kawneer products were chosen to meet the design requirements. These included AA®100 and AA®110 mullion-drained curtain wall, AA®720 side-hung open-out windows, oversized AA®3720 folding/sliding doors and AA®720 doors.

## REALISATION

St Alban's Place brings a wonderful sense of home and belonging to its residents, with spacious 20m<sup>2</sup> to 34m<sup>2</sup> apartments featuring kitchens and en suite facilities. Student residents can also enjoy impressive views across the city, while connecting and building friendships in the ground floor Hub.

## Products Used

AA®100 Curtain Wall\*  
AA®110 Curtain Wall\*  
AA®720 Windows\*\*  
AA®720 Doors\*\*  
AA®3720 Folding/Sliding Doors\*\*\*



# LIVING, BREATHING, INTERACTING, CONTRIBUTING

## **GLOBAL CHALLENGES, SUSTAINABLE OPPORTUNITIES**

Global trends are shaping the construction sector, impacting the environment, and changing the way we live and work. As a result, policy and regulations are continually evolving to help create buildings that place energy efficiency, performance, safety and recyclability at the heart of the design. The real innovators of design have always built with sustainability in mind. Today, architects are thinking about moving beyond the concept of static structures. They are designing buildings that interact with their landscapes, positively impact their occupants, and contribute to their local environment.

These demanding design criteria translate into opportunities for Kawneer to grow and innovate, with solutions that perform and deliver to aesthetic design challenges which are also embedded with extensive functionality.

## **FROM VISION TO REALISATION**

We have reached an exciting age where buildings can be designed to perform as self-reliant eco-systems, and product choice is pivotal to achieving that. Material selection is foundational in sustainable façade design and aluminium offers several advantages. Strong, lightweight, robust and durable, it is low maintenance and flexible enough to meet complex design demands. Aluminium is also infinitely recyclable and can offer a cradle-to-cradle solution considerate of the full lifecycle impact of a building.

Beyond materials, sustainable building designs demand products that incorporate wide-ranging technologies to support the eco-system, from building efficiency to the health and well-being of occupants. Connected façade products that deliver enhanced thermal performance and control solar heat gain through shading and ventilation, are integral to building efficiency.

At the same time, we must create products that consider the safety and comfort of building occupants with enhanced security capability, acoustic performance and daylighting. To successfully deliver these features, we have reached an advanced stage of innovation in façade design, where the range of solutions must be broad and engineered to exacting specification.

## **A MANDATE WITH GREATER PURPOSE**

Kawneer takes a holistic view of sustainability. We carefully consider our processes, our people, our products and our impact on the environment. We are also helping to create beautiful, sustainable buildings that appeal to clients, designers and occupants, to positively impact and enhance their everyday lives.

The path to achieving a truly sustainable future within construction is a connected and collaborative approach that includes designers, architects, clients, contractors and manufacturers. At Kawneer, we are committed to continually improving and innovating the way we design and operate, with a global sustainability agenda driving our evolution.



Kimberly Ferro  
**Vice President, Global Marketing,  
Product and Technology**

# HAVENLOFTS

Rotterdam,  
Netherlands



## VISION

Havenlofts Nassauhaven is a unique floating quarter of innovative, sustainable homes designed to be energy neutral. Regenerating a disused harbour basin, this pioneering city development on the tidal waters of Rotterdam must be resilient against a rising sea level caused by climate change.

## TRANSFORMATION

The 18 lofts are embellished with durable aluminium frames and maintenance-free wooden panels. Kawneer RT 72 Reflex doors and windows were specially selected for the sustainability, robustness and aesthetic character they provide to the green-minded project's kerb appeal of living on the water.

## REALISATION

Complementing the wooden façade with aluminium frames adds to the eco-friendly nature of these beautiful building shells, which can be personalised to the individual style of prospective loft owners. We're proud to have contributed to a new form of housing that we will likely see more of in the future.

## Product Used

RT 72 Reflex



**Location:** Rotterdam, Netherlands  
**Client:** Rollecate  
**Architect:** Public Domain Architects  
**Date:** 2020

**Photographer**  
Dirk Verwoerd

# COMMERCIAL OFFICE

**Kawneer France Headquarters,**  
Vendargues, France

**100 Embankment,** Manchester, UK

**ING Headquarters,** Amsterdam,  
Netherlands

**BBC Cymru,** Cardiff, UK

**CIRCL,** Amsterdam, Netherlands

**Associated British Foods Regional  
Headquarters,** Peterborough, UK

**CityPlace 2,** Spring, TX, USA

**INEOS HQ,** Grangemouth, UK

**ATCO Commercial Centre,**  
Calgary, AB, Canada





KAWNEER FRANCE  
HEADQUARTERS

Vendargues, France

## VISION

Kawneer's French headquarters project consisted of two separate spaces for the warehouse and offices. Balancing form and function with modern aesthetics and energy efficiency, both areas belong to the same volume but attend to their different purposes separately.

## TRANSFORMATION

Our offices feature a series of glass volumes that slide from the main volume, generating interior and exterior workspaces. The warehouse façade is a ventilated, triple skin made of cellular polycarbonate, which allows for the natural light to penetrate the warehouse interior, offering the perfect thermal conditions.

## REALISATION

The chosen chromatic series resulted in a changing aesthetic, mimicking the surroundings during the day, while becoming a colourful light box during the night. The project also embraced the landscape treatment of the outdoor green spaces, the accesses and exterior logistical spaces for the warehouse.



**Location:** Vendargues, France

**Architect:** Alotark

**Date:** 2019

### Photographer

Xavier Boymond

### Product Used

AA®100 Curtain Wall



# 100 EMBANKMENT

Manchester, UK



## VISION

The second phase in the development of this historic site overlooking Manchester Cathedral and Deansgate, 100 Embankment is a contemporary nine-storey steel and glass building boasting 15,422m<sup>2</sup> of high-quality office space and a spectacular roof terrace. It complements 101 Embankment, which also features an identical Kawneer façade.

## TRANSFORMATION

Kawneer's AA<sup>®</sup>201 Unitised Curtain Wall system, with bespoke curved corners and feature bands, clads the office building and car park. Featuring many different curved elements and radii, it demanded a high degree of precision engineering, flexibility and collaboration to achieve a gleaming aesthetic and efficient thermal performance.

## REALISATION

100 Embankment stands alongside its sister building as a pair of architectural jewels, sitting on top of the historic sandstone railway embankment. Gaining a BREEAM 'Excellent' rating for sustainability and energy efficiency, its glazed façade and tiered roof terrace offer stunning views across the river and city skyline.

**Location:** Manchester, UK  
**Client:** Prater  
**Architect:** Flanagan Lawrence  
**Date:** 2020

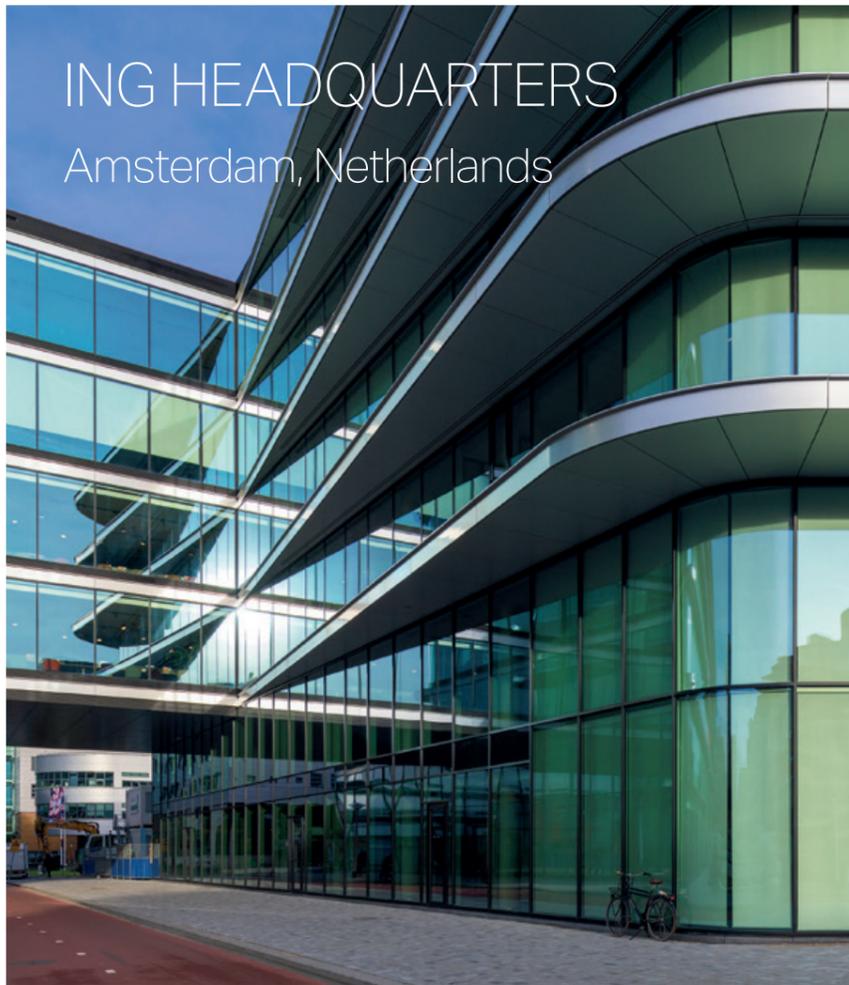
**Products Used**  
AA<sup>®</sup>201 Unitised Curtain Wall

 PRODUCT ONLY AVAILABLE IN THE UK

**Photographer**  
Ask Real Estate

# ING HEADQUARTERS

Amsterdam, Netherlands



## VISION

For Cedar, ING's new corporate head office at Cumulus Park, sustainability was key. Reducing the consumption of natural resources as much as possible, the inspiring space is partially built with concrete from the previous building and forms a central part of Amsterdam's innovation district.

## TRANSFORMATION

To maximise energy performance and transparency, we recommended a triple glass system, combined with small, insulated window frames. A flat clamping strip gives the frames a slimmer appearance, which also feature special sills for an easy, yet wind resistant and watertight mounting.

## REALISATION

With nearly all walls made of glass, we have helped create an open and transparent workspace for 2,800 employees spread over 39,000m<sup>2</sup> that encourages collaboration and innovation. Embodying every aspiration of ING, the Cedar building has been awarded the highest sustainability rating by BREEAM-NL.

**Location:** Amsterdam, Netherlands

**Client:** Rollecate

**Architect:** Bentheim Crowel

**Date:** 2019

## Product Used

AA<sup>®</sup>100 Curtain Wall



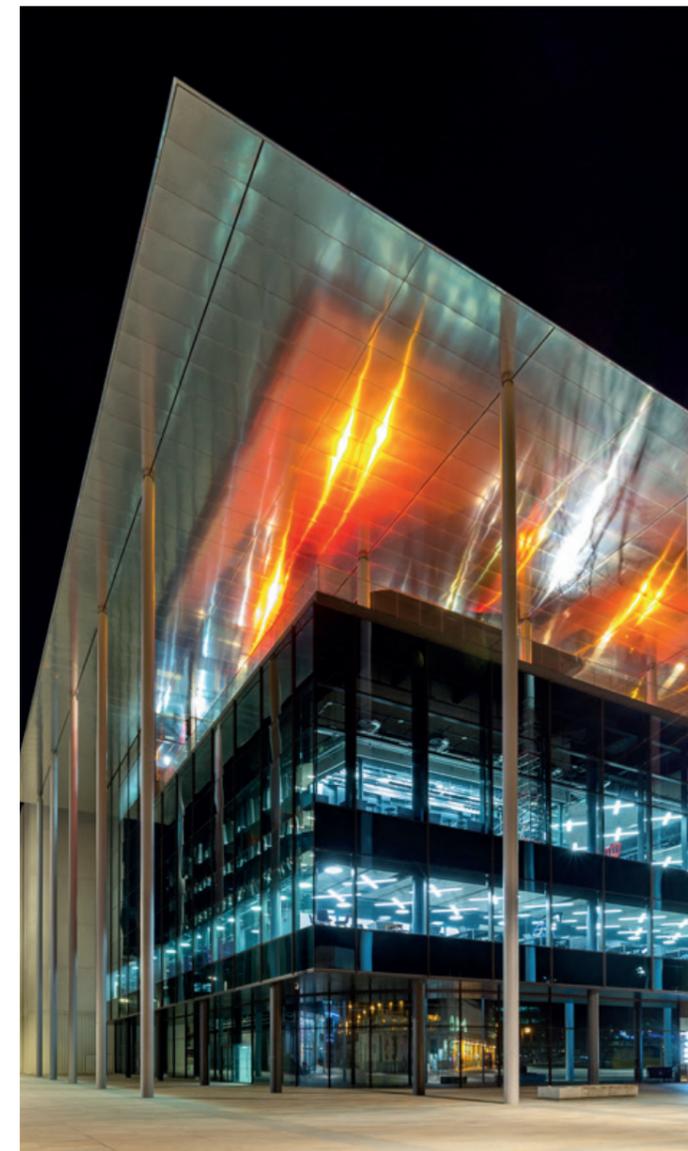
PRODUCTS ONLY  
AVAILABLE IN EUROPE

## Photographer

Dirk Verwoerd

# BBC CYMRU

Cardiff, UK



## VISION

The award-winning and striking new headquarters for BBC Cymru was defined by the vision to create an open and attractive workplace at the heart of Cardiff's Central Square redevelopment. The building featured 16,292m<sup>2</sup> of curtain wall and was the first use in the UK of a new severe duty welded door from Kawneer.

## TRANSFORMATION

We combined our AA®100 capped and zone-drained aluminium curtain wall with our SSG (Structurally Silicone Glazed) and mullion-drained sister product throughout the façade. The curtain wall systems were complemented by thermally-superior AA®720 Doors and also our AA®190 TB severe duty welded doors, whose class-leading thermal performance is so robust, they come with a lifetime guarantee.

## REALISATION

The design was to feature large-format curtain glazing, of which the Kawneer products were instrumental in enabling the core aesthetics to shine through and integrate seamlessly with the façade. Open and welcoming, the spectacular steel-framed building won a 2019 RICS Wales award for Design Through Innovation.

## Products Used

- AA®100 Curtain Wall
- AA®100 SSG Curtain Wall
- AA®720 Doors\*
- AA®190 TB Doors\*\*



PRODUCTS ONLY AVAILABLE IN EUROPE, THE UK AND THE UK AND SOUTHWEST EUROPE

**Location:** Cardiff, UK

**Client:** Dudley's Aluminium

**Architect:** Foster + Partners

**Date:** 2018

**Size:** 13,935m<sup>2</sup>

## Photographer

Hannah Gasparutti /  
Foster + Partners

# CIRCL

Amsterdam,  
Netherlands



## VISION

A new pavilion in Amsterdam's Zuidas district, CIRCL was designed and constructed according to sustainable and circular principles. Energy efficient and easy to disassemble, many of the raw materials are recycled and can be put to different uses in the future, including the aluminium envelope.

## TRANSFORMATION

To make as little impact as possible, the façades are made from recycled aluminium using the Kawneer AR 100 recycle programme. Featuring curtain walls with dry joints, the folding modular system provides a feeling of light and space, together with a good insulation value.

## REALISATION

As well as being robust, detachable and energy saving, our system helps form the living lab of CIRCL – a bright, open, comfortable, safe and inspiring circular environment with many possibilities, in which people can find the space they need to learn and grow together.



## Product Used

AA®100 HI+ Curtain Wall



PRODUCTS ONLY  
AVAILABLE IN EUROPE



**Location:** Amsterdam, Netherlands

**Client:** De Groot en Visser

**Architect:** De Architekten Cie

**Date:** 2018

**Photographer**

Dirk Verwoerd

# ASSOCIATED BRITISH FOODS REGIONAL HEADQUARTERS

Peterborough, UK



## VISION

Kawneer glazing systems were identified as a 'key aspect' of the new regional head office of Associated British Foods. The objective was to design a visually open, transparent and timeless façade that maximises natural light and outward views from an environmentally responsible building, with an exemplar approach to low energy.

## TRANSFORMATION

The entirety of the building envelope features Kawneer's systems, including AA®100 SSG (Structurally Silicone Glazed) Curtain Wall on the ground floor, with AA®100 mullion-drained curtain wall on the upper elevations. The curtain wall is complemented by ultra-thermally efficient AA®720 Doors, AA®3572 Lift and Slide Doors and AA®720 Parallel Opening Windows.

## REALISATION

Providing a natural anodised finish, areas with glazed corner units form agile work areas and large sliding doors open the restaurant up to the outside. With collaborative office space and controlled natural light deep into the heart of the building, the energy-efficient façade exceeded every expectation.



**Location:** Peterborough, UK  
**Client:** Norman & Underwood  
**Architect:** CPMG Architects  
**Date:** 2019  
**Size:** 5,755m<sup>2</sup>

## Products Used

AA®100 SSG Curtain Wall  
AA®100 Curtain Wall  
AA®3572 Lift & Slide Doors  
AA®720 Parallel Opening Windows\*  
AA®720 Doors\*

  PRODUCTS ONLY AVAILABLE  
IN EUROPE AND THE UK

## Photographer

Martine Hamilton Knight

# CITYPLACE 2

Spring, TX, USA



**Location:** Spring, TX, USA  
**Client:** Dynamic Glass  
**Architect:** Gensler  
**Date:** 2019  
**Size:** 30,379m<sup>2</sup>

## VISION

Kawneer's challenge was to create a high-performing façade that increased energy efficiency to reduce operating costs and enhance occupant comfort. The building has a conventional looking shape from afar, but in certain areas no two panels are the same, which required complex fabrication sheets for each panel and individual floor plans.

## TRANSFORMATION

Kawneer's curtain wall systems were selected to provide superior thermal performance, deliver an elegant aesthetic and increase natural daylight. Units were stacked quickly and easily, with Kawneer providing an abundance of collaboration resources, to meet the tight project schedules.

## REALISATION

Through a range of high-performing products, the developers and design team were able to achieve their aesthetic, performance and sustainability goals. Nestled in the heart of the Springwood Village community, CityPlace 2 is an energy-efficient, modern building that unifies work and life, serving as a dynamic focal point.

## Products Used

2500UT Unitwall® System (with 8-inch extended face covers)  
1600 Wall System®5 Curtain Wall (pre-glaze)  
1600 SS Curtain Wall System

 PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA

## Photographer

ShauLin Hon, Slyworks Photography and Bill Gnech, The Apple Group

# INEOS HEADQUARTERS

Grangemouth, UK



## VISION

Architects for the award-winning INEOS headquarters in Grangemouth turned to Kawneer glazing systems to address the specific engineering requirements of building adjacent to a petrochemical plant. The steel-frame building was built over four floors, with large expanses of glazing to allow light into the office and atrium spaces.

## TRANSFORMATION

Kawneer's AA®110 zone-drained curtain wall with 65mm sightlines, top-hung casement windows and commercial entrance doors were specified for all four elevations on the landmark building at INEOS' 1,700-acre site.

## REALISATION

Our high-performance glazing delivered an engineered solution that met exacting standards. Completed in just 12 months, the 6,490m<sup>2</sup> headquarters won an Architectural Excellence Award (Commercial Buildings) in the Scottish Property Awards. The building features meeting rooms and conference facilities, as well as three floors of light and airy office space.



**Location:** Grangemouth, UK

**Client:** CMS Windows

**Architect:** Michael Laird Architects

**Date:** 2017

**Size:** 6,490m<sup>2</sup>

## Products Used

Blast Enhanced AA®110 Curtain Wall

Blast Enhanced Casement Windows

Blast Enhanced Doors

 PRODUCTS ONLY  
AVAILABLE IN THE UK

# CONSTRUCTING A MODULAR FUTURE

## THE GLOBAL SHIFT FROM ON-SITE TO OFF-SITE

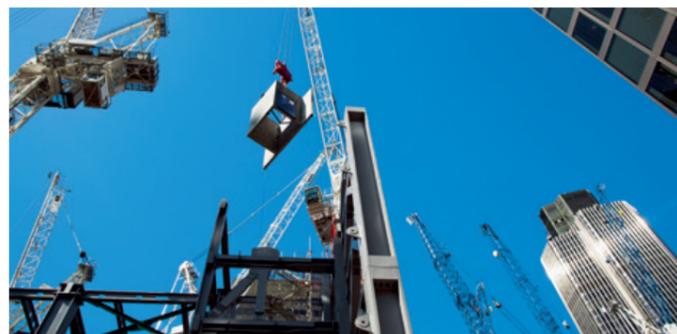
One of the fastest growing sectors within modern construction is modular. Although modular is not a new practice, projects adopting a modular construction approach have been proven to save as much as 50% on overall construction time. Advantages of modular construction systems include reduced build costs over the lifetime of the building, as well as greater certainty for the design. Along with the additional control around manufacture and construction costs, off-site construction can bring a vastly improved level of quality.

At Kawneer, we have a long-established history with modular solutions, from unitised curtain walls and storefronts to modular window products. Our systems are designed to feature all the benefits associated with modular construction, without having to compromise on performance. In some instances these are superior to more traditional construction choices as well as including a breadth of aesthetic finishes.

## A TRADITIONAL METHOD REINVENTED

Modular off-site construction uses the same materials as conventionally built facilities, only in a safer and more efficient process. This combined with a more controlled assembly and fitting environment, allows for an increased number of quality checks which take place ensuring standards and practises are maintained to the highest level of quality.

A modular building requires planning and expertise to maximise the off-site construction benefits. Executing good planning has the additional benefit to design out risks that may otherwise be open to variation in traditional on-site builds, particularly around material interfaces which are most commonly a source of variation from the 'as designed' specification. These variations create serious risks that could compromise performance or durability. As already mentioned, quality checks within the manufacture and assembly process can be conducted by trained specialists and rectified prior to installation, ensuring the design remains integral whilst also reducing exposure to hazards and other costs associated with a demanding construction site.



Reference materials:

McKinsey & Company, *McKinsey Global Institute, Reinventing Construction: A Route to Higher Productivity*, February 2017

McKinsey & Company, *Capital Projects & Infrastructure, Modular Construction: From Projects to Products*, June 2019

Traditional on-site construction also faces the practicalities of a live construction site, which can suffer from poor communication, lack of instant access to the right equipment and ever-changing weather conditions that can negatively influence some building materials.

## CURRENT CLIMATE CHALLENGES

Modular construction has been active since the mid-1900s, but the contemporary modular building method has advanced to a new level of design sophistication, utilising the latest material technologies. The achievable building complexity is also increasing as architects have more powerful design tools to allow for greater creativity. Contractors are re-shaping their businesses through growth and acquisition to accommodate modular. By bringing more construction options in-house, they can further streamline the construction process, which also helps to reduce manufacturing waste so that it can be recycled or reused appropriately to improve sustainability. In the next 20 years, we expect that the majority of commercial glazing projects will have unitised or prefabricated components.

Modular construction is also helping to resolve labour shortage problems and deal with increasing pressure from investors who want faster capitalisation of sites, whilst also offering better quality control and sustainability. In modular builds, up to 80 percent of traditional labour can be moved off-site.

An added benefit of modular construction is that buildings can be deconstructed and repurposed in another location to support the circular economy approach to construction products and reduce building maintenance. The products and installation can be designed and implemented with methods that make the removal and recycling much easier to help minimise waste and maximise investment. At Kawneer, we adopt a similar method by obtaining as much recycled aluminium as possible to place back into our future products.

## THINKING SMARTER, BUILDING BETTER

As construction processes continually improve and modernise, Kawneer is committed to innovating for a future that supports both upskilled labour alongside automated technology with a more digital manufacturing and delivery process. How quickly this happens depends on real estate demand, the availability of skilled labour and associated construction costs. Choosing between 2D panels, 3D volumetric solutions and hybrid designs will also matter, as will the ability for builders to achieve scale and the much-needed consistency of quality.

The market value for modular construction of new real estate alone is estimated to reach \$130 billion globally by 2030. Whatever happens, Kawneer is embracing digital technologies, developing leaner processes, and exploring new collaborations to ensure we are ready to embrace positive change.

**Craig O'Connell**  
**Director, Global Product Development**



# ATCO COMMERCIAL CENTRE

Calgary, AB, Canada



## VISION

Energy and logistics company ATCO's new state-of-the-art headquarters used a mix of Kawneer curtain wall, window and framing systems throughout the 21,368m<sup>2</sup> complex to offer an energy efficient building envelope with a high thermal performance, all while opening the offices to sweeping views of the surrounding Calgary landscape.

## TRANSFORMATION

Vision areas and daylighting were enhanced by integrating a Kawneer 1600UT System™1 Curtain Wall, Clearwall® Curtain Wall System and 2000 Skylight. Combined ultra thermal curtain wall systems and 360 Insulclad® Thermal Entrances provided effective insulation from the thermal fluctuations of Calgary's seasonal weather cycle.

## REALISATION

Complementing locally-sourced building and landscape materials which leverage earth tones, wood and stones, our products and solutions have helped to bring this ambitious design project together, connecting occupants with panoramic views of the Calgary skyline and dramatic Rocky Mountains backdrop.



**Location:** Calgary, AB, Canada  
**Client:** Flynn Canada Ltd.  
**Architect:** Gibbs Gage Architects  
**Date:** 2018  
**Size:** 21,368m<sup>2</sup>

## Products Used

1600UT System™1 Curtain Wall (with custom covers)  
Clearwall® Curtain Wall System  
2000 Skylight  
360 Insulclad® Thermal Entrances

 PRODUCTS ONLY AVAILABLE  
IN THE USA AND CANADA

**Photographer**  
Jason Dziver



# TRANSPORT, LEISURE & PUBLIC

**Montpellier Train Station**, Montpellier, France

**Congress Center**, Cap d'Agde, France

**Axis Hotel**, Viana do Castelo, Portugal

# MONTPELLIER TRAIN STATION

Montpellier, France



## VISION

Montpellier's pleated-concrete and glass high-speed train station was designed by celebrated French architect Marc Mimram, who proposed an evolving station that would adapt to the constant changes of the urban landscape. Kawneer was tasked with delivering a high-performance glazed façade to support the variations in light and climate.

## TRANSFORMATION

Made up of 115 fibre-reinforced concrete 'fins', the large double-curved palms of the roof feature glass inserts, offering the pleasure derived from filtered light. Our 1202 curtain wall system measuring between 10 and 15 meters high, was integrated into the unique design, to accommodate a 3,500m<sup>2</sup> hall.

## REALISATION

Entering Montpellier South of France station, travellers are immediately struck by both light and shade, and by the vast ribbed roof providing a protective shelter to reflect the changing seasons. The station presents itself as a champion of service architecture and has won many awards for its experimental approach.

## Products Used

1202 KADRILLE Curtain Wall



**Location:** Montpellier, France

**Architect:** Mimram / Emmanuel Nebout architect

**Date:** 2018

**Photographer**

Xavier Boymond

# CONGRESS CENTER

Cap d'Agde, France



## VISION

For better urban cohesion and an improved entrance to the seaside resort of Cap d'Agde, the architects designed a helical pedestrian square, spread over several levels, on which the Casino and Palace of Congresses would be connected by circular walkways, with panoramic views through a Kawneer curtain wall.

## TRANSFORMATION

Promoting natural light, a large curved glass façade with white metallic mesh artwork and only two support points was favoured as part of the environmental approach. Ideal for large dimensions, KANADA AA®765 Doors were also integrated throughout, together with KALORY visible sash windows.

## REALISATION

At more than 11 metres high and covering an area of 1,500m<sup>2</sup>, the glazed curtain wall with its extra fine aluminium sight lines, is a real achievement that enhances thermal performance and brings contemporary style to the aesthetics of both buildings, which offer sweeping views of the resort.

## Products Used

AA®100 Curtain Wall  
KANADA AA®765 Doors\*  
KALORY Windows\*



**Location:** Cap d'Agde, France  
**Architect:** A+ Architecture  
**Date:** 2019  
**Size:** 5,800m<sup>2</sup>

**Photographer**  
Xavier Boymond

# AXIS HOTEL

Viana do Castelo, Portugal



## VISION

Part of the Axis Hotels & Golf group, the Axis Viana is an innovative and unusual building. An ode to cantilevering, overlapping stacked volumes generate a series of different perspectives, ranging from a full box when viewed from the front, to a complex column when seen from the sides.

## TRANSFORMATION

Striking contemporary architecture makes the Viana Axis the most modern 4-star hotel concept in Portugal. Organised around long, bright corridors, the Kawneer 1202 KADRILLE zone-drained system and K190 and KANADA Doors enabled large window frames to invite a generous amount of natural light to pass through the interior.

## REALISATION

Featuring two lower levels constructed in concrete, and the boxes resolved in a steel structure sitting above, this hotel offers guests wonderful open views over Viana do Castelo Park, situated between the River Lima and the Mount St Luzia, around five minutes away from the historic city centre.

## Products Used

1202 KADRILLE Curtain Wall  
K190 Doors  
KANADA Doors



**Location:** Viana do Castelo, Portugal  
**Architect:** VHM architects  
**Date:** 2008  
**Size:** 21,000 m<sup>2</sup>

**Photographer**  
Xavier Boymond

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**2500UT UNITWALL® SYSTEM**

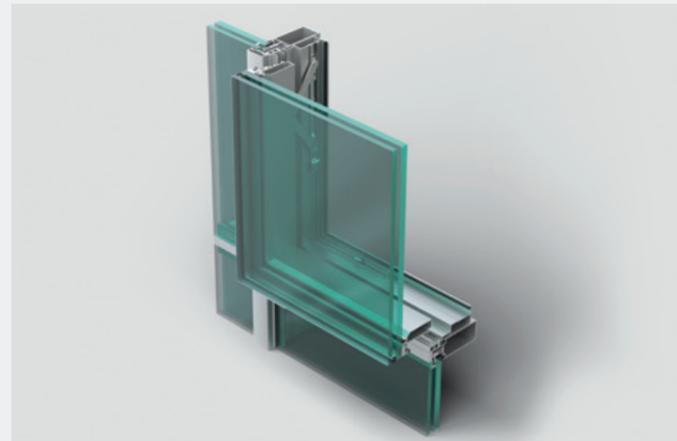
University of Washington Life Sciences Building, Seattle, WA, USA



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**AA®100 CURTAIN WALL WITH CONCEALED VENT & PARALLEL OPENERS**

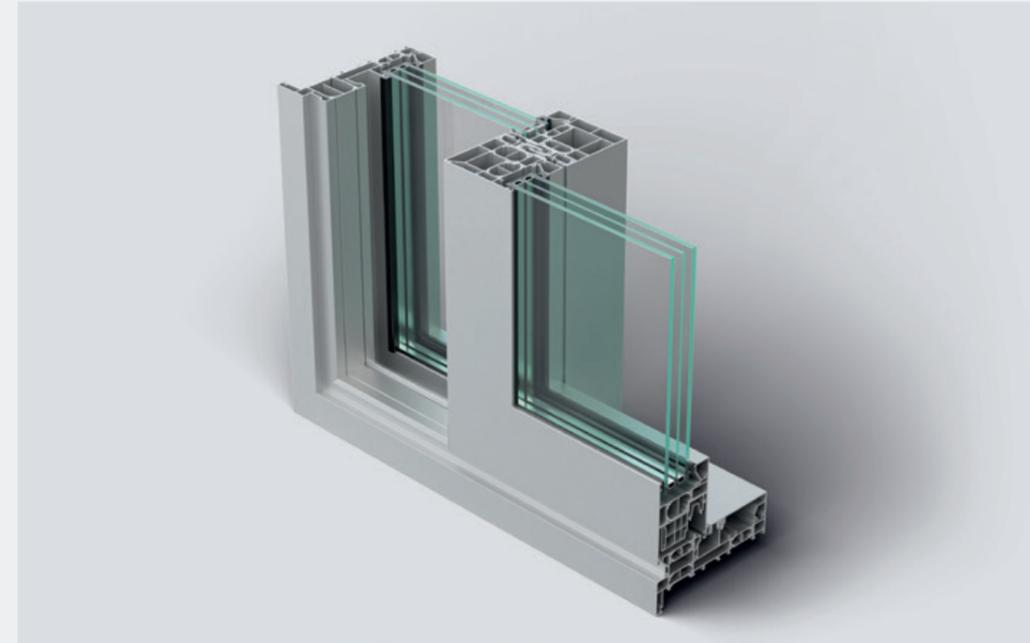
Anna Freud National Centre for Children and Families, London, UK



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**AA®5110 SLIDING DOORS**

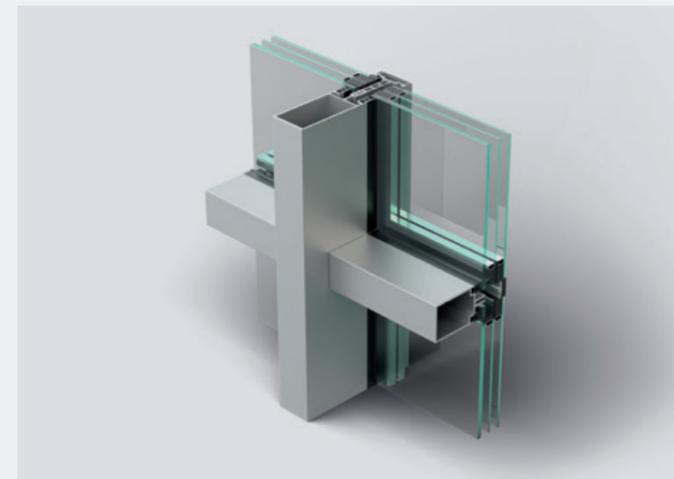
Sluishuis, Amsterdam, Netherlands



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**AA®100 CURTAIN WALL**

Kawneer France Headquarters, Vendargues, France



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