



KAWNEER EDUCATION

INTRODUCTION

SUSTAINABILITY

All our aluminium contains a minimum of 80% recycled content, traceable back to the origin for BES 6001 – Responsible Sourcing of Materials accreditation. Along with a low-carbon billet option, we deliver the right sustainable product solution.

DETAILED DESIGN SUPPORT

We can support you in the earliest stages of a project with design advice to ensure our systems meet your technical specification and budget.

BEST VALUE

Our Architectural Adviser team will help deliver the best value solution without compromising the quality and performance of the products.

BESPOKE SOLUTIONS

Our in-house façades team can provide you with bespoke project solutions that fully meet specific project design criteria, such as bespoke fins/brise soleil solutions.

PRICE AND SUPPLY CERTAINTY

As all our materials are manufactured and supplied in the UK, we can guarantee supply and offer advantageous lead times – which also means we can offer fixed prices for the duration of a project.

FULLY TRAINED SUB-CONTRACTOR NETWORK

Our nationwide network of authorised sub-contractors have been extensively trained through our unique Kawneer Installation Certification scheme (KIC) to maintain the highest installation standards.

DEFECT REDUCTION

We carry out regular site inspections on large, complicated projects and provide a detailed report highlighting areas that need improvement.

WARRANTIES

We offer a unique range of warranties for added peace of mind, from 10 to 30 years depending on the product or service.

ENHANCED SECURITY

All our main aluminium façade systems have been fully tested to PAS 24 standards.

Over the last 50 years, Kawneer has become renowned as one of the leading manufacturers and suppliers of highly engineered glazing solutions in the UK, with a comprehensive range of architectural aluminium façade products. We offer a wide variety of curtain wall systems, windows, commercial entrance doors and framing systems.

The strong mechanical properties of aluminium, combined with our engineering expertise and design ingenuity, make our building systems the perfect solution for the education sector. From primary schools to universities, we've built up a well-established and successful track record in this sector. We are able to offer multiple areas of differentiation, including our range of high-performance and robust products that have been specifically developed to fulfil the technical and commercial requirements for a building envelope in the education sector.

Whether you are looking for a thermally efficient Passivhaus solution, an outward opening cost-effective casement window or a robust entrance door that is tested to a severe duty category, we have the right product choice and combination for your next education project.





KAWNEER | EDUCATION | SUSTAINABILITY

THE SUSTAINABLE SOLUTION

Our core material aluminium is infinitely recyclable

Kawneer is one of only a few suppliers that have secured BES 6001; an accreditation that demonstrates we source responsibly.

We also have 'Life Cycle Assessments' and 'Environmental Product Declarations' for our three main systems and offer low carbon aluminium billet as a primary base material.

These are just some examples of how we strive to continue manufacturing more responsibly and sustainably. In our long history of projects for the education sector, we have thrived in creating better learning atmospheres that positively impact the occupants and environment.

Our UK manufactured products help to provide plenty of natural light and feature excellent thermal retention and ventilation capabilities, positively impacting students and teachers performances whilst improving a building's overall energy efficiency.

At Kawneer, we constantly continue to grow our revenue, while decreasing energy usage, through the processes we facilitate through our manufacturing plant in Runcorn, Cheshire.



Bauxite Alumina Mining Production





HOW KAWNEER UK IS REDUCING ITS ENVIRONMENTAL IMPACT:



Electricity usage down 11.5% since 2015



Gas usage down 34% since 2015



Water intensity down 81% since 2010



Transport usage down 19% since 2013



Landfill waste down 72% since 2013





Passivhaus is a building standard that simultaneously combines energy efficiency, occupancy comfort and cost effectiveness. But Passivhaus is more than just a lowenergy building:

The Passivhaus standard allows for space heating and cooling related energy savings of up to 90% compared with typical building stock and over 75% compared to average new builds.

Passivhaus builds make efficient use of the sun, internal heat sources and heat recovery, rendering conventional heating systems unnecessary throughout even the coldest of winters. During warmer months, Passivhaus make use of passive cooling techniques such as strategic shading and ventilation to keep comfortably cool. These feature are incredibly important in an academic setting to ensure indoor spaces are comfortable and the learning environments are optimised for both teachers and students.

Kawneer are able to offer a number of product solutions for the Education sector that help meet the Passivhaus standards





FEATURED PRODUCTS

An overview of our product range that are particularly well suited to Education sector applications.

AA®190 TB SEVERE DUTY WELDED DOOR

The AA®190 TB Severe Duty Welded Door is our market-leading severe duty entrance door.

The AA®190 TB is an all-purpose entrance door ideal for use in high traffic areas and automatic entrances, with robust welded construction suitable for heavy and severe use. Its welded corner construction makes it the strongest aluminium door available, with four separate weld points for exceptional strength that helps resist the door from dropping and tested to the severe-duty requirements of BS 6375-2: 2009.

It can be installed with a finger guard pivot stile feature to prevent injury to fingers being accidentally caught between the hinge stile and frame. The door has also been tested to PAS 24 for enhanced security performance of single and double leaf external doors.

FEATURES

- Exceptional strength: meets severe-duty requirements of BS 6375-2: 2009.
- Extremely robust: the only door with welded construction that offers a Kawneer Lifetime Guarantee for peace of mind.
- Quality controlled and fully fabricated from our manufacturing site in Runcorn.
- Maximum size 3000mm (H) x 1320mm (W).
- Includes 5 thermal with a u-value performance of 1.8/m2K.
- Water Class 3A (100 Pa).
- Air Class 2 (300 Pa).
- Dual-colour options available.
- Can accommodate up to 42mm glazing infill.
- Fully rebated design and various threshold options.
- Additional options include automated access and panic hardware.
- Suitable for external or internal medium, heavy and severe-duty use.
- Independently tested to PAS 24 Standard.
- Child-friendly finger guard pivot stile protects against trapped fingers when opening and closing.
- Butt hinge option available.
- Single, double action, auto swing and bi-parting doors offer design flexibility.
- Threshold options include a low threshold to comply with Document M.
- Single or dual colour options.





AA®720 SL WINDOW SYSTEM

The AA®720 SL Outward Opening Casement Window has been designed specifically for the Education sector.

The AA®720 SL Window System offers excellent thermal performance, safety and security and a best-value approach to the education sector to help ensure projects remain on budget.

The AA®720 SL does not require reverse glazing adaptors, therefore reducing lead times and fabrication timescales. It also offers ultraslim 62mm sightlines, enhancing the glazing vision area so you have better external views and can maximise natural daylight.

FEATURES

- BRE Green Guide 'A' Rated.
- Slim 62mm sightlines.
- Air infiltration Class 3-4 (600 Pa).
- Watertightness Class 9A (600 Pa).
- Wind Resistance Class E2400 (2400 Pa).
- Fully tested to achieve PAS 24.
- Maximum sizes: top hung up to 1500mm(W) and 1500mm(H), side hung up to 900mm(W) and 1500mm(H).
- Accommodates glazing up to 56mm, enabling triple glazing solutions.
- Compatible with our AA®100/AA®110 Curtain Walling, 451PT Framing and Door Systems.
- Choice of window restrictors available to 100mm.
- Hardware options include concealed hinges, barrel hinges and multiple handle and locking options.
- Suited hardware to complement our AA®720 and AA®540 products.
- Trickle Ventilation option available to help meet Document F requirements.
- Box beads for enhanced security.



AA®100 50MM CURTAIN WALL SYSTEM

The AA®100 has a stick-frame assembly with excellent weather performance.

This unique characteristic is obtained via drainage and ventilation of glazing rebates at every mullion and transom connection in a zone-drained system.

The glazing rebates are also used at the base and above mullion joints in a mullion-drained system.

The system offers design flexibility with various mullion depths, several thermal break options and multiple external face caps for a variety of aesthetic finishes.

Its outstanding performance and ease of installation make it ideal for tailoring to individual project requirements.

FEATURES

- Concealed zone drainage, with each pane acting as an individual self-draining unit.
- Mullion drainage with ventilation and drainage via the mullions.
- Glazing up to 50mm.
- Available in both capped and structural silicone glazed (SSG) forms.
- Large choice of face caps for total design flexibility.
- Bespoke face cap designs available (subject to approval).
- Fire-resistance in accordance with Pr EN 1364-3, with up to 30 minutes of integrity and insulation.
- Patented transom overlap detail for a uniform aesthetic finish.
- Tested and certified in accordance with CWCT Sequence B.
- Enhanced thermal performance exceeds current building regulations.
- Ability to incorporate AA®130 Brise Soleil System.
- Allows integration of opening windows, including a concealed vent option.
- HC/VC gasket system provided as an alternative to structural glazed solutions.





THE KAWNEER RANGE

A summary of our products specifically designed for use in education sector projects.



AA®3610LS VERTICAL SLIDING WINDOW

When maximum ventilation, easy operation and optimum airflow are critical project requirements, this is an ideal choice.

The system has a fully integrated flexible vertical slider, and includes a unique thermal break design to optimise its performance. This technique enables us to combine the ultimate weather and thermal performance with easy operation to create a truly exceptional product choice.

The AA®3610LS allows you to open the top and bottom sashes simultaneously. This unique solution offers excellent ventilation by allowing air contaminants such as fumes, dust and vapours out of the top vent while fresh air is drawn in via the bottom vent.

The AA®3610LS has been successfully subjected to several intensive climatic cycle tests, when it was exposed to conditions representing more than 75 years of use. The successful results and enhanced durability means significantly reduced maintenances costs.

FEATURES

- Linked, double sliding and fixed lights for total flexibility.
- Accommodates punched openings, coupled or composite units.
- Bead glazing from 24mm-32mm, with thermal and safety glass options.
- Integral muntin bar option to replicate traditional wooden sash windows.
- Concealed drainage for better aesthetics.
- Integral handle pull option.
- Unique interlock design for exceptional weathering and thermal performance.
- Flush opening avoids damage or interference with internal furnishings and offers added safety at ground floor level.
- Can suite with Kawneer Curtain Wall and Framing products.
- Independently tested to PAS 24.
- Enhanced thermal performance exceeds current building regulations.
- Ability to incorporate AA®130 Brise Soleil System.
- Allows integration of opening windows, including a concealed vent option.
- HC/VC gasket system provided as an alternative to structural glazed solutions.

451PT FRAMING SYSTEM

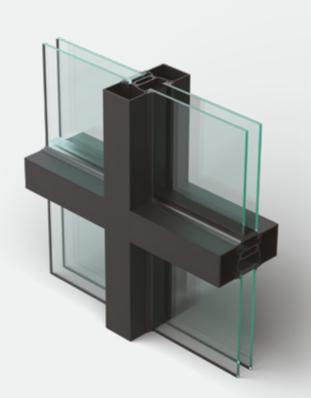
The 451PT Framing System can accommodate fixed lights, opening vents and insulated non-vision panels.

Designed in close collaboration with lead industry designers, the thermally-efficient 451PT provides a slimline framing system, which can be supplied in dual colour and multiglazed framing modules of various widths and heights. It can accommodate fixed lights, opening vents and insulated non-vision panels.

The 451PT uses shear block construction. Contoured shear blocks are screw-fixed to the vertical aluminium profiles, forming a spigot for horizontal members, and can take glazing options between 24mm and 28mm.

FEATURES

- Meets the current building regulations thermal requirements.
- Narrow 50mm sightlines for attractive aesthetics.
- A tried and tested solution ideal for large window designs.
- Flush glazed, therefore easy to apply.
- Concealed drainage with moisture directed to the outside of the building.
- Suites with our AA®720 Windows, AA®3610 Vertical Sliding Window and all Door Systems.







AA®720 SERIES DOOR SYSTEMS

The AA®720 door series offers high thermal performance, resilience to climatic conditions and a strong heavy-duty robustness for high-traffic areas.

The AA®720 Door is available with two levels of thermal performance – the AA®720 and the AA®720 HI to offer complete design aesthetics and performance with cost efficiency.

The 72mm AA®720 Door systems perfectly complement our 72mm AA®720 SL series window.

FEATURES

- $AA^{8}720$ U-value 1.6W/m2k (double glazing) and 1.3W/m2k (triple glazing).
- $AA^{8}720\ HI$ U-value 1.5W/m2k (double glazing) and 1.2W/m2k (triple glazing).
- Frame depth 72mm.
- Water Class 4A.
- Air Class 2.
- Wind Class C2.
- Acoustic performance 72Db.
- Maximum door leaf size 1400mm x 3000mm.
- Maximum weight 250kg.
- Accommodates up to 56mm glazing infill allows triple glazed solutions.
- Heavy duty door.
- Extensive hardware options, including new concealed hinges and barrel hinges, as well as extensive handle and locking options to match other Kawneer products.
- Independently tested to PAS 24.



LOUVRESHIELD

Designed to complement the AA®720 Open-In Windows, LouvreShield offers a simple, aesthetic solution for ventilation and safety, making it an ideal product for education buildings and student accommodation projects.

LouvreShield is securely surface-mounted onto the window's outer frame. The LouvreShield design acts as a safety barrier when the window is in its open position, and it also allows natural air ventilation into a room when the windows are opened in either tilt or turn modes.

A totally self-contained solution that removes the need for additional sub-contractors and does not negatively impact any other element of the external building structure.

FEATURES

- Suites with the AA $^{\!0}720$ Open-In Windows.
- Glazing systems and Louvres from only one manufacturer offer more design flexibility.
- Fully tested in accordance with BS 6180 (Barrier Loading) to 1.5 kN/m Line Load and with BS EN 13049 (Impact Resistance) achieving Class 5.
- Barrier/Fall protection.
- Two blade design options available for improved façade aesthetics: Rectangular Louvre Blade and the 90mm Louvre Blade.
- Wide range of paint finishes with up to 30-year guarantees and anodised finishes with up to 25-year guarantees.

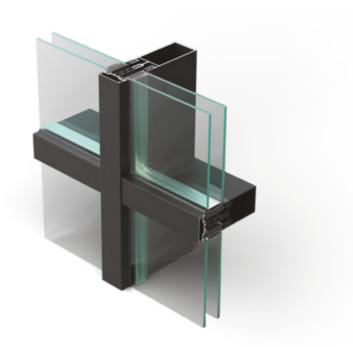








DRIVING BEST VALUE



CURTAIN WALLING

- Use Zone wind loading to allow the most efficient box size to be used which will help keep costs low.
- Use a zone drained system as this will allow you to minimise wastage.
- Request optimised bar lengths to further minimise waste. Typical extrusion lengths are 6m or 6.4m which may result in excess waste.
- Utilise steelwork to split the span so as to minimise the box size required for the curtain wall. This will be far cheaper than using a larger box size to span full height.
- Wherever possible consider using 451PT framing in lieu of curtain walling as this will be circa 25% more competitive.

Product options available to optimise a project without compromising performance

In the education sector, it is imperative to offer product solutions that combine performance, aesthetics and best value. At Kawneer, we are able to find the best solution for your project performance and budget due to our significant product portfolio.

We can help with the building façade requirement and specification by maximising performance and meet every façade detail requirement whilst offering best-value.



DOORS

- Main entrance doors in schools are subject to a significant amount of abuse so consider specifying a pre fabricated welded door e.g AA®190_TB.
- Ensure the correct hardware is specified as quite often doors are over specified.
- Always use a finger guarded/pivot door specification for school environments.
- Try to use 451PT to glaze the doors into as opposed to curtain walling as this will be more competitive.
- Specify door sizes to remove the need for a mid rail as this will be more cost effective.
- Use door stops to avoid the doors being opened beyond 90 degrees as this will avoid potential door damage/maintenance issues.
- When using a low threshold door for DDA compliance ensure that you specify integral drainage to avoid water tracking back under the door in high wind load conditions.

WINDOWS

- Minimise the number of opening vents and use open out vents wherever possible as this will minimise costs.
- Check the wind load and make sure that the smallest vent/outer frame is selected when pricing.
- Challenge the need for PAS 24 security on the project, particularly the 2nd floor which is not readily accessible.
- Consider the need for subcills to the windows.
- Review alternative methods for achieving natural ventilation i.e. Parallel Opening Vents, sliding Sash windows etc.
- Use improved 'g-value' glass to deliver solar shading as this will be more cost effective when compared to brise soleil.
- If mechanical ventilation is required look to minimise the m2 of louvre area as this will help drive down cost / improve weatherability.



CREATING BEST VALUE

Optimise without Compromise - how a best value approach can positively impact a project's budget.

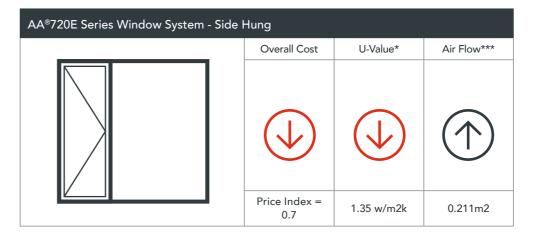
At Kawneer, we have a great deal of experience and knowledge in making sure a project meets its performance and budget requirements. Whether it is creating a bespoke solution, or reviewing a project's key performance criterion, we can help find a solution that is best matched to your requirements.

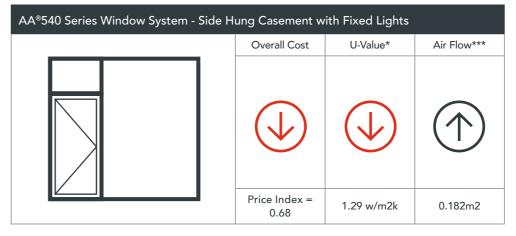
The example below shows a typical configuration on education projects with three separate top hung vents below a fixed light. Although this will provide excellent levels of ventilation, it is not driving best value to achieve the same ventilation strategy.

Below is a typical Education sector window configuration specification.

AA®720 Series Window System			
	Overall Cost	U-Value*	Air Flow***
	Price Index = 1.0	1.51 w/m2k	0.315m2

- * Based on centre pane value 1.0w/2k and Psi Value 0.048
- ** Based on 86mm opening
- *** Based on 100mm opening





AA®720 Series Window System - with Parallel Open Out Vent					
	Overall Cost	U-Value*	Air Flow**		
	₩	₩	\bigcirc		
V 3	Price Index = 0.91	1.28 w/m2k	0.526m2		

AA®3610 LS Series Window System - Vertical Sliding Window					
	Overall Cost	U-Value*	Air Flow***		
↓	\bigcirc	\bigcirc	\bigcirc		
	Price Index = 1 .12	1.55 w/m2k	Inlet: 0.0827m2 Outlet: 0.0827m2		

The following are some best value approaches that optimise your window choice without compromising the overall average window performance.

The relevant price index below demonstrates the cost saving against the original specification.

These examples show how using a larger side hung vent, system, or Parallel Opening vent can allow you to still achieve good thermal and ventilation performance at a significantly better value and cost strategy.

DELIVERING BEST VALUE

We have a huge amount of knowledge and experience in the Education sector.

The Gateway to the Valleys Secondary School in Bridgend is a great example of how we helped to deliver a best value approach throughout the design and build process.

The following are some examples of how we helped achieve the required performance of the building whilst balancing the cost effectiveness of the project:

- Zoned Windloads used to reduce curtain wall box size.
- AA® 541 window system selected in lieu of AA® 720 to reduce cost whilst meeting U value requirement.
- Frames coupled into 2 or 3 module composites as opposed to coupling every window.
- All curtain walling and window sections reviewed against wind load requirements to minimum sizes.
- Coupling mullion profile optimised to include outer frame section modulus.
- Special profile lengths implemented to reduce wastage resulting from the standard 6.4m bars.
- Ventilation requirement reviews and number of opening vents reduced.
- PAS 24 changed to ground floor only instead of the complete building.
- Metallic Paint to external only. Standard colour used on the internal face to reduce cost.
- Unexposed mullion sections left in mill finish.

The above façade design and build considerations that were implemented helped to reduce the projects material costs by £150k vs the initial design.

No compromises, just facade optimisation.





TRUMPINGTON MEADOWS PRIMARY SCHOOL, CAMBRIDGE

Products Used:

AA®100 Curtain Wall AA®100 SSG Curtain Wall AA®541 Casement Window AA®190 Doors **Architect:** Frank Shaw Associates Limited **Main Contractor:** Willmott Dixon







TESTING

HELPING TO ESTABLISH PRODUCT PERFORMANCE AND CONSISTENCY.

Incorporating product reliability testing methods into our product offer and manufacturing facility is crucial.

Product testing is an essential part of developing high quality aluminium façade products. It helps us to establish clear performance targets and provides our product development teams with a fundamental basis to design and manufacture high quality aluminium façade products.

We are able to undertake a number of in-house testing regimes within our facility at Runcorn, Cheshire and we use authorised testing facilities and governing bodies for all other testing criteria.

Product testing ensures our products are safe, reliable and high-quality.

✓ PAS24 - Enhanced Security Performance

CWCT SEQUENCE B - Air Permeability,
Water Penetration, Wind Resistance, Impact

MECHANICAL DURABILITY CYCLE TESTING
- BS EN 12400:2002

✓ BARRIER LOADING - BS 6180:2011

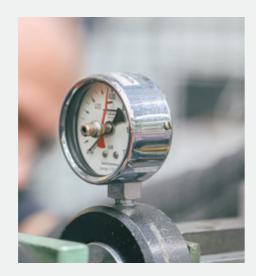
✓ IMPACT TESTING - BS EN 13049:2003

✓ AIR INFILTRATION - BS EN 12207:2016

✓ WATERTIGHTNESS - BS EN 12208:2000

✓ SMOKE CONTROL - BS EN 12101-2

FIRE RESISTANCE - DIN EN 1634-1 AND DIN EN 1634-3















WARRANTIES

GUARANTEED PERFORMANCE AND LONGEVITY

Building projects should be built to last and no two projects are the same.

When designing and specifying a building construction project it isn't just about the initial cost of the build – the project must take into account other contributing factors such as ongoing maintenance and the building costs it incurs over its entire lifecycle. That's why, at Kawneer, we stringently test all our products.

Kawneer's aluminium systems perform exceptionally well in terms of lifetime performance and associated warranties.

The following tests are an example of the warranties we offer as part of our product offer:

PERMACOVER™

This covers our high-quality polyester powder paint finish with 30-year gloss and 30-year matt and metallic guarantees, subject to Kawneer acceptance in marine, industrial, swimming pools or other aggressive atmospheres.

PERMANODIC® WARRANTY

Our Permanodic® warranty covers our anodised products with a 25-year finishes guarantee.

INSURANCE BACKED WARRANTY

In partnership with Alliance Warranty Management, we can offer a unique 3rd party insurance-backed warranty featuring:

- Periods of 10 or 12 years (2 years initial installer period, 8/10 years direct to the insurer).
- No-fault warranty.
- Cover for defective design, workmanship and materials.
- Protection for the whole installed system.
- Fully transferable to future owners.
- A-rated insurance company backing.
- Costs typically 2.25% of installed glazing value. Similar to our Permacover Plus, this includes vetting the design through to checking installation on-site, with documentation released to the client only when the works are proven to meet our requirements.



We offer a comprehensive range of warranties across our entire range of products, giving you peace of mind and added confidence in specifying Kawneer products.







DEFECT REDUCTION

Without the correct installation, even the very best products become an expensive problem to solve.

So, to ensure Kawneer's quality continues throughout the process from product design and manufacture to delivery and installation, we created an industry first – the Kawneer Installation Certification Scheme (KIC).

It demonstrates that any installer we approve has been comprehensively trained and inspected to the highest standards to install Kawneer products. Our training covers all the main topics around installing Kawneer systems, including curtain wall design, fabrication, best value solutions, installation site supervision and site toolbox talks.

All of our approved UK subcontractor network are trained to our latest KIC standards, and we carry out regular site inspections to review the quality of workmanship.

The main aim of our KIC Course is to minimise the risk of defects on-site and the initiative has been incredibly successful since its implementation. From manufacture to installation and lifetime performance, Kawneer offers you a full comprehensive service.



Kawneer Installation Certification:

- Industry First.
- 2 Day Intensive Training Course.
- Written Examination.
- Photo I.D. & Unique Registration Number.
- Mapped to NVQ Level 2 in Curtain Wall Installation.
- Over 800 people have completed the course to date with a 75% pass rate.











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