



Kawneer UK Ltd  
Astmoor Road, Astmoor Industrial Estate  
Runcorn, Cheshire WA7 1QQ, United Kingdom  
Tel: +44 (0) 1928 502500 Fax: +44 (0) 1928 502501

London Office  
12 Berwick Street  
Soho  
London W1F 0PN  
Tel: +44 (0) 207 287 5911

Email: [kuk.kawneer@arconic.com](mailto:kuk.kawneer@arconic.com)  
[www.kawneer.co.uk](http://www.kawneer.co.uk)

Other brochures available on request from Kawneer are:

- Architectural Aluminium Systems Finishes
- Door Systems
- Framing Systems
- Curtain Wall Systems
- Unitised Curtain Wall Systems
- AA®130 Brise Soleil System  
Solar Shading for Reduced Solar Heat Gain
- Juliet Balcony
- LouvreShield
- Sliding Solutions
- Residential Aluminium Glazing Systems
- Specialist Horizontal Sliding Window Solutions for your Healthcare Project
- Fire Resistant Systems
- The Architects Guide to Aluminium in Building
- Sustainability
- Maintenance and Cleaning



Kawneer's continuous development and engineering programmes may bring about product changes. Kawneer reserves the right to introduce without notice such changes which will not detract from the product's performance.  
© KAWNEER UK LTD



## Window Systems







The Grange School, Runcorn  
Architect: Aedas

# Contents

Window Systems Product Selector	4
AA®720 Outward Opening Window Systems	6
AA®720 Standard Casement Window	10
AA®720 SL Slimline Casement Window	16
AA®720 Pivot Window	22
AA®720 Parallel Opening Window	28
AA®720 Inward Opening Window Systems	32
AA®720 Tiltturn Window	36
AA®541 Casement Window	42
GT70 Slimline Renovation Window	48
Case Study - Holiday Inn Express, Birmingham	56
Supporting Your Projects	58



Window Systems Product Selector

	AA®720 Standard Casement	AA®720 SL Slimline Casement	AA®720 Pivot	AA®720 Parallel Opening	AA®720 Tiltturn	AA®541 Casement	GT70 Slimline Renovation
Applications							
New build	■	■	■	■	■	■	■
Refurbishment	■	■	■	■	■	■	■
Heavy Commercial	■		■	■	■		
Key Features							
BRE Green Guide Rating°	A	A	A	A	A	A+	
Dual colour option	■	■	■	■	■	■	
Punched openings	■	■	■	■	■	■	■
Composite windows	■	■	■	■	■	■	■
Ribbon windows	■	■	■	■	■	■	■
Triple Glazing	■	■	■	■	■	■+	■
100mm restriction	■	■	◆	■	◆	■	■
Choice of vent profiles	■	■	■	■	■	■	■
Choice of muntins	■	■	■	■	■	■	■
Trickle ventilation	■	■	■	■	■	■	■
Option to clean from inside the building		■	■		■		■
Suites with Juliet Balcony					■		
Suites with LouvreShield					■		
Suites with AA®100/AA®110 curtain walling	■	■	■	■	■	■	■
Suites with AA®720 door	■	■	■	■	■		
Suites with AA®545 door						■	
Suites with 451PT framing	■	■	■	■	■	■	■
Special Applications							
Heritage		■			■		■
Smoke ventilation	■					■	

	AA®720 Standard Casement	AA®720 SL Slimline Casement	AA®720 Pivot	AA®720 Parallel Opening	AA®720 Tiltturn	AA®541 Casement	GT70 Slimline Renovation
Performance							
Security to PAS 24:2016	■	■		■	■	■	□
Document F compliant*†	■	■	■	■	■	■	□
Document L compliant†	■	■	■	■	■	■	□
Accessories							
Locking handle	■	■	■	■	■	■	■
Espagnolette locking	■	■	■	■		■	■
Multi-point locking	■		■	■	■	■	■
Restricted Pivots			■				
Folding opener	■					■	■
Releasable and fixed restrictors available	■	■	■	■	■	■	■
Window Types							
Casement Top Hung	■	■				■	■
Casement Side Hung	■	■				■	■
Parallel Opening				■			
Pivot Vertical / Offset			■				
Pivot Horizontal			■				
Tiltturn					■		■
Tiltturn (Side Hung)					■		■
Tiltturn (Bottom Hung)					■		■

Notes:  
\* When fitted with trickle vent  
† Dependant on window size and configuration  
□ Subject to Kawneer approval  
◆ With additional restrictor  
+ Optional/Limited  
○ Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A and A+ for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500011 (A+) Element Number 1231500007 (A)





# AA®720 Outward Opening Window Systems

## Introduction

The AA®720 Series has been developed to meet the latest European requirements for thermal performance.

To enable complete flexibility of design, performance and cost, the AA®720 is a modular system providing incremental levels of thermal performance, starting with the highest - AA®720 HI Reflex<sup>Plus</sup>, the AA®720 HI Reflex, AA®720 HI and AA®720 HW.

In addition there is the AA®720 SL Slimline Casement which offers narrow sightlines for both contemporary, residential and heritage applications, with a choice of flush or standard sash frames.

The 72mm profiles incorporate the very latest thermal technology including; extruded polyamide and patented thermal breaks, insulated centre seals and foam isolators.

As well as being fully integrated, the range can suite with Kawneer's curtain walling and framing products and is suitable for installation in low or high rise buildings for commercial and domestic new build or refurbishment projects.

## Construction

Crimped or pinned with mechanical corner cleats. Corner braces are also used.

Weathering is achieved by the use of single and dual durometer, EPDM gaskets.

Pressure equalised system.

## Configurations

As well as flexibility in performance, the AA®720 offers versatility in design with the range encompassing a wide variety of integrated window and door configurations.

Design considerations for the outward opening window range are:

- Top Hung
- Side Hung
- Vertical Pivot (and Offset Pivot)
- Horizontal Pivot
- Parallel Opening

For information on Kawneer's AA®720 Series Door Systems please refer to the Door Systems section.

## Glazing

Glazing and panels up to 56mm thickness can be accommodated enabling the use of triple glazing for when there is a requirement for the very highest thermal and acoustic performance.

## Security\*

The AA®720 and AA®720 SL Casements and AA®720 Parallel have been independently tested to PAS 24:2016.

*\* Does not refer to standard hardware, security hardware required.*



## Independently Weather Performance Tested to BS 6375-1: 2015

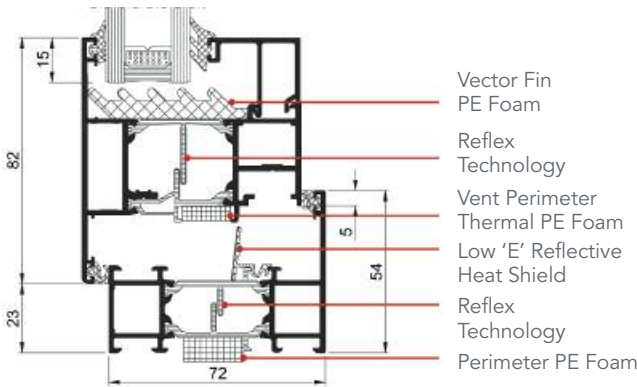
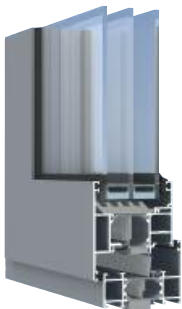
	Air Infiltration BS EN 12207	Watertightness BS EN 12208	Wind Resistance BS EN 12210
AA®720 Casement	Class 3-4 (600 Pa)	Class 9A (600 Pa)	Class E2400 (2400 Pa)
AA®720 SL Casement	Class 3-4 (600 Pa)	Class 9A (600 Pa)	Class E2400 (2400 Pa)
AA®720 Pivot	Class 3-4 (600 Pa)	Class 9A (600 Pa)	Class E2400 (2400 Pa)

All Windows comply with Operation and Strength Test BS 6375 Pt2: 2015

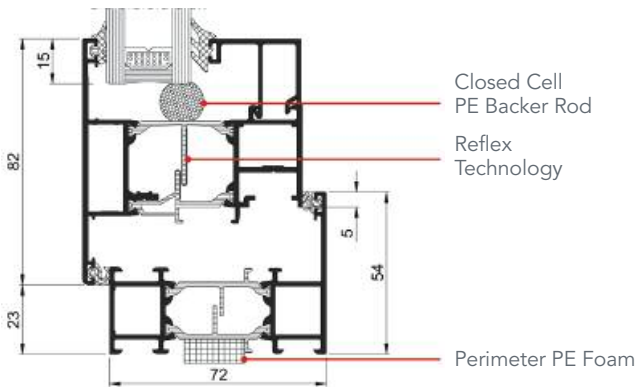
Details of the Kawneer product tests are available from the Technical Services Department at Runcorn.

# Thermal Performance - Outward Opening

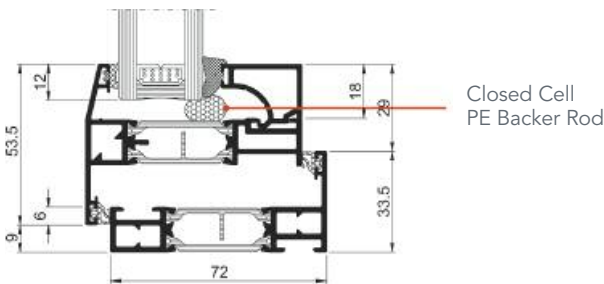
## AA®720 HI Reflex<sup>Plus</sup> Casement



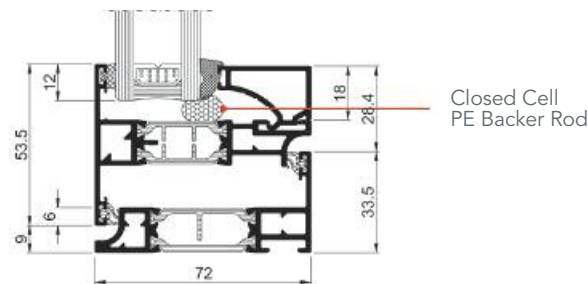
## AA®720 HW Casement



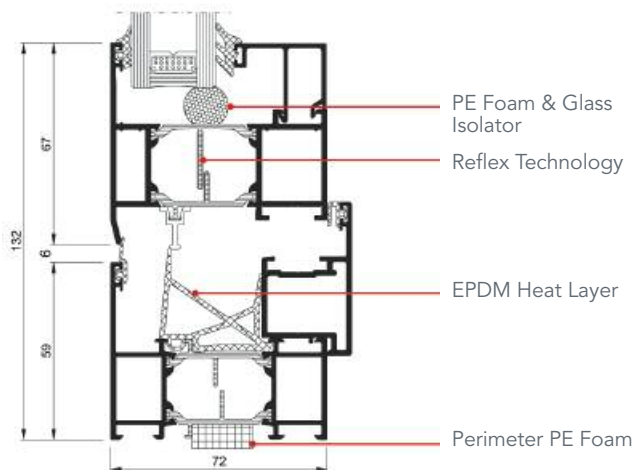
## AA®720 SL Casement



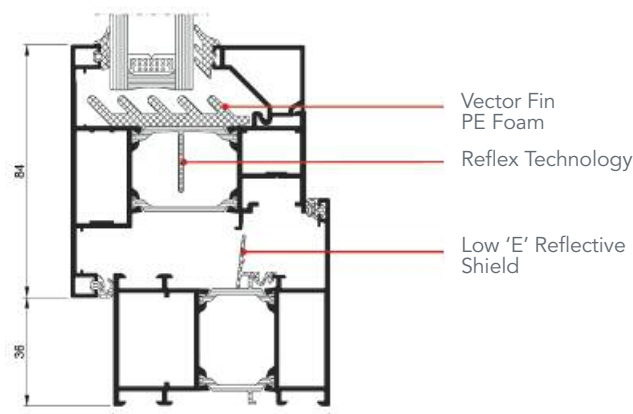
### AA®720 SL Double Flush Casement



### AA®720 HW Pivot



### AA®720 HI Parallel



#### Thermal Performance

The AA®720 Casement, can be manufactured within 5 levels of thermal performance – providing flexibility in design, performance and cost.

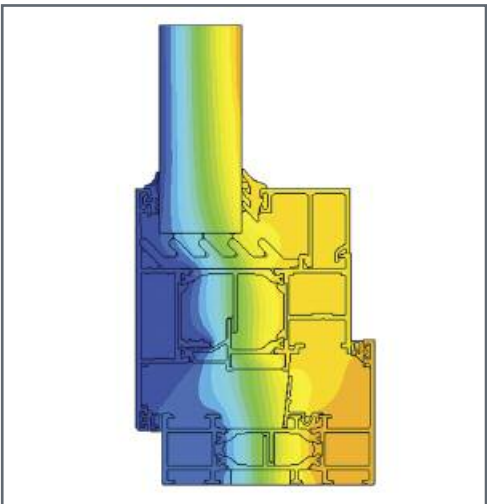
**AA®720 HI Reflex<sup>Plus</sup>** – Highest Performance Level – Reflex Technology within the vent and frame profiles, closed cell PE vector fin glazing rebate foam, closed cell vent perimeter foam, closed cell frame perimeter foam insulation tape, low ‘e’ heat shield centre seal.

**AA®720 HI Reflex** – Reflex Technology within the vent and frame profiles, closed cell PE vector fin glazing rebate foam, closed cell vent perimeter foam, closed cell frame perimeter foam insulation tape.

**AA®720 HI** – Reflex Technology within the vent profile, closed cell PE vector fin glazing rebate foam, closed cell vent perimeter foam, closed cell frame perimeter foam insulation tape.

**AA®720 HW** – Reflex Technology within the vent profile, closed cell PE glazing rebate foam, closed cell frame perimeter foam insulation tape.

**AA®720 SL** – Standard polyamide thermal break within the vent profile, closed cell PE glazing rebate foam.



Thermal Evaluation of the AA®720 HI Reflex<sup>Plus</sup> Casement Window

#### The AA®720 Reflex Technology

Due to the anticipated amendments to Approved Document L, and the continued market demands for high performance windows, Kawneer has developed a unique system it can apply to it's polyamide thermal breaks to give further thermal improvements to the window, and reduce heat transfer through the profile.

The inclusion of a low emmisivity reflective foil to the thermal ‘flags’ allows the AA®720 Casement to achieve U-values as low as 1.0 W/m²K for a CEN size window with a warm edge spacer\*\*

#### Additional Product Features

In addition to the features described, the AA®720 Casement Window offers market leading weight capabilities for a top hung window. With a capability of up to 130kg, high performance acoustic and/or security glass applications can be easily accommodated within the standard window without additional reinforcements or fabrication requirements.

With a choice of locking or non locking handles in a range of finishes, the system can be incorporated effectively in a number of applications.

The AA®720 Casement Window has been designed with flexibility and ease of fabrication as key requirements. The system provides the option of internal or external glaze options, to suit a variety of applications. The system incorporates a standard hardware groove, to provide cost effective locking hardware without compromising performance or security.

#### Performance Testing - Smoke Vent

The AA®720 open out casement window has been successfully tested to BS EN 12101-2, meeting smoke vent standards that are now a mandatory requirement, especially in high rise residential schemes.

The introduction of the Construction Products Regulations in 2013 has resulted in the need to CE mark any product placed onto the market that has a harmonised European standard.

Vertical options for top, side and bottom hung open out applications are available with a single or twin actuator offering opening widths of up to 900mm to meet required free area requirements.

	HI Reflex <sup>Plus</sup> Casement		HI Reflex Casement		HI Casement		HW Casement		SL Casement	
Glass	1.0 Ug*	0.6 Ug**	1.0 Ug*	0.6 Ug**	1.0 Ug*	0.6 Ug**	1.0 Ug*	0.6 Ug**	1.0 Ug*	0.6 Ug**
Overall Uw	1.3 W/m²K	1.0 W/m²K	1.4 W/m²K	1.1 W/m²K	1.4 W/m²K	1.1 W/m²K	1.5 W/m²K	1.2 W/m²K	1.4 W/m²K	1.1 W/m²K

Based on a 34mm Outer Frame/34mm Inside Glaze vent Combination

\* Window Energy Ratings and U-values based on CEN size windows (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.

\*\* U-values based on CEN size windows (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.

# AA®720 Standard Casement Window

**Introduction**

The AA®720 Casement Window is part of the AA®720 range of Windows and Doors. In line with the existing range, the AA®720 Casement is available in a range of increasing levels of thermal performance – incorporating Kawneer’s latest Reflex unique thermal break technology.

The AA®720 Casement Windows are available as top hung or side hung windows and can be either internally or externally glazed. Additional advantages of the advanced thermal break technology include the options of dual colour finishes, to provide design flexibility in various applications.

- Product Features and Benefits**
- BRE Green Guide ‘A’ Rated Frame\* for projects that require sustainable and environmental advantages
  - Range of locking options available - for flexibility. Choose from standard Espagnolette locking to enhanced security in line with PAS 24:2016
  - Option of Trickle Ventilation - can help meet the requirements of Document F
  - Projected top hung or side hung or butt hinge options - total flexibility, suits most casement project applications
  - Suites with the AA®720 series, AA®100/AA®110 Curtain Walling, 451PT Framing and Door Systems
  - Offset handle position for side hung windows. Safety in use – suitable for ‘Lifetime Homes’ Specification
  - Choice of restrictors available to 100mm. Design flexibility. Compliant with the HTM 55 regulations and BS 8213 of 100mm initial opening
  - Folding Openers with Link Bars offer safety in use
  - Maximum size 2300mm(W) x 2500mm(H) - suitable in even the most demanding of applications
  - Suited hardware - compatible hardware to compliment the AA®720, AA®540 and AA®3720 ranges
  - Outside glaze option (not PAS 24 compliant)

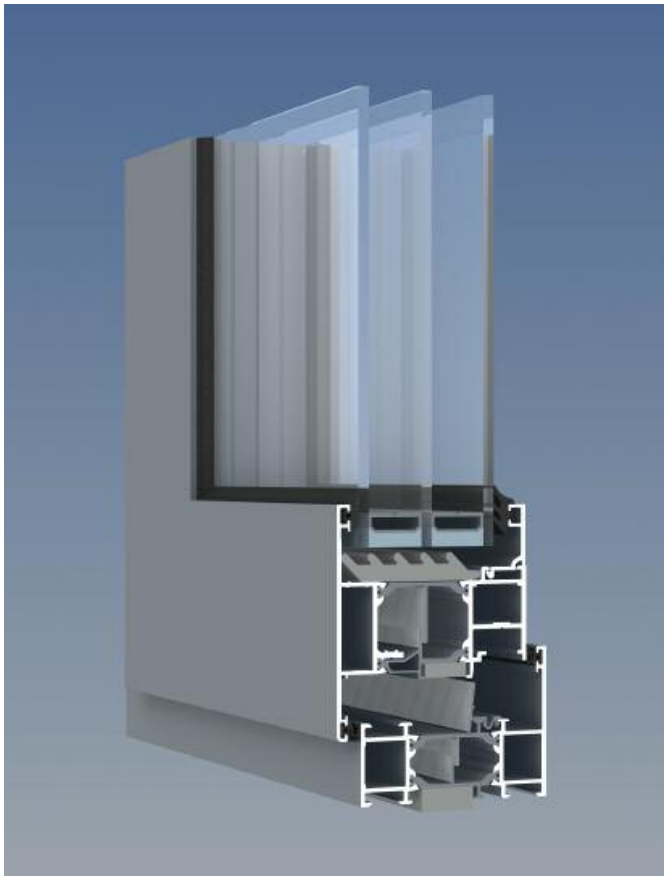
**Security\*\***

The AA®720 Casement Window has been independently tested to PAS 24:2016.

\*\* Does not refer to standard hardware, security hardware required.



\* Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk)  
Element Number 1231500007



AA®720 HI Reflex<sup>Plus</sup> Casement Window

# Casement Product Selector

Performance	AA®720 Casement*	AA®720 SL Casement	AA®541 Casement
Weather Performance (BS 6375)	■	■	■
Security to PAS 24:2016	■	■	■
Uw (Double Glazing)	1.5 W/m²K	1.6 W/m²K	1.8 W/m²K
Uw (Double Glazing with warm edge spacer)**	1.3 W/m²K	1.4 W/m²K	1.6 W/m²K
Uw (Triple Glazing)	1.2 W/m²K	1.2 W/m²K	1.5 W/m²K
Uw (Triple Glazing with warm edge spacer)***	1.0 W/m²K	1.1 W/m²K	1.3 W/m²K
Special Features			
BRE Green Guide Rating°	A	A	A+
Design Features			
Dual Colour Option	■	■	■
Composite Windows	■	■	■
Ribbon Windows	■	■	■
Punched Out Openings	■	■	■
Triple Glazing	■	■	■+
Infills:	upto 56mm	upto 42mm	upto 39mm
Standard Hardware Groove	■	■	■
Multi-Point / Single Sided Locking Options	■	■	■
100mm Restriction	■	■	■
Trickle Ventilation	■	■	■
Locking Handles	■	■	■
Folding Openers	■		■
Cockspur Handle	■		
Espagnolette Handle	■	■	■
Friction Hinges	■	■	■
Butt Hinges	■		■
Variable Angle Corner Post		■	■
System Depth			
54mm			■
72mm	■	■	
Maximum Window Sizes●			
Projected Top Hung●	2300mm(W) x 2500mm(H)	1500mm(W) x 1500mm(H)	1800mm(W) x 1800mm(H)
Projected Side Hung●	845mm(W) x 1900mm(H)	900mm(W) x 1500mm(H)	845mm(W) x 1800mm(H)
Top Hung with Butt Hinges●	1800mm(W) x 1600mm(H)		1800mm(W) x 1600mm(H)
Side Hung with Butt Hinges●	900mm(W) x 1900mm(H)		900mm(W) x 1800mm(H)
Applications			
New Build	■	■	■
Refurbishment	■	■	■

Notes:  
\* Based on the AA®720 HI Reflex<sup>Plus</sup>  
\*\* Window Energy Ratings and U-values based on CEN size windows (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.  
\*\*\* U-values based on CEN size windows (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.  
+ Optional/Limited  
● Height and Width Limitations vary dependant on glass weights and hardware requirements – please check with the Technical Services Department  
° Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A and A+ for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500011 (A+) Element Number 1231500007 (A)



AA®720 Standard Casement Window Applications

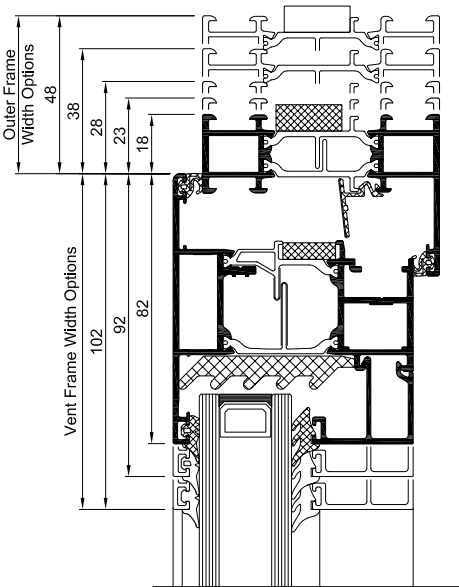
Typical Elevations

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Elevation	Title	Website CAD ref. no.			
		AA®720 HI Reflex <sup>Plus</sup>	AA®720 HI Reflex	AA®720 HI	AA®720 HW
	1, 2	H24-3	H4-3	H4-3	H4-53
	3, 4	H24-4	H4-4	H4-4	H4-54
	5, 6	H24-5	H4-5	H4-5	H4-55
	7, 8	H24-6	H4-6	H4-6	H4-56
	9	H24-9	H4-9	H4-9	H4-59
	10	H24-7 & H24-8	H4-7 & H4-8	H4-7 & H4-8	H4-57 & H4-58
	11	H24-10	H4-10	H4-10	H4-60
	12	H24-11	H4-11	H4-11	H4-61
	13	H24-12	H4-12	H4-12	H4-62
	14, 15	H24-13	H4-13	H4-13	H4-63
	16, 17	H24-13	H4-13	H4-13	H4-63
	18, 19	H24-14	H4-14	H4-14	H4-64
	20, 21	H24-14	H4-14	H4-14	H4-64

Elevation	Title	Website CAD ref. no.			
		AA®720 HI Reflex <sup>Plus</sup>	AA®720 HI Reflex	AA®720 HI	AA®720 HW
	22	H24-15	H4-15	H4-15	H4-65
	23	H24-16	H4-16	H4-16	H4-66
	24	H24-17	H4-17	H4-17	H4-67
	25	H24-18	H4-18	H4-18	H4-68
	26, 27	H24-19	H4-19	H4-19	H4-69
	28	H24-20	H4-20	H4-20	H4-70
	29	H24-21	H4-21	H4-21	H4-71
	30	H24-23	H4-23	H4-23	H4-73
	31	H24-24	H4-24	H4-24	H4-74

Frame and Vent Size Options



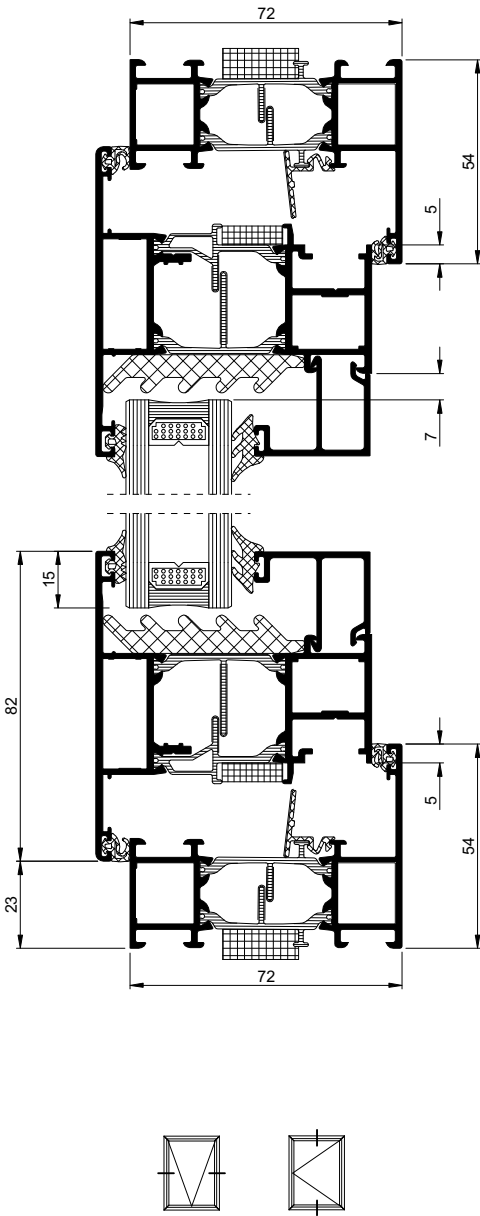


AA®720 Standard Casement Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

AA®720 HI Reflex<sup>Plus</sup>

Head & Cill Detail



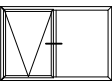
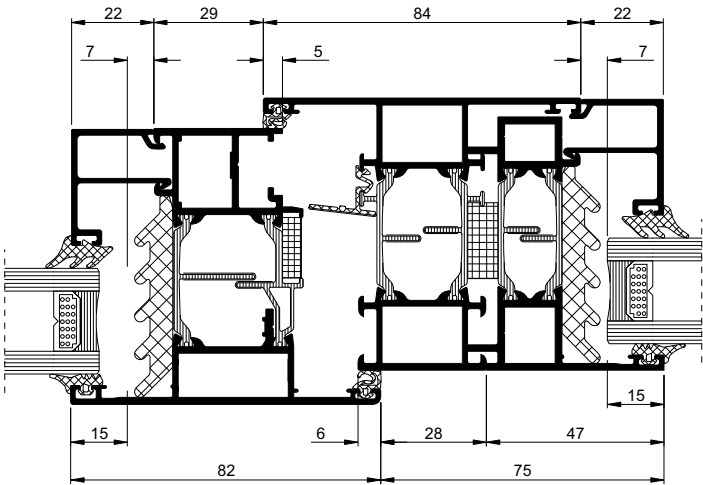
H24-13

AA®720 Standard Casement Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

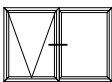
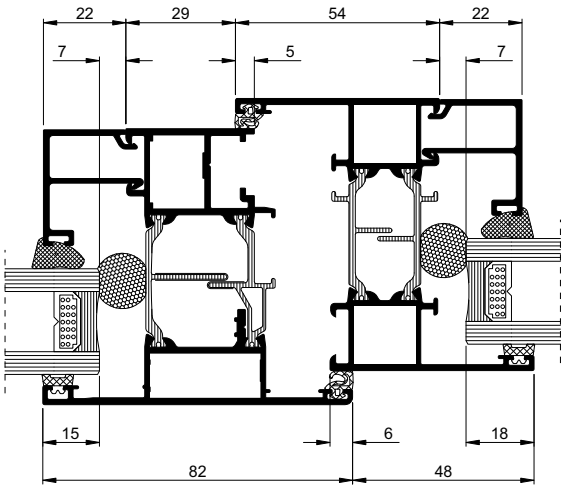
AA®720 HI Reflex<sup>Plus</sup>

Vent/Fixed Light Muntin Detail



H24-18

Vent/Fixed Light Z-Muntin Detail



H18-01



AA®720 SL Slimline Casement Window

**Introduction**

The AA®720 SL Slimline Casement Window is part of the AA®720 range of Windows and Doors. It is an open-out window designed with narrow frame sightlines to achieve a modern aesthetic look, providing optimum weather and thermal performance. The AA®720 SL Slimline Casement Window is available in two styles:

**AA®720 SL Standard**

The Standard option, with overlapped vent, offers a more conventional window design with slim elegant frame sections. It is a cost effective and robust solution specifically designed for the Education sector.

**AA®720 SL Double Flush**

The Double Flush option is a contemporary flush vent with a unique double flush external and internal aesthetic, carrying the slimline look from the outside to the inside of the building. It has been specifically designed for the Home Improvement sector.

The AA®720 SL is available as a top hung or side hung window and the use of a polyamide thermal break offers single or dual colour options.

The AA®720 SL uses a multi-chamber thermal break core, ensuring thermal efficiency and full compliance with Document L.

The AA®720 SL has been fully tested to achieve PAS 24:2016 enhanced security certification. Internal glazing for both vents and fixed lights is more cost effectively achieved without the use of reverse glazing adaptors.

Product Features and Benefits

- BRE Green Guide 'A' Rated Frame\* for projects that require sustainable and environmental advantages
- The double flush casement with flush frames both externally and internally carry the sleek contemporary aesthetic through to the inside of the building
- Ultra slim sightlines maximise the glazing vision area while also providing a superior, modern look to any window
- Featuring high-performance thermal break insulating technology
- Insulated glazing options, including triple glazing, offer exceptional comfort and economy in any size home
- Outward opening side hung windows available with easy-clean egress hinges enabling simple and practical window maintenance
- The various high performance cill options and corner posts for bays and conservatories suit virtually any configuration
- Espagnolette locking to the casement offers complete peace of mind against opportunist break-ins and have been tested to PAS 24:2016 enhanced security standard

- Suites with the AA®720 series, AA®100/AA®110 Curtain Walling, 451PT Framing and Door Systems
- Option of Trickle Ventilation - can help meet the requirements of Document F
- Accommodates glazing up to 42mm
- Choice of restrictors available to 100mm
- Top Hung maximum size up to 1500mm(W) and 1500mm(H)
- Side Hung maximum size up to 900mm(W) and 1500mm(H)
- Suited hardware - compatible hardware to compliment the AA®720 and AA®540
- Box beads for enhanced security
- Drained and ventilated weathering
- Choice of muntins and coupling mullions

\* Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500007

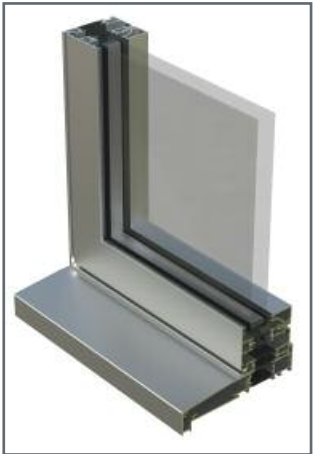
**Security\*\***

The AA®720 SL Casement Window has been independently tested to PAS 24:2016.

\*\* Does not refer to standard hardware, security hardware required.



AA®720 SL Standard



AA®720 SL Double Flush with Cill

Casement Product Selector

Performance	AA®720 Casement*	AA®720 SL Casement	AA®541 Casement
Weather Performance (BS 6375)	■	■	■
Security to PAS 24:2016	■	■	■
Uw (Double Glazing)	1.5 W/m²K	1.6 W/m²K	1.8 W/m²K
Uw (Double Glazing with warm edge spacer)**	1.3 W/m²K	1.4 W/m²K	1.6 W/m²K
Uw (Triple Glazing)	1.2 W/m²K	1.2 W/m²K	1.5 W/m²K
Uw (Triple Glazing with warm edge spacer)***	1.0 W/m²K	1.1 W/m²K	1.3 W/m²K
Special Features			
BRE Green Guide Rating°	A	A	A+
Design Features			
Dual Colour Option	■	■	■
Composite Windows	■	■	■
Ribbon Windows	■	■	■
Punched Out Openings	■	■	■
Triple Glazing	■	■	■+
Infills:	upto 56mm	upto 42mm	upto 39mm
Standard Hardware Groove	■	■	■
Multi-Point / Single Sided Locking Options	■	■	■
100mm Restriction	■	■	■
Trickle Ventilation	■	■	■
Locking Handles	■	■	■
Folding Openers	■		■
Cockspur Handle	■		
Espagnolette Handle	■	■	■
Friction Hinges	■	■	■
Butt Hinges	■		■
Variable Angle Corner Post		■	■
System Depth			
54mm			■
72mm	■	■	
Maximum Window Sizes●			
Projected Top Hung●	2300mm(W) x 2500mm(H)	1500mm(W) x 1500mm(H)	1800mm(W) x 1800mm(H)
Projected Side Hung●	845mm(W) x 1900mm(H)	900mm(W) x 1500mm(H)	845mm(W) x 1800mm(H)
Top Hung with Butt Hinges●	1800mm(W) x 1600mm(H)		1800mm(W) x 1600mm(H)
Side Hung with Butt Hinges●	900mm(W) x 1900mm(H)		900mm(W) x 1800mm(H)
Applications			
New Build	■	■	■
Refurbishment	■	■	■

Notes:  
\* Based on the AA®720 HI Reflex<sup>plus</sup>  
\*\* Window Energy Ratings and U-values based on CEN size windows (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.  
\*\*\* U-values based on CEN size windows (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.  
+ Optional/Limited  
● Height and Width Limitations vary dependant on glass weights and hardware requirements – please check with the Technical Services Department  
° Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A and A+ for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500011 (A+) Element Number 1231500007 (A)



AA®720 SL Slimline Casement Window Applications

Typical Elevations

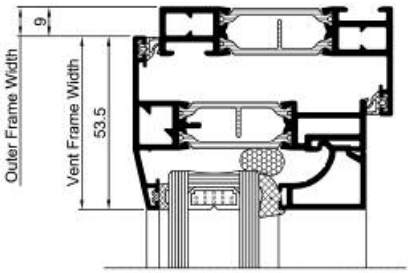
Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Elevation	Title	Website CAD ref. no.	
		AA®720 SL Standard	AA®720 SL Double Flush
	1, 2	PMH-003	PMH-003
	3, 4	PMH-003	PMH-003
	5, 6	PMH-004	PMH-004
	7, 8	PMH-004	PMH-004
	9	PMH-006	PMH-005
	10	PMH-006	PMH-005
	11	PMH-008	PMH-007
	12	PMH-010	PMH-009
	13	PMH-012	PMH-011
	14	PMH-013	PMH-013
	Muntin (Screw Spline Fixing)	PMH-031	PMH-031
	15	PMH-014	PMH-014
	16	PMH-018	PMH-018
	17	PMH-024	PMH-023

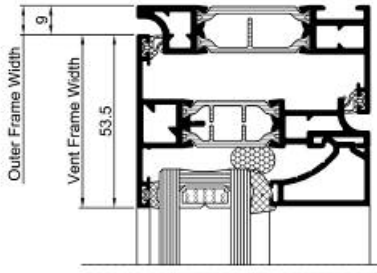
Elevation	Title	Website CAD ref. no.	
		AA®720 SL Standard	AA®720 SL Double Flush
	18,19	PMH-022	PMH-021
	20	PMH-036	PMH-035
	21	PMH-037	
	22	PMH-034	PMH-033
	23	PMH-045	PMH-046
	24		PMH-038
	25	PMH-028	PMH-027
	26	PMH-030	PMH-029
	27	PMH-031	PMH-031
	28	PMH-026	PMH-025
	29	PMH-019	PMH-020
	30	PMH-040	PMH-040
	31	PMH-043	PMH-043

Frame Size Options

AA®720 SL Standard



AA®720 SL Double Flush

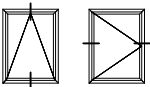
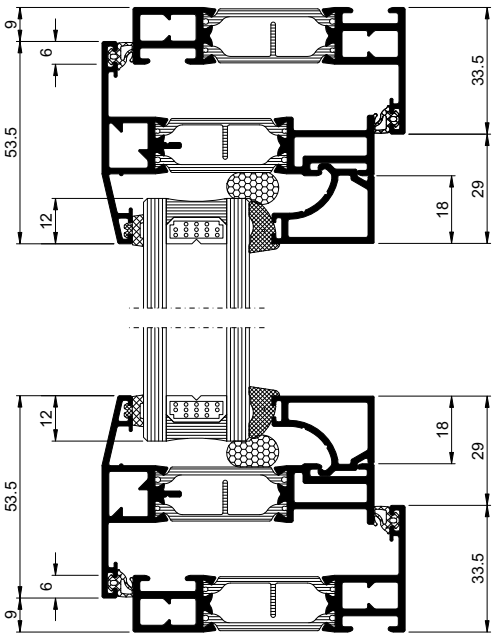


AA®720 SL Slimline Casement Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

AA®720 SL Standard

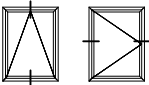
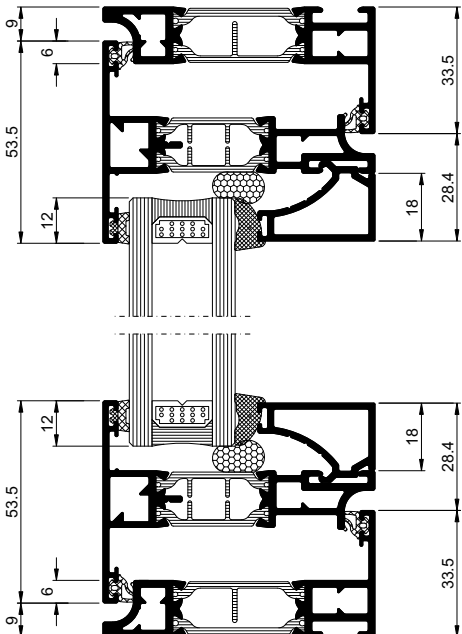
Head & Cill Detail



PMH-022

AA®720 SL Double Flush

Head & Cill Detail



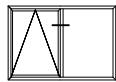
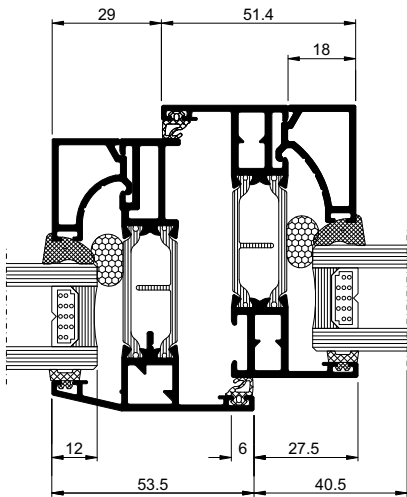
PMH-021

AA®720 SL Slimline Casement Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

AA®720 SL Standard

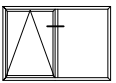
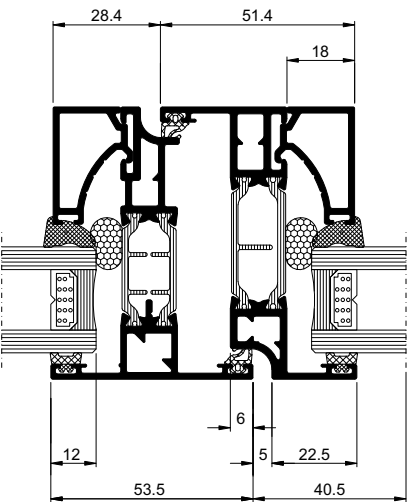
Vent/Fixed Light Z-Muntin Detail



PMH-026

AA®720 SL Double Flush

Vent/Fixed Light Z-Muntin Detail



PMH-025



# AA®720 Pivot Window

### Introduction

The AA®720 Pivot Window is part of the AA®720 range of Windows and Doors. In line with the existing range, the AA®720 Pivot offers excellent weather and thermal performance incorporating Reflex technology and foam rod. As you would expect AA®720 Pivot Window is available for both horizontal and vertical pivot applications as well as vertical offset pivot, which makes it the ideal choice where natural ventilation is required.

### Product Features and Benefits

- BRE Green Guide 'A' Rated Frame\* for projects that require sustainable and environmental advantages
- Horizontal and vertical pivot options available resulting in continuous air flow to aid compliance with Document F
- Standard bead, Box bead and Softline bead (Softline beads are mitred and secured with retaining clips)
- Thermal performance U<sub>f</sub> from 1.8 W/m²K
- Range of standard and coloured anodised finishes
- Trickle ventilation option available to help meet the requirements of Document F
- Multi-point locking for added security and added safety in operation
- An integral automatic restrictor for restricted and non restricted pivots:
  - Manual Locking/Unlocking with special Allen Key
  - Automatic Re-engagement
  - Manual Disengagement
- The pivot housing is exclusively designed for Kawneer in order to suite the extrusion profile thus enhancing aesthetic and performance characteristics
- Accommodates glazing up to 56mm including triple glazing
- Suites with AA®720 series, AA®100/AA®110 Curtain Walling, 451PT Framing and Door Systems

\* Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500007

### Vent Size Limitations

All dimensions stated are in millimetres.  
All dimensions stated are vent sizes.  
Dimensions stated are General System Limitations.  
Vent profile and hardware options are chosen depending upon size and glass weight.

#### Horizontal Pivot

- Maximum weight 150kg
- Width up to 1900mm
- Height up to 1900mm

#### Vertical Pivot - Central

- Maximum weight 110kg
- Width up to 1900mm
- Height up to 1900mm

#### Vertical Pivot - Offset

- Maximum weight 110kg
- Minimum Dimensions Pivot Centre 350mm Wide (Open In Portion) x 500mm High
- Maximum Dimensions Pivot Centre \*\*950mm Wide (Open Out Portion) x 1900mm High

\*\*Maximum Size Pivot Centre 950mm wide applies to Heavy Duty Profile 3001 877.

For further information on vent profile options please refer to Section B of the AA®720 Product Manual.



AA®720 Horizontal Pivot Window

# Pivot Product Selector

Performance	AA®720 Pivot
Weather Performance (BS 6375)	■
Uw (Double Glazing)	1.6 W/m²K
Uw (Double Glazing with warm edge spacer)*	1.5 W/m²K
Uw (Triple Glazing)	1.3 W/m²K
Uw (Triple Glazing with warm edge spacer)**	1.2 W/m²K
Special Feature	
BRE Green Guide Rating°	A
Design Features	
Dual Colour Option	■
Composite Windows	■
Ribbon Windows	■
Punched Out Openings	■
Triple Glazing	■
Infills	upto 56mm
Multi-Point / Single Sided Locking Options	■
Storm Catches	■
Up to 100mm Restriction	■
Trickle Ventilation	■
Locking Handles	■
Cockspur Handle	■
Espagnolette Handle	■
10° Restriction	■
15° Restriction	■
System Depth	
72mm	■
Maximum Window Sizes●	upto
Height●	1900mm
Width●	1900mm
Applications	
New Build	■
Refurbishment	■

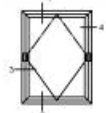
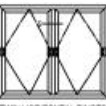


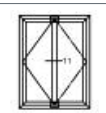

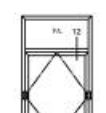
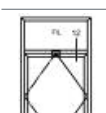
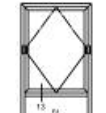
Notes:  
\* Window Energy Ratings and U-values based on CEN size windows (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.  
\*\* U-values based on CEN size windows (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.  
+ Optional/Limited  
● Height and Width Limitations vary dependant on glass weights and hardware requirements – please check with the Technical Services Department  
° Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A and A+ for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500011 (A+) Element Number 1231500007 (A)



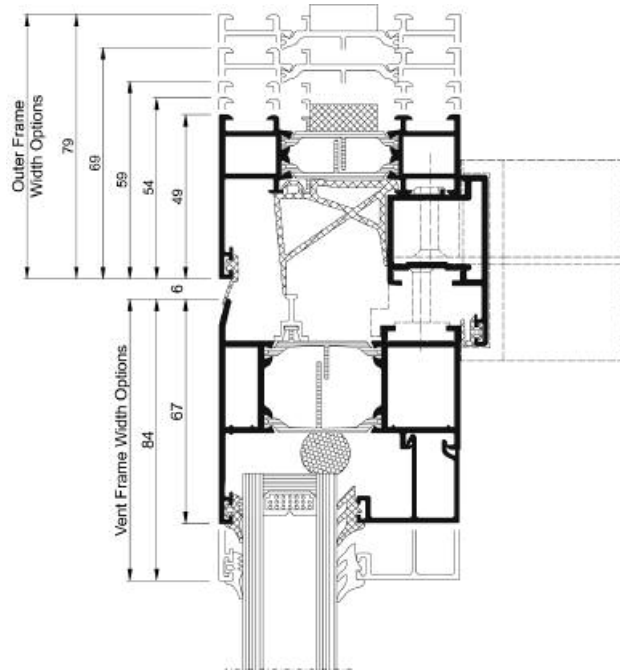
# AA®720 Pivot Window Applications

## Typical Elevations

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Elevation	Title	Website CAD ref. no.
	1 Horizontal Pivot Head	H5-11, H5-12
	2 Horizontal Pivot Cill	H5-13
	3 Horizontal Pivot - Jamb (below Pivot)	H5-14
	4 Horizontal Pivot - Jamb (above Pivot)	H5-15
	9 Horizontal Pivot/Horizontal Pivot Muntin	H5-20
	5 Vertical Pivot - Head	H5-16
	6 Vertical Pivot - Cill	H5-17
	7 Vertical Pivot - Jamb (handle side)	H5-18
	8 Vertical Pivot - Jamb (open-in side)	H5-19
	5 Offset Vertical Pivot - Head	H5-16
	6 Offset Vertical Pivot - Cill	H5-17
	7 Offset Vertical Pivot - Jamb (handle side)	H5-18
	8 Offset Vertical Pivot - Jamb (open-in side)	H5-19
	11 Pivot Window - Vent Muntin	H5-22
	10 Pivot Insert into Curtain Wall	H5-21
	12 Horizontal Pivot - Transom Head Detail	H5-23
	12 Vertical Pivot - Transom Head Detail	H5-23
	12 Horizontal Pivot - Transom Cill Detail	H5-24

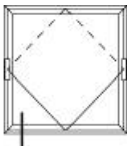
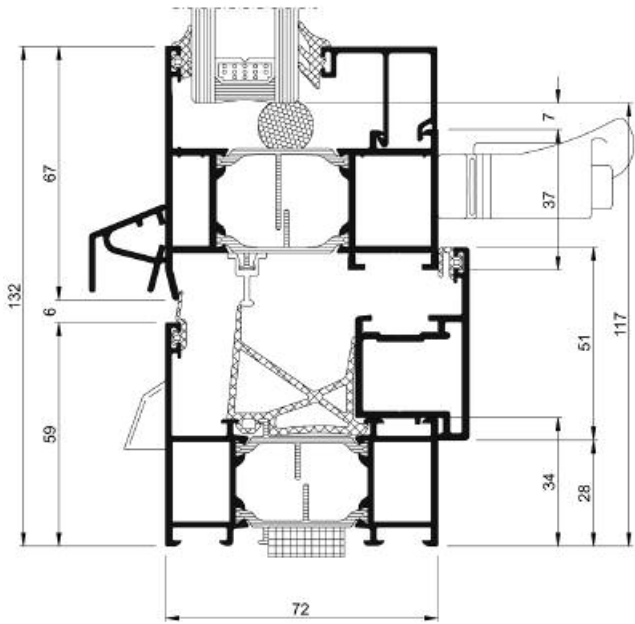
## Frame and Vent Size Options



## AA®720 Horizontal Pivot Window

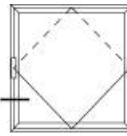
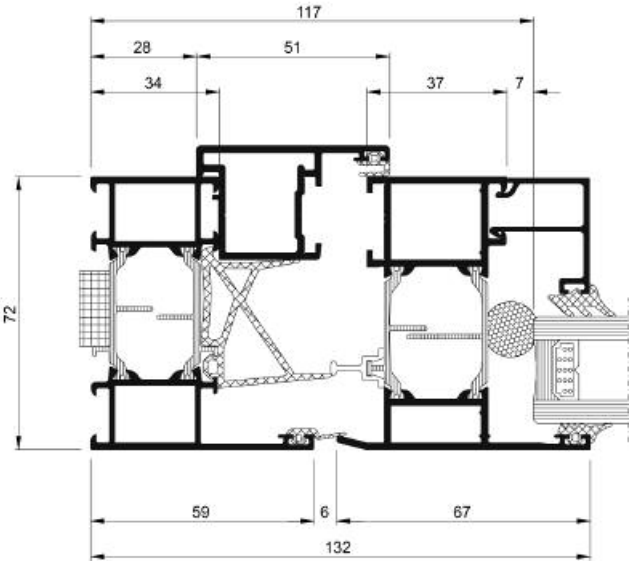
Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Cill Detail



H5-13

Jamb Detail



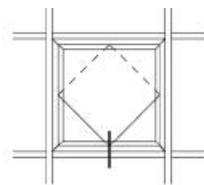
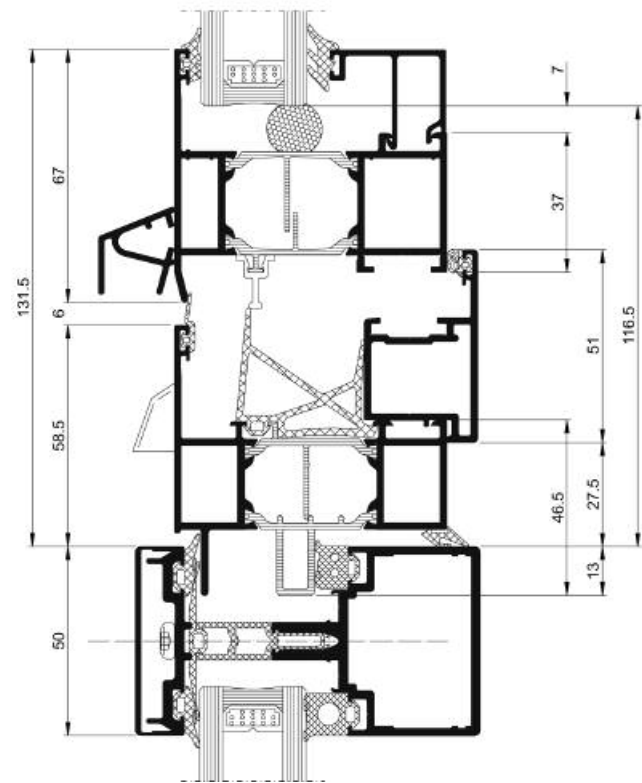
H5-14



AA®720 Horizontal Pivot Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Pivot into Curtain Wall

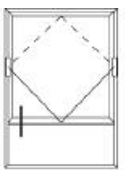
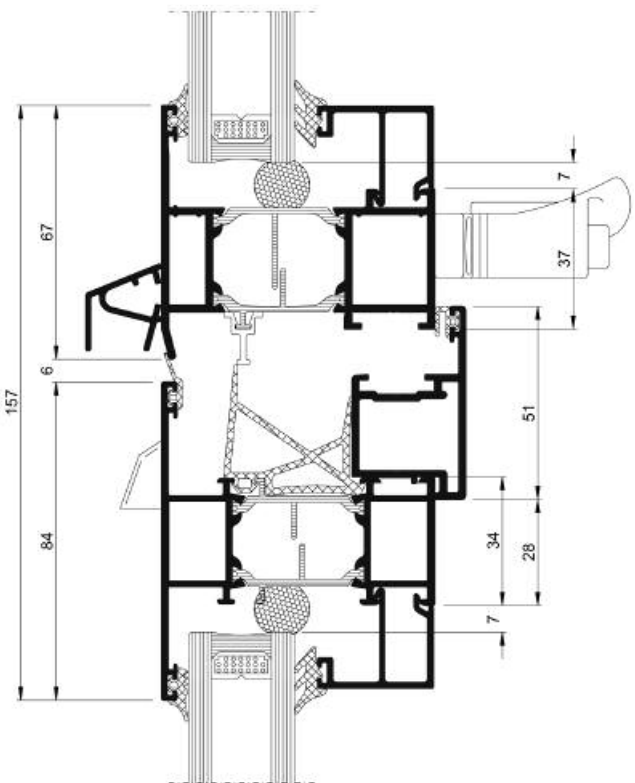


H5-21

AA®720 Horizontal Pivot Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Transom Cill Detail



H5-24



# AA®720 Parallel Opening Window

## Introduction

The AA®720 Parallel Opening Window is available as a stand alone window system and as an insert into existing Kawneer curtain walling and framing systems allowing complete design freedom.

Based on the established Kawneer AA®720 window system, the parallel opening design benefits from the proven thermal performance of the standard AA®720 casement, achieving U-values of 1.2 W/m²K for a CEN sized window, triple glazed with warm edge spacer, while offering exceptional levels of natural ventilation and air exchange.

Increased air flow around the full perimeter of the window facilitates highly efficient natural ventilation while greatly reducing draughts. Fresh air is drawn in via the bottom of the window while warm, stale air is expelled via the top of the window creating full circulation of air within the room.

This efficient exchange of air can assist with Approved Document F compliance and can enable the AA®720 Parallel Opening Window to meet the ventilation requirements of even the most demanding project.

## Product Features and Benefits

- Effective ventilation around the whole perimeter of the window - can achieve approximately twice the natural ventilation of an equivalent sized top hung window\*
- Increased air circulation and natural ventilation - draughts are reduced while fresh air ventilation exchange is maximised\*
- 80mm clear opening restriction as standard - safety for all users and occupants
- Proven thermal performance of standard AA®720 - U-value of 1.2 W/m²K for CEN sized window, triple glazed with warm edge spacer
- Suites with Kawneer Curtain Wall and Framing products - total design flexibility, offering total project solutions
- Parallel operation of window - maintains the same reflective aesthetic as the facade
- Maximum vent size of 1500mm wide x 2400mm high for manual operation (larger sizes may be possible using automatic operators) - large vents allow maximum glass area and can reduce the quantity of vents required
- Maximum weight 200kg

\* A case study carried out by Arup based on a typical classroom reported free air flow of 560 litres/sec for parallel opening windows compared to 290 litres/sec for top hung windows of an equivalent size. Similarly, air changes within the classroom were reported as 10.9 per hour for the parallel window design compared to 5.7 for the equivalent sized top hung windows.

Roberts K. *CFD Comparative Analysis of Parallel & Top Hung Windows*, 2009.

## Operational Safety

The AA®720 Parallel Opening Window operating forces have been independently tested with vent sizes up to a maximum of 1500mm wide x 2400mm high falling within the 100N operating force requirement for manual operation\*\*. The AA®720 Parallel Opening Window can also be used with automatic operators for operating forces greater than 100N or in places of restricted access.

\*\* Size and weight dependant

Windows are restricted to 80mm clear opening as standard giving the confidence of safe operation for all users while further enhancing the security of the window.

## Security\*\*\*

The AA®720 Parallel Opening Window has been independently tested to PAS 24:2016.

\*\*\* Does not refer to standard hardware, security hardware required.

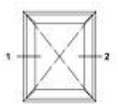
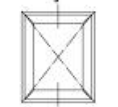
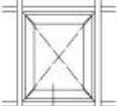
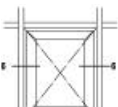
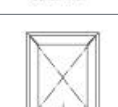


The AA®720 Parallel Opening Window

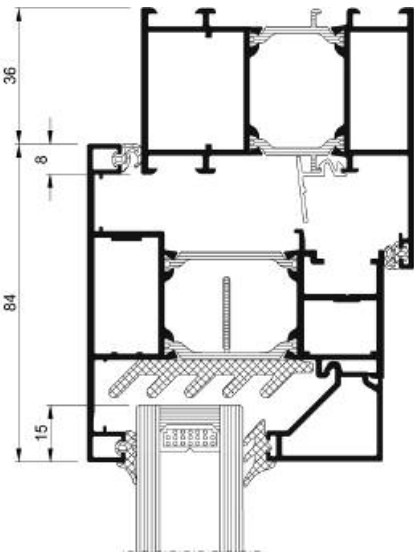
# AA®720 Parallel Opening Window Applications

## Typical Elevations

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Elevation	Title	Website CAD ref. no.
	1, 2 Jamb Sections	H-001
	3, 4 Head and Cill Sections	H-006
	5 Cill - POW Insert into Curtain Wall	H-003
	6 Jamb - POW Insert into Curtain Wall	H-004
	7 Run-Up Blocks	H-002

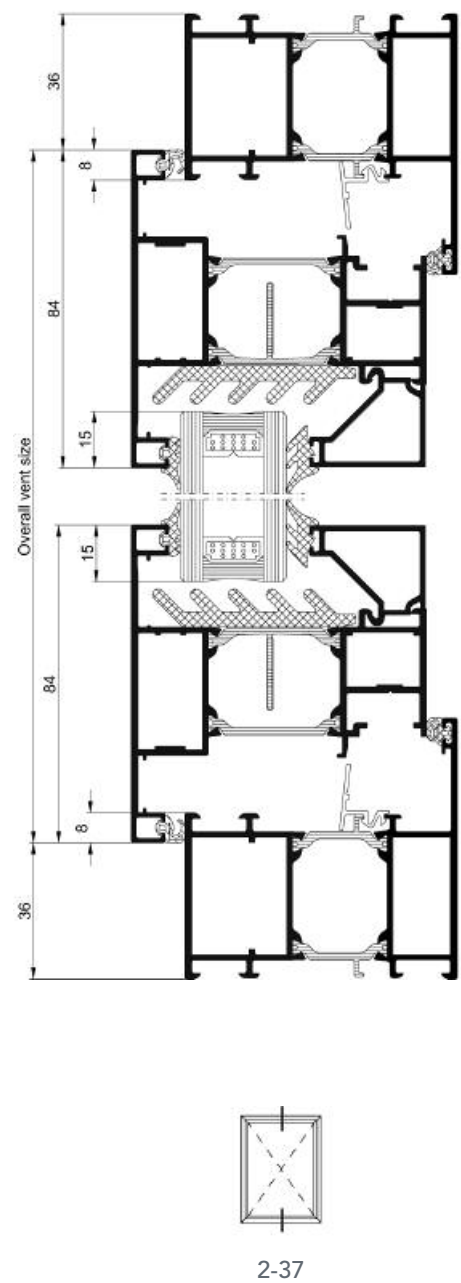
## Frame and Vent Size Options



AA®720 Parallel Opening Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

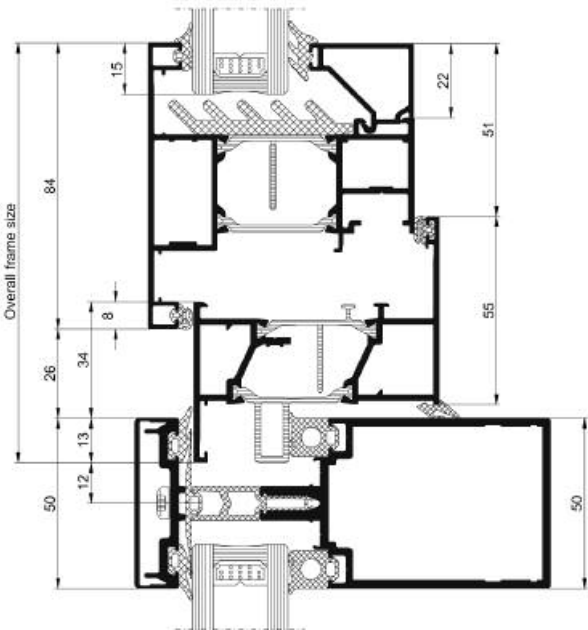
Head and Cill Detail



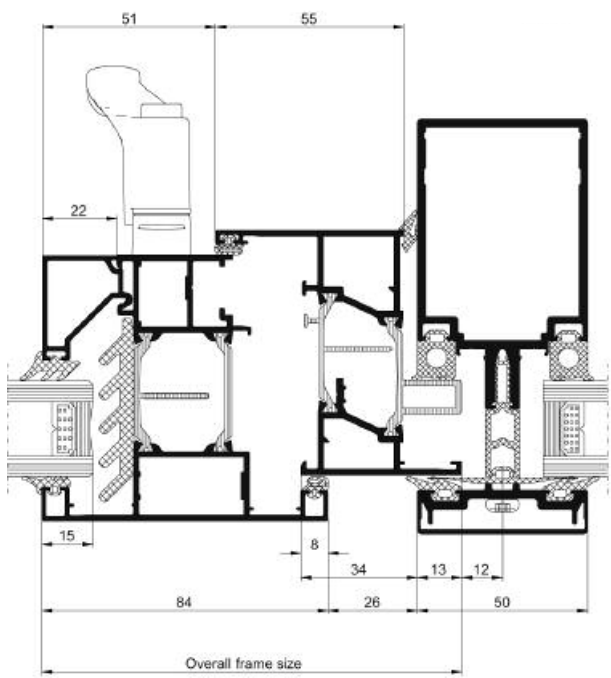
AA®720 Parallel Opening Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Parallel Opener into Curtain Wall



Parallel Opener into Curtain Wall



# AA®720 Inward Opening Window Systems

## Introduction

The AA®720 Series has been developed to meet the latest European requirements for thermal performance.

To enable complete flexibility of design, performance and cost, the AA®720 Series is available in four levels of thermal performance – the AA®720, the AA®720 HW, the AA®720 HI and the AA®720 HI Reflex.

The 72mm profiles incorporate the very latest thermal technology including; extruded polyamide and patented thermal breaks, insulated centre seals, foam isolators and foam core insulation.

As well as being fully integrated, the range can suite with Kawneer’s curtain walling and framing products and is suitable for installation in low or high rise buildings for commercial and domestic new build or refurbishment projects.

## Construction

Crimped or pinned with mechanical corner cleats. Corner braces are also used.

Weathering is achieved by the use of single and dual durometer, EPDM gaskets.

Pressure equalised system.

## Configurations

As well as flexibility in performance, the AA®720 offers versatility in design with the range encompassing a wide variety of integrated window and door configurations. There is also a fire resistant AA®720 FR variant within the range that provides fire-rated door and fixed screen solutions.

Design variants to the AA®720 inward opening window range are:

- Softline/Design variants with rounded contours
- Renovation “TIP” steel window replacement system
- Renovation variant with angular contours
- Concealed Vent variant where vent profiles are not visible from the outside
- Curtain Wall Look-alike variant that offers the appearance of curtain wall

For information on Kawneer’s AA®720 Series Door Systems please refer to the Door Systems brochure.

## Glazing

Glazing and panels up to 56mm thickness can be accommodated enabling the use of triple glazing for when there is a requirement for the very highest thermal and acoustic performance.

## Security\*

The AA®720 Tiltturn Window has been independently tested to PAS 24:2016.

*\* Does not refer to standard hardware, security hardware required.*



## Independently Weather Performance Tested to BS 6375-1: 2015

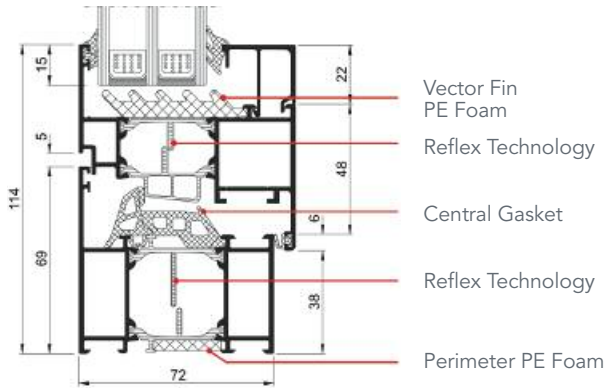
	Air Infiltration BS EN 12207	Watertightness BS EN 12208	Wind Resistance BS EN 12210
AA®720 Tiltturn	Class 4 (600 Pa)	Class E1200 (1200 Pa)	Class E2400 (2400 Pa)

Window complies with Operation and Strength Test BS 6375 Pt2: 2015

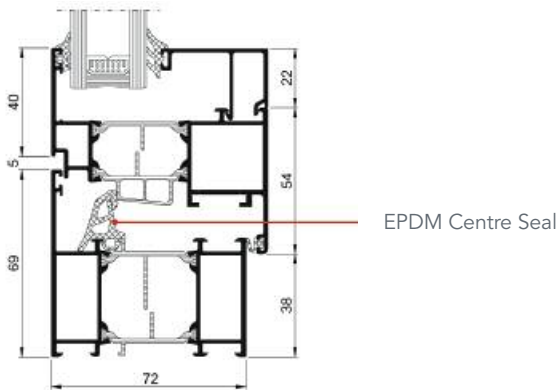
Details of the Kawneer product tests are available from the Technical Services Department at Runcorn.

# Thermal Performance - Inward Opening

## AA®720 HI Reflex Tiltturn



## AA®720 Tiltturn





The AA®720 Reflex Technology

Due to the anticipated amendments to Approved Document L, and the continued market demands for high performance windows, Kawneer has developed a unique system it can apply to its polyamide thermal breaks to give further thermal improvements to the window, and reduce heat transfer through the profile.

The inclusion of a low emmisivity reflective foil to the thermal ‘flags’ allows the AA®720 Tiltturn to achieve U-values as low as 1.0 W/m²K for a CEN size window with a warm edge spacer\*\*

Additional Product Features

In addition to the features described, the AA®720 Tiltturn Window offers market leading weight capabilities for a top hung window. With a capability of up to 130kg, high performance acoustic and/or security glass applications can be easily accommodated within the standard window without additional reinforcements or fabrication requirements.

With a choice of locking or non locking handles in a range of finishes, the system can be incorporated effectively in a number of applications.

The AA®720 Tiltturn Window has been designed with flexibility and ease of fabrication as key requirements. The system is internally glazed and incorporates a standard hardware groove, to provide cost effective locking hardware without compromising performance or security.

Thermal Performance

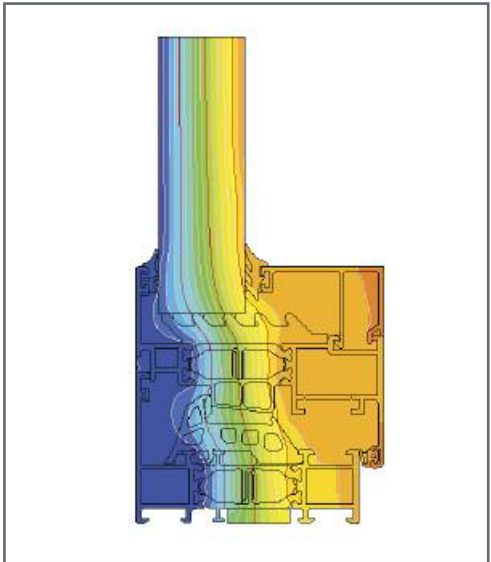
The AA®720 Tiltturn can be manufactured within 4 levels of thermal performance – providing flexibility in design, performance and cost.

AA®720 – Most cost effective option – EPDM centre seal.

AA®720 HW – Greater Performance Level, cost conscious – Closed cell vent perimeter foam, EPDM centre seal.

AA®720 HI – Greater Performance Level – Closed cell vent perimeter foam, dual durometer centre seal.

AA®720 HI Reflex – Highest Performance Level – Reflex Technology within the vent and frame profiles, closed cell PE vector fin glazing rebate foam, closed cell frame perimeter foam insulation tape, dual durometer centre seal.



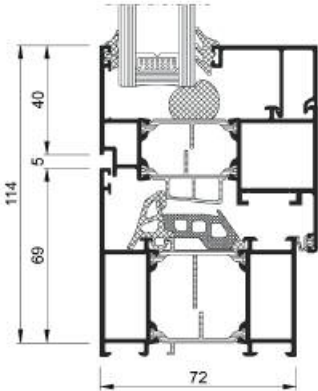
Thermal Evaluation of the AA®720 HI Reflex Tiltturn Window

	Tiltturn		HW Tiltturn		HI Tiltturn		HI Reflex Tiltturn	
Glass	1.0 Ug*	0.6 Ug**	1.0 Ug*	0.6 Ug**	1.0 Ug*	0.6 Ug**	1.0 Ug*	0.6 Ug**
Overall Uw	1.5 W/m²K	1.2 W/m²K	1.3 W/m²K	1.0 W/m²K	1.3 W/m²K	1.0 W/m²K	1.3 W/m²K	1.0 W/m²K

Based on a 34mm Outer Frame/43mm Inside Glaze vent Combination  
\* Window Energy Ratings and U-values based on CEN size windows (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.  
\*\* U-values based on CEN size windows (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.

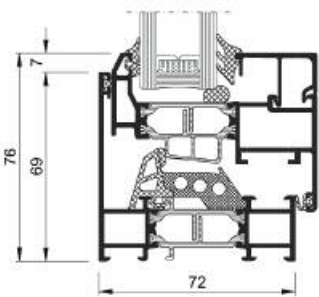
AA®720 Inward Opening Windows

AA®720 HI Standard



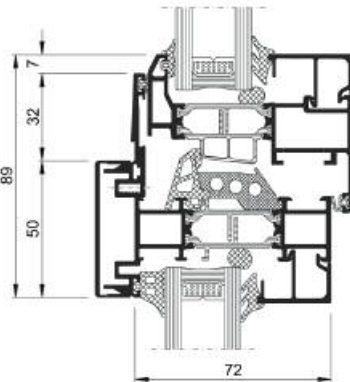
Straight overall contour with flush vent and frame line

AA®720 HI Integral (Concealed Vent)



Narrow sightlines with visible aluminium facet on the vent

AA®720 HI Curtain Wall Look-alike



# AA®720 Tiltturn Window

## Introduction

The AA®720 Tiltturn Window is part of the AA®720 range of Windows and Doors, designed to offer maximum weather and thermal performance at a competitive price range. Excellent thermal performance (AA®720 HI Reflex) has been met using Reflex technology with foam meeting the most demanding specification performance on any project.

## Product Features and Benefits

- BRE Green Guide 'A' Rated Frame\*\* for projects that require sustainable and environmental advantages
- Tilt before turn operation. Tilt for ventilation and turn for cleaning. The full opening in the 'turn' position offers an escape route in an emergency (subject to size)
- Standard bead, Box bead and Softline bead (Softline beads are mitred and secured with retaining clips)
- Excellent thermal performance  $U_f$  from 1.0W/m²K (AA®720 HI Reflex)
- Noise protection  $R_w=39-47dB$
- Trickle ventilation option available to help meet the requirements of Document F
- Multi-point locking for added security and added safety in operation
- Accommodates glazing up to 56mm including triple glazing
- Suites with AA®720 series, Juliet Balcony, LouvreShield, AA®100/AA®110 Curtain Walling, 451PT Framing and Door Systems

## Vent Size Limitations

All dimensions stated are in millimetres.  
All dimensions stated are vent sizes.  
Dimensions stated are General System Limitations.  
Vent profile and hardware options are chosen depending upon size and glass weight.

- Maximum weight 300kg
- Vent 1600mm x 2100mm
- Leaf 1100mm x 3000mm

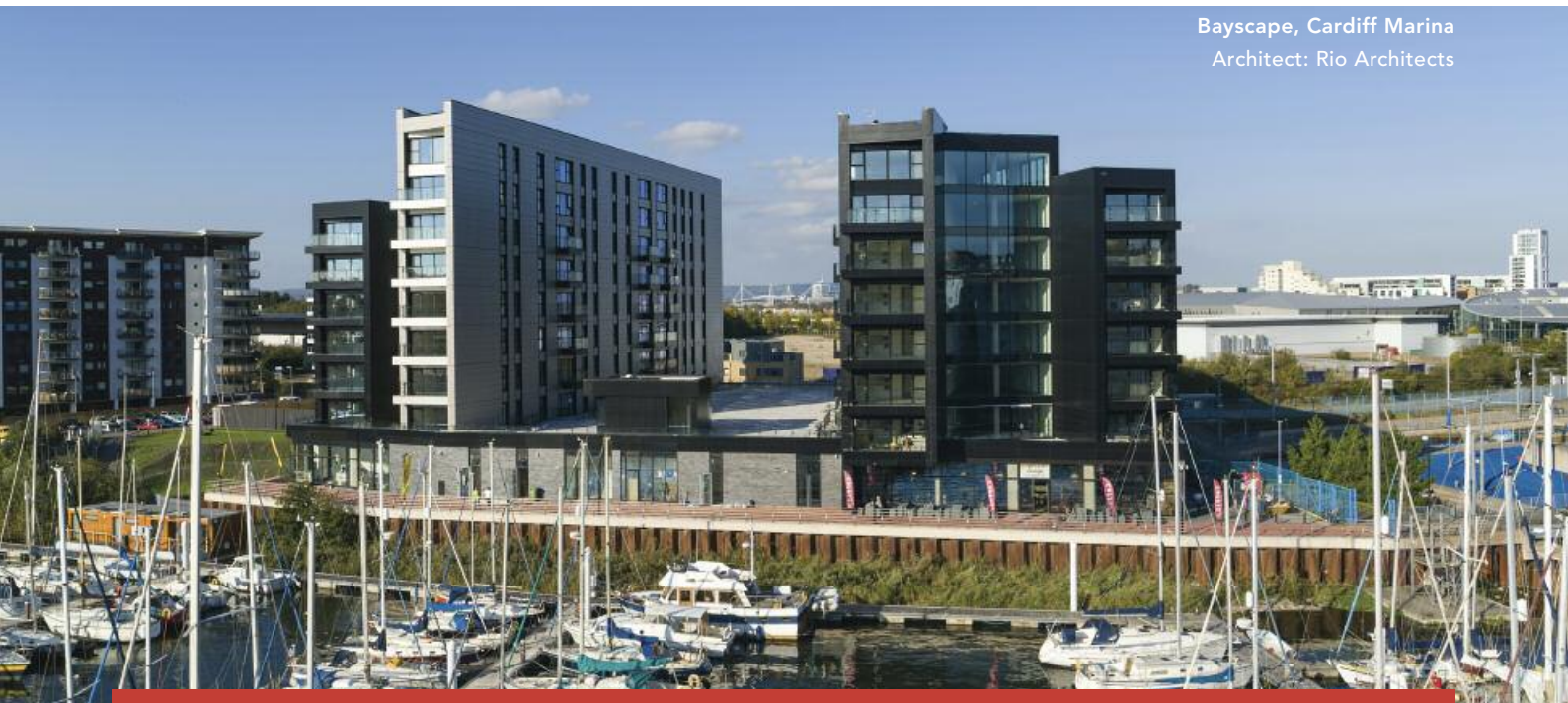
## Security\*

The AA®720 Tiltturn Window has been independently tested to PAS 24:2016.

*\* Does not refer to standard hardware, security hardware required*



*\*\* Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500007*



# Tiltturn Product Selector

Performance	AA®720 Tiltturn*
Weather Performance (BS 6375)	■
Security to PAS 24:2016	■
Uw (Double Glazing)	1.4 W/m²K
Uw (Double Glazing with warm edge spacer)**	1.3 W/m²K
Uw (Triple Glazing)	1.1 W/m²K
Uw (Triple Glazing with warm edge spacer)***	1.0 W/m²K
Special Feature	
BRE Green Guide Rating°	A
Design Features	
Dual Colour Option	■
Composite Windows	■
Ribbon Windows	■
Punched Out Openings	■
Triple Glazing	■
Infills:	upto 56mm
Standard Hardware Groove	■
Multi-Point Locking	■
100mm Restriction	■
Trickle Ventilation	■
Locking Handles	■
Butt Hinges	■
Multi-function Handle	■
System Depth	
72mm	■
Maximum Window Sizes•	upto
Tiltturn only•	1600mm(W) & 2100mm(H)
Side Hung•	1600mm(W) & 2100mm(H)
Bottom Hung•	2000mm(W) & 1200mm(H)
Applications	
New Build	■
Refurbishment	■
Heavy Commercial	■

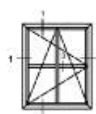




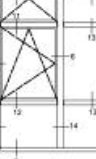
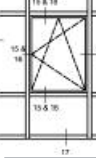
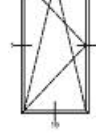
Notes:  
\* Based on the AA®720 HI Reflex  
\*\* Window Energy Ratings and U-values based on CEN size windows (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.  
\*\*\* U-values based on CEN size windows (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.  
• Height and Width Limitations vary dependant on glass weights and hardware requirements – please check with the Technical Services Department  
◦ Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A and A+ for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500011 (A+) Element Number 1231500007 (A)



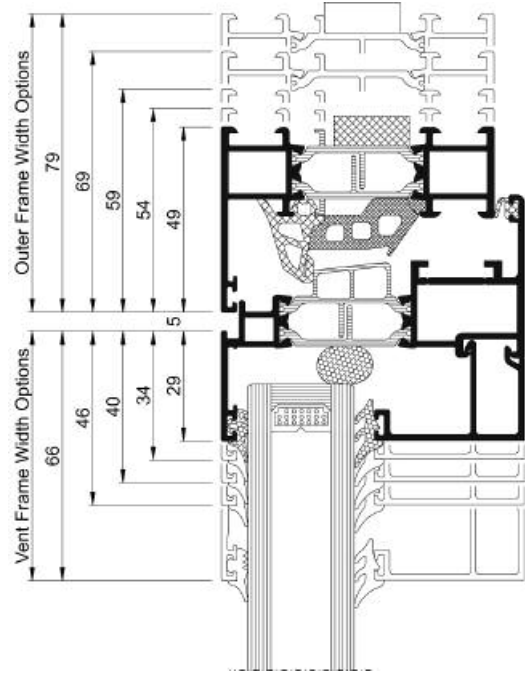
# AA®720 Tiltturn Window Applications

## Typical Elevations

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Elevation	Title	Website CAD ref. no.
	1 Tiltturn - Head & Jamb Wall Connection	H1-11
	1 Tiltturn - Head & Jamb Wall Connection Adaptor	H1-12
	2 Tiltturn - Cill detail	H1-13
	3 Tiltturn - Vent Muntin	H1-30
	1 Tiltturn - Head & Jamb Wall Connection	H1-11
	2 Tiltturn - Cill detail	H1-13
	4 Fixed Light - Head & Jamb	H1-14
	5 Fixed Light - Cill Detail	H1-15
	6 Tiltturn Vent/Fixed Light - Muntin	H1-17
	1 Tiltturn - Head & Jamb Wall Connection	H1-11
	1 Tiltturn - Head & Jamb Wall Connection Adaptor	H1-12
	2 Tiltturn - Cill Detail	H1-13
	7 Tiltturn Vent/Tiltturn Vent - Muntin	H1-18
	1 Tiltturn - Head & Jamb Wall Connection	H1-11
	1 Tiltturn Head & Jamb Wall Connection Adaptor	H1-12
	2 Tiltturn - Cill Detail	H1-13
	8 Tiltturn Vent/Turn Only Vent Rebate Adaptor	H1-20
	9 Tiltturn Vent/Turn Only Vent Rebate Adaptor	H1-21
	1 Tiltturn - Head & Jamb Wall Connection	H1-11
	2 Tiltturn - Cill Detail	H1-13
	4 Fixed Light - Head & Jamb	H1-14
	5 Fixed Light - Cill Detail	H1-15
	10 Tiltturn Vent/Fixed Light - Coupling	H1-27
	1 Tiltturn - Head & Jamb Wall Connection	H1-11
	4 Fixed Light - Head & Jamb	H1-14
	6 Tiltturn Vent/Fixed Light - Muntin	H1-17
	11 Tiltturn Vent/Bottom Hung Vent - Muntin	H1-23
	12 Tiltturn Vent Cill/Fixed Light - Muntin	H1-24
	13 Fixed Light - Horizontal Muntin	H1-25
	15 Window Curtain Wall, Muntin/Vent	H1-31
	16 Window Curtain Wall, Muntin/Integral Vent	H1-34
	17 Window Curtain Wall, Cill Detail	H1-32
	18 Window Curtain Wall, Head & Jamb Detail	H1-33
	1 Tiltturn - Head & Jamb Wall Connection	H1-11
	19 Barrier Free Balcony Door, Threshold Detail	H1-33

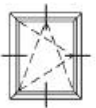
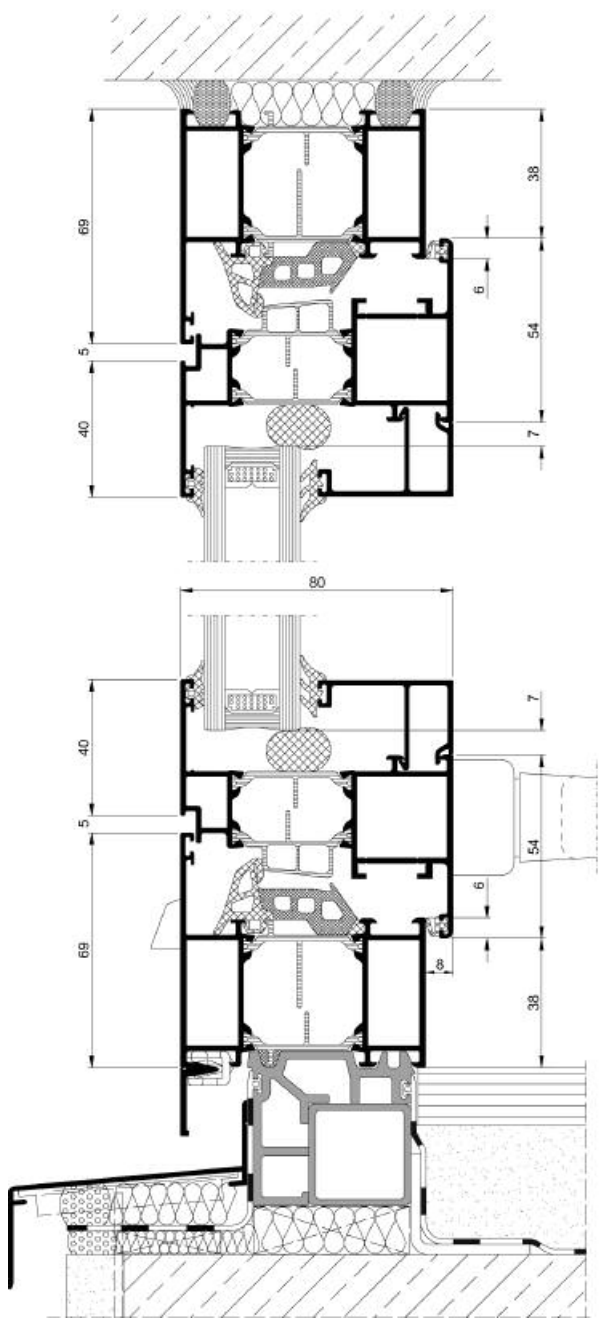
## Frame and Vent Size Options



## AA®720 Tiltturn Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

### Head and Cill Detail



H1-11 and H1-13

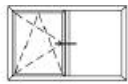
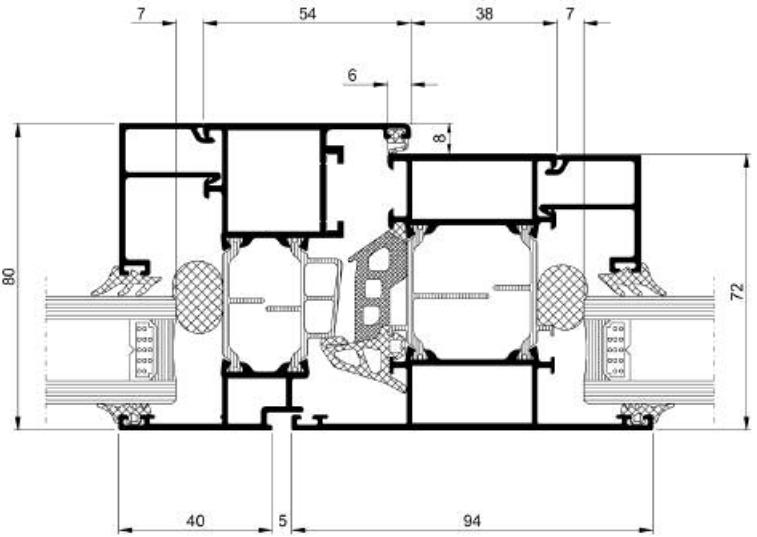




AA®720 Tiltturn Window

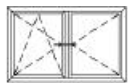
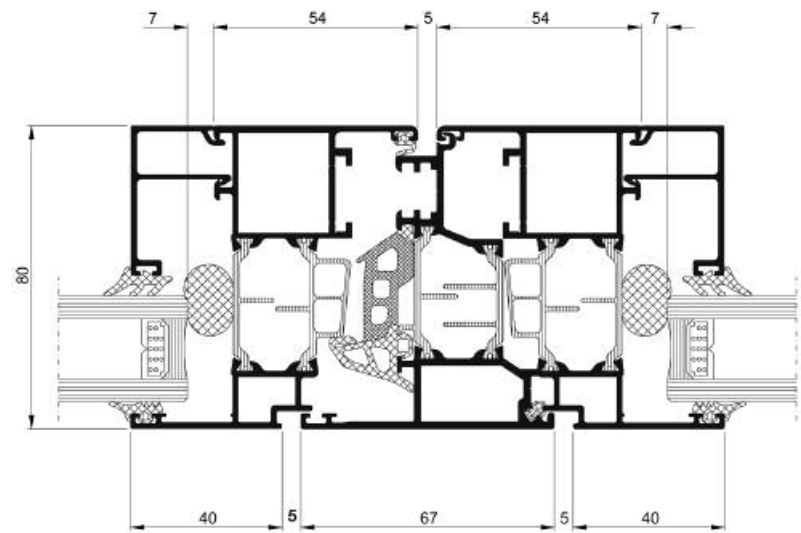
Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Standard Muntin/Vent Detail



H1-17

Standard, Rebate Adaptor/Vent/Vent Detail

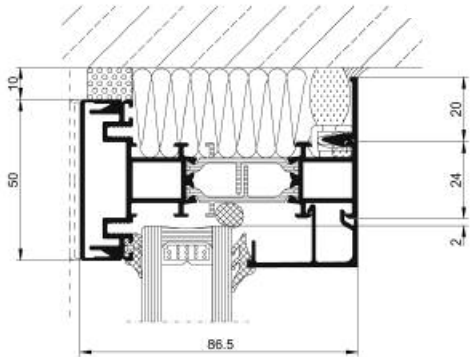


H1-21

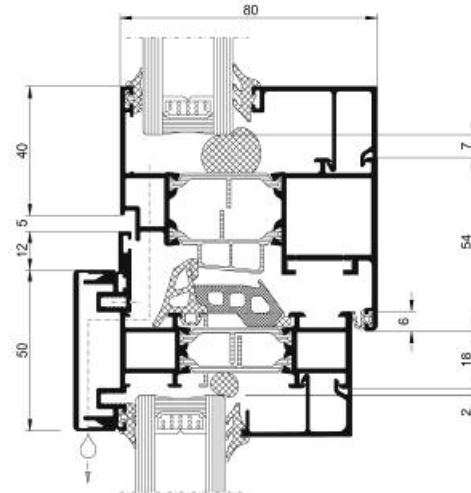
AA®720 Tiltturn Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

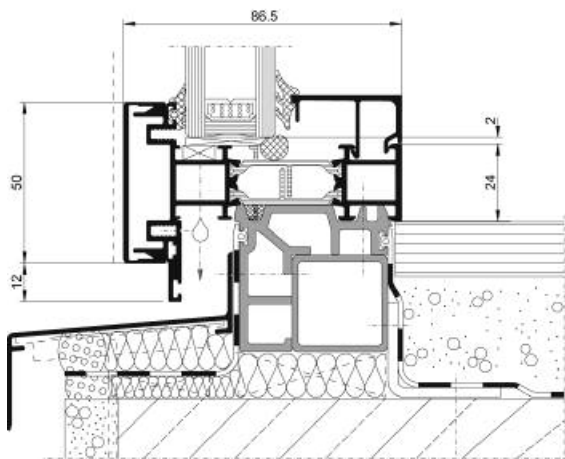
Window Curtain Wall - Head, Muntin & Cill Detail



H1-33  
Head



H1-31  
Muntin with  
Vent Above



H1-32  
Cill

AA®541 Casement Window

Introduction

The AA®541 Casement Window is designed to offer optimum weather and thermal performance at a competitive price. The AA®541 corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A+ for non-domestic schemes\*\*. The AA®541 uses a multi-chamber thermal break core, ensuring thermal efficiency and full compliance with Document L. The AA®541 Casement is available as a top hung or side hung window and the polyamide thermal break offers single or dual colour options along with enhanced thermal performance. The excellent weather performance ensures that the AA®541 is suitable for low or high rise applications.

Suitable for new build and refurbishment projects, the AA®541 is the window of choice for all applications in the Education, Healthcare, Commercial, Retail and Residential markets where cost is the key driver.

Product Features and Benefits

- BRE Green Guide ‘A+’ Rated Frame\*\* for projects that require sustainable and environmental advantages
- Multi-point locking for enhanced security in line with PAS 24:2016\*
- Optional trickle ventilation to assist in meeting the requirements of Document F
- Espagnolette locking and key locking handles for added security
- Projected top, side hung or butt hinge options for increased project design flexibility and solutions
- Suites with AA®545 Swing Door, AA®100/AA®110 Curtain Walling, 451PT Framing System and Door Systems
- Offset handle position (side hung) for safety in use

- Interlocking wedge spacers for enhanced weather performance even on large windows
- 100mm fixed restrictor with adjustable friction in compliance with BS 8213
- Folding openers with link bars for safety in use
- Accommodates glazing up to 39mm
- Standard hardware groove offering a cost effective hardware solution

\*\* Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A+ for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500011

Construction

Crimped with mechanical corner cleats. Corner braces are also used.

Weathering is achieved by the use of single and dual durometer, EPDM gaskets – all with non-shrinkage cord.

Pressure equalised system.

Glazing

Glazing and panels up to 39mm thickness can be accommodated.

Security\*

The AA®541 Casement Window has been independently tested to PAS 24:2016

\* Does not refer to standard hardware, security hardware required



Independently Weather Performance Tested to BS 6375-1: 2015

	Air Infiltration BS EN 12207	Watertightness BS EN 12208	Wind Resistance BS EN 12210
AA®541 Casement	Class 4 (600 Pa)	Class 9A (600 Pa)	Class E2400 (2400 Pa)

Window complies with Operation and Strength Test BS 6375 Pt2: 2015

Details of the Kawneer product tests are available from the Technical Services Department at Runcorn.

Casement Product Selector

Performance	AA®720 Casement*	AA®720 SL Casement	AA®541 Casement
Weather Performance (BS 6375)	■	■	■
Security to PAS 24:2016	■	■	■
Uw (Double Glazing)	1.5 W/m²K	1.6 W/m²K	1.8 W/m²K
Uw (Double Glazing with warm edge spacer)**	1.3 W/m²K	1.4 W/m²K	1.6 W/m²K
Uw (Triple Glazing)	1.2 W/m²K	1.2 W/m²K	1.5 W/m²K
Uw (Triple Glazing with warm edge spacer)***	1.0 W/m²K	1.1 W/m²K	1.3 W/m²K
Special Features			
BRE Green Guide Rating°	A	A	A+
Design Features			
Dual Colour Option	■	■	■
Composite Windows	■	■	■
Ribbon Windows	■	■	■
Punched Out Openings	■	■	■
Triple Glazing	■	■	■+
Infills:	upto 56mm	upto 42mm	upto 39mm
Standard Hardware Groove	■	■	■
Multi-Point / Single Sided Locking Options	■	■	■
100mm Restriction	■	■	■
Trickle Ventilation	■	■	■
Locking Handles	■	■	■
Folding Openers	■		■
Cockspur Handle	■		
Espagnolette Handle	■	■	■
Friction Hinges	■	■	■
Butt Hinges	■		■
Variable Angle Corner Post		■	■
System Depth			
54mm			■
72mm	■	■	
Maximum Window Sizes●	upto	upto	upto
Projected Top Hung●	2300mm(W) x 2500mm(H)	1500mm(W) x 1500mm(H)	1800mm(W) x 1800mm(H)
Projected Side Hung●	845mm(W) x 1900mm(H)	900mm(W) x 1500mm(H)	845mm(W) x 1800mm(H)
Top Hung with Butt Hinges●	1800mm(W) x 1600mm(H)		1800mm(W) x 1600mm(H)
Side Hung with Butt Hinges●	900mm(W) x 1900mm(H)		900mm(W) x 1800mm(H)
Applications			
New Build	■	■	■
Refurbishment	■	■	■

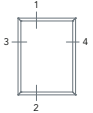
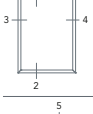
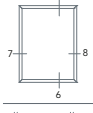
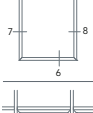
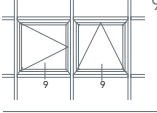
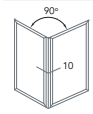
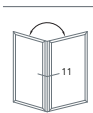
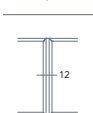
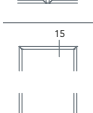
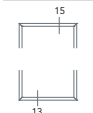
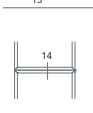
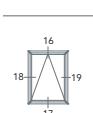
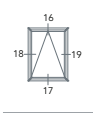
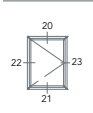
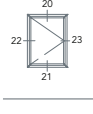
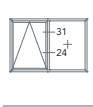

Notes:  
\* Based on the AA®720 HI Reflex<sup>plus</sup>  
\*\* Window Energy Ratings and U-values based on CEN size windows (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.  
\*\*\* U-values based on CEN size windows (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.  
+ Optional/Limited  
● Height and Width Limitations vary dependant on glass weights and hardware requirements – please check with the Technical Services Department  
° Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A and A+ for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500011 (A+) Element Number 1231500007 (A)

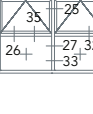
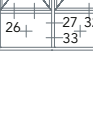






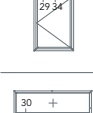



# AA®541 Casement Window Applications

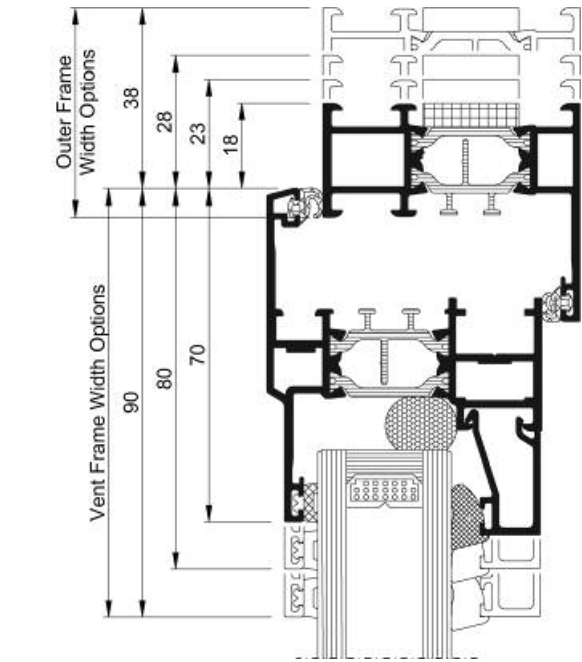
## Typical Elevations

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Elevation	Title	Website CAD ref. no.
	1, 2 Fixed (Inside glaze)	H03.01
	3, 4 Fixed (Inside glaze)	H04.01
	5, 6 Fixed (Outside glaze)	H05.01
	7, 8 Fixed (Outside glaze)	H06.01
	9 Windows into curtainwall	H07.01
	10 Fixed light panels 90° corner coupling	H08.01
	11 Fixed light panels variable corner coupling	H09.01
	12 Glazed muntin and coupling alternatives	H10.01-H16.01
	13 Cill detail options	H17.01
	15 Night ventilation	H19.01
	14 Horizontal coupling detail	H18.01
	16, 17 Top hung	H20.01-H21.01
	18, 19 Top hung	H22.01
	20, 21 Side hung	H22.01-H23.01
	22, 23 Side hung	H21.01 & H23.01
	24 Fixed/vent coupling transom	H30.01
	31 Fixed/vent coupling transom (reverse glazed)	H31.01

Elevation	Title	Website CAD ref. no.
	25 Vent/vent muntin detail	H24.01
	26 Vent/fixed muntin detail	H25.01
	27 Fixed/fixed muntin detail	H26.01
	32 Vent (reverse glazed)/fixed muntin	H32.01
	33 Fixed/fixed both reverse glazed	H33.01
	35 Vent (reverse glazed)/fixed muntin	H35.01
	28 Vent/vent muntin detail	H27.01
	29 Fixed/vent muntin	H28.01
	34 Fixed (reverse glazed)/vent muntin	H34.01
	30 Fixed/vent coupling transom	H29.01

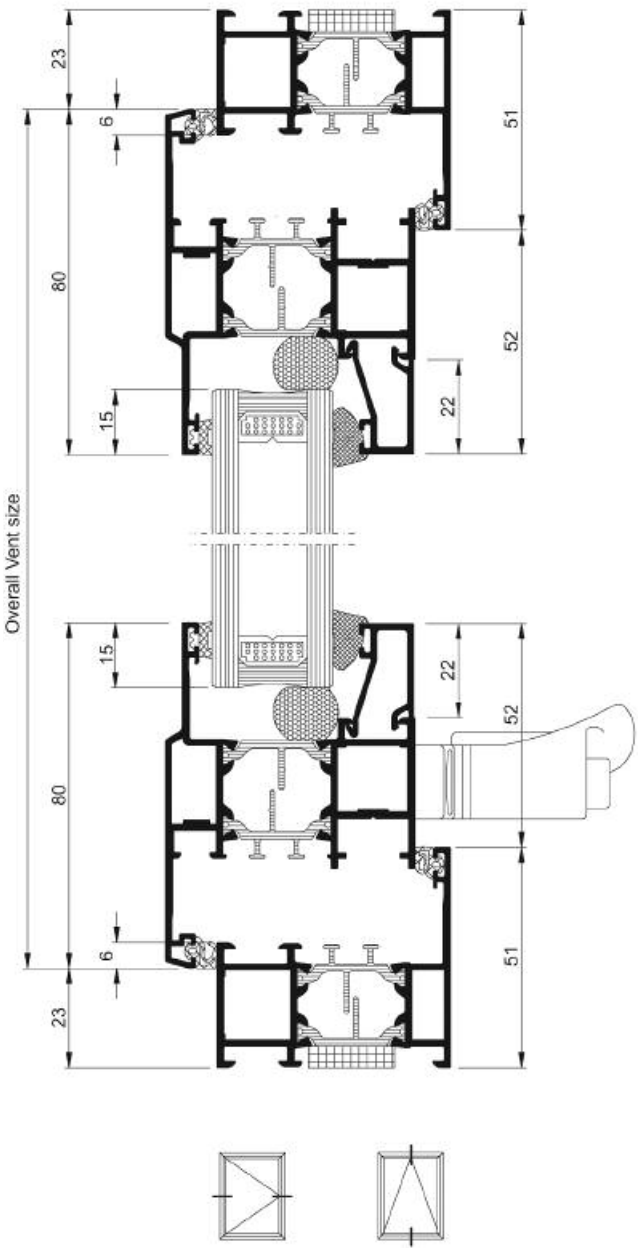
## Frame and Vent Size Options



## AA®541 Casement Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

### Top Hung Head & Cill Details Side Hung Details



H22.01

Vertical details 20 and 21 Top Hung and horizontal details 18 and 19 side hung inside glazed vent

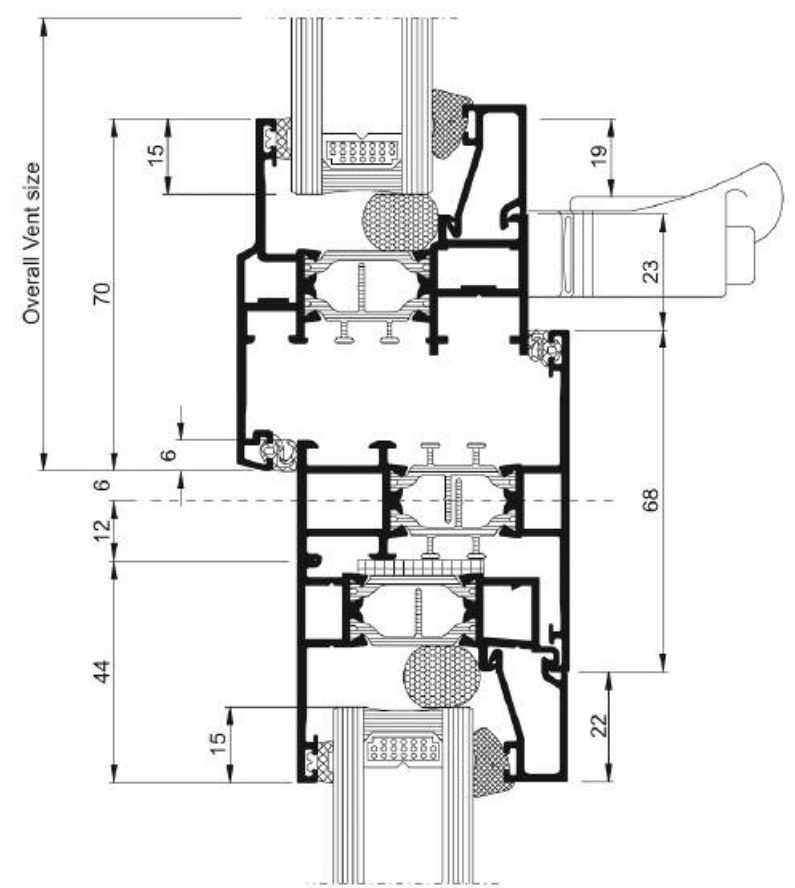




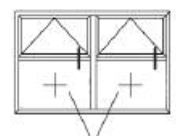
AA®541 Casement Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Reverse Glazing Detail



N.B. Horizontal adaptor rails run through under jamb reverse glaze adaptor rails.



Reverse  
Glazed

H32.01

Vertical detail 32 – Reverse glaze adaptor.  
Fixed lights below top hung for "inside glaze"



ESSA Academy, Bolton  
Architect: Sheppard Robson  
Photo: Positive Image Photography



Notre Dame Catholic College, Liverpool  
Architect: Sheppard Robson  
Photo: Willmott Dixon





GT70 Slimline Renovation Window

**Introduction**

The GT70 Slimline Renovation Window is an elegant aluminium fenestration solution designed specifically to replicate the appearance of steel windows. Suitable for installation in new build or refurbishment projects, the GT70 window combines the optimum technical performance expected of today's aluminium windows, with the fine sightlines characteristic of original steel windows. These slender sightlines are enhanced further by optional bevelled designed feature caps adding a unique sculptured effect to the external surface of the building.

- Product Features and Benefits**
- Fine sightline characteristics of steel windows providing a suitable replication for steel windows with additional benefits associated with aluminium, such as the high strength to weight ratio
  - Suitable for composite and ribbon windows
  - Option for open out or open in to meet your project design requirements and user flexibility
  - A range of structural and coupling mullions available
  - Special bevelled beads, or feature caps, add a unique sculptured appearance to the building
  - Concealed drainage system to enhance the building's aesthetics
  - Accommodates glazing up to 54mm for inside glazed or 33mm for outside glazed

**Construction**

Framing construction incorporates fill and debridge thermal break with resin. All frames have mechanically jointed and adhesive bonded corners. Installation can be by the direct fix method or by twist in fixing lugs.

- Configurations**
- The GT70 Slimline Renovation Window offers the following design configurations:
- Outward Opening
- Top Hung
  - Side Hung
- Inward Opening
- Tiltturn
  - Tiltturn (Side Hung)
  - Tiltturn (Bottom Hung)

**Glazing**

Inward opening windows are internally glazed and outward opening windows are externally glazed with a maximum glass thickness of 54mm for inside glazed and 33mm for outside glazed.

Independently Weather Performance Tested to BS 5368: 1993

	Air Infiltration	Watertightness	Wind Resistance
GT70 Slimline Renovation (Open In)	600 Pa	600 Pa	1200 Pa (Windload)* 1750 Pa (Safety)*

\* This is dependant upon correct mullion and transom selection to suit span and spacing per project

Details of the Kawneer product tests are available from the Technical Services Department at Runcorn.

Woodhouse Mill, Todmorden  
Architect: Ramsden Barrett Architects



Product Selector

Performance	GT70	AA®720 Renovation "TIP"
Weather Performance	■ (BS 5368)	■ (EN 14351)
Security to ENV 1627		■
Uw (Double Glazing)	2.1 W/m²K	1.5 W/m²K
Uw (Double Glazing with warm edge spacer)*	1.9 W/m²K	1.3 W/m²K
Uw (Triple Glazing)	1.8 W/m²K	1.1 W/m²K
Uw (Triple Glazing with warm edge spacer)**	1.6 W/m²K	1.0 W/m²K
Special Features		
BRE Green Guide Rating°	A	A
Design Features		
Dual Colour Option		■
Composite Windows	■	■
Ribbon Windows	■	■
Punched Out Openings	■	■
Triple Glazing	■+	■+
Infills:	upto 54mm	upto 47mm
Standard Hardware Groove	■	■
Multi-Point / Single Sided Locking Options	■	■
100mm Restriction	■	■
Trickle Ventilation	■	■
Locking Handles	■	■
Folding Openers	■ (Casement only)	
Cockspur Handle	■ (Casement only)	
Friction Hinges	■ (Casement only)	
Butt Hinges	■	■
System Depth		
70mm	■	
72mm		■
Maximum Window Sizes•		
Projected Top Hung•	1600mm(W) & 1500mm(H)	
Projected Side Hung•	840mm(W) & 1600mm(H)	
Top Hung with Butt Hinges•	1600mm(W) & 1600mm(H)	
Side Hung with Butt Hinges•	900mm(W) & 1600mm(H)	
Tiltturn•	1600mm(W) & 2000mm(H)	1400mm(W) & 2100mm(H)
Tiltturn (Side Hung)•	1400mm(W) & 2000mm(H)	1400mm(W) & 2100mm(H)
Tiltturn (Bottom Hung)•	1400mm(W) & 2000mm(H)	2000mm(W) & 1200mm(H)
Applications		
New Build	■	■
Refurbishment	■	■

Notes:

\* Window Energy Ratings and U-values based on CEN size inward opening (1230mm x 1480mm) using 1.0 W/m²K double glazing with warm edge (0.048 W/m²K) spacer.

\*\* U-values based on CEN size inward opening (1230mm x 1480mm) using 0.6 W/m²K triple glazing with warm edge (0.043 W/m²K) spacer.

+ Optional/Limited

• Height and Width Limitations vary dependant on glass weights and hardware requirements – please check with the Technical Services Department

◦ Corresponds to the BRE Global Green Guide online generic specification for windows and achieves a summary rating of A for non-domestic schemes. [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk) Element Number 1231500007





# GT70 Slimline Renovation Window Applications

## Typical Elevations

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

### Outside Glazed

Elevation		Title	Website CAD ref. no.
	1	Vertical section - fixed lights, head detail	6.01
	2	Vertical section - fixed lights, cill detail	6.01
	3, 4	Horizontal section - fixed lights, jamb detail	6.02
	5, 5a, 6, 6a	Top hung, side hung head and cill details	6.03
	7, 7a, 8, 8a	Horizontal section - top hung and side hung, jamb details	6.04
	10	Horizontal section - top hung	6.06
	11	Vertical section - top hung	6.07
	12	Horizontal section - fixed light	6.08
	13	Vertical section - top hung over side hung	6.09
	16, 16a	Head detail	6.12
	17	Cill detail	6.13
	18, 19	Jamb detail	

### Inside Glazed

Elevation		Title	Website CAD ref. no.
	20, 21	Bottom hung head and cill details	6.14
	22	Bottom hung - jamb detail	6.15
	23, 24	Head and cill detail - fixed	6.16
	25, 26	Jamb detail - fixed	6.17
	35	Composite window	6.22
	38, 39	Capping examples	6.25
	40, 41	Capping examples	6.26
	42	Capping example	6.27
	43, 44	Capping examples	6.28
	45, 46	Capping examples	6.29
	47, 48	Capping examples	6.30
	49	Into curtain wall top hung	6.31



GT70 Slimline Renovation Open In



GT70 Slimline Renovation Open Out



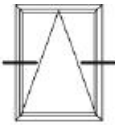
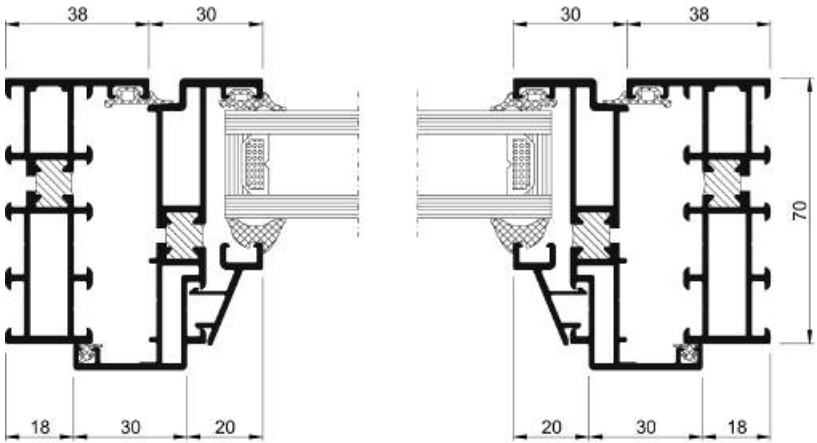


GT70 Slimline Renovation Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

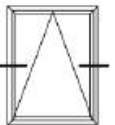
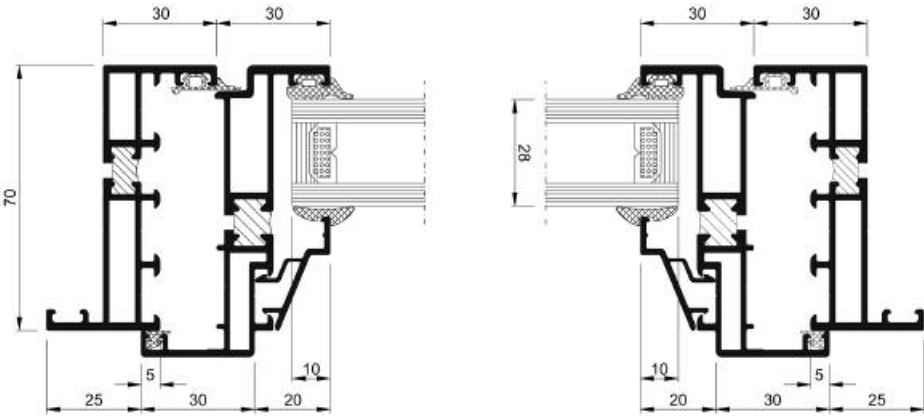
Outside Glazed

Jamb Detail (Minimum Outer Frame)



Top Hung

Jamb Detail (Odd Leg Outer Frame)



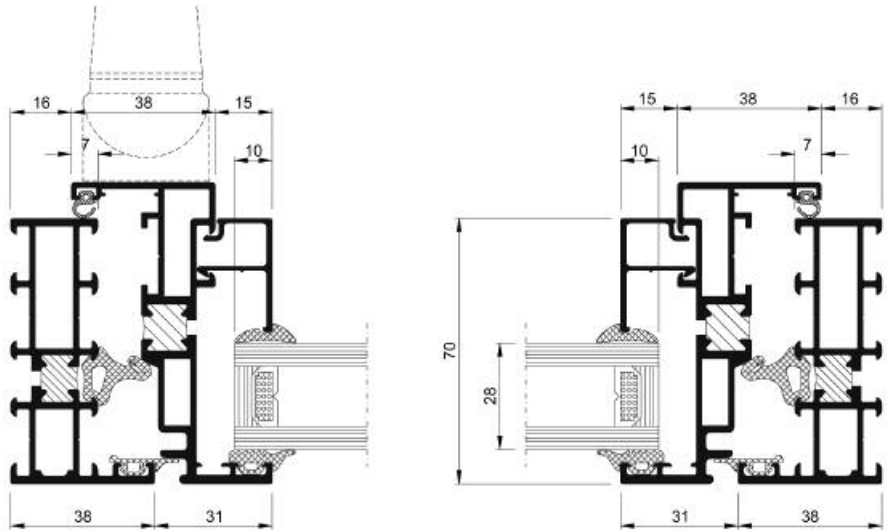
6.04  
Top Hung

GT70 Slimline Renovation Window

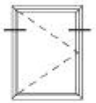
Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

Inside Glazed

Jamb Detail (Tilt Turn & Side Hung)



6.13  
Tilt Turn



6.13  
Side Hung



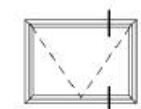
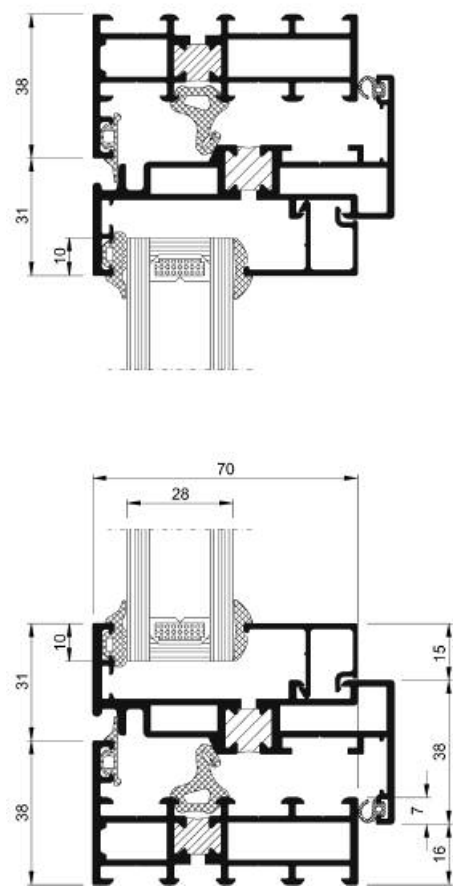


GT70 Slimline Renovation Window

Full details can be downloaded from our website [www.kawneer.co.uk](http://www.kawneer.co.uk)

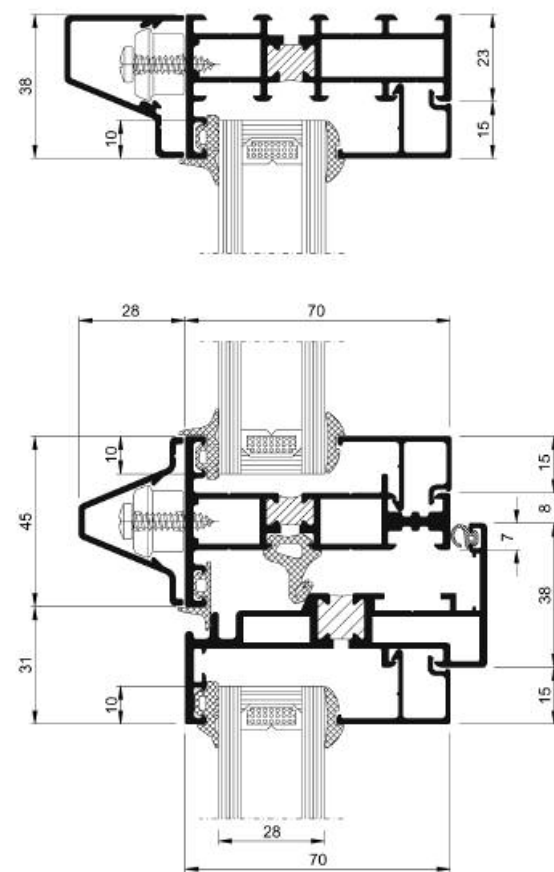
Inside Glazed

Head and Cill Details



6.14  
Bottom Hung

Capping Detail



6.25



Axminster Building, Glasgow  
Architect: ZMArchitecture





## Case Study - Holiday Inn Express, Birmingham

### Kawneer windows give hotel guests a unique city view

Aluminium windows by Kawneer are at the heart of a striking patterned façade to one of Birmingham's latest new hotels.

The Holiday Inn Express in the city centre features sets of three of Kawneer's AA®540 windows as fixed lights designed in L-shapes within checks of multi-coloured rainscreen cladding by KKA Architecture.

The façade of the hotel in Birmingham city centre's enterprise zone also uses Kawneer's AA®110 zone-drained curtain walling with 65mm sightlines and series 190 heavy-duty commercial entrance doors.

The Kawneer systems were installed over 20 months by APiC UK for main contractor John Sisk and Son who were awarded the contract following their successful completion of the Holiday Inn Express Manchester Hotel for the same client (DRPT Birmingham).

The £16.3 million hotel comprises 250 bedrooms, restaurant, reception and meeting room facilities over 17 storeys, with three lifts and CCTV and PA to all areas. It forms part of the new 1.2 millionft<sup>2</sup> Arena Central mixed-use development.

Construction was steel frame to levels one and two and to transfer decks, with floors three to 17 in precast crosswall construction. The façade is rainscreen to all elevations with the Kawneer windows as inset glazing that looks as impressive from the interior as it does the exterior.

APiC director Andrew Stapleton said: "An unusual aspect of this project is the pattern on the L-shaped windows which provide an interesting feature in this impressive precast structure. This visually striking hotel is a great new addition to APiC UK's growing portfolio of hotel installations and the ever-evolving Birmingham city skyline."



Holiday Inn Express, Birmingham

Architect: KKA Architecture

Photo: Stewart Jones/Infinite 3D





## Supporting Your Projects



### Authorities

ISO 9001  
Quality Management System

BS EN 12020  
Extruded precision aluminium profiles

BS EN 12206-1  
Paint and varnishes. Coating of aluminium and aluminium alloys for architectural purposes

BS 3987  
Specification for anodic coatings

BS 6375 Part 1  
Classification for weathertightness

BS 6375 Part 2  
Specification for operation and strength

BS 4873  
Specification for aluminium alloy windows and doorsets

PAS 24  
Enhanced security performance requirements for doorsets and windows in the UK

BS 4255 Part 1  
Specification for non-cellular gaskets

ASTM C509-94  
Specification for cellular gaskets

BS EN ISO 10077 Parts 1 & 2  
Thermal performance of windows, doors and shutters. Calculation of thermal transmittance

IFT Guideline WA-01 Eng/2  
Uf-values for thermal break metal profiles of window systems, IFT Rosenheim

### A full range of guaranteed colours available

Established in the UK for over 50 years and powder coating profiles at its Runcorn base for 40 years, Kawneer has deep knowledge and experience in the specification and application of colour and paint systems.

The existing powder coating facility was converted to 'chrome free' – the first existing plant in the UK to be upgraded to this environmentally friendlier pre-treatment system – which gave Kawneer additional impetus to become a QUALICOAT approved applicator.

Quality and consistency of quality continues to be the main feature of QUALICOAT UK & Ireland, which includes third party testing of all certified powder formulations and pre-treatment systems that make up the QUALICOAT approval process. Kawneer has achieved 'Seaside' specification standard with this third party accreditation programme.

Kawneer Permacover™ is a high quality polyester powder paint finish, offering a wide range of solid and metallic colours providing outstanding resistance to environmental conditions. Kawneer Permacover™ has a 15 year gloss and 30 year matt and metallic guarantees subject to application and Kawneer acceptance in marine, industrial, swimming pools or other aggressive atmospheres.

To ensure the highest quality finish, powder coating is carried out in house as part of our single-source responsibility.

Kawneer Permanodic® is a range of subtle anodised colours which have been specifically developed for architectural glazing systems. Kawneer Permanodic® is a tried and tested anodising process, proven in accelerated laboratory tests, extensive field trials and contract experience. Subject to compliance with Kawneer's requirements, a 25 year finishes guarantee can be obtained.

### Project Assistance

Kawneer's regionally based team of Architectural Advisers and the Architectural Services Team based at our Head Office in Runcorn are able to provide project advice and support:

**Tel: 01928 502604 / Fax: 01928 502512**  
**Email: kawneerAST@arconic.com**

Information on Kawneer's extensive range of Curtain Wall, Window, Framing, Door, Fire Resistant and Sliding Solutions can also be obtained from our Head Office by calling:

**Tel: 01928 502612**

Kawneer UK Ltd is part of Arconic Building and Construction Systems, and enjoys the extensive resources of the entire Arconic organisation, allied to the specific glazing systems experience of Kawneer's many operations around the world. As a result of this our partners and customers have direct access to one of the largest pools of technical expertise in the construction industry.



Mathematical Sciences Building,  
Warwick University, Coventry  
Architect: Associated Architects