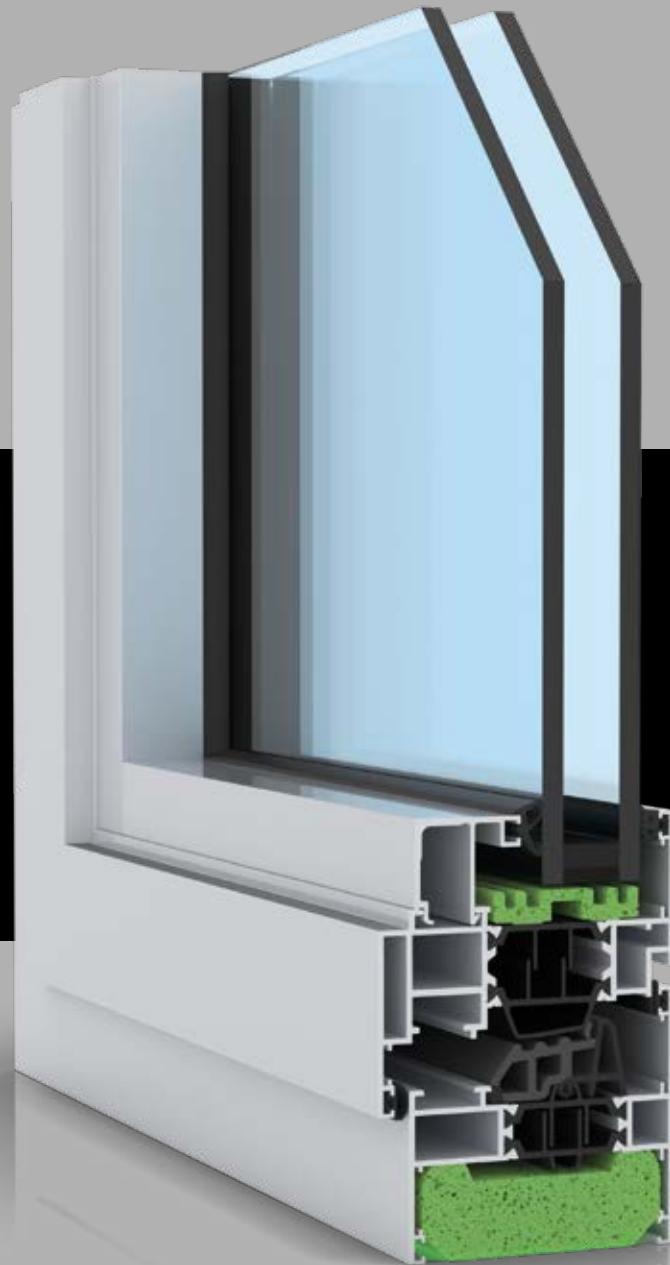


THERMAL™

System 5-35 Hi+

Tilt and Turn Window





THERMAL™

System 5-35 Hi+

Metal Technology's System 5-35 Hi+ Tilt and Turn Window offers the designer a wide and diverse range of profiles that will provide structural integrity, weather performance, thermal enhancement and security.

Bespoke thermal isolators and insulation, combined with structural mullions, vents and outer frames offer architects and designers the ability to achieve flexible design solutions. The high performance 5-35 Hi+ glazing system complies with the following standards: BS 6375 pt 1, 2 and 3, PAS 24 and is acoustically tested in accordance with BS EN ISO 140-3 and BS EN ISO 717-1.

Introduction

The 5-35 Hi+ range is an adaptation of the 5-35 Hi range through the inclusion of additional gaskets and foam inserts which further enhance the system's thermal performance.

As with all Metal Technology systems, System 5-35 Hi/Hi+ Tilt and Turn window is manufactured to exacting standards, enabling economy to be combined with strength to give many years of aesthetic, trouble-free operation.

Materials

Aluminium profiles are extruded from aluminium alloy 6060T6, T5 or T4 complying with the recommendations of BS EN 12020-2 / BS EN 755 - Parts 1 to 9. Polyamide thermal breaks are produced

from glass reinforced nylon sections designed to withstand temperatures in excess of 200°C, allowing the sections to be powder coated after thermally breaking.

Finishes

The range of sections can be provided in either of the following ranges of finishes:

1. Anodised to BS EN ISO 7599 or BS 3987
2. Powder organic coated to BS EN 12206-1

System 5-35 Hi+ window can accommodate a different colour/finish internally to that used externally.





Open In Window Fittings

The 5-35 Hi/Hi+ sections are designed to suit tilt before turn fittings, turn only fittings (side hung), tilt only fittings (bottom hung), French window fittings, and a variety of handle options. It is recommended that additional limiting stays be used to prevent the window opening more than 90° in the side hung mode.

Construction

Frame members are mitre cut at 45°, corners are reinforced with extruded aluminium crimping cleats and corner braces, and a secure joint is formed by pneumatically crimping into the extruded crimping cleat. Mullion and transom bars are square cut shaped and fixed securely to the frame by means of stainless steel screws and fixing cleat joints. All frame joints are sealed during construction against entry of water using Metal Technology's two-part adhesive.

Features

This system is internally beaded and can accommodate glazing units from 28mm to 55mm

Fixed panes may be externally glazed with the addition of a liner bar profile

Available in single or dual colour standard RAL finishes

PAS 24 Security tested options to comply with Secured by Design criteria



LogiKal estimating and production software for manufacturing, glass and U-value calculations

Bespoke tooling and jigs to assist with rapid manufacture

Maximum Size Limits

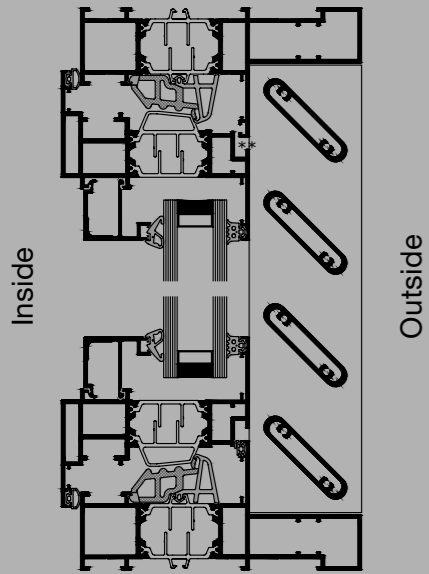
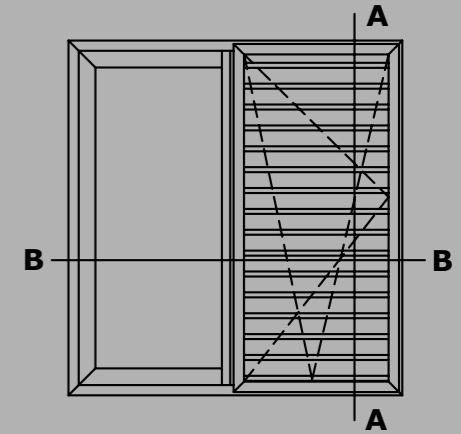
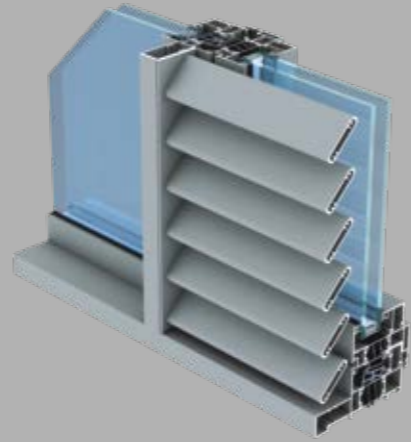
	Vent Width	Vent Height
Tilt Before Turn	1687mm	3000mm
Tilt Only Sashes	2400mm	3000mm
Turn Only Sashes	1687mm	3000mm
French Window Sashes	1687mm	2400mm

Note - Maximum height and width may not be achieved simultaneously. Please refer to technical literature.

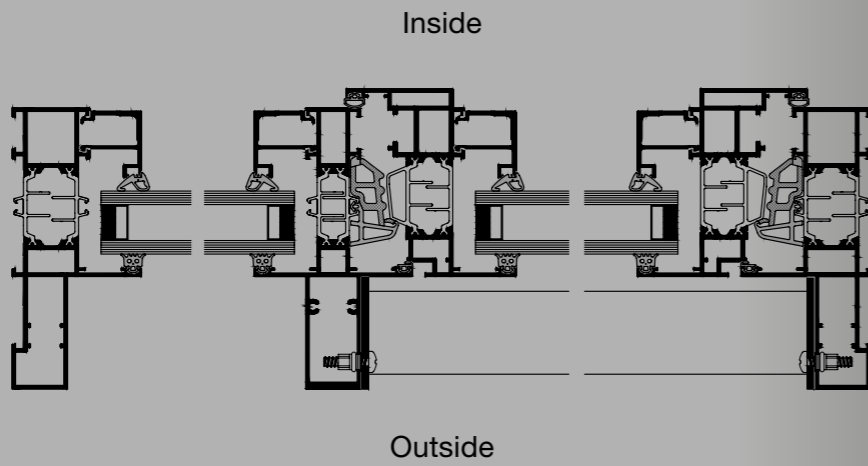


Tilt and Turn Window with Louvre Examples

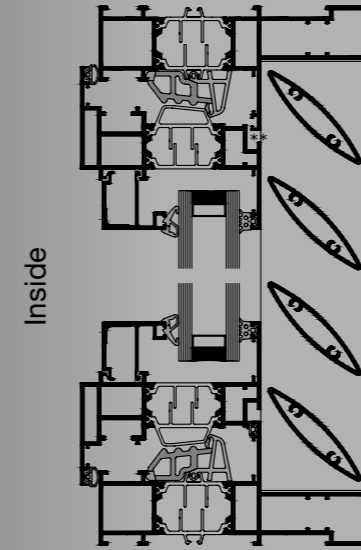
Fitted externally to opening sashes, a purpose-designed louvre system offers good ventilation, creating a pleasing aesthetic and also a high level of safety. The louvre system has also been fully tested to meet current guarding requirements under BS 6180 to 1.5KN.



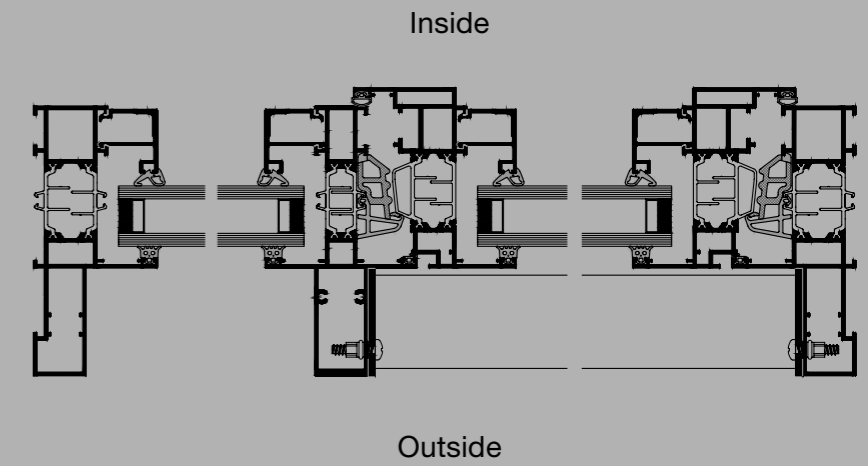
Section A-A



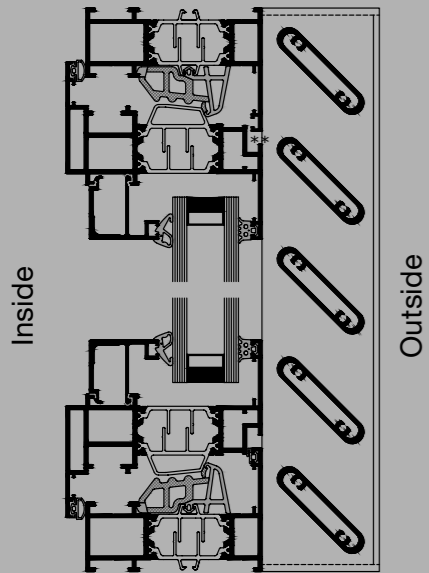
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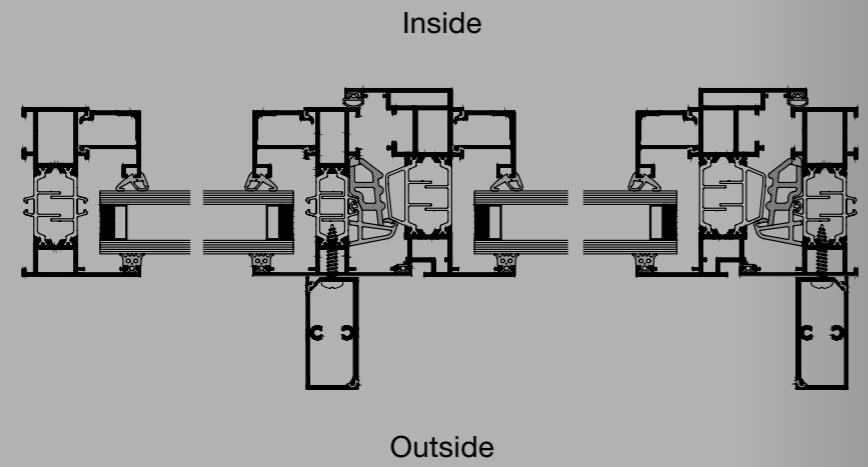
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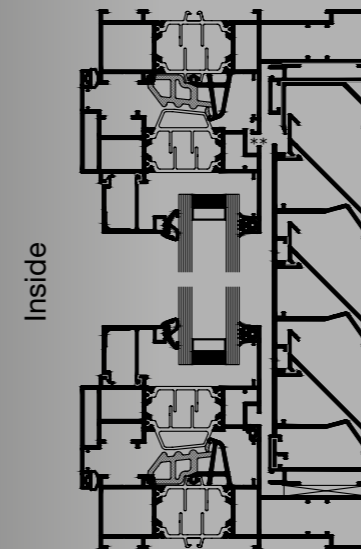
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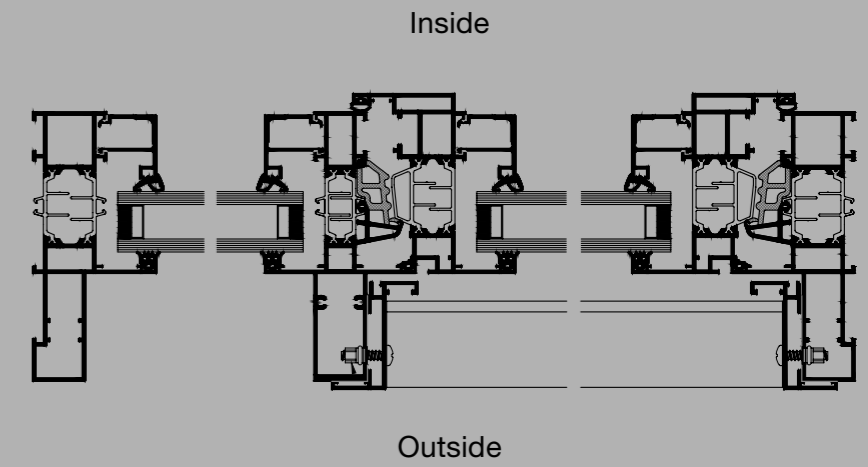
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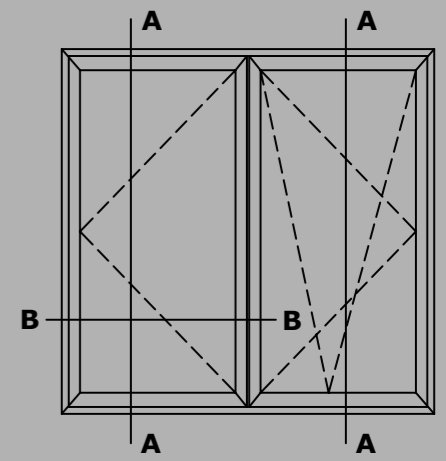
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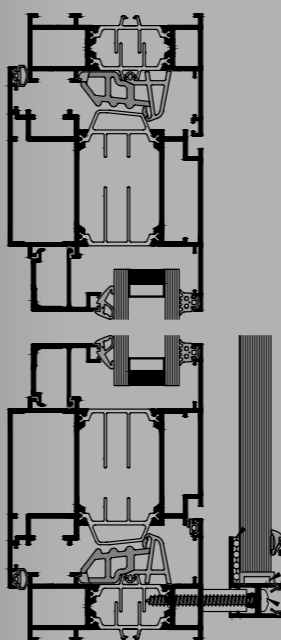
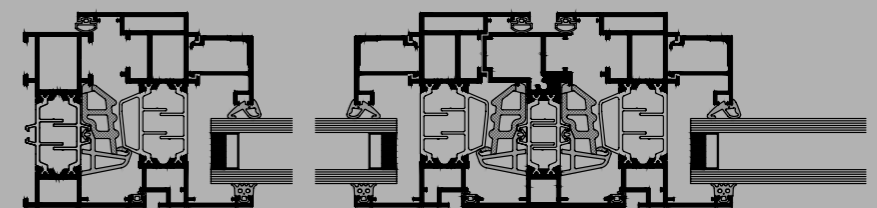
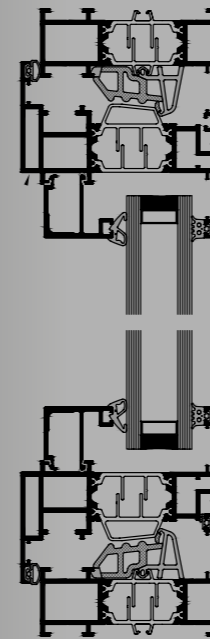
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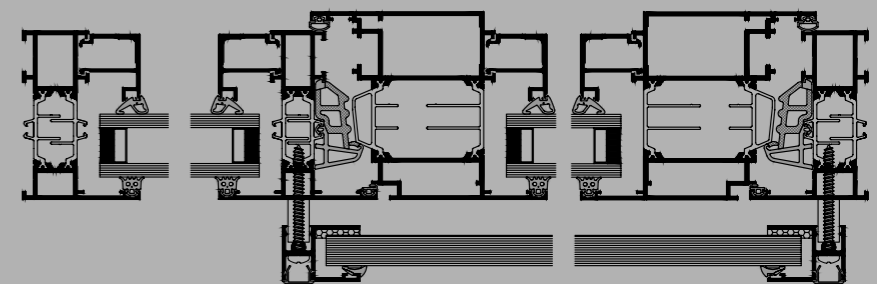
Section B-B



Euro Groove French Window



Euro Groove Tilt & Turn Window with Juliet Balcony





Thermal Performance

Metal Technology's **THERMAL** range, in conjunction with the correct glass specification, is designed to aid compliance with the latest thermal requirements of the current building regulations.

The extended polyamide thermal break profiles, incorporating integral fins have been specifically designed to minimise heat transfer across the window profiles. This innovative and advanced thermal break technology provides the basis of the 5-35 Hi system.

The 5-35 Hi+ System further boosts thermal performance through the introduction of specially designed thermal gaskets and foam profiles. These reduce radiation heat loss across the air cavities within the window profiles to provide additional thermal enhancement.

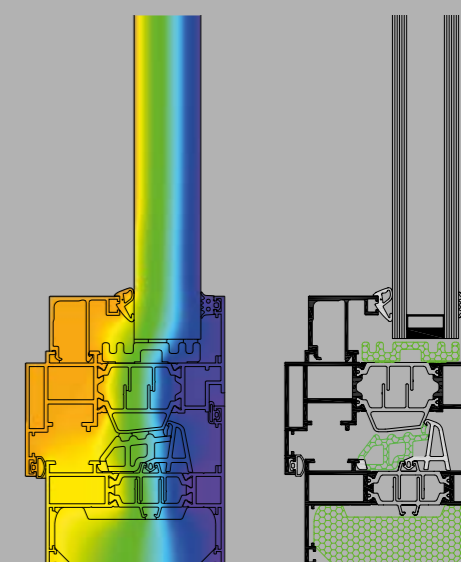
The 5-35 Hi and 5-35 Hi+ systems offer significantly improved U-frame values over more traditional thermally broken aluminium window systems.

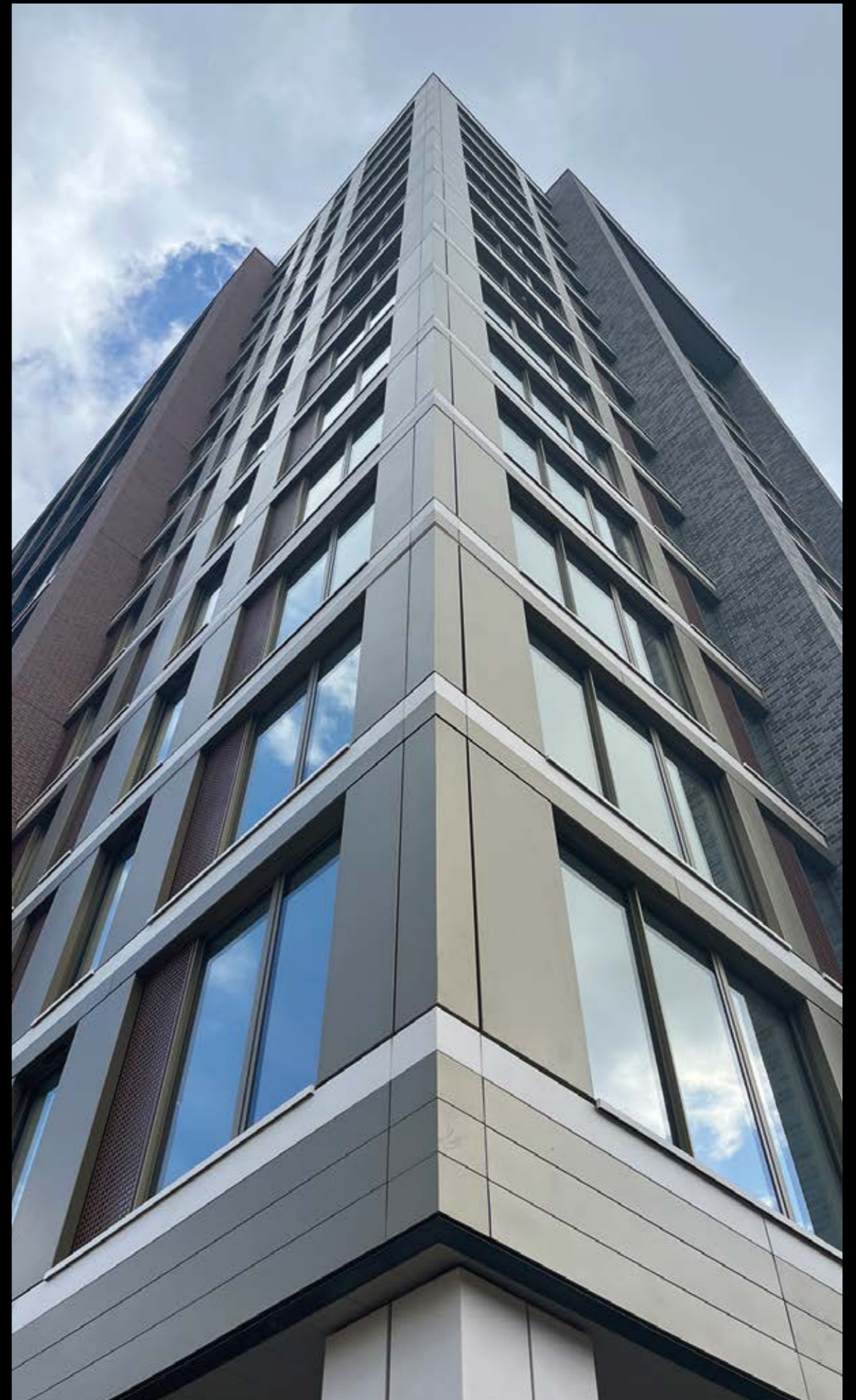
	U-frame values	
	5-35 Hi	5-35 Hi+
Fixed light outer frame	1.92 W/m²K	1.34 W/m²K
Outer frame and tilt turn vent	2.30 W/m²K	1.63 W/m²K

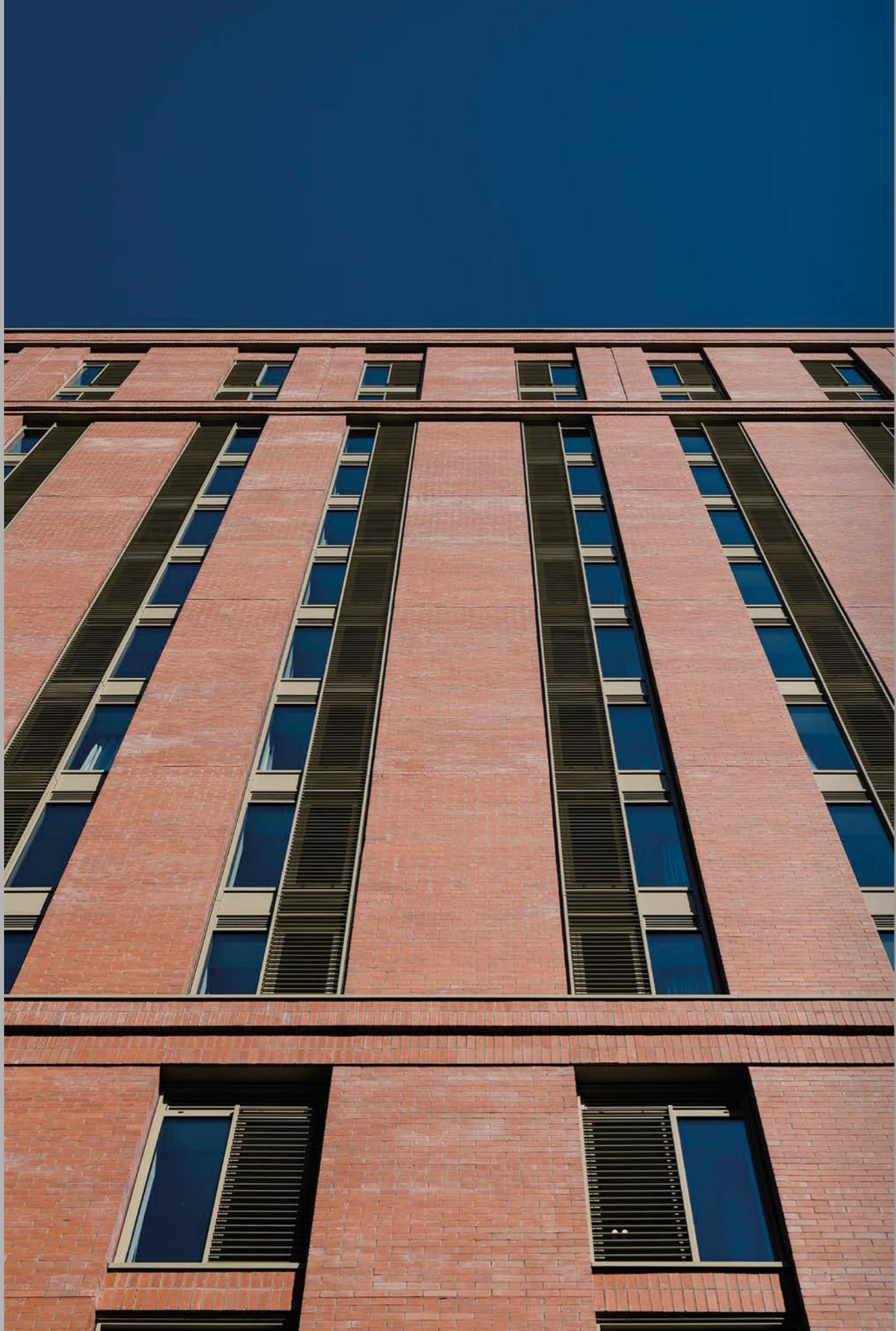
The following table, based on a standard commercial GGF window configuration and warm edge spacers, demonstrates how such improved U-frame values then contribute to improving the overall thermal performance of a complete window.

Achievable whole window U-values	Centre pane U-value	
	1.0 W/m ² K	0.5 W/m ² K
5-35 Hi tilt turn vent	1.36 W/m²K	0.98 W/m²K
5-35 Hi+ tilt turn vent	1.29 W/m²K	0.91 W/m²K

Metal Technology can provide tailored U-value calculations using their dedicated estimating software to calculate overall project average window U-values for their full range of systems.







Building a Sustainable Future



Target Net Zero

Addressing climate change is a priority for Metal Technology. Our commitment to achieving Net Zero emissions is at the forefront of our sustainability goals, and we are actively implementing strategies to reduce our carbon footprint across our entire value chain, from supply and production through to distribution.

Low Carbon Aluminium

We are dedicated to reducing carbon emissions through the use of Low Carbon Aluminium Windows, Doors and Curtain Walling.

RecycAL 4.0 - aluminium billet with a carbon footprint below 4.0kg CO₂/kg, supplied as standard across our full façade range.

RecycAL 1.9 - an ultra-low carbon option at 1.86kg CO₂/kg, made with 75% post-consumer scrap, available for project-specific applications.

Aluminium

Aluminium's inherent properties make it one of the most sustainable construction materials. It is infinitely recyclable, lightweight yet strong, highly durable and simple to maintain. As the earth's third most abundant element, aluminium is non-toxic, non-flammable and emits no harmful vapours or particles. With finishes such as anodising or powder coating, aluminium components require only routine cleaning with mild detergents to maintain long-term performance.

Closed Loop Recycling Scheme

Metal Technology is a member of the Council for Aluminium in Building's (CAB) Closed Loop Recycling Scheme. Through monthly reporting and approved recycling routes, all aluminium scrap is returned to a dedicated smelting facility and reprocessed into new billets and extrusions. This closed-loop system ensures high-quality material recovery and allows profiles to be recycled back into profiles, maximising resource efficiency.

Corporate Social Responsibility

Metal Technology integrates responsible, ethical practice into every aspect of its business, emphasising continuous improvement and long-term sustainability. We work transparently with customers, employees and suppliers, uphold recognised human-rights principles, and foster fair, respectful relationships throughout our operations. Ongoing engagement with stakeholders helps ensure our activities contribute positively to both local communities and the wider industry.

A cornerstone of our CSR commitment is reducing environmental impact and advancing a more sustainable built environment. We prioritise energy efficiency, minimise waste and emissions, recycle all scrap aluminium and maximise the use of recycled content. With clear supply-chain visibility and strong collaboration with vendors, we promote high environmental and social standards, reduce packaging and transport impacts, and support reuse and recycling initiatives. Our BES 6001 responsible sourcing certification further demonstrates our long-standing dedication to ethical operation and environmental stewardship.

Passive House Range

Metal Technology's dedication to fostering a sustainable built environment and its proactive, diligent support of stakeholders has resulted in the creation of our Passive House range. Our Passive House products combine high performance, low air permeability, functionality, security, and stunning aesthetics to help meet the overall requirements of Passive House criteria.

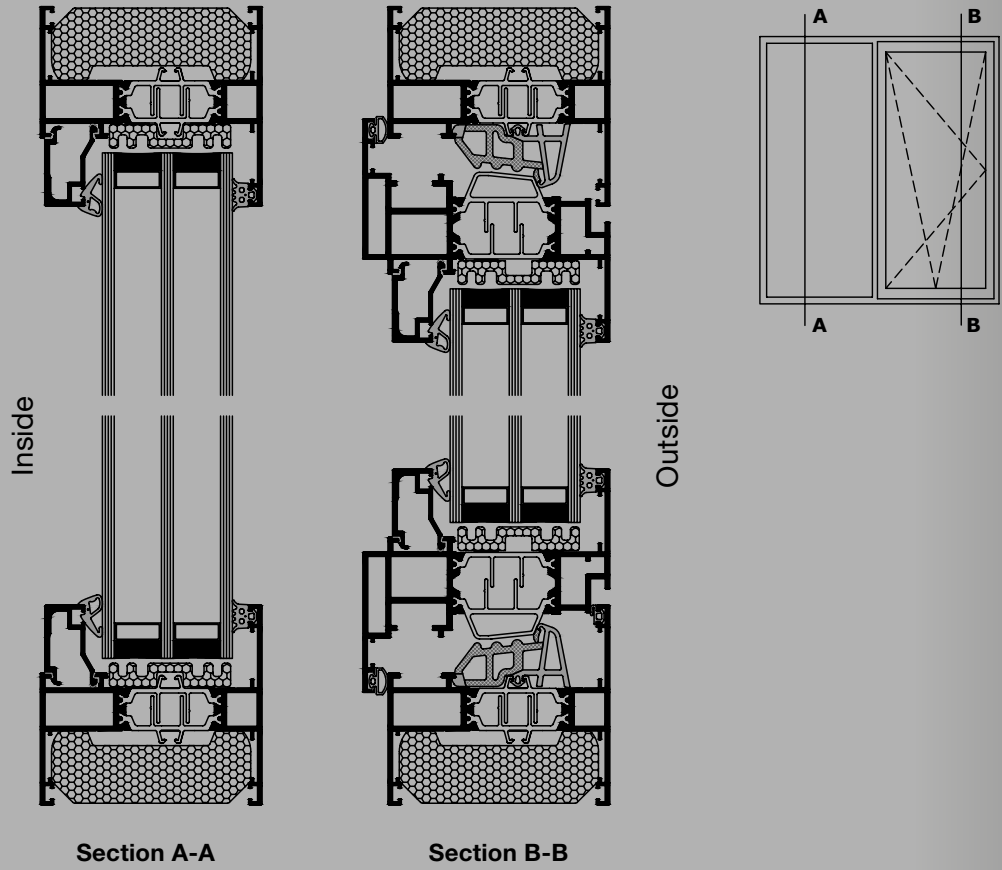
We collaborate closely with our valued supply chain partners, providing expert technical guidance and support from the design phase through to detail development and on-site installation. Additional Passive House products continue to be developed as we work towards reducing our carbon footprint on the path to Net Zero.

To view our Passive House products visit metaltechnology.com/passive-house



Learn more about how Metal Technology is lowering its carbon footprint and the steps we're taking to shape a low-carbon future: metaltechnology.com/sustainability

System 5-35 Hi+ Triple Glazing



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To place an order please call **T+44 (0)28 9448 7777**
or email orders@metaltechnology.com

