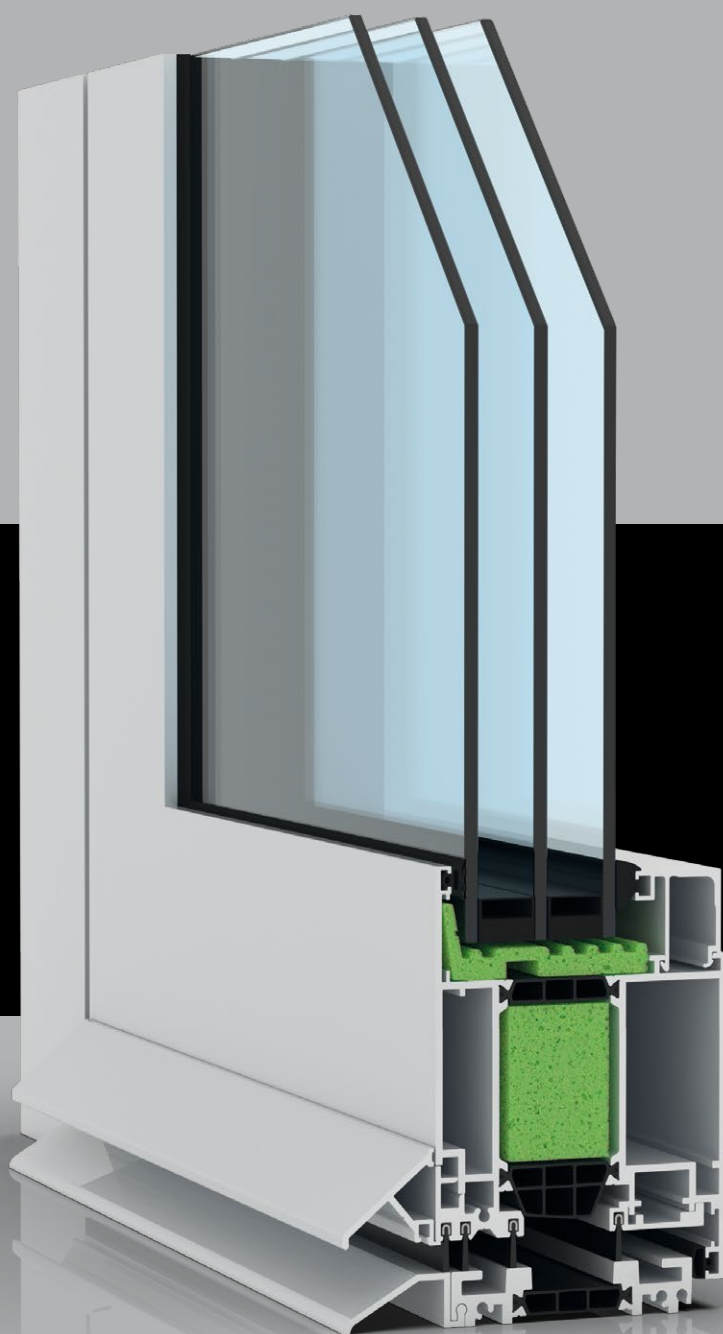


THERMAL™

System 5-35D Hi/Hi+

High Performance Door





System 5-35D Hi/Hi+

Metal Technology’s 5-35D Hi/Hi+ door suite has been developed with a diverse range of profile and hardware options encompassing multi point locking, panic exit and security offering flexible design solutions. Bespoke injected mouldings, thermal isolators, and insulation combined with glass selection also offers the ability to achieve Passive House performance levels. The high performance 5-35D Hi+ door system complies with the following standards: BS 6375, PAS24 and is acoustically tested in accordance with BS EN ISO 140-3 and BS EN ISO 717-1

Scope

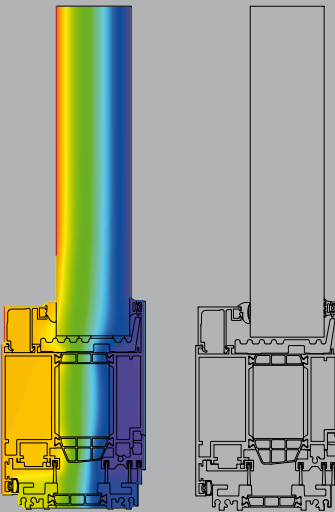
This specification defines materials, construction, finishes and size limits for the Door System.

Thermal Performance

Metal Technology’s **THERMAL** range, in conjunction with the correct glass specification, is designed to meet and exceed the latest thermal requirements of the current building regulations. The extended polyamide thermal break profiles, incorporating integral cavities, have been specifically designed to minimise heat transfer across the door profiles. This innovative and advanced thermal break technology provides the basis of the 5-35D Hi/Hi+ system.

System 5-35D Hi/Hi+ 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 door system to provide additional thermal enhancement.

Rebated Threshold



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

	U-frame values	
	5-35D Hi	5-35D Hi+
Outer frame and open out sash	1.97 W/m²K	1.06 W/m²K
Outer frame and open in sash	1.86 W/m²K	1.05 W/m²K

The following table, based on standard fully glazed single/double door configurations and warm edge spacers, demonstrates how such improved U-frame values then contribute to improving the overall thermal performance of a complete door.

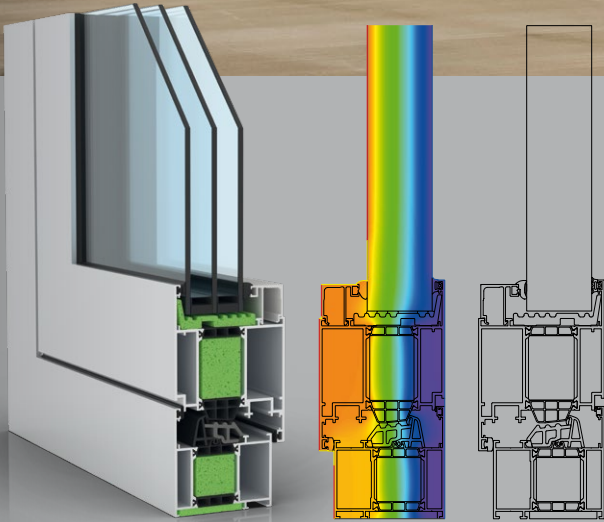
Achievable whole door U-values	Centre pane U-value	
	1.0 W/m²K	0.5 W/m²K
5-35D Hi open out single door	1.43 W/m²K	1.03 W/m²K
5-35D Hi open in single door	1.39 W/m²K	1.02 W/m²K
5-35D Hi open out double door	1.46 W/m²K	1.06 W/m²K
5-35D Hi open in double door	1.42 W/m²K	1.04 W/m²K
5-35D Hi+ open out single door	1.16 W/m²K	0.78 W/m²K
5-35D Hi+ open in single door	1.14 W/m²K	0.78 W/m²K
5-35D Hi+ open out double door	1.18 W/m²K	0.81 W/m²K
5-35D Hi+ open in double door	1.16 W/m²K	0.81 W/m²K

Door Hardware

The 5-35D Hi/Hi+ door sections are designed to suit a range of hinges, locks, shoot bolts, cylinders, handles, panic exit gearing and closers.



Fully Framed



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.

Finishes

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

1. Anodised to BS EN 12373-1 or BS 3987
2. Powder organic coated to BS EN 12206-1

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

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 offers internally glazed sashes and can accommodate glazing units from 28mm to 65mm units.

Fully framed, rebated and flush threshold options

Available in single or dual colour standard RAL finishes

Passive House Certified



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



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

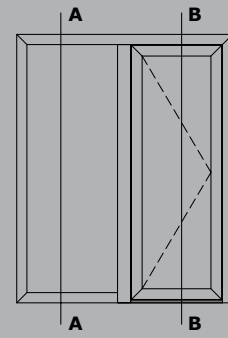
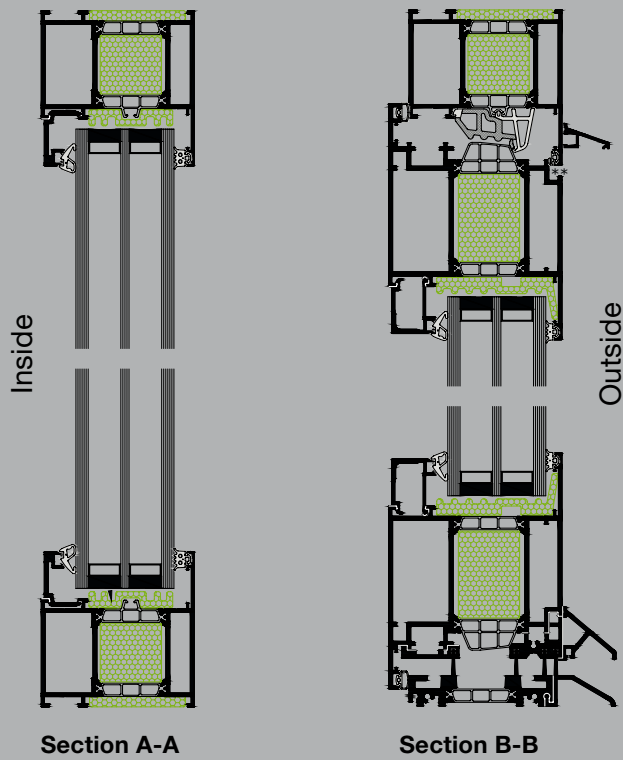
Bespoke tooling and jigs to assist with rapid manufacture

Size Limitations

	Door Sash Width	Door Sash Height
Maximum	1250mm	3000mm
Minimum	650mm	1900mm

This table provides basic guidance. Please refer to size limitation charts in Metal Technology’s technical literature for further details.

System 5-35D Hi/Hi+ Profiles



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