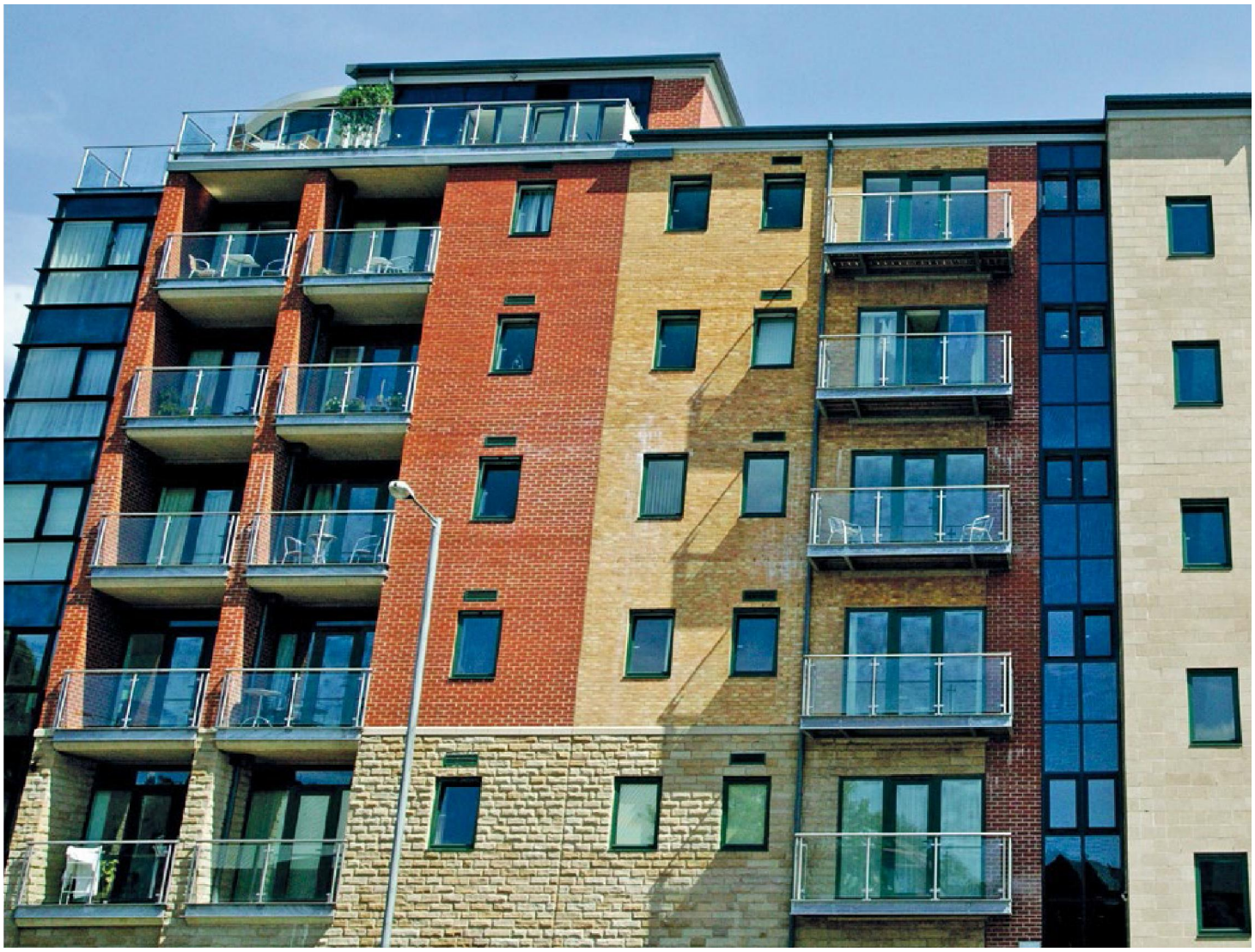
Metal Technology
Architectural Glazing Solutions

System 5-20D
Door System

The Metal Technology Thermally Broken 5-20D Door System has been designed to offer the specifier the advantages of polyamide thermal break technology in meeting the latest thermal requirements of the current building regulations, while also offering high levels of security and weather performance.



Introduction
The 5-20D Door System makes use of the standard System 5-20 outer frames together with the standard mullion and transom options. Included in the basic suite of profiles are drip rails to divert driving rain. Various other profiles can be designed and incorporated allowing architects to achieve flexible designs. The system is glazed internally and accommodates a range of glazing options.

As with all Metal Technology systems, the 5-20D Door System is manufactured to exacting standards enabling economy to be combined with strength to give many years of aesthetic, trouble-free operation.

Thermal Performance
The Metal Technology 5-20D Door System, in conjunction with the correct glass specification, is designed to aid compliance with the latest thermal requirements of the current building regulations. (See separate document on compliance with thermal regulations).

Scope
This specification defines materials, construction, finishes and size limits for the System 5-20D Doors.

Materials
Aluminium profiles are extruded from aluminium alloy 6060T6, T5 or T4 complying with the recommendations of BS EN 12020-2 / BSEN 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 thermal breaking.

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 6496 or BS EN 12206-1

The System 5-20D door can accommodate a different colour/finish internally to that used externally.

Construction
Frame and door sash members are mitre cut at 45°. Corners are reinforced with extruded aluminium crimping cleats and corner braces. 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 cleats. All frame joints are sealed during construction against entry of water using a suitable sealant. Extruded weatherstrips and glazing gaskets are provided to resist the ingress of water.

Metal Technology recommend that only A2 or A4 Austenitic (300 series/class 70) stainless steel fixing screws are used in the assembly of their products.

Glazing
Glass is set against co-extruded gaskets externally which are fitted into gasket grooves in the frame upstand. Clip in beads are then fitted to the inside of the frame and held secure by means of colour coded wedge gaskets internally. For glass support purpose made setting/location blocks are provided to locate into the sections. Where open out doors and fixed lights are required, liner bars to give internal glazing to fixed lights should be considered.

Installation
Detailed installation instructions are provided within the System 5-20D manual which should be strictly followed.

Door Fittings
The sections are designed to suit clamp fixed hinges, one piece door lock (2 hooks and 2 cams), shoot bolts to slave leaf, euro cylinder locking and lever handles. Metal Technology are able to supply a range of fittings and accessories. See relevant section of this manual for details of fitting requirements for specific door sizes.

In exposed applications Metal Technology advise the use of surface mounted door closers, with a back check facility, to reduce the risk of damage resulting from the doors being forced/blown open past 90°.

Maximum Size Limits

Door Sash	Door Sash Height	Door Sash Width
Single Door	2500mm max.	1200mm max.
	1961mm min.	650mm min.
Double Door	2500mm max.	* 1200mm max.
	1961mm min.	* 650mm min.

* Width is based on the individual sash width. Maximum door weight with 3 hinges 90Kg.

For complete details of maximum/minimum size limits see the limitation charts in Section 3 of the fabrication manual.

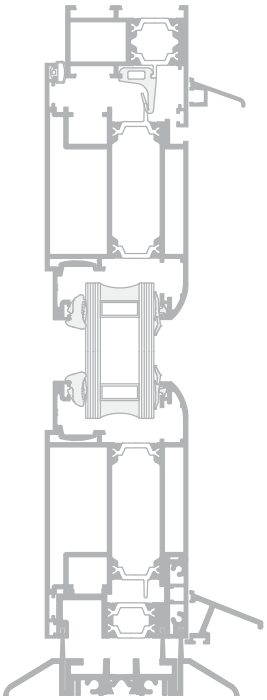
Performance
The low rise threshold options are suitable for moderately exposed ground floor applications only. Where performance is critical, or above ground floor, fully rebated doors must be used.

Performance data for fully rebated double and single doors only:
Air permeability - BS 6375 : Pt.1
Water tightness - BS 6375 : Pt.1
Wind resistance - BS 6375 : Pt.1

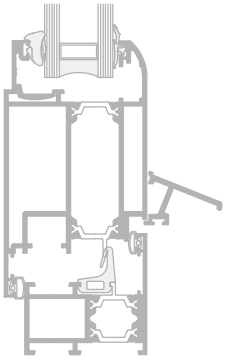
These levels of performance should be sufficient for most locations within the UK and Ireland. Should higher levels of performance be required, Metal Technology's advice should be sought.

Security
System 5-20D Hi+ has passed PAS 24. (PAS 24 includes BS EN 1303 covering performance of cylinder. Key related security Grade 5 and resistance to drilling Grade 2), "Specification for Enhanced Security Performance" as generally accepted on Secure by Design projects.
To conform, the door hardware must be in accordance with the tested sample as detailed in Metal Technology's technical literature. Approvals cover single and double door leaf configurations with lever/lever handles, plus panic gear and electric release.

Development
Our policy is to continually research the market for new and improved products. We must therefore retain the right to amend specifications without prior notice. It is recognised at Metal Technology that in some instances special sections may be required for particular projects. When this occurs it may be possible to produce bespoke profiles subject to there being sufficient quantity and adequate time.



Low Threshold



Rebated Threshold

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