

# System 5-20

## Tilt and Turn Window

Metal Technology's System 5-20 Tilt and Turn window offers the designer a wide and diverse choice of profiles that will provide structural integrity, weather performance, thermal enhancement and security.



**Introduction**

The basic suite has short, medium and long leg outer frame sections to accommodate all expected frame options and applications. Also included in the basic suite of profiles are a wide range of vent and mullion/transom sections. Various other profiles can be designed and incorporated allowing architects to achieve flexible designs. The system is glazed internally to accommodate 24mm through to 34mm double glazed units. Fixed panes may be externally glazed with the addition of a liner bar. As with all Metal Technology systems, the Tilt and Turn window system is manufactured to exacting standards enabling economy to be combined with strength to give many years of aesthetic, trouble-free operation.

**Thermal Performance**

Metal Technology System 5-20, 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 Tilt and Turn Window.

**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 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 5-20 window 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. 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 glue or 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 clip into the sections.

**Installation**

Detailed installation instructions are provided which should be strictly followed.

**Open In Window Fittings**

The sections are designed to suit Tilt before Turn fittings, Turn only fittings (side hung) and Tilt only fittings (bottom hung) and a variety of handle options. Metal Technology are able to supply a full range of fittings and accessories. See the relevant section of the Metal Technology fabrication manual for details of gearing options for specific window sizes.

Metal Technology should be contacted for any special operating requirements. Metal Technology strongly recommend the use of restrictors to prevent the window opening more than 90° in the side hung mode.

Where other types of windows are required the Metal Technology System 4-20 Commercial Casement Window or 7-20 Pivot Window manual should be consulted.

**Maximum Size Limits**

	Vent Width	Vent Height
Tilt Before Turn	1400mm	2500mm
Tilt Only Sashes	2400mm	2000mm
Turn Only Sashes	1400mm	2400mm

Note that maximum height and maximum width cannot be achieved simultaneously.

Minimum size limits will be determined by the limitations of the fabricators crimper and the ironmongery requirements.

For complete details of maximum/minimum sizes, handle positions and weight restrictions, see the size limitation charts in Section 3 of the 5-20 Tilt and Turn fabrication manual.

**Performance**

- Air permeability - BS 6375 : Pt. 1 test pressure 600 Pa.
- Water tightness - BS 6375 : Pt. 1 test pressure 600 Pa
- Wind resistance - BS 6375 : Pt. 1 test pressure 2400 Pa

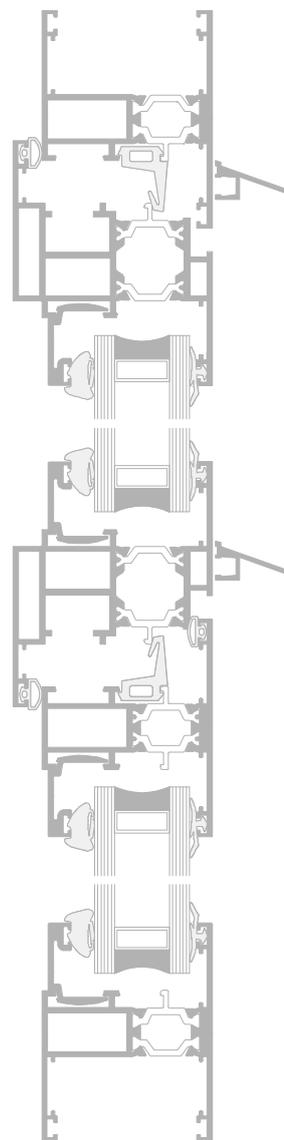
These levels of performance should be sufficient for any location within the UK and Ireland. However should higher levels of performance be required for any reason, Metal Technology's advice should be sought.

**Security**

System 5-20 Tilt and Turn has passed PAS 24 "Specification for Enhanced Security Performance" as generally accepted on Secure by Design projects. To conform, the window must be in accordance with the tested sample, with ironmongery as detailed in Section 3 of the fabrication manual. Security products should be labelled by the fabricator in accordance with BS4873.

**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 special sections subject to there being sufficient quantity and adequate time.



**Metal Technology Limited**  
 Steeple Road Industrial Estate  
 Steeple Road | Antrim  
 Northern Ireland | BT41 1AB  
 Telephone +44 (0)28 9448 7777  
 sales@metaltechnology.com  
 metaltechnology.com

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