Commercial Windows

Metal Technology

The Metal Technology range of commercial window systems comprises Tilt Turn, Vertical Sliding, Top Swing, Casement and Pivot affording the architect and specifier flexibility demanded by modern building design.

System 5 **Tilt Turn Window**

▲ **Chamber of Commerce Building, Belfast**

◀ **Cable Tel, Northern Ireland**

Introduction

The basic suite has equal leg and unequal leg frame options to accommodate all expected applications. The tilt turn system is compatible with other Metal Technology systems, particularly the low rise curtain walling system and the architectural fixed subframe system. Various other profiles can be designed and incorporated allowing architects to achieve flexible designs. The system is glazed internally and can accommodate glazing from 4mm single glass through to 24mm double glazed units. As with all Metal Technology systems, the tilt turn window system is manufactured to exacting standards enabling economy to be combined with strength to give many years of aesthetic, trouble-free operation.

Glazing

Glass is set against co-extruded (PVC Nitrile) 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 wedges internally.

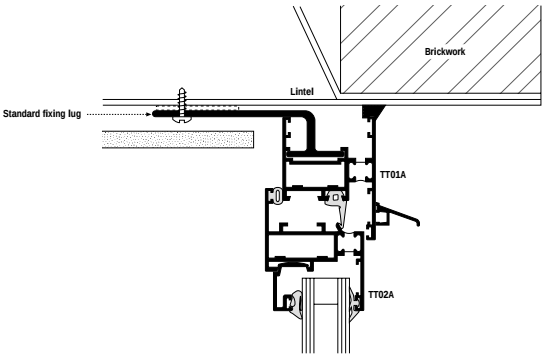
Size Limits

Vent Height	Vent Width	Vent Weight	Height/ Width ratio
1800	1200	120 Kg	2/3

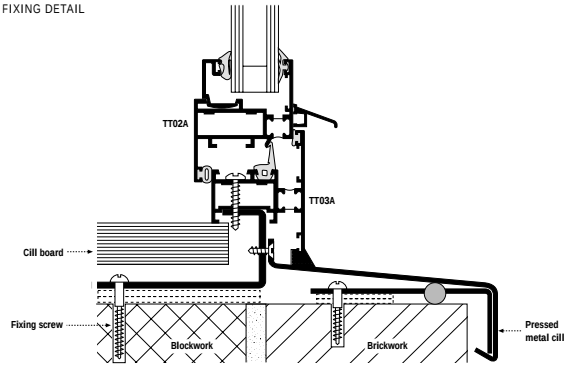
Where larger window sizes are required, please consult our technical department or refer to the Metal Technology Dual Colour Tilt Turn Window System 3.

▲ **Royal Bank of Scotland, Nottingham**

TYPICAL HEAD FIXING DETAIL

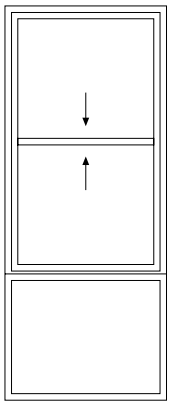


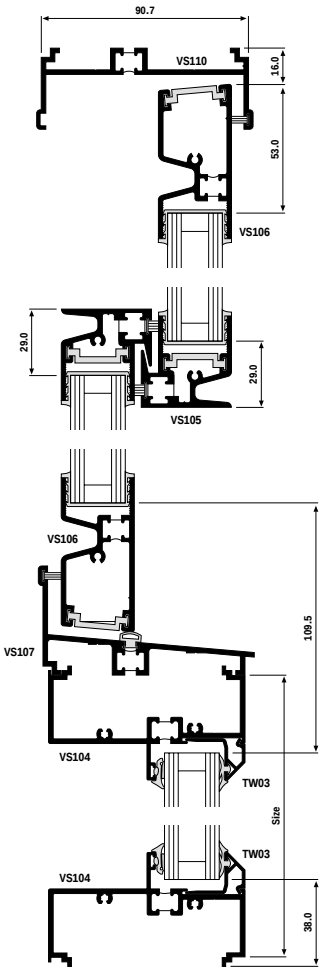
TYPICAL CILL FIXING DETAIL



System 6 **Vertical Sliding Window**

▲ **Atholl House, Aberdeen**





Introduction

The vertical slide system can accommodate both 6mm single glazed and 24mm double glazed units. As with all Metal Technology systems, the vertical sliding window system is manufactured to exacting standards enabling economy to be combined with strength to give many years of aesthetic, trouble-free operation. A variety of additional profiles have been designed to achieve combinations of fixed lights and sliding sashes without the need for coupling mullions.

Construction

Frame members are generally square cut (jamb bars have a 5° mitre at the bottom). Corners are assembled with stainless steel screws driven into grooves in the sections. All frame joints are sealed during construction against entry of water. Woven woolpiles and glazing gaskets are provided to resist the ingress of water.

▲ **Office Refurbishment, Belfast**

Glazing

Wrap-around “U” gaskets are fitted around the glass and then the sash frames are assembled around the glass.

Size Limits

Size limits are generally dictated by the weight of the sash, however, as a general principle none of the following limits should be exceeded. (Where a window is close to any of the maximum limits Metal Technology should be consulted.)

Max Sash Weight	Max Window Height	Max Window Width
43Kg	2500	1500

Performance

All windows are designed to provide Class ll weather tightness as defined by BS6375 pt.1 and BS4873. Should increased performance be required a deeper cill and bottom rail are available. Please consult our sales desk for information.

▲ **Northland House, Belfast**

System 16 **Top Swing Window**

Introduction

The top swing window offers many advantages over other types of window, the principal ones being that it can be easily and safely cleaned from within the building by reversing the window through 180°. Safety restrictions built into the window fittings ensure that the window can be restrained securely in the ventilation or reverse position.
In analysing the risk associated with cleaning windows from within the building, BS8213: pt 1: 1991 (Table 1) rates this type of window as one of the safest. Other advantages include the ability to reverse the window through 180° without the window projecting inwards into the room - avoiding any interference with blinds and curtains. Metal Technology believe that this window offers a clear alternative to pivot windows, not only because of the advantages mentioned above, but also because it is much simpler to construct and avoids the excessively wide sight lines associated with many 180° reversible pivot windows.

Glazing

Inside Glazed (Vent and Fixed Light)
Glass is set against co-extruded (PVC Nitrile) gaskets 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 wedges internally.

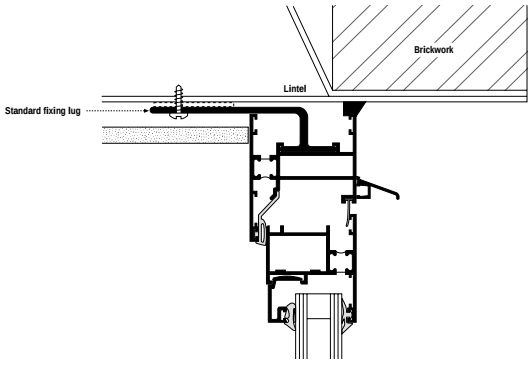
Outside Glazed (Fixed Light)
Glass is set against co-extruded (PVC Nitrile) gaskets which are fitted into gasket grooves in the bead and extruded colour coded wedges are fitted internally.

Size Limits

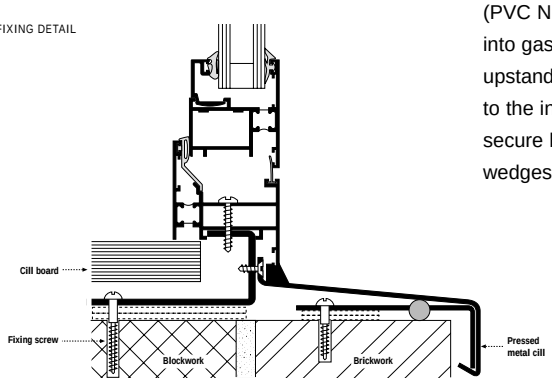
Vent Height	Vent Width	Vent Weight
1600mm	1600mm	80Kg

▲ **Luton Airport**

TYPICAL HEAD FIXING DETAIL



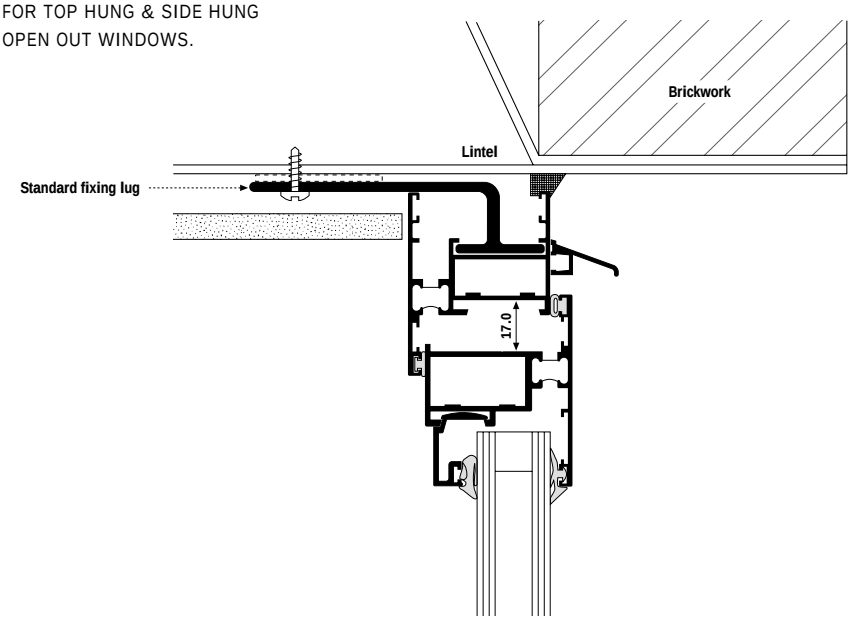
TYPICAL CILL FIXING DETAIL



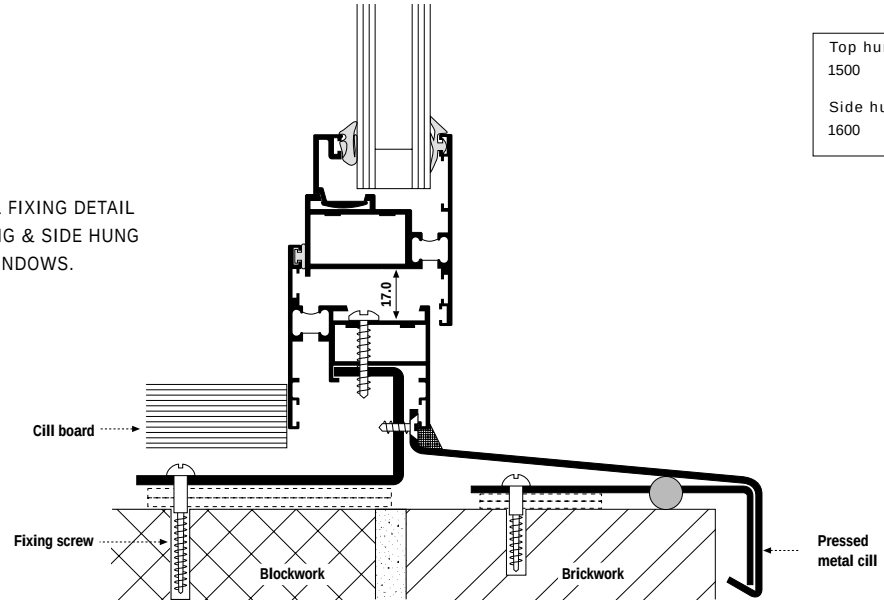
System 19 **Commercial Casement / Rebated Pivot**

▲ **Hotel Bristol, Sheffield**

TYPICAL HEAD FIXING DETAIL
FOR TOP HUNG & SIDE HUNG
OPEN OUT WINDOWS.



TYPICAL CILL FIXING DETAIL
FOR TOP HUNG & SIDE HUNG
OPEN OUT WINDOWS.



Introduction

The basic suite has equal leg and unequal leg frame options to accommodate all expected applications. The system draws on System 5, Tilt Turn range, for many of its sections and is compatible with other Metal Technology systems. Various other profiles can be designed and incorporated allowing architects to achieve flexible designs. The system is glazed internally and can accomodate glazing from 4mm single glass through to 24mm double glazed units. As with all Metal Technology systems, the Commercial Casement / Rebated Pivot window system is manufactured to exacting standards enabling economy to be combined with strength to give many years of aesthetic, trouble-free operation.

Size Limits

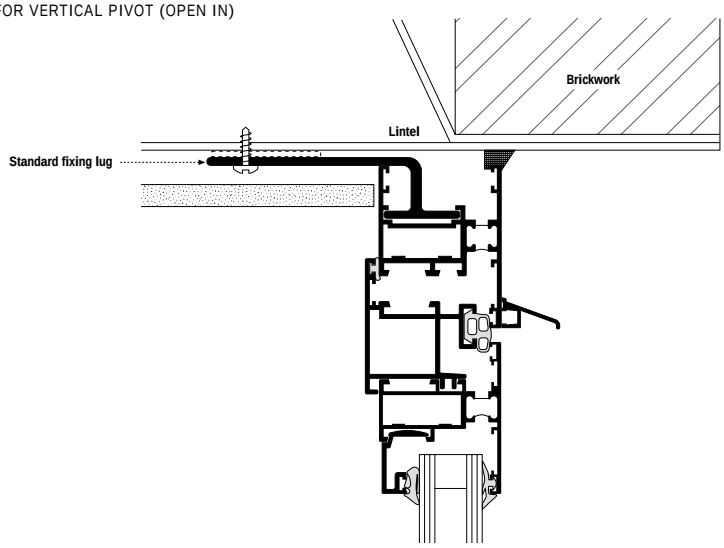
Top hung casement			
1500	1500	75Kg	2/3
Side hung casement			
1600	800	52Kg	2/3

Design The Central Focus

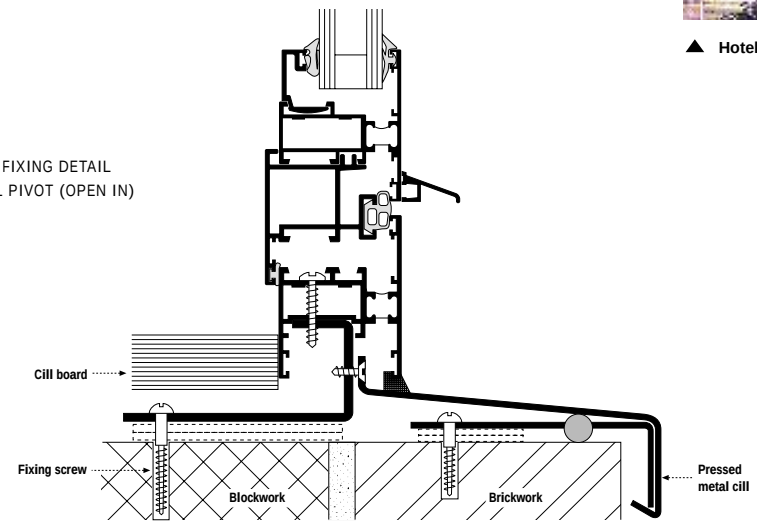
Glazing

Glass is set against co-extruded (PVC Nitrile) 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 wedges internally.

TYPICAL HEAD FIXING DETAIL
FOR VERTICAL PIVOT (OPEN IN)



TYPICAL CILL FIXING DETAIL
FOR VERTICAL PIVOT (OPEN IN)



▲ **Hotel Bristol, Sheffield**

Vent Height	Vent Width	Vent Weight	Height / Width Ratio
Horizontal pivot			
1800	1800	150Kg	2/3
Vertical pivot			
1600	1800	150Kg	2/3

Quality through commitment

Materials

Aluminium profiles are extruded from aluminium alloy 6063T6, T5, or T4 complying with the recommendations of BS1474. Where sections have a thermal break, this is polyurethane.

Finishes

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

1. Anodised to BS1615 or BS3987
2. Liquid organic coated to BS4842
3. Powder organic coated to BS6496

Where a different colour is required internally and externally the Metal Technology dual colour systems should be considered.

Construction

Frame members are mitre cut at 45°, corners are reinforced with extruded aluminium crimping cleats and stainless steel corner braces and a secure joint is formed by mechanical crimping into the extruded crimping cleat. Intermediate mullion and transom bars are square cut shaped and fixed securely to the frame by means of stainless steel screws driven into grooves in the sections. All frame joints are sealed during construction against entry of water. Extruded plastic weatherstrips and glazing gaskets are provided to resist the ingress of water.

Glazing

Setting blocks and location pieces are fitted in accordance with BS6262 in order to ensure the windows are maintained square and rigid.

Installation

Detailed installation instructions are provided which should be strictly followed. Where possible Metal Technology recommend the use of lug fixing. Fixings should be positioned 150mm from each corner and each mullion/transom and then at centres not exceeding 600mm. Where windows are used as replacement windows in dwellings, the requirements of BS8213:Pt.4:1990 must be considered.

Performance

Air permeability -
BS6375:Pt.1:1983
test pressure 600 Pa class iv.
Water tightness -
BS6375:Pt.1:1983
test pressure 600 Pa
Wind resistance -
BS6375:Pt.1:1983
test pressure 2400 Pa
These levels of performance should be sufficient for any location within the UK. However, should higher levels of performance be required for any reason, Metal Technology's advice should be sought.

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.

Protection and Cleaning

The windows should be properly protected during transport to site. When fixing and glazing it is important to ensure that they are not damaged by scratching or the effects of alkali chemicals such as mortars or concrete residue. Care should also be taken to ensure windows are not misused on site once they have been fixed.

Product Range

Curtain Walling Systems
Roof Glazing
Dual Colour Top Swing Window
Dual Colour Tilt Turn Window
Dual Colour Casement Window
Dual Colour Commercial Doors

Thermal Architectural Subframe
Thermal Casement Window
Thermal Pivot Window
Thermal Tilt Turn Window
Thermal Top Swing Window
Thermal Vertical Sliding Window

Ground Floor Treatments
Commercial Entrance Doors
Box and Bead System
Patent Glazing System
Secondary Glazing
Residential and Patio Doors

Metal Technology
Architectural Aluminium

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