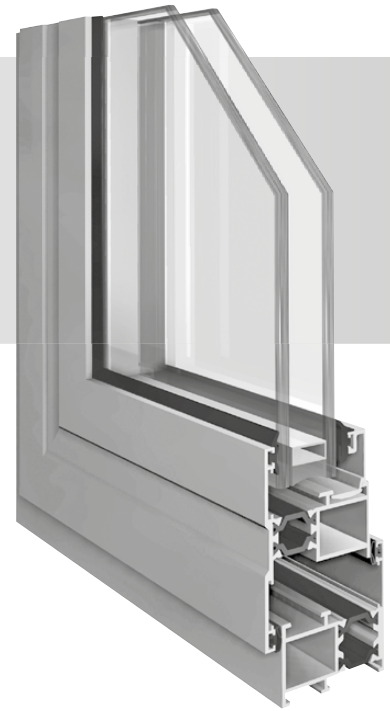


System 4-20 Casement Window

Metal Technology's System 4-20 Commercial Casement window offers the designer a wide and diverse choice of profiles that will provide structural integrity, weather performance, thermal enhancement and security.



Specification Overview

Introduction

The basic suite has short, long, equal leg and unequal leg sections to accommodate all expected frame options and all applications. 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 can be glazed internally or externally and accommodate double glazing from 24mm through to 32mm units.

As with all Metal Technology systems, the Commercial Casement 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 4-20, 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 Commercial Casement 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 1615 or BS 3987
2. Powder organic coated to BS 6496 or BS EN 12206-1

Where a different colour is required internally and externally, Metal Technology can accommodate this.

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. Intermediate mullion and transom bars are square cut shaped and fixed securely to the frame by means of stainless steel screws and fixing cleats, or screwported joined. 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 which are fitted into gasket grooves in the frame upstand. Clip in beads are then fitted to the frame and held secure by means of colour coded wedges. Standard moulded setting/location blocks are provided to clip into the sections.

Installation

Detailed installation instructions are provided which should be strictly followed.

Casement Window Fittings

The sections are designed to suit friction hinges or butt hinges 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 hinge sizes 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 100mm.

Where other types of windows are required the Metal Technology System 5-20 Tilt & Turn or 7-20 Pivot Windows should be considered.

Maximum Size Limits

FRICITION HINGES

	Vent Width	Vent Height	Vent Weight
Top Hung Casement	2000mm	1800mm	100Kg
Side Hung Casement	1000mm	1800mm	47Kg

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

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

Performance

Air permeability - BS 6375: Pt 1 test pressure 600 Pa class iv.
 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.

Security

System 4-20 has passed BS7950 "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.

Summary of Results

Manipulation -	meets the requirements of clause 7 A.4
Glazing Removal -	meets the requirements of clause 7 A.5
Mechanical Loading -	meets the requirements of clause 7 A.6
Manual Check Test -	meets the requirements of clause 7 A.7

As product limitations and fabrication details vary from standard System 4-20, please refer to separate Metal Technology Technical Literature for technical and manufacturing information.

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.

