

## The Clement EB20<sup>®</sup> Steel Window Technical Specification

### Product Summary

Clement EB20 windows have been created for fenestration projects where a traditional steel window appearance is required, replicating the appearance of original or existing windows while simultaneously providing all the advantages of 21st century technology.

EB20 windows are manufactured with exceptionally slim frames. The 20mm insulated glass units mean that the largest possible glazed area is provided, thereby optimising solar gain and saving energy through reduced use of artificial lighting. A most versatile and popular product, EB20 windows are appropriate for both refurbishment and new build projects. The 20mm glass offers an increased 'shadow line' which can be required for some heritage projects.

### Part L Regulations

EB20 windows comply with Part L of UK Building Regulations (April 2021), and meet an Window Energy Rating (WER) of "B".

### Manufacturing Specification

Made to suit your individual requirements EB20 windows are generally manufactured in accordance with BS 6510:2010 specifications for hot rolled steel windows. The mild steel sections used for Clement window and door frames are precision rolled in Switzerland using recycled steel to suit Clement's unique profiles and tolerances. All frames and ancillary profiles are hot dip galvanised to BS EN ISO 1461 and available with a factory applied polyester powder coating to BS EN ISO 13438 from the RAL colour range, exceeding the minimum paint thickness over the zinc of 60 microns.

### Manufacturing Description

Frames are manufactured from hot rolled mild steel profiles with corner joints mitred, welded and dressed square and flat. Small panes can be formed with T glazing bars whose ends are tenon riveted and/or welded to the frame and cross joints are interlocked and welded with rigid joints. Composite windows can be assembled by connecting windows horizontally and/or vertically with mullions and/or transoms of hot rolled slim steel profiles. Box sections are available as tubes or as box mullions which can be either hot rolled or manufactured from sheet steel. Pressed metal cills are available in a choice of profiles. Trickle vents can be fitted in accordance with Part F of the Building Regulations.

### Locking system

The EB20 range of windows is available with multi point locking to PAS 24 or traditional single point locking and other security devices if required.

### Fixing

EB20 windows can be fitted into timber subframes, or direct to brickwork, concrete or stone. Windows are installed using fixing lugs or stainless steel screws.

### Glazing

EB20 can be supplied if required with various glazing options, from both inside or outside including:

- Clear glazing
- Georgian bars: using our G+ welded bar system, an applied bar system in a horizontal or vertical pattern
- Genuine T bars
- Leaded lights, using real lead that is soldered by hand in a diamond or rectangular pattern in variable widths of lead.

Combinations of fixed lights, top hung, side hung and bottom hung windows are available as well as single and double doors in both 'open in' and 'open out' configurations.

EB20 windows are double glazed with high performance 20mm insulating glass units. The specification includes the latest glazing technology, a 4mm inner pane, 12mm cavity with krypton gas fill and a 4mm outer pane. This configuration achieves a superb performance with a centre pane "U" value of 1.1W/m<sup>2</sup>K. The panes are joined using special Warm Edge spacers.

In accordance with Glass & Glazing Federation best practice, Clement steel windows are generally factory glazed, however, our concealed fixings mean that fixed light windows need to be glazed on site after the frames have been installed. Glazing beads are made of aluminium.

EB20 windows can be supplied with semi, round or gothic style heads, and 'curved on plan'.

## Dimensions (Provided for guidance purposes only)

Windows (both individual and composite panels) and doors are made to measure. Individual window and door sizes can be supplied within the limits shown in the table below. Sizes outside these limits may be considered after consultation with one of our sales consultants.

Nominal profile width	36mm
Fixed lights	< 36mm
Opening casement frame	< 36mm
Opening casement and mullion	< 51mm

Sealant or glasket width is 2mm, thus the overall typical sight line for fixed light (perimeter) frame, inclusive of sealants, is 38mm.

WINDOWS					
	Width		Height		Perimeter
	Min	Max	Min	Max	Max
Fixed light	150	1800	150	2200	7200
Top hung	250	1800	200	1600	6400
Side hung	250	900	250	1850	5500
Bottom hung	250	1800	250	1200	5000
DOORS					
	Width		Height		Perimeter
	Min	Max	Min	Max	Max
Single	500	1000	1800	2500	6600
Double	1000	2000	1800	2500	8600

The combination of width and height is to be such that the window perimeter does not exceed the maximum in the table, and that the ratio of lesser to greater dimension does not exceed 1:6 when using 4mm glass.

## Sound

The average Sound Reduction Index (SRI) of a single glazed unit is approximately 30 dB, but this varies with window type, size and glass thickness.

## Performance

### BS EN6375 part 1

EB20 side hung vents when tested achieved the following results:

Air permeability class C4  
 Water tightness class C5  
 Wind resistance class C5

## Security

In accordance with approved Document Q we can achieve PAS24:2016 on side hung vents, top hung vents, single and double doors when using our multi point locking systems.