

The Clement EB16[®] Steel Window Technical Specification

Product Summary

A very slim, elegant suite providing a conventional appearance for all configurations of traditional metal windows, EB16 steel windows have been created specifically for use in sensitive fenestration projects where a traditional steel window look is required.

The advantage of EB16 windows is that they are available externally glazed with a 16mm unit and consequently they are frequently specified for use in Conservation Areas, Listed Buildings and dwellings of historic interest. EB16 windows are suitable for refurbishment projects, where the appearance of the original fenestration is to be maintained and windows may be manufactured to fit existing apertures. The 16mm glass option can allow for a thicker safety glass.

Part L Regulations

Part L approved, using the centre pane glass U value method.

Manufacturing Specification

Made to suit your individual requirements EB16 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 EB16 range of windows is available with traditional single point locking and other security devices if required.

Fixing

EB16 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

EB16 windows can be supplied with various glazing options, from both inside or outside including:

- Clear glazing
- 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. EB16 frames can be combined with our W20 range for single and double doors in both 'open in' and 'open out' configurations.

EB16 windows are double glazed with high performance 16mm insulating glass units. The specification includes the latest glazing technology, a 4mm inner pane, 8mm cavity with krypton gas fill and a 4mm outer pane. This configuration achieves a superb performance with a centre pane "U" value of 1.2W/m²K. 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.

EB16 windows can be supplied with semi, round or gothic style heads, and 'curved on plan'.

Dimensions (Provided for guidance purposes only)

Nominal profile width	25mm
Typical sight lines: fixed lights perimeter	< 40mm
Hinged casements	< 55mm

Windows for composite panels are bespoke, generally within the limits shown in the table below; sizes outside these limits may be discussed with one of our sales consultants.

WINDOWS					
	Width		Height		Perimeter
	Min	Max	Min	Max	Max
Fixed light	300	1800	300	1800	7200
Top hung	300	1800	300	1300	4800
Side hung	300	600	300	1300	3800
Bottom hung	300	1200	300	1200	4800

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

EB16 side hung windows have been weather tested to BS EN6375 part 1, achieving the following results:

Air permeability 600Pa, class 4

Water tightness 450 Pa, class 8A

Wind resistance 2000Pa, class C5

BS 6375-1:1989

Air permeability was measured in terms of opening joint length (m³/h/m) against progressively increasing test pressures through 200Pa (class A), 300Pa (class B) up to 600Pa (class C). Class B, or a maximum value at 300Pa of about 16 m³/h/m, was the UK standard requirement. Water tightness was measured in resistance to leakage at progressively increasing test pressures, 300Pa being considered the most severe UK requirement. Wind load resistance entailed deflection and gusting tests at pressures ranging from 1200Pa to 2400Pa.

WINDOW TYPE	BS 6375-1 Test Pressure Class 1989 edition			
	Air	Water	Wind	BS 6375-1 Exposure Category
Fixed light	600	300	2400	2400
Top hung	300	200	2000	2000
Side hung (open out)	300	200	2000	2000
Bottom hung	200	100	1600	1200

Source: Steel Window Association