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**buildingsystem**

ARCHITECTURAL ALUMINIUM SOLUTIONS



 **Crown**

Casement Window System

**Sapa Building System**

# Crown

## Casement Windows

NEW

High

Performance

Window

Suite

The Crown Casement Window System creates side or top hung windows and fixed lights as individual elements or as truly co-ordinated multi-light windows. The system's capabilities and range of options, including those providing structural performance, are particularly comprehensive and can accommodate a vast array of window designs.

The system is fully weather stripped to achieve the highest levels of weather performance. All profiles incorporate polyamide thermal barriers to meet the latest Building Regulation requirements in terms of U values and window energy ratings.

NEW

### Key Product Features and Benefits

- Versatile and comprehensive - creates top hung, side hung or fixed light windows
- Patented security bead design
- Meets BS 6375: Part 1 Severe Exposure Category 2000
- Virtually maintenance free
- Wide choice of colour finishes options including dual colour
- Compatible with other Sapa window and door products
- Security designed into system and hardware options
- Trickle ventilators to meet Building Regulations needs
- Wide range of framing shapes to suit all styles of homes
- Can incorporate mullions and transoms with structural capabilities
- Can create Glazed Screens or Bay Windows with corner junctions at any angle between 90° and 270°

Thermal  
Performance

- Crown windows can meet and surpass the area weighted average U values stipulated in Part L of the Building Regulations
- Lower U values can be achieved using double glazed units with enhanced thermal insulation, such as 'soft coat' low emissivity glass, argon gas filling and thermally broken spacer bars

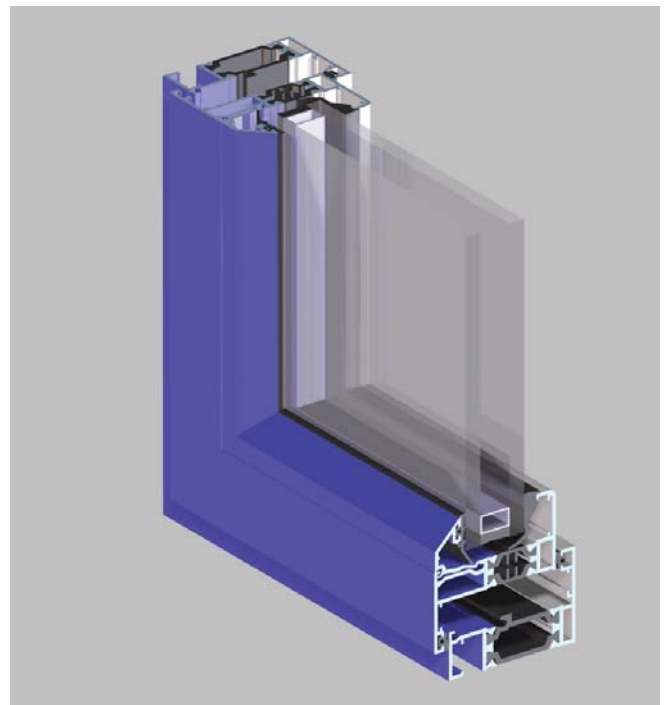
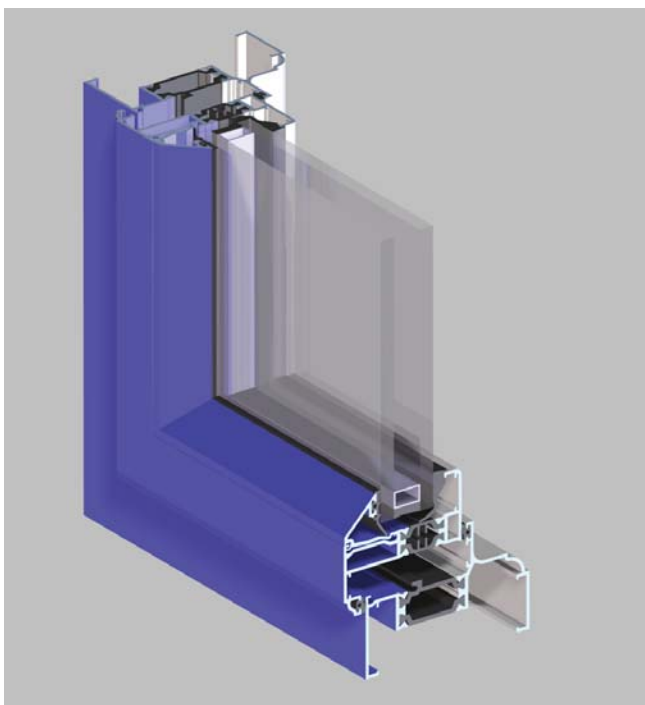
# Weather Performance

	Opening Lights	Fixed Lights
<b>Water Tightness</b>	Class 9A (600 pa)	Class 9A (600 pa)
<b>Air Permeability</b>	Class 3 (600 pa)	Class 3 (600 pa)
<b>Wind Resistance</b>	Class B5 (2000 pa)**	Class B5 (2000 pa)**

\*\* Exposure category varies with width/height of the window and mullion/transom used. An accurate figure for wind load can be obtained using BS6399:Part 2 calculations and inertia values

## Key Fabrication Benefits

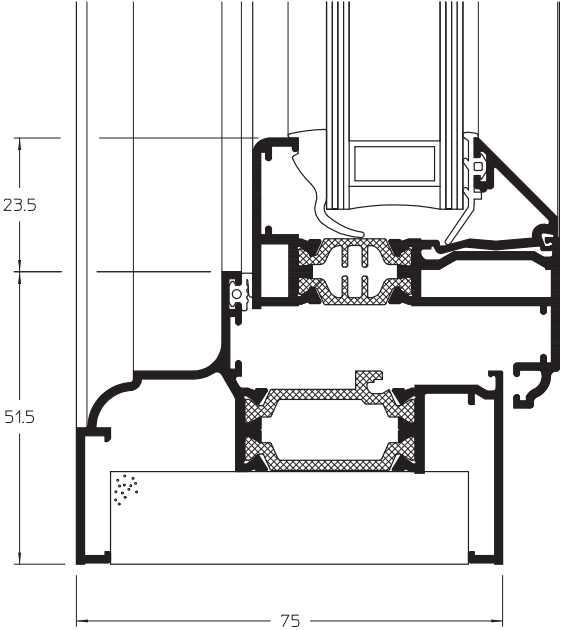
- All profiles are 5m bar length for improved optimisation
- Beaded glazing, with sealed unit thicknesses up to 32mm
- Single or dual colour finishes are available
- Frame members are mitre cut and joints are secured using aluminium corner cleats concealed in the frames



# General Arrangements

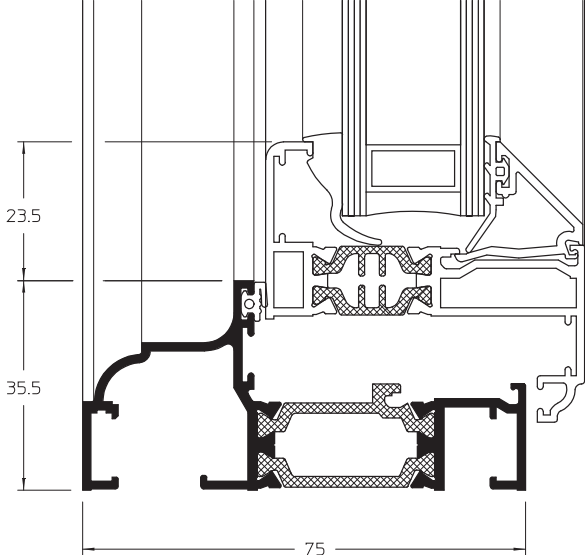
## Cill

Showing softline outerframe and vent



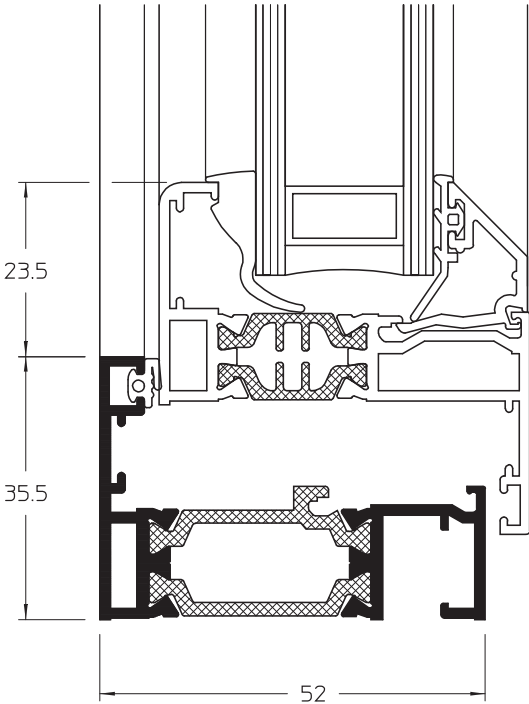
## Cill

Showing alternative slim softline outerframe



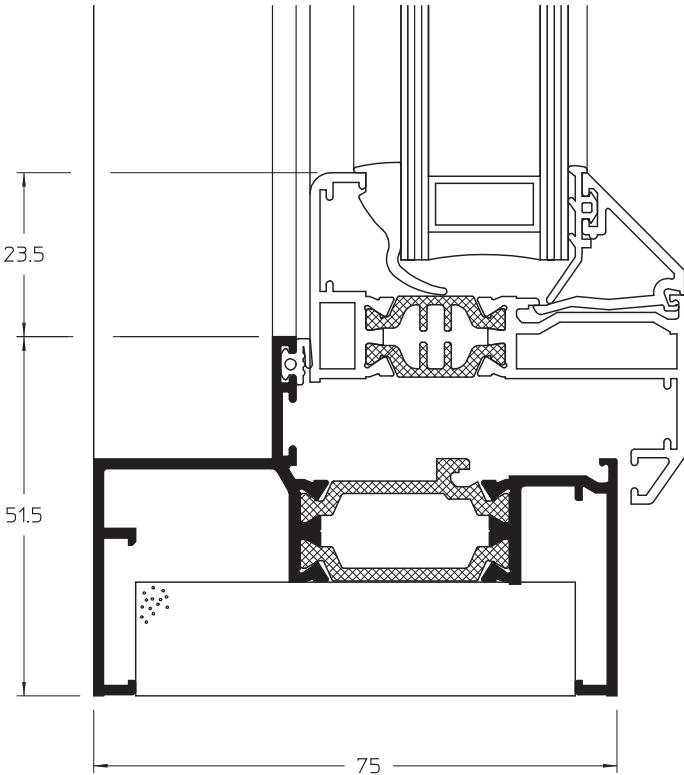
## Cill

Showing alternative 52mm outerframe and flat vent 'steel replacement'



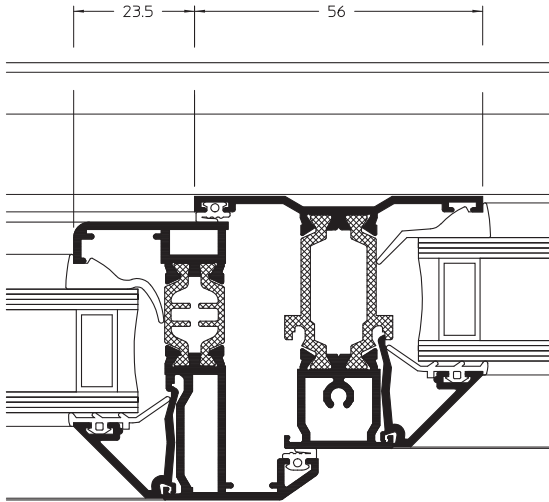
## Cill

Showing square outerframe and chamfered vent



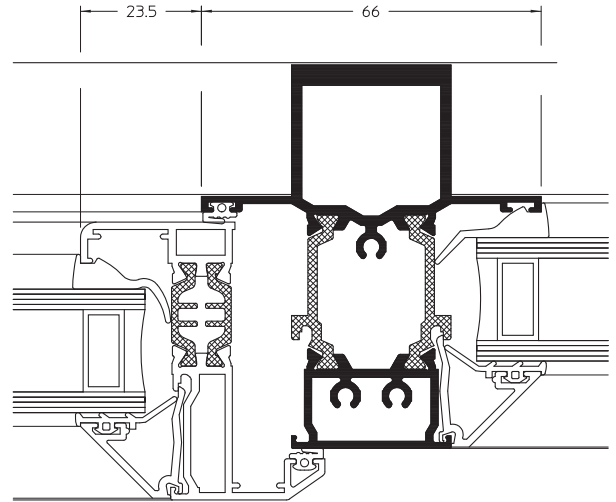
## Mullion/Transom

Showing chamfered vent



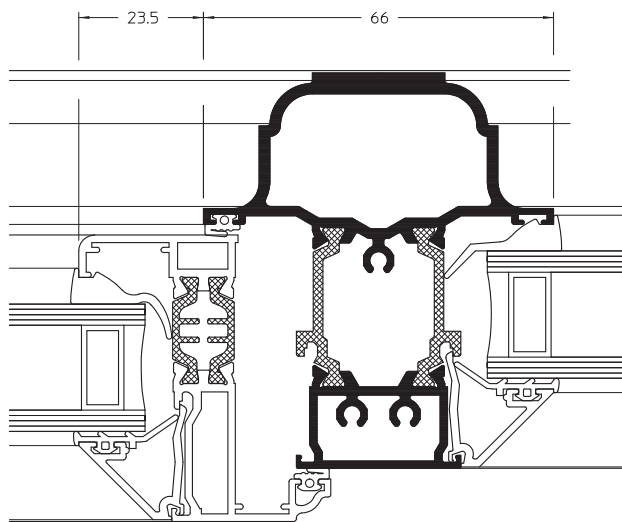
## HD Square Mullion/Transom

Showing alternative heavy duty square mullion/transom



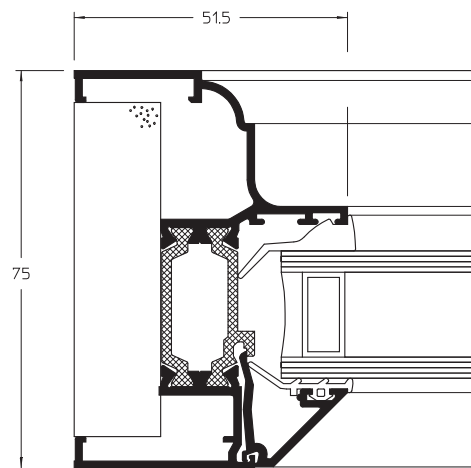
## HD Softline Mullion/Transom

Showing alternative heavy duty square mullion/transom



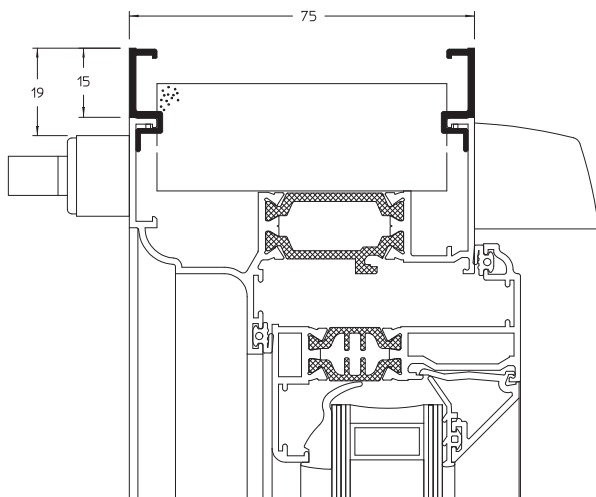
## Fixed Light Jamb

Showing softline outerframe



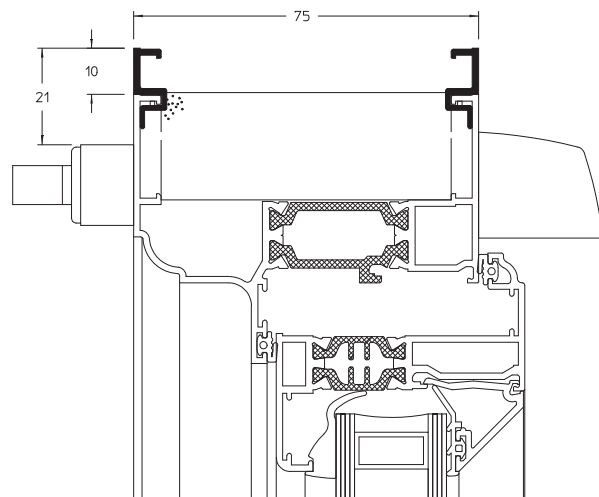
## Head Vent

Showing optional trickle vent



## Head Vent

Showing alternative slim square outerframe



# Size Limitations

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## *Fixed Light*

Maximum area 5 sq.m

## *Side Hung Casement*

Stay Size	8"	12"	16"
Max Width	436	636	736
Max Height	1336	1336	1336
Max Weight	18kg	22kg	24kg
Min Width	236	336	436
Min Height	386	386	386

Egress Stays should be limited to a minimum ventframe width of 55mm, to comply with the minimum clear opening requirements of Approved Document *Part B Fire Safety*.

## *Top Hung Casement*

Stay Size	6"	8"	10"	12"	16"	20"	24"
Max Width	1200	1200	1200	1200	1200	1200	1200
Max Height	336	386	436	586	816	1136	1336
Max Weight	10kg	12kg	16kg	20kg	21kg	26kg	40kg
Min Width	386	386	386	386	386	386	386
Min Height	200	236	311	386	536	736	886

## *Note*

All sizes given are in millimetres, all vent maximum and minimum sizes relate to the overall size of the vent frame and not the outerframe.

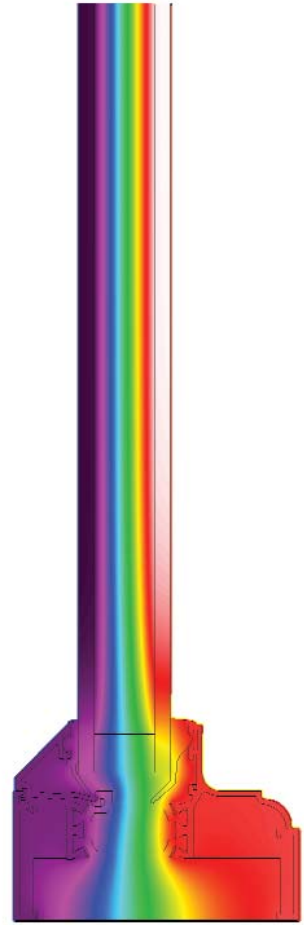
# Window Energy Ratings (WERs)

## Crown Windows can be specified to achieve the highest WERs

The British Fenestration Rating Council (BFRC), Window Energy Rating Scheme (WER), was started in 2001, and is used to calculate the total energy performance of a window. The WER scheme is well recognised in the building industry and is one route to compliance with Building Regulations for windows in dwellings.

WERs are attributed to the frame and type of glazing that is going to be specified with the Glass & Glazing Federations standard window size. Once you have a rating for a specific frame/glazing combination, any size or type of window e.g. fixed or opening light will carry that rating. Provided no component substitution is made.

WERs are calculated by a BFRC registered simulator. At Sapa Building Systems, we have our own registered simulator to carry out detailed BFRC approved Window Energy Rating calculations.



Typical thermal stimulation showing heat flow through Crown Vent and Outerframe Profiles

Energy Window	
	A
Energy Index (kWh/m <sup>2</sup> /year) <small>(Energy Index certified by BFRC and based on UK standard window. The actual energy consumption for a specific application will depend on the building, the local climate and the indoor temperature)</small>	
The climate zone is:	<b>UK</b>
Thermal Transmittance ( $U_{window}$ ) Solar Factor ( $g_{window}$ ) Effective Air Leakage ( $L_{factor}$ )	
	www.bfrc.org
<small>This label is not a statutory requirement. It is a voluntary label provided as a customer service to allow consumers to make informed decisions on the energy performance of competing products.</small>	

Energy Window	
	B
Energy Index (kWh/m <sup>2</sup> /year) <small>(Energy Index certified by BFRC and based on UK standard window. The actual energy consumption for a specific application will depend on the building, the local climate and the indoor temperature)</small>	
The climate zone is:	<b>UK</b>
Thermal Transmittance ( $U_{window}$ ) Solar Factor ( $g_{window}$ ) Effective Air Leakage ( $L_{factor}$ )	
	www.bfrc.org
<small>This label is not a statutory requirement. It is a voluntary label provided as a customer service to allow consumers to make informed decisions on the energy performance of competing products.</small>	

Energy Window	
	C
Energy Index (kWh/m <sup>2</sup> /year) <small>(Energy Index certified by BFRC and based on UK standard window. The actual energy consumption for a specific application will depend on the building, the local climate and the indoor temperature)</small>	
The climate zone is:	<b>UK</b>
Thermal Transmittance ( $U_{window}$ ) Solar Factor ( $g_{window}$ ) Effective Air Leakage ( $L_{factor}$ )	
	www.bfrc.org
<small>This label is not a statutory requirement. It is a voluntary label provided as a customer service to allow consumers to make informed decisions on the energy performance of competing products.</small>	

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