evolution[®]



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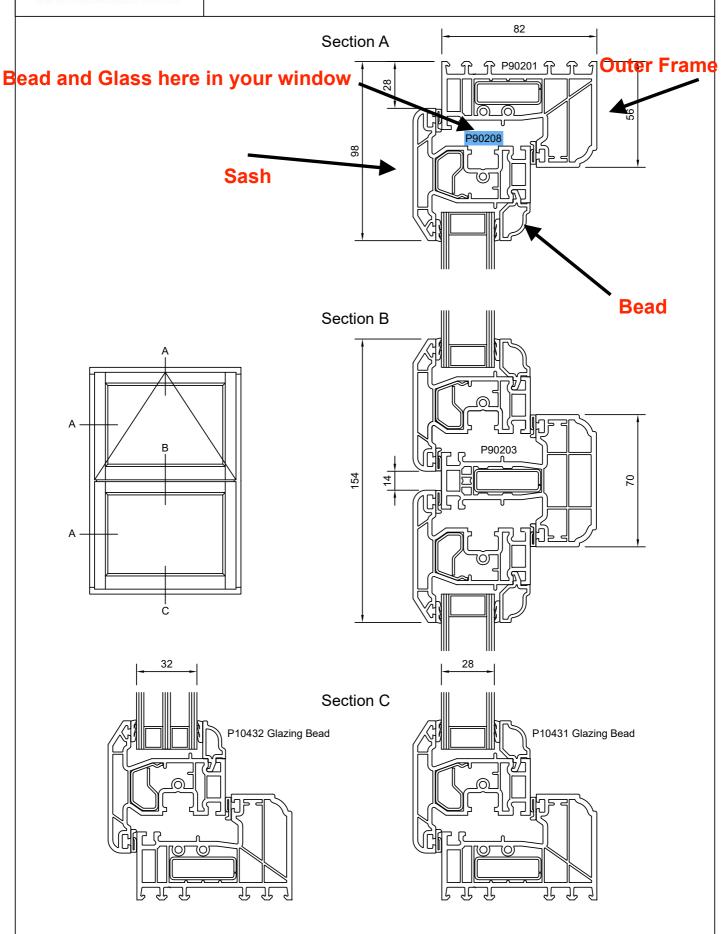
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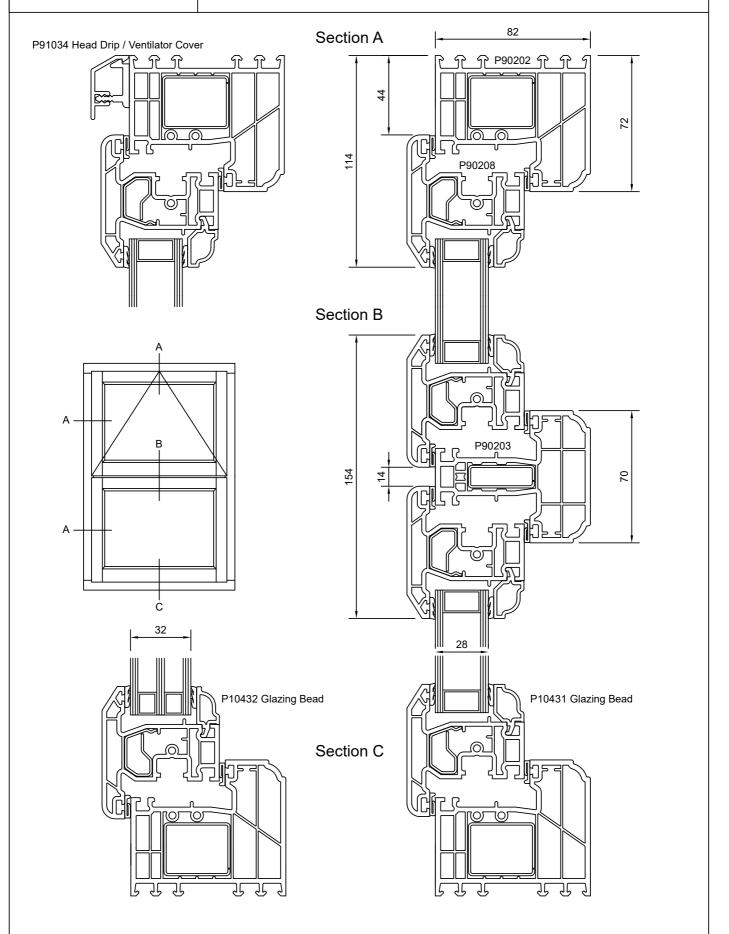


STORM 2 CROSS SECTION - 56mm



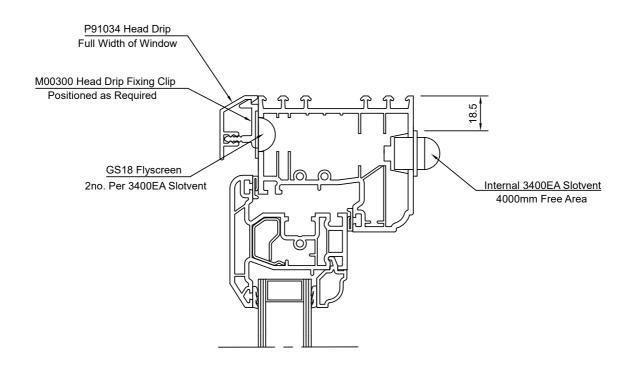


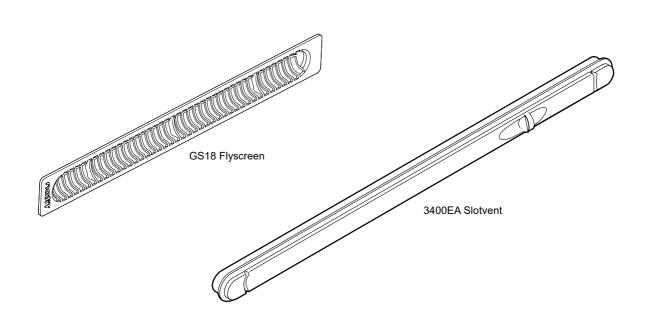
STORM 2 CROSS SECTION - 72mm





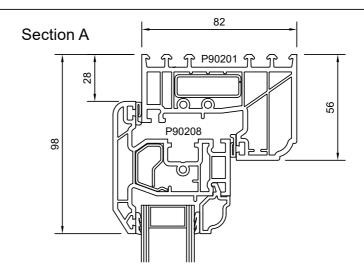
STORM CASEMENT CONCEALED HEAD VENTILATION

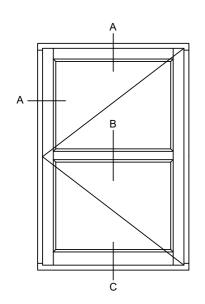


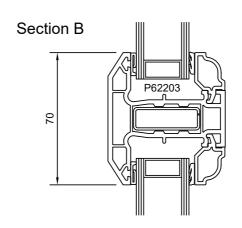




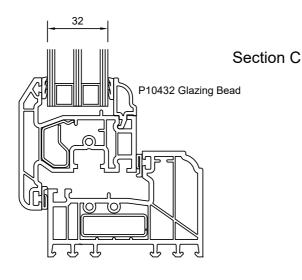
STORM 2 CROSS SECTION - DUMMY TRANSOM*

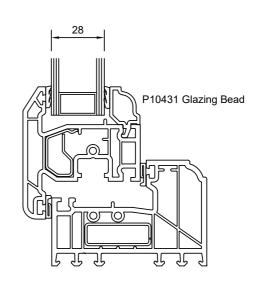






*Not available with Flush Casements

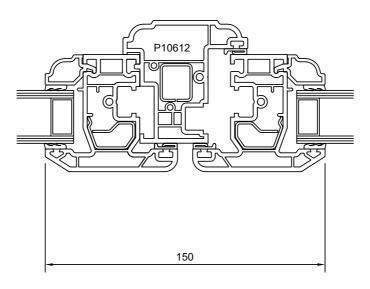


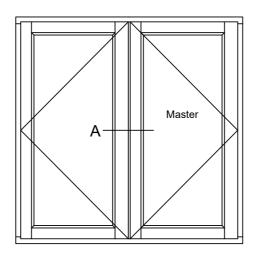




STORM 2 CROSS SECTION - FLYING MULLION

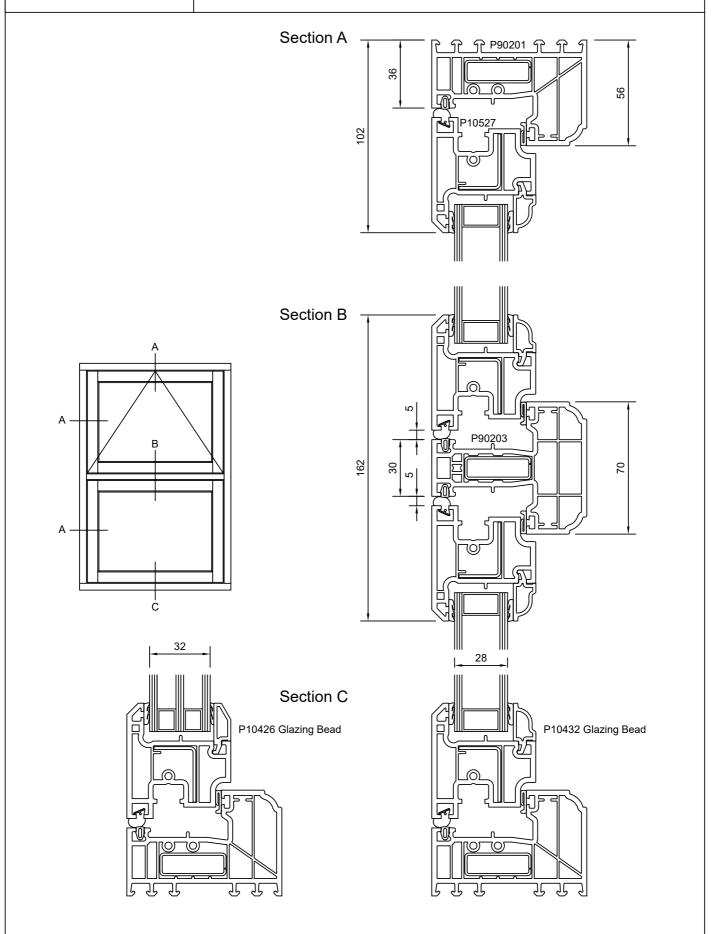
Section A





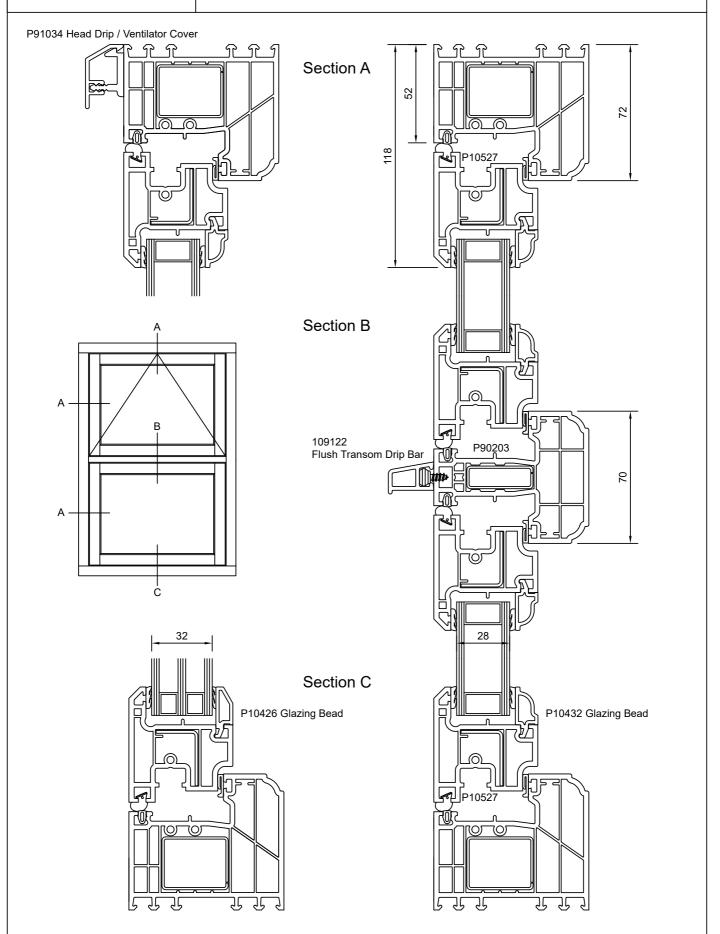


FLUSH CROSS SECTION - 56mm



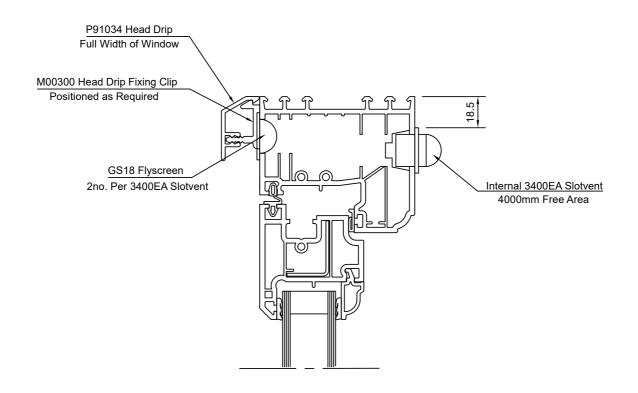


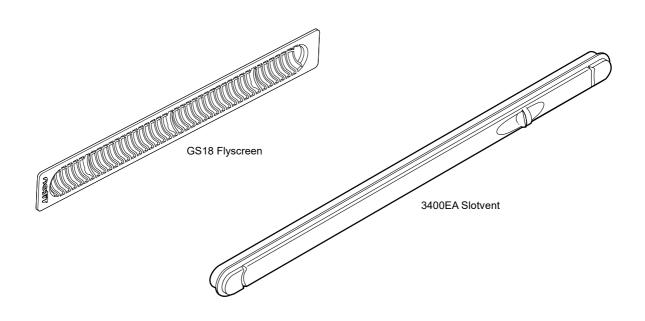
FLUSH CROSS SECTION - 72mm





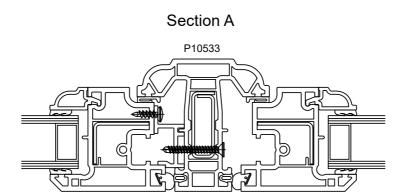
FLUSH CASEMENT CONCEALED HEAD VENTILATION

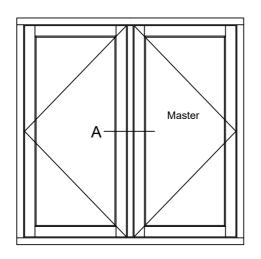






FLUSH CROSS SECTION - FLYING MULLION

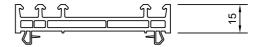




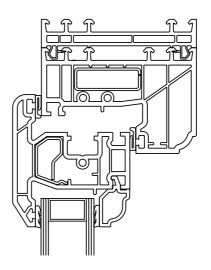


STORM 2 15mm FRAME EXTENDER

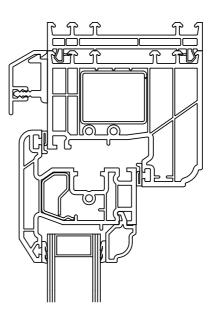
114 040 15mm Frame Extender



Clips to Head, Sides or Bottom of any Storm 2 Window or Door Outer Frame

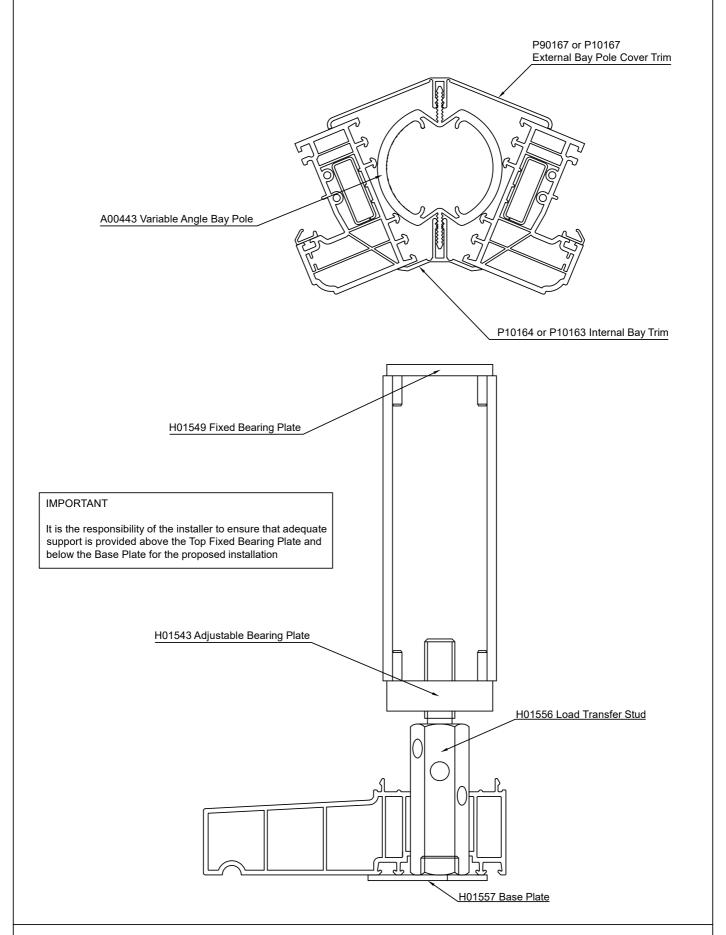


Please Note If used in conjunction with Head Drip Bar, the Extender will sit above the top of the Outer Frame



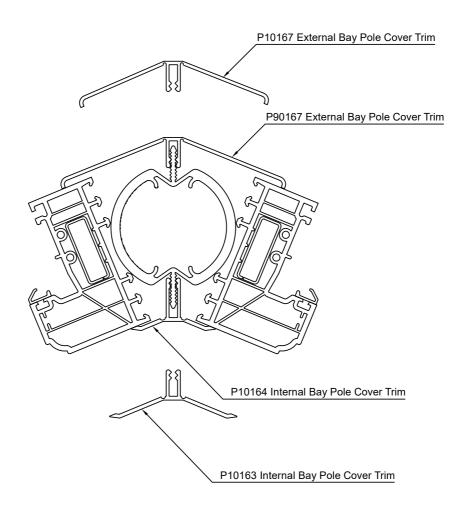


BAY POLE ASSEMBLY - VARIABLE





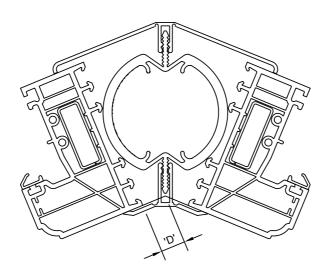
STORM 2 / FLUSH VARIABLE BAY POLE TRIM COMBINATIONS



Bay Angle	External Bay Pole Cover	Internal Bay Pole Cover
110° - 119°	P90167	No Internal Cover
120° - 149°	P90167	P10164
150° - 155°	P90167	P10163
156° - 169°	P10167	P10163



STORM 2 / FLUSH VARIABLE BAY POLE DEDUCTIONS



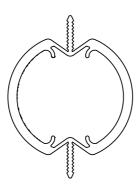
Bay Angle	Deduction 'D' mm
110°	0.9
111°	1.4
112°	1.9
113°	2.5
114°	3.0
115°	3.5
116°	4.0
117°	4.5
118°	5.0
119°	5.4
120°	5.9
121°	6.4
122°	6.9
123°	7.3
124°	7.8
125°	8.3
126°	8.7
127°	9.2
128°	9.6
129°	10.0
130°	10.5
131°	11.0
132°	11.3
133°	11.8
134°	12.2
135°	12.6
136°	13.0
137°	13.4
138°	13.9
139°	14.3

Bay Angle	Deduction 'D' mm
140°	14.7
141°	15.1
142°	15.5
143°	15.9
144°	16.3
145°	16.7
146°	17.1
147°	17.5
148°	17.8
149°	18.2
150°	18.6
151°	19.0
152°	19.4
153°	19.8
154°	20.1
155°	20.5
156°	20.9
157°	21.3
158°	21.6
159°	22.0
160°	22.4
161°	22.7
162°	23.1
163°	23.5
164°	23.8
165°	24.2
166°	24.6
167°	24.9
168°	25.3
169°	25.6



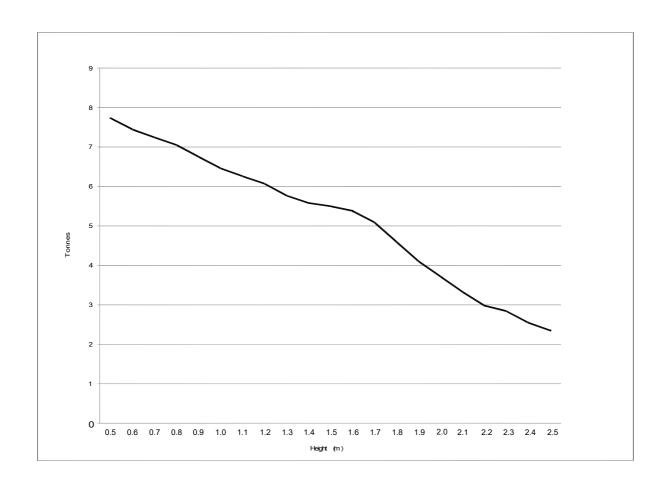
LOAD BEARING CAPABILITY OF STORM 2 VARIABLE BAY POLE





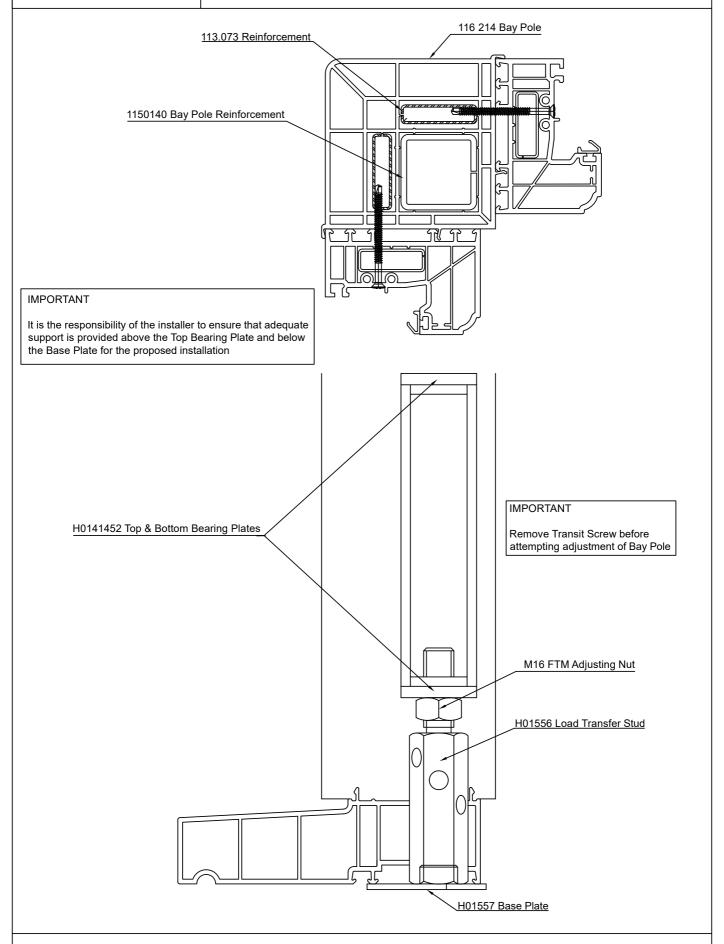
Height	Tonnes
500	7.73
600	7.44
700	7.24
800	7.05
900	6.75
1000	6.46
1100	6.26
1200	6.07
1300	5.77
1400	5.58
1500	5.5
1600	5.38
1700	5.09
1800	4.6
1900	4.11
2000	3.72
2100	3.33
2200	2.98
2300	2.84
2400	2.55
2500	2.35

Please note that the use of our adjustable bay jacking kits limits the load bearing capacity to 3 tonnes



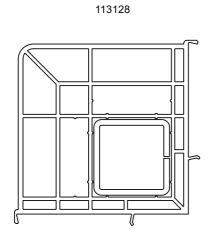


BAY POLE ASSEMBLY - SQUARE



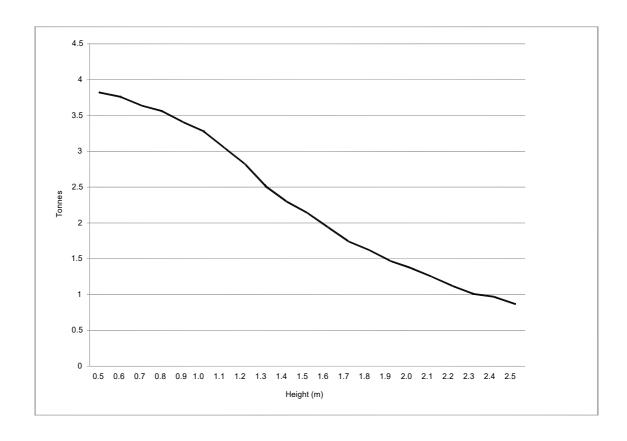


LOAD BEARING CAPABILITY OF STORM 2 SQUARE BAY POLE



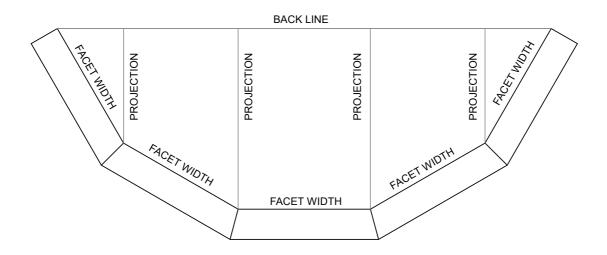
Height	Tonnes
500	3.82
600	3.76
700	3.64
800	3.56
900	3.41
1000	3.28
1100	3.05
1200	2.82
1300	2.51
1400	2.3
1500	2.14
1600	1.94
1700	1.74
1800	1.62
1900	1.47
2000	1.37
2100	1.25
2200	1.12
2300	1.01
2400	0.97
2500	0.87

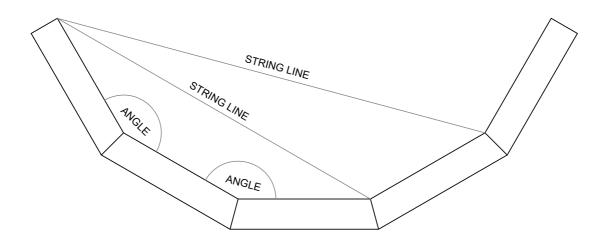
Please note that the use of our adjustable bay jacking kits limits the load bearing capacity to 3 tonnes





BAY REFERENCE DIMENSIONS





A Back Line measurement in combination with a Projection measurement only will result in a layout with equal Facet Widths and Angles, and works best for Bow Windows which are to be fitted into an opening where a flat window has been installed previously. We can input Bow Windows using the existing opening width of the window and our software will, at the press of a button, automatically reduce the dimensions so that the completed assembly fits neatly into the existing opening.

For the most part, if measuring an existing Bay Window internally, the Facet Widths and internal Angles are sufficient to generate a layout. However, the addition of a Back Line measurement helps in checking the accuracy of the dimensions obtained.

Projections are not so easy to obtain as this requires the setting up of some form of datum piece from which to measure the Projections from.

String Lines can also be useful but, with the emergence of accurate angle measuring tools, this type of check measurement has become largely redundant.

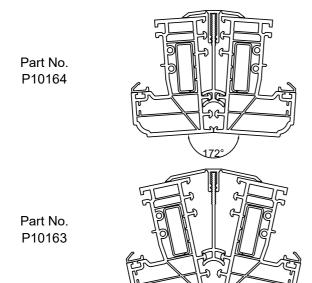
Note.

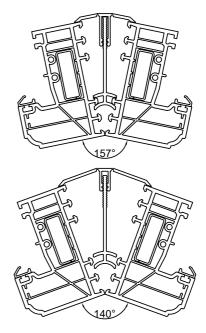
All Evolution Bay Windows should be measured internally to allow them to fit back to existing window boards. If existing Bay Window frames have to be measured externally it is crucial that we know the thickness of the existing frames. Our software will only recognise 82mm and 70mm thick framework when calculating the internal measurements from external measurements.



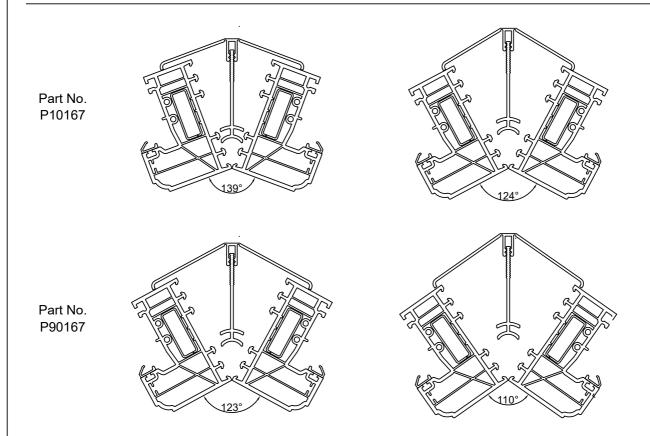
STORM 2 / FLUSH SLIM BOW COUPLER TRIMS

Bay Pole Trims required when processing Storm 2 and Flush Bow or Bay Windows without Variable Bay Poles





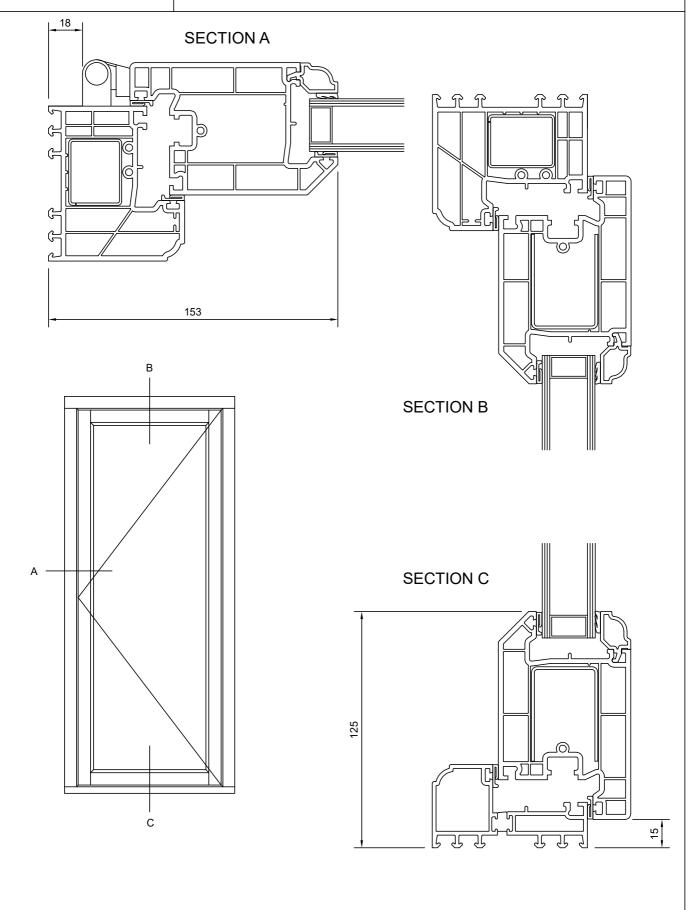
Most likely instances of Bow Windows being required without Variable Bay Poles are shown above



Slim Bow Coupler will probably be of no practical use with Bays that have angles narrower than 139°

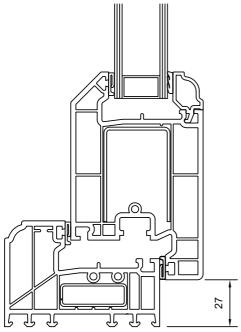


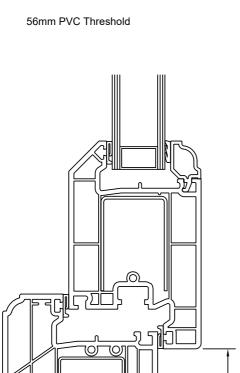
STANDARD STORM 2 OPEN IN DOOR WITH 44mm THRESHOLD





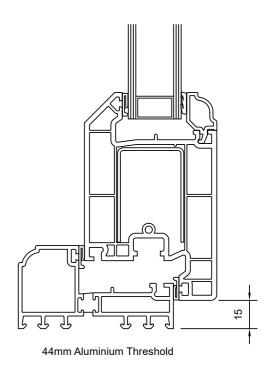
STORM 2 DOOR THRESHOLD DETAILS

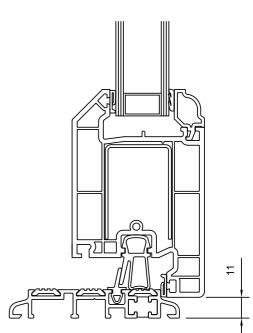




43

72mm PVC Threshold

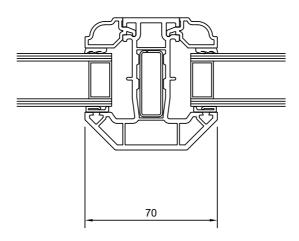


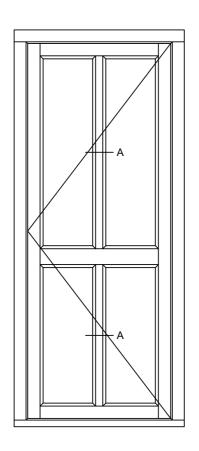


Part M Aluminium Threshold Not available for use on French Doors Cannot be guaranteed against air and water infiltration

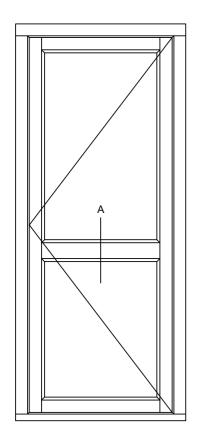


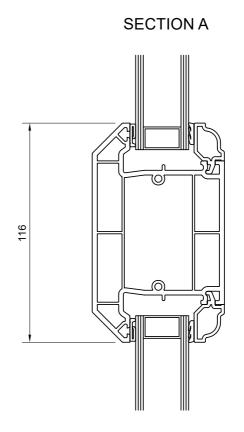
SECTION A





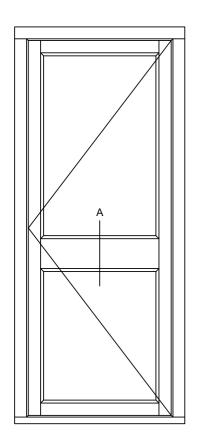


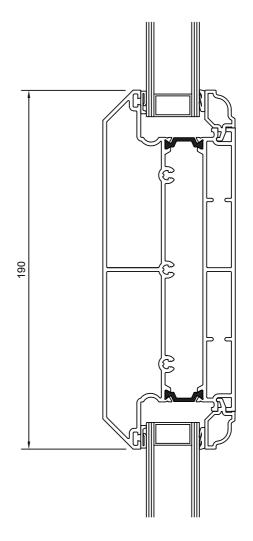






SECTION A





Please note.

This part is manufactured from thermally broken aluminium covered with our standard woodgrain foil.

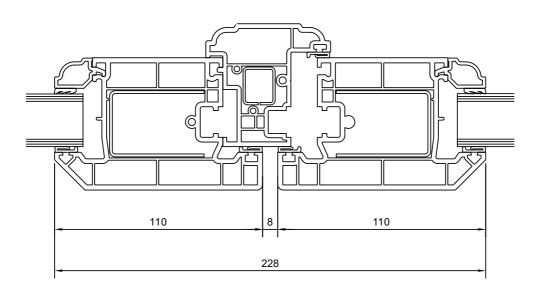
Standard finish is white internally with very limited options for alternative internal foil colours.

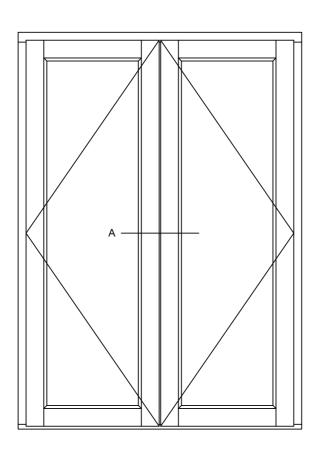
The 190mm mid rail can be sprayed.



STANDARD STORM 2 OPEN OUT FRENCH DOOR OVERLAP

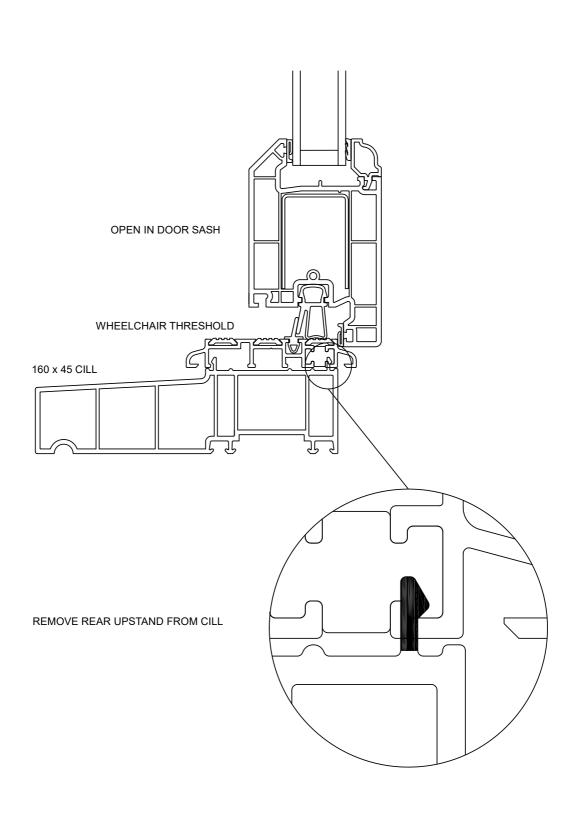
SECTION A







OPEN IN DOOR WITH WHEELCHAIR THRESHOLD ON 160 CILL





STORM 2 OPEN IN DOOR SWING AND CLEARANCE

CALCULATION:

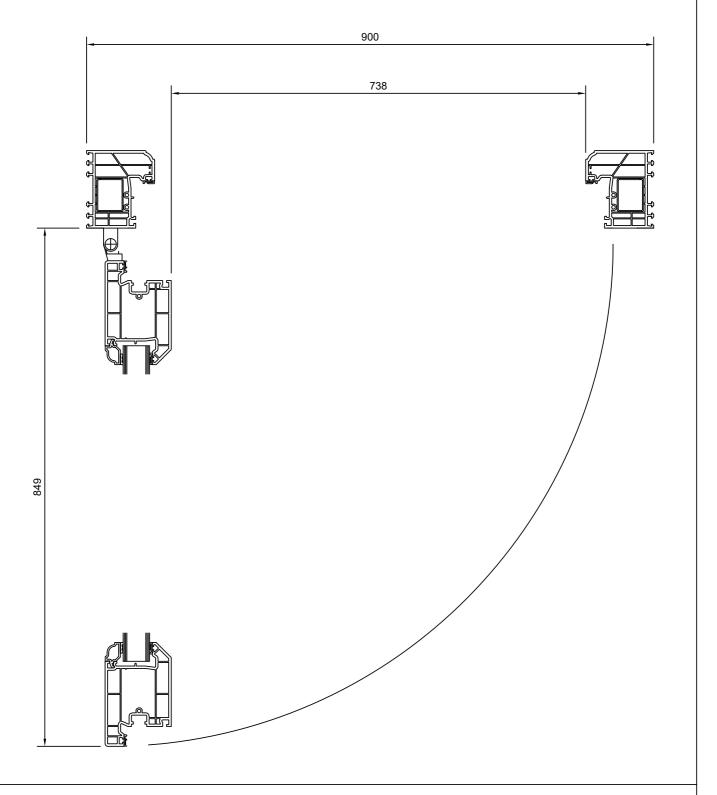
Overall Frame width (not including Frame Extenders) minus 51mm

EXAMPLE:

Overall Frame Width of 900mm - 51mm = 849mm Door Swing

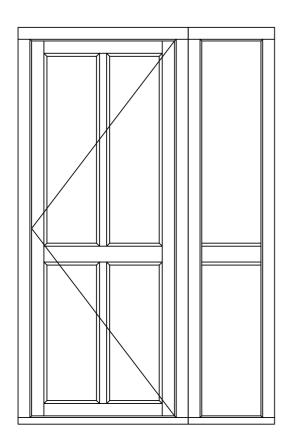
NOTE

Part M of the Building Regulations requires a minimum clearance for a wheelchair, through a doorway of 775mm not including handle or weather bar, therefore, the minimum overall door width, not including frame extenders, should be 940mm



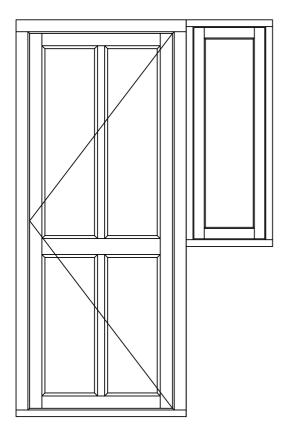


DOOR & SIDE PANEL COUPLING RULES



DOOR WITH FULL HEIGHT SIDE PANEL

20mm Coupler Only Reinforced 72mm or 56mm Outer Frame adjacent to Door



DOOR WITH PARTIAL HEIGHT SIDE WINDOW

20mm or 2mm Coupler

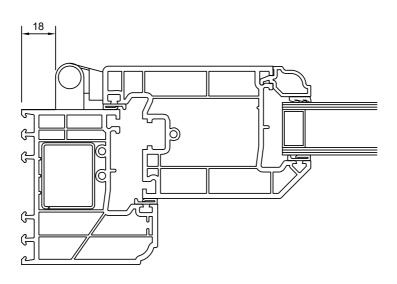
If using 20mm Coupler:

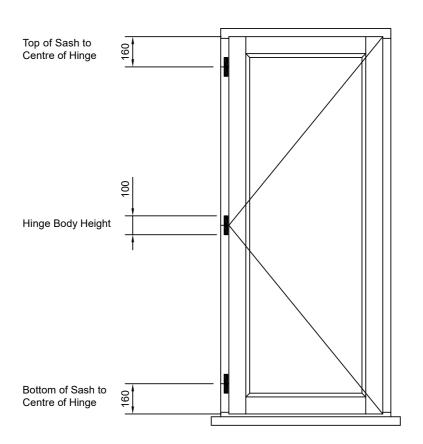
Reinforced 72mm or 56mm Outer Frame adjacent to Door If using 2mm Coupler:

Reinforced 72mm Outer Frame Only adjacent to Door



STANDARD DOOR HINGE POSITIONING

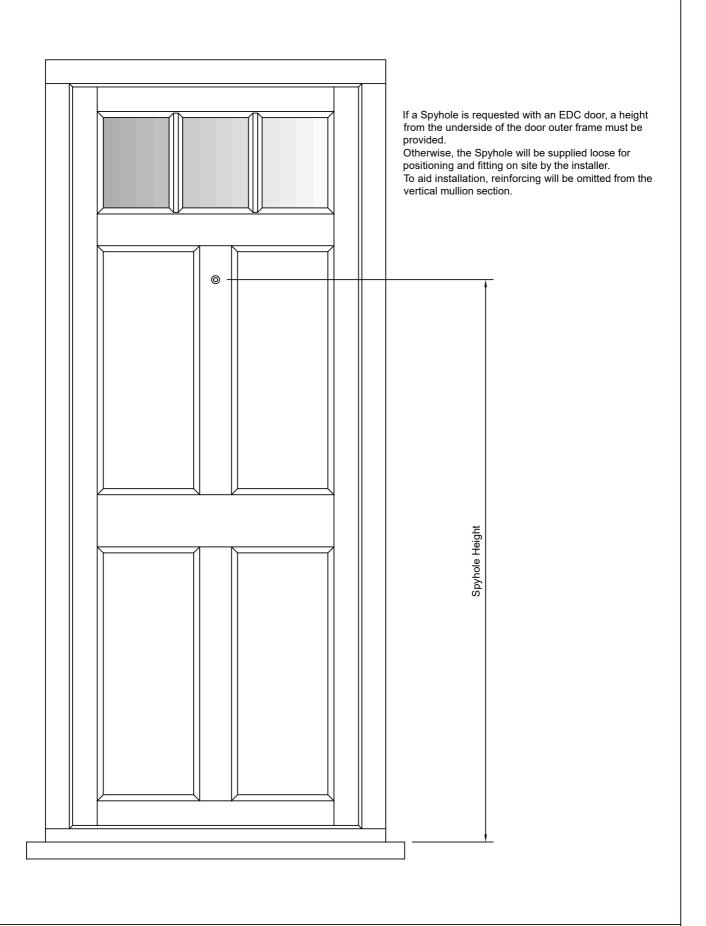




Bottom Hinges can be positioned further up to help clearance of large skirtings etc.



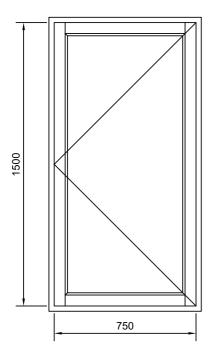
DOOR SPYHOLE HEIGHTS

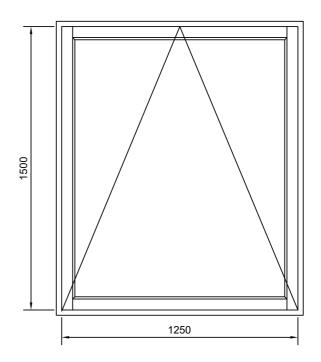




MAXIMUM SIZES STORM CASEMENTS

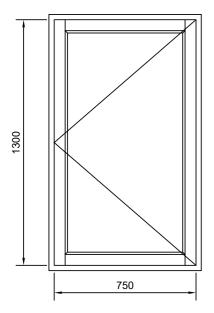
28mm Double Glazed - 4/20/4

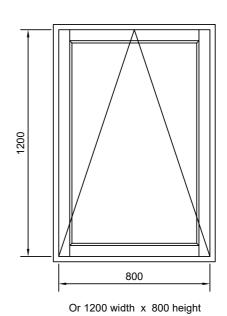




32mm Triple Glazed - 4/10/4/10/4

or 28mm Double Glazed - 6/16/6



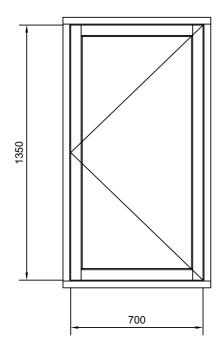


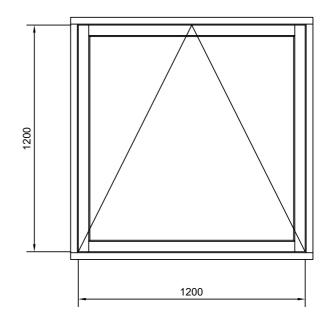
Page 04.01



MAXIMUM SIZES FLUSH CASEMENTS

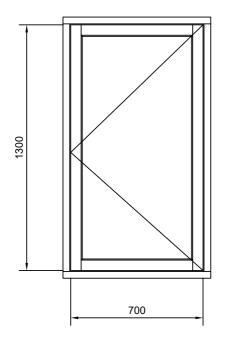
28mm Double Glazed - 4/20/4

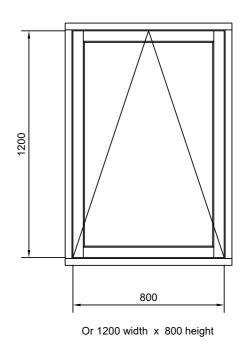




32mm Triple Glazed - 4/10/4/10/4

or 28mm Double Glazed - 6/16/6

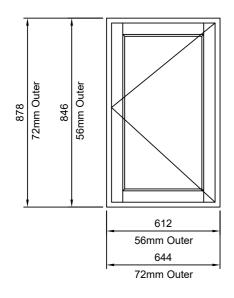


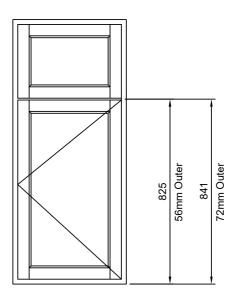


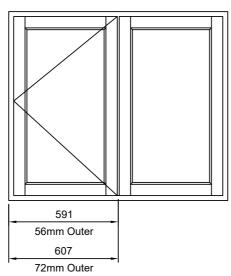


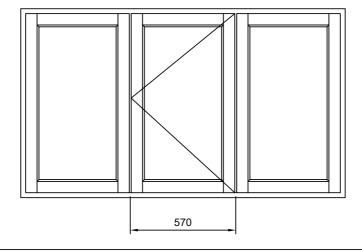
MINIMUM FRAME SIZES TO ACHIEVE PART B FIRE ESCAPE

STORM 1 & 2





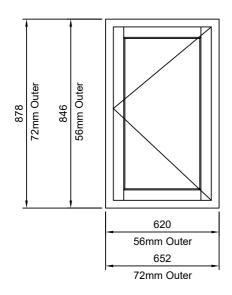


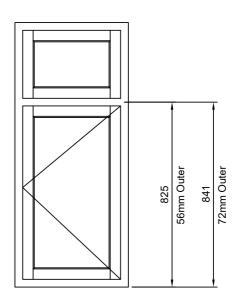


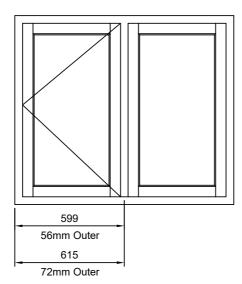


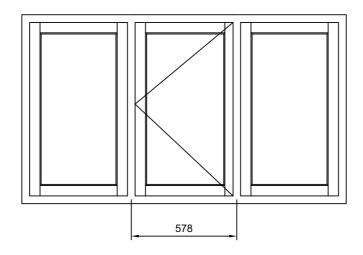
MINIMUM FRAME SIZES TO ACHIEVE PART B FIRE ESCAPE

FLUSH



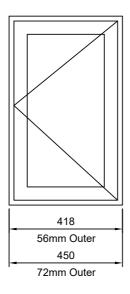


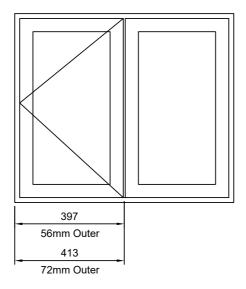


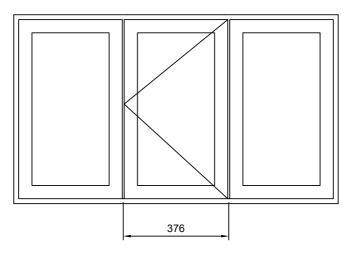




STORM 1 & 2



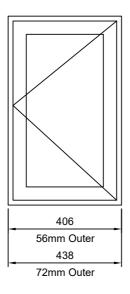


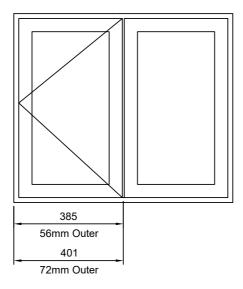


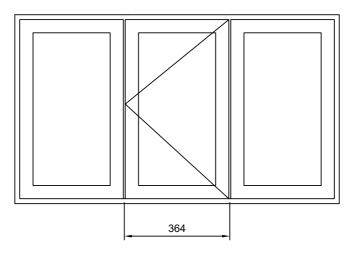


MINIMUM FRAME SIZES FOR 12" EASY CLEAN

FLUSH









MINIMUM MANUFACTURING SIZES FOR TIMBERLOOK SASH JOINTS

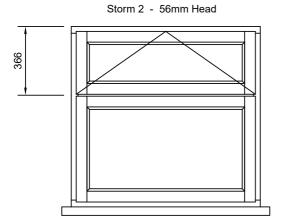
STORM SASH - P90208 - Sizes shown in brackets will be as displayed in Window Designer

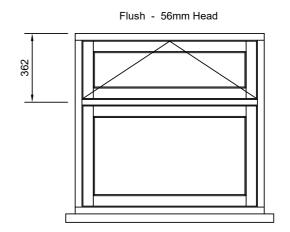
WIDTH: 331mm (336mm)
HEIGHT: 331mm (336mm)

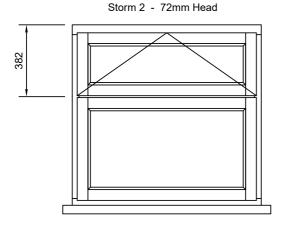
FLUSH SASH - P10527 - Sizes shown in brackets will be as displayed in Window Designer

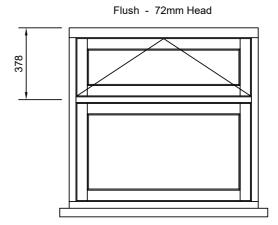
WIDTH: 324mm (329mm)
HEIGHT: 301mm (306mm)

MINIMUM TRANSOM DROPS FOR 'TIMBERLOOK' SASHES



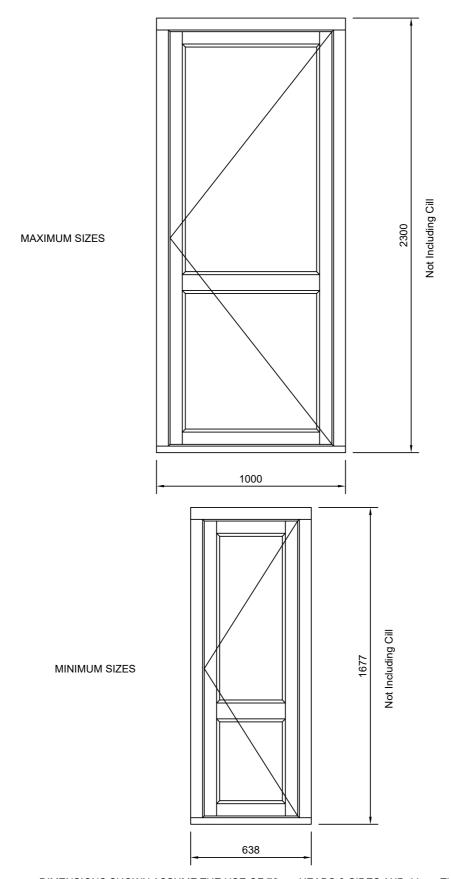








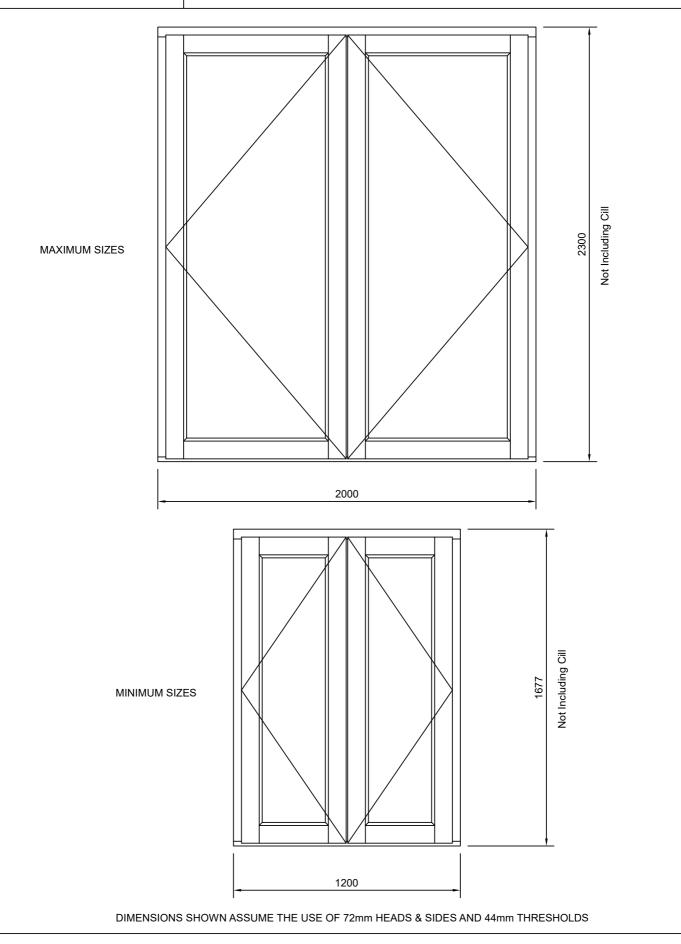
SINGLE DOOR MAXIMUM & MINIMUM FRAME DIMENSIONS



DIMENSIONS SHOWN ASSUME THE USE OF 72mm HEADS & SIDES AND 44mm THRESHOLDS DIMENSIONS SHOWN ARE FOR DOORS FITTED WITH STANDARD FULLEX XL LOCKS

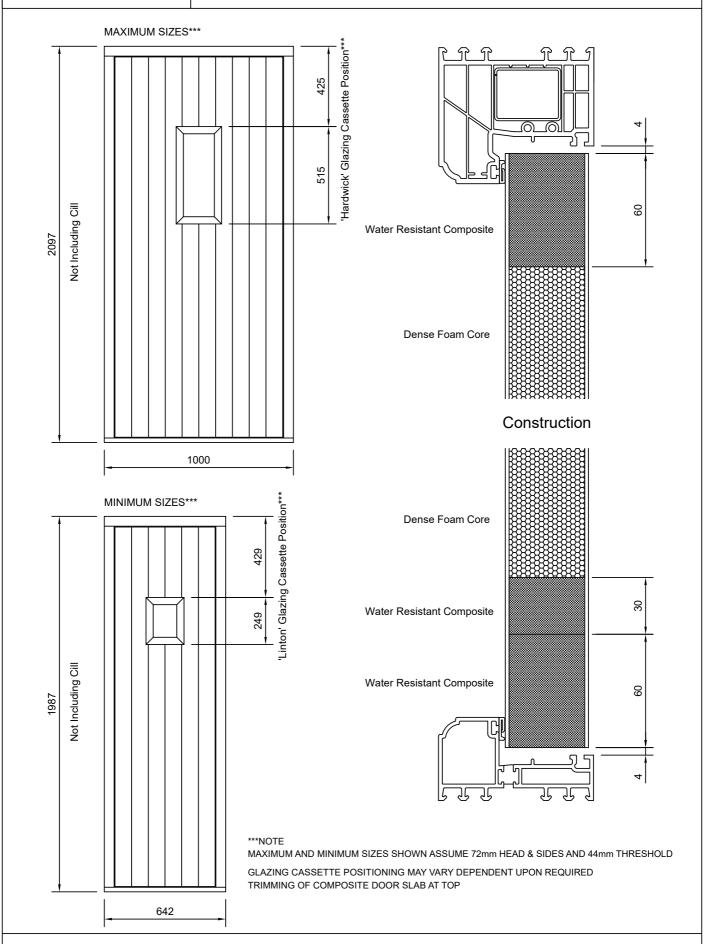


FRENCH DOOR MAXIMUM & MINIMUM FRAME DIMENSIONS





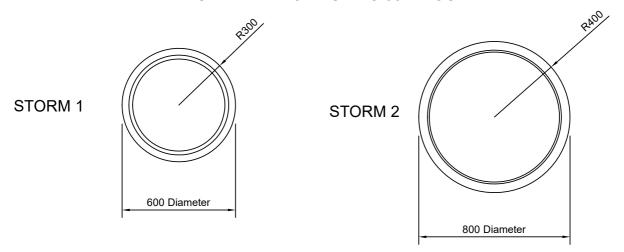
COTTAGE DOOR MAXIMUM / MINIMUM FRAME SIZES





CIRCULAR WINDOWS & BENDS

MINIMUM DIMENSIONS USING 56mm OUTER FRAME

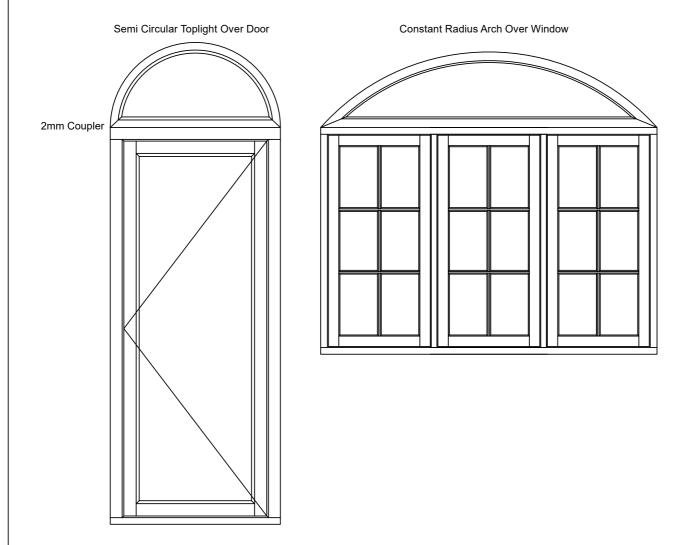


Please Note.

Storm Casement, Door Sash and Flush Casement profiles cannot be curved.

If arched sections are required above windows or doors, these will be manufactured as seperate, direct glazed, internally beaded frames and coupled to the item as shown below.

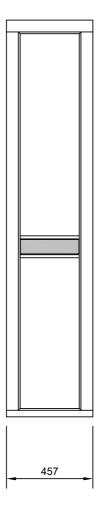
Window frames with curved sections within them will always be conventionally welded.



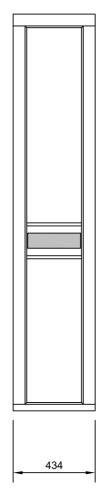


MINIMUM SIDE PANEL WIDTHS WITH LETTERPLATE

Fab 'n' Fix Nu Mail Letterplate in 116mm or 190mm Midrail



Wrought Iron or Regency Flush Letterplate in 190mm Midrail only



The above dimensions are based on the use of 72mm Outer frames

If using 72mm Outer Frame to one side and 56mm Outer Frame to the other then:

Minimum Side Panel Width for Fab 'n' Fix Nu Mail Letterplate = 441mm Minimum Side Panel Width for Wrought Iron or Regency Flush Letterplate = 418mm

If using 56mm Outer Frame to both sides then:

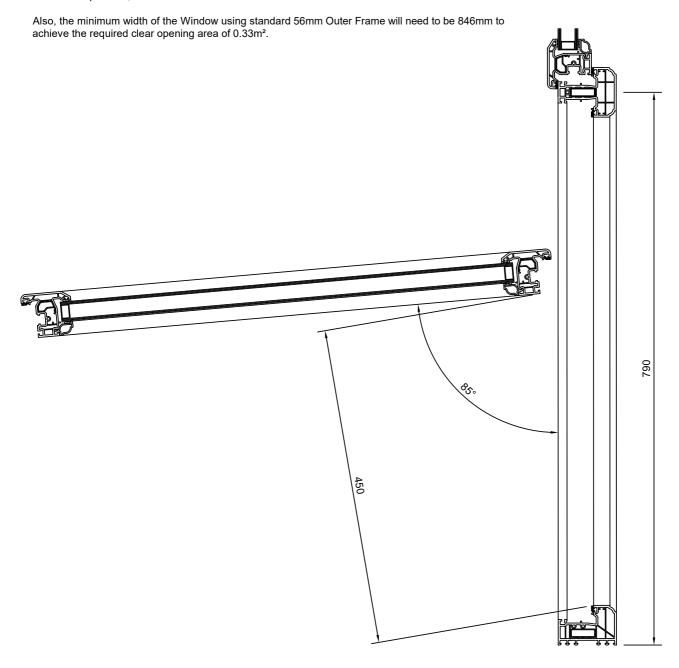
Minimum Side Panel Width for Fab 'n' Fix Nu Mail Letterplate = 425mm Minimum Side Panel Width for Wrought Iron or Regency Flush Letterplate = 402mm



MINIMUM SIZE TO ACHIEVE TOP HUNG FIRE ESCAPE

If required to meet Fire Egress Regulations with a Top Hung Sash, this can only be achieved with the use of a standard 16" Side Hung Hinge used as a Top Hung Hinge which will open to 85°

A minimum height of 790mm from the underside of the Outer Frame to the centre of a Transom as shown is required or, 816mm if Outer Frame to Outer Frame.

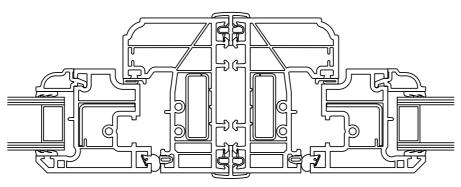




FRAME COUPLING

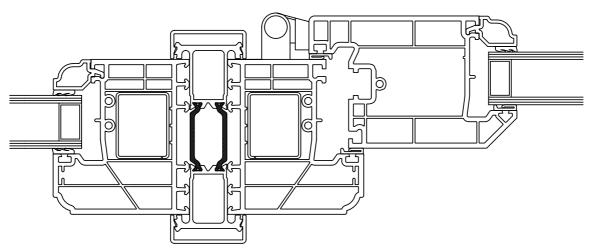
2mm COUPLING - Example Shown: Flush Casement in 56mm Outer Frame to Flush Casement in 56mm Outer Frame 2no. Couplers Required per frame join

116 217 Storm 2 2mm Coupler



116 217 Storm 2 2mm Coupler

20mm HEAVY DUTY COUPLING - Example Shown: Direct Glazed 72mm Outer Frame to 72mm Door Outer Frame For Vertical use only - Maximum length: 2500mm

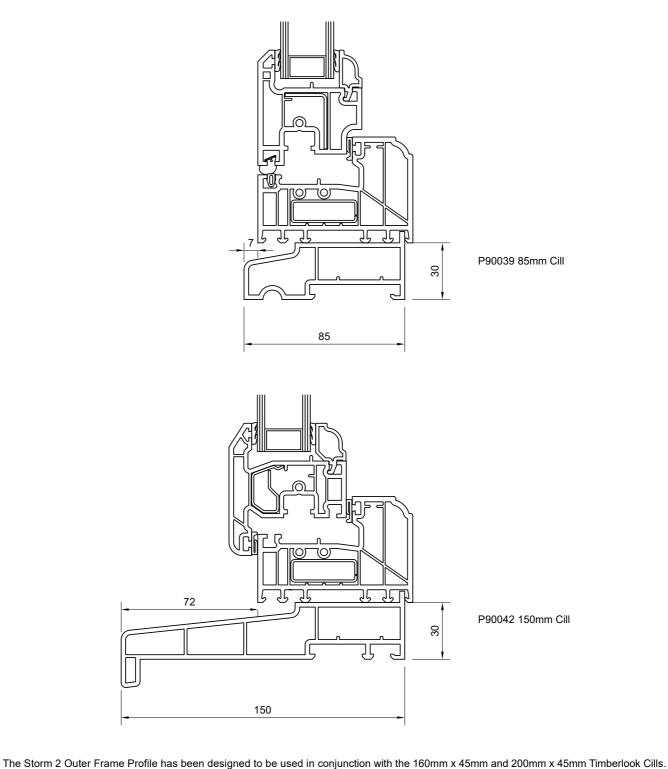


A00434 20mm Storm 2 Heavy DutyCoupler

P10323 Plain Covers External & Internal



STORM 2 FRAMES ON 30mm CILLS



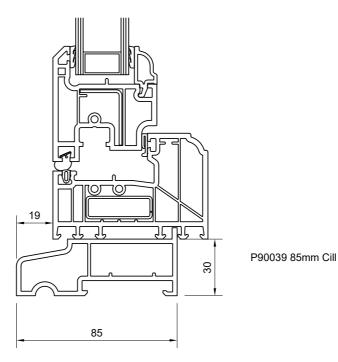
If a job requires the use of the Storm 1 30mm Cill sections, please see above for the positioning of the Cill relative to the Outer Frame.

If the Cill is positioned with its upstand behind the Outer Frame, the front edge of the Outer Frame will not be supported by the flat bed of the Cill.

Welded Bay Cill sizes are manually adjusted to allow the 30mm Cill to sit in the same position as shown above.



STORM 2 FRAMES ON 30mm CILLS - 2



The Storm 2 Outer Frame Profile has been designed to be used in conjunction with the 160mm x 45mm and 200mm x 45mm Timberlook Cills.

If a job requires the use of the Storm 1 30mm Cill sections, please see above for the positioning of the Cill relative to the Outer Frame.

If the Cill is positioned with its upstand behind the Outer Frame, the front edge of the Outer Frame will not be supported by the flat bed of the Cill.

Welded Bay Cill sizes are manually adjusted to allow the 30mm Cill to sit in the same position as shown above.

The 85mm Cill can also be positioned further forward as shown above without compromising the Outer Frame Concealed Drainage.

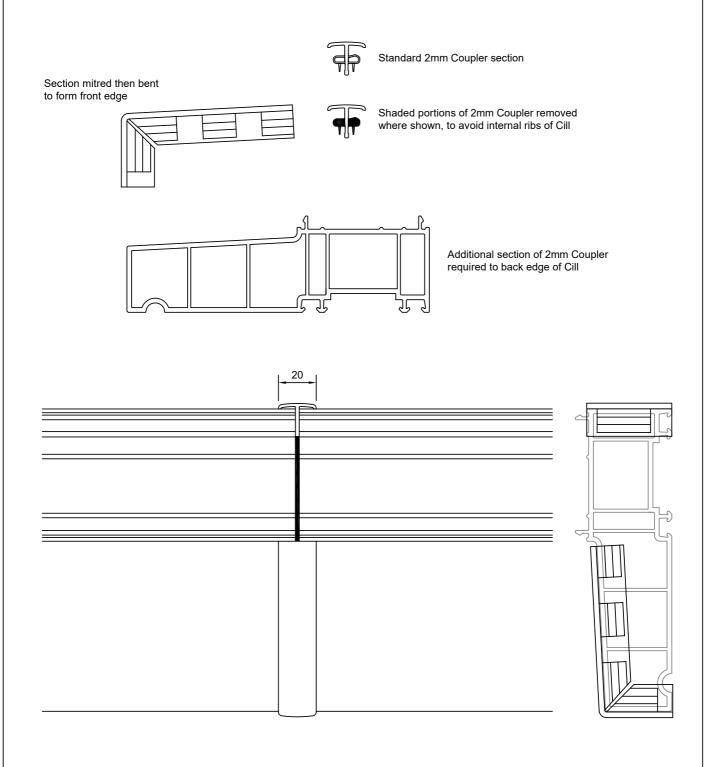


JOINING STORM 2 CILLS

When a 160mm x 45mm or 200 x 45mm Cill requires a straight (180 degree) join, a section of 2mm coupler is fabricated by cutting and bending it as shown in the illustration.

Portions of the 2mm Coupler are removed to allow clearance of the coupler round the internal ribs of the Cill.

An additional section of 2mm Coupler is fitted to the back edge of the cill to conceal the join.

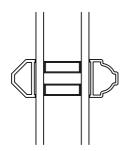




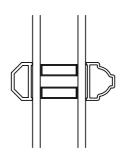
GEORGIAN BAR COMBINATIONS

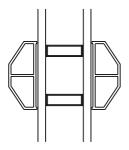
STORM & EDC DOORS

FLUSH CASEMENT

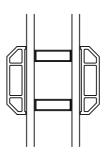


20mm PUTTY / OVOLO





36mm GEORGIAN BAR





P10191 20mm Georgian Bar External - Putty Line - Storm



P10193 20mm Georgian Bar External - Putty Line - Flush



P90123 20mm Georgian Bar Internal - Ovolo - Storm & Flush



EV03 36mm Georgian Bar External & Internal - Storm



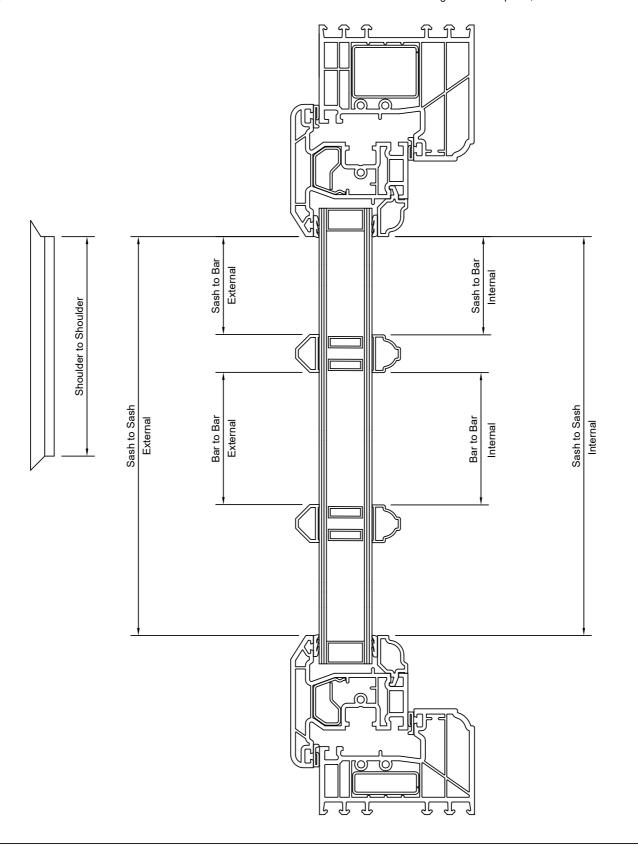
709021 36mm Georgian Bar External & Internal - Flush



MEASURING FOR GEORGIAN BARS

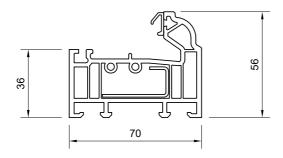
When ordering replacement Georgian bars for existing windows the following naming convention as shown on the example Storm 2 window below must be followed to avoid confusion and to ensure that the correct Georgian bar is supplied to the right length and with the correct end milling. These measurements are what Evolution call 'Shoulder to Shoulder' sizes.

State whether the window is Storm or Flush Casement or Storm Door and what width of Georgian bar is required, either 20mm or 36mm.

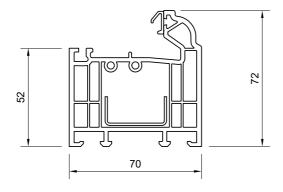




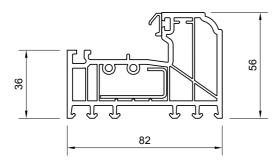
OUTER FRAME PROFILES



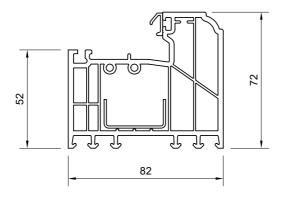
P10531 Storm 1 56mm Outerframe AE1835GS/3 Reinforcing



P10532 Storm 1 72mm Outerframe S41101 Reinforcing



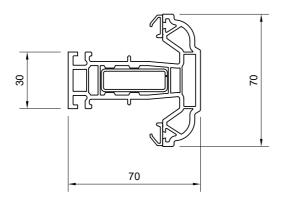
P90201 Storm 2 56mm Outerframe AE1835GS/3 Reinforcing



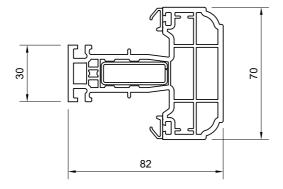
P90202 Storm 2 72mm Outerframe S41101 Reinforcing



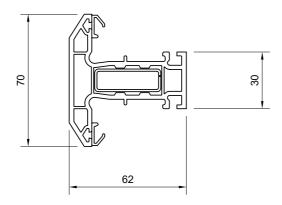
TRANSOM / MULLION PROFILES



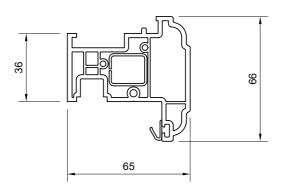
P10533 Storm 1 70mm Transom / Mullion S00187 Reinforcing Also Used As Flush French Casement Overlap



P90203 Storm 2 70mm Transom / Mullion S00187 Reinforcing



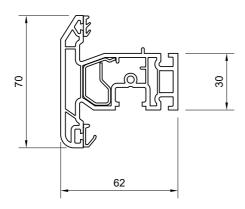
P62203 Storm 70mm Dummy Transom / Mullion S00187 Reinforcing



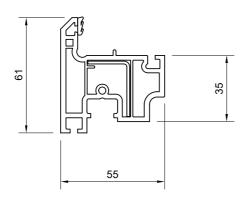
P10612 Storm French Casement Overlap S41135 Reinforcing



CASEMENT SASH PROFILES



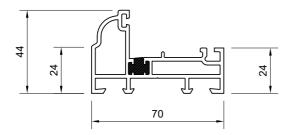
P90208 Storm Casement Sash S00183 Reinforcing



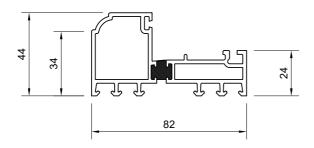
P10527 Flush Casement Sash S00226 Reinforcing



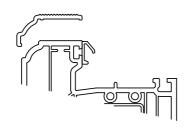
DOOR THRESHOLD PROFILES



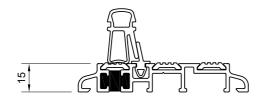
A00333 Storm 1 44mm Threshold Note: Thermally Broken Aluminium



A00435 Storm 2 44mm Threshold Note: Thermally Broken Aluminium



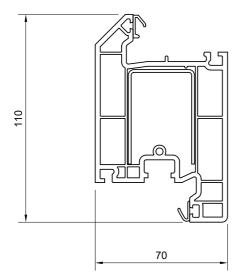
104475 Aluminium Kick Strip Note: For Storm 2 56mm and 72mm Thresholds



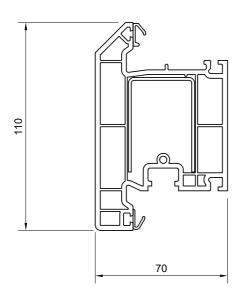
A00289 Part M Low Threshold with P01047 Threshold Inserts, G00086 Threshold Seal and G00087 Sash Seal Note. Thermally Broken Aluminium Not suitable for use with French Doors or Doors with Shootbolt Locking



DOOR SASH PROFILES



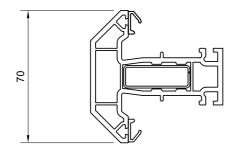
P10510 Open In Door Sash S00162 / S00163 Reinforcing



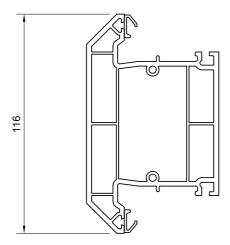
P10511 Open Out Door Sash S00162 / S00163 Reinforcing



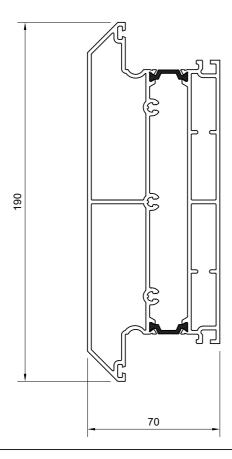
DOOR MID-RAIL PROFILES



P10503 70mm Mullion / Transom S00187 Reinforcing



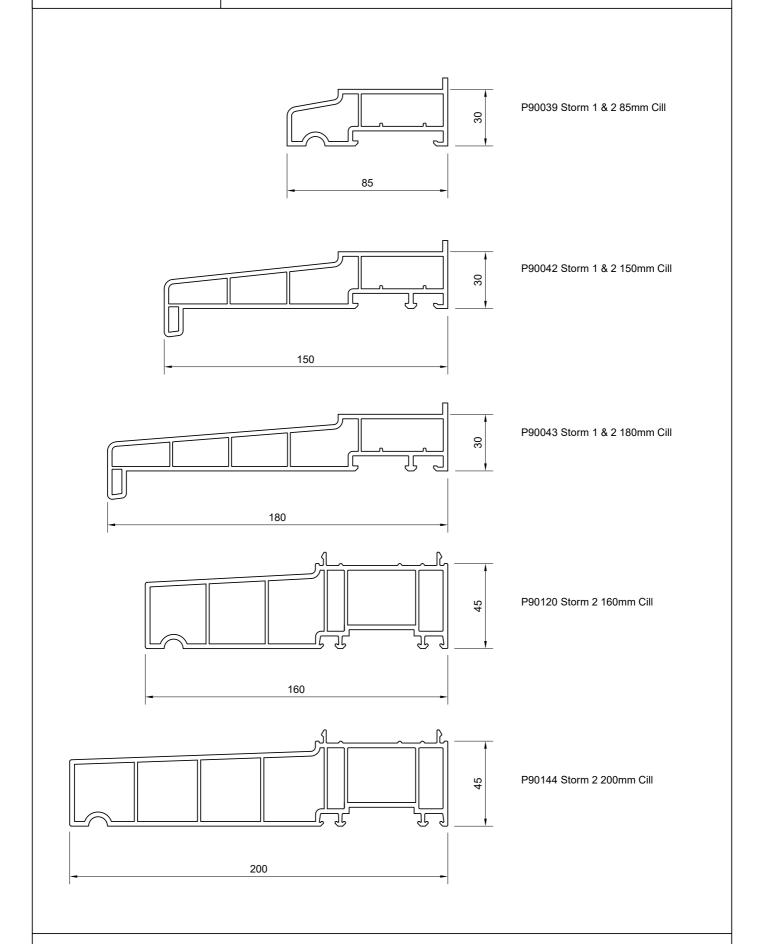
P10505 116mm Transom / Mullion / Midrail



A00424 190mm Midrail Note: Thermally Broken Aluminium

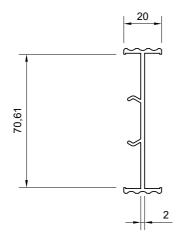


CILL PROFILES

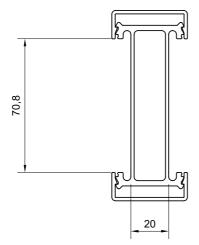




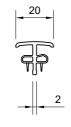
COUPLING SECTIONS



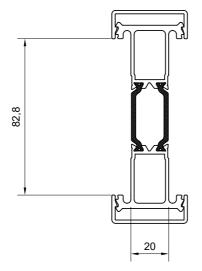
P10318 Storm 1 2mm Coupler



A00022 Storm 1 Heavy Duty Coupler - Aluminium P10323 Plain Cover



116 217 Storm 2 2mm Coupler 2 Required Per Frame Coupling (1 External, 1 Internal)



A00434 Storm 2 Heavy Duty Coupler Thermally- Broken Aluminium P10323 Plain Cover



GLAZING BEAD & GEORGIAN BAR PROFILES

P10431

28mm Glazing Bead - Storm



P10432

28mm Glazing Bead - Flush 32mm Glazing Bead - Storm



P10426

32mm Glazing Bead - Flush



P10191

20mm Georgian Bar External - Putty Line - Storm



P10193

20mm Georgian Bar External - Putty Line - Flush



P90123

20mm Georgian Bar

Internal - Ovolo - Storm & Flush



EV03

36mm Georgian Bar External & Internal - Storm



709021

36mm Georgian Bar External & Internal - Flush

