



Technical Manual - Issue 6
2023



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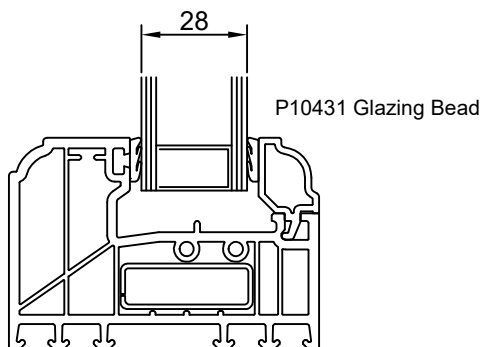
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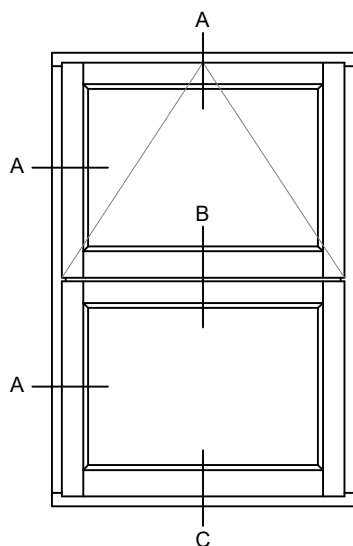
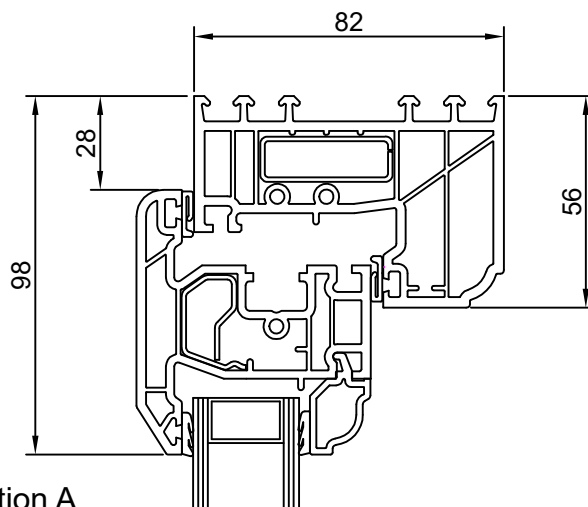
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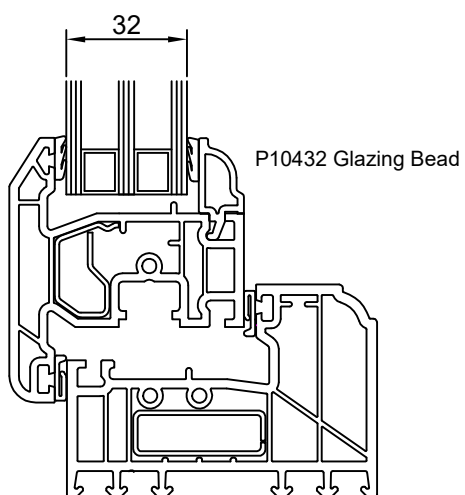
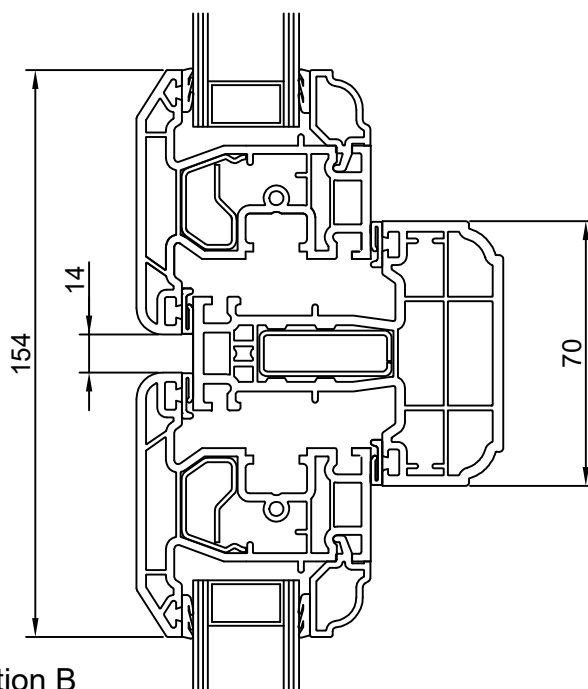


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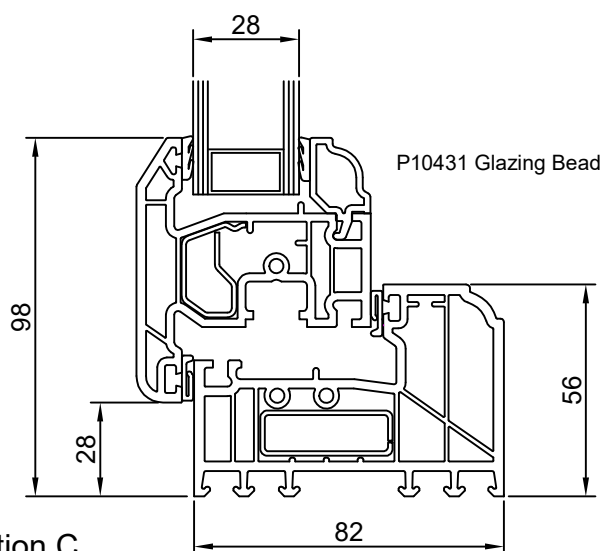
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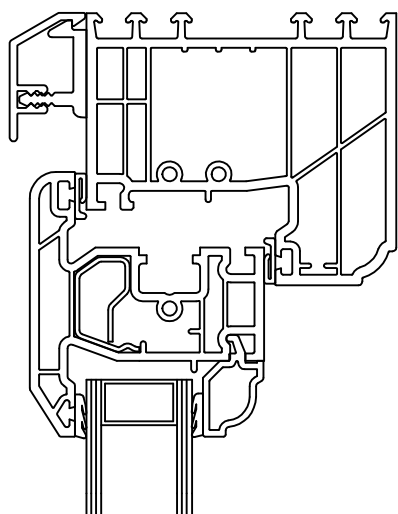
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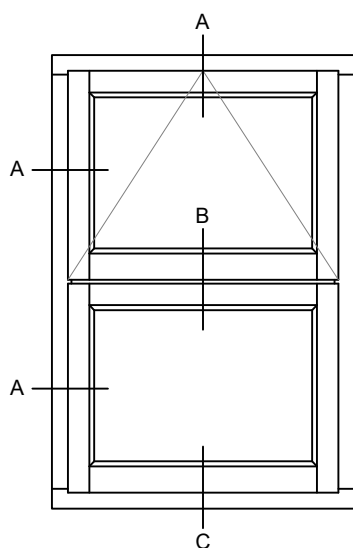
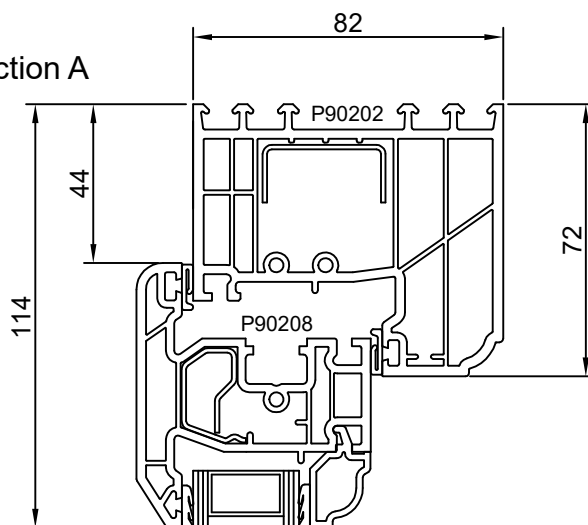
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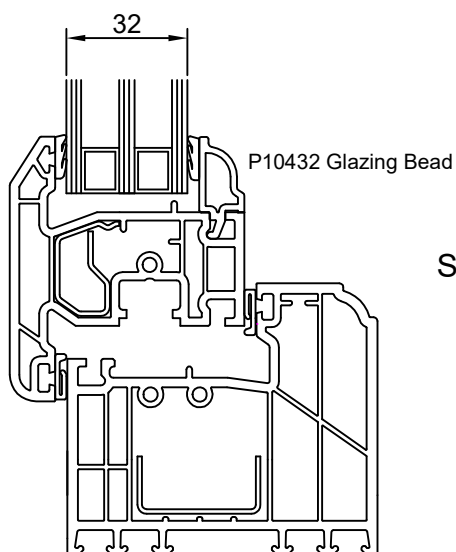
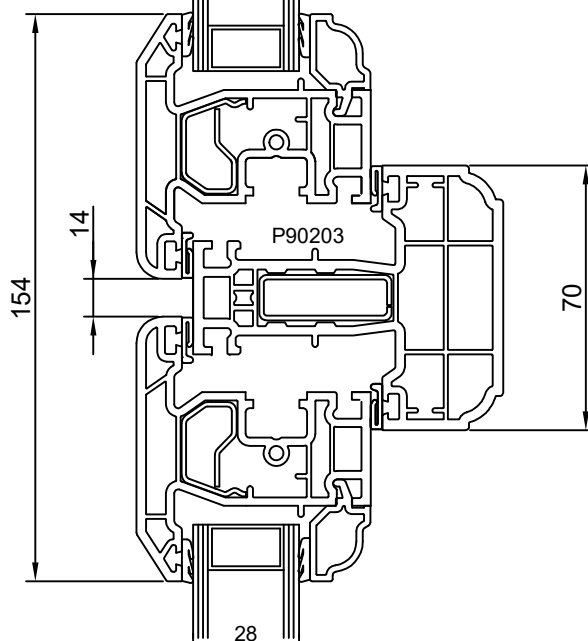
P91034 Head Drip / Ventilator Cover



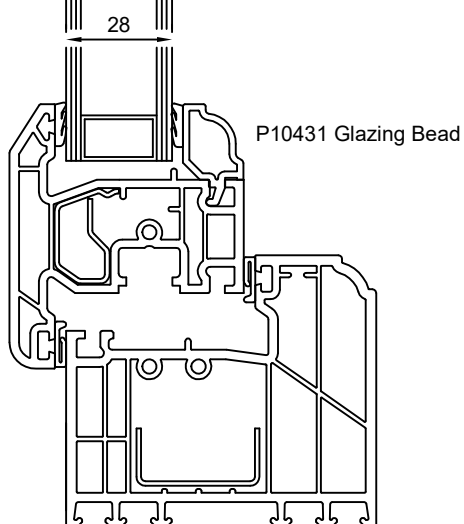
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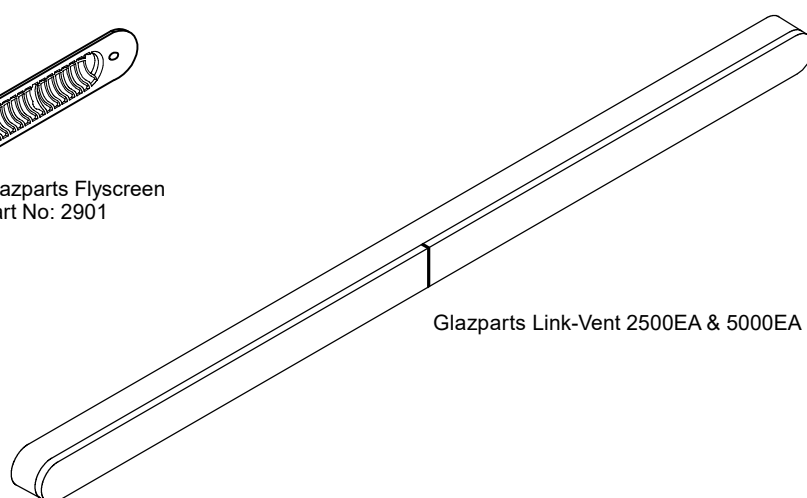
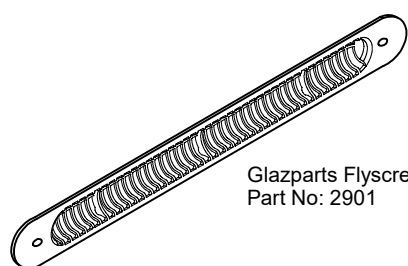
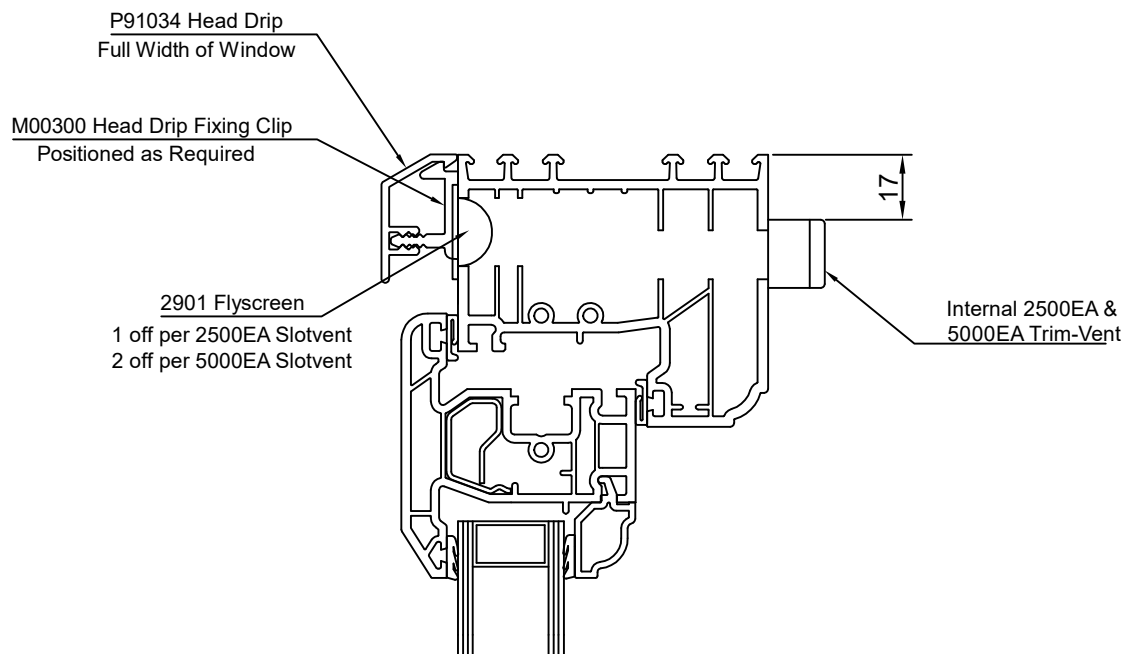


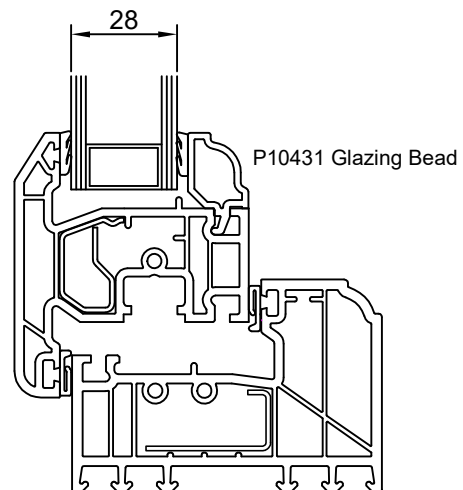
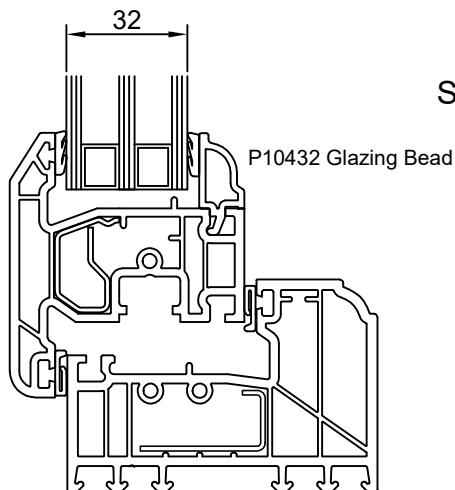
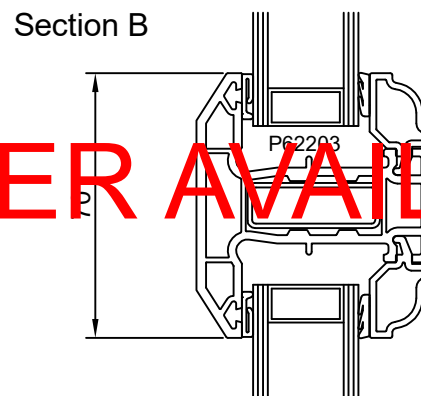
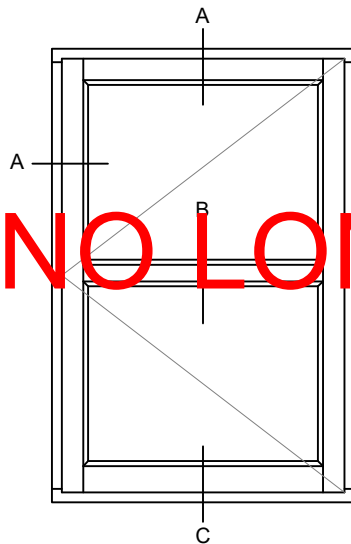
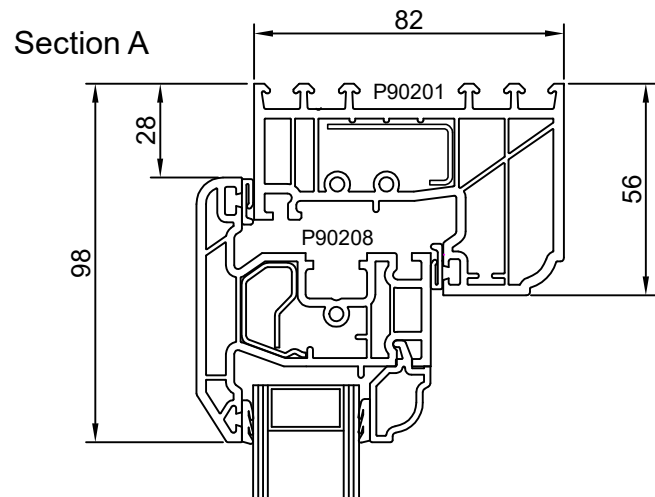
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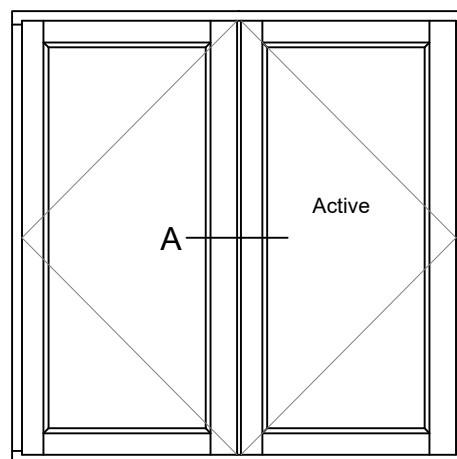
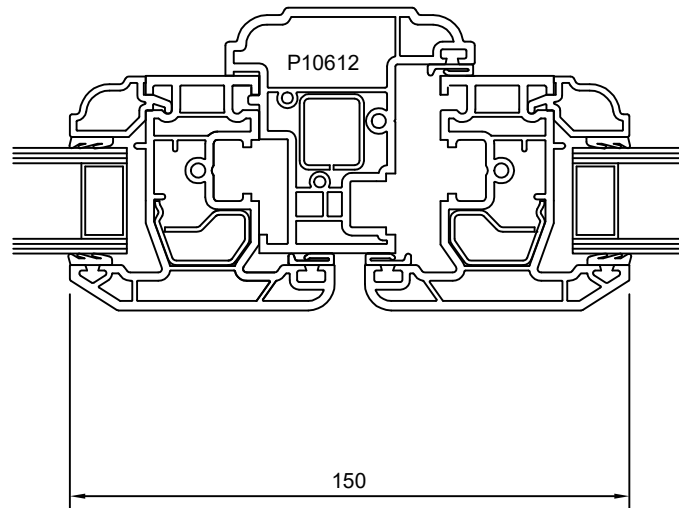
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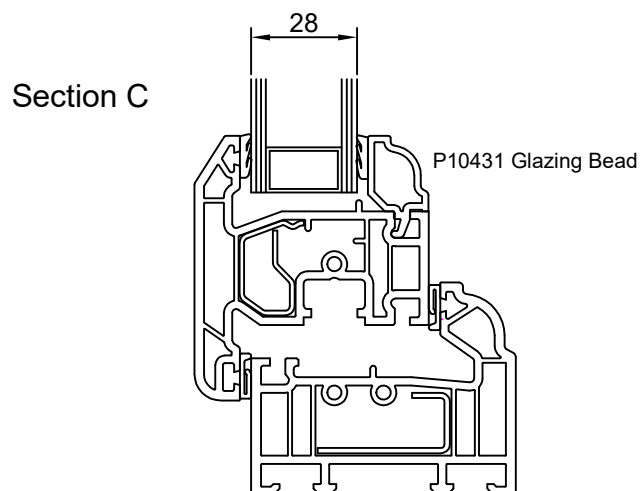
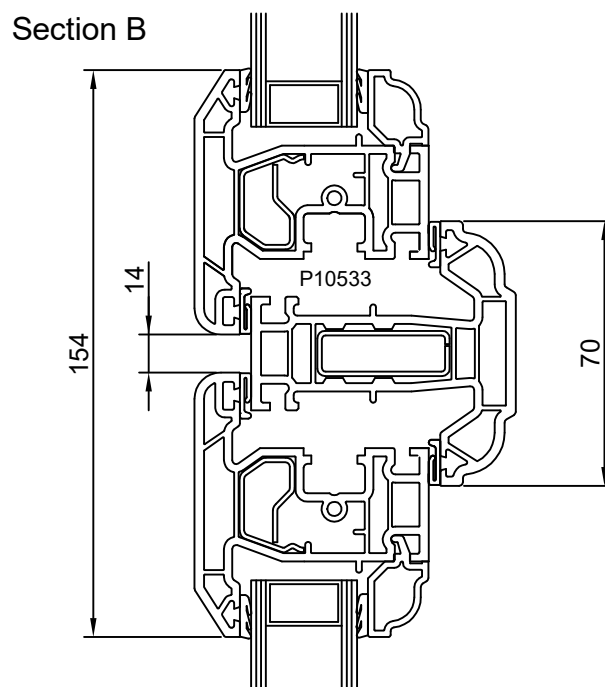
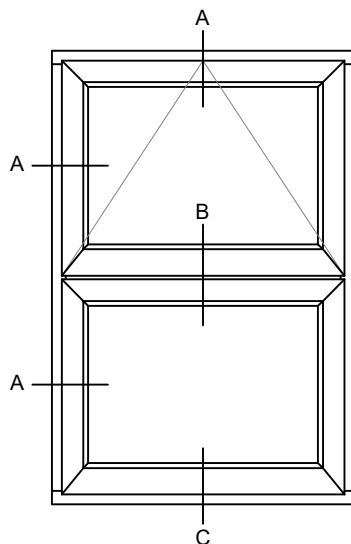
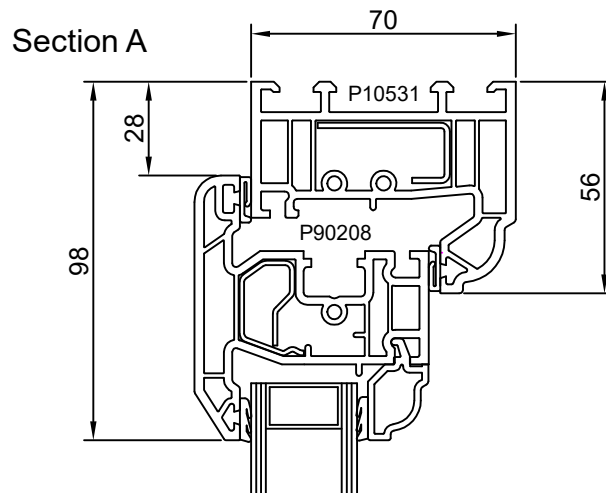


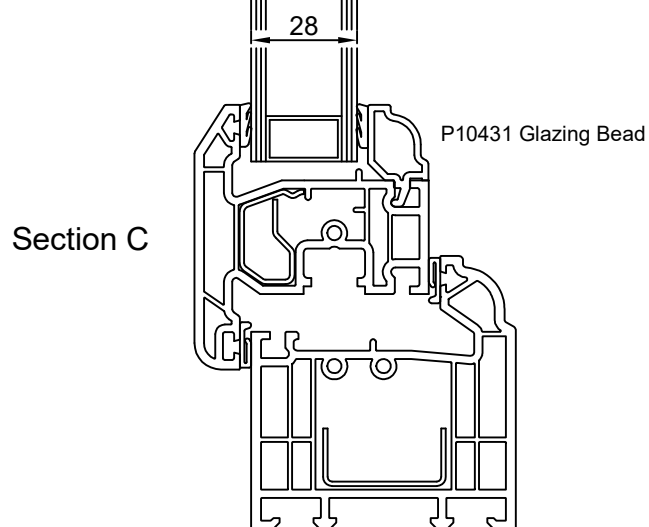
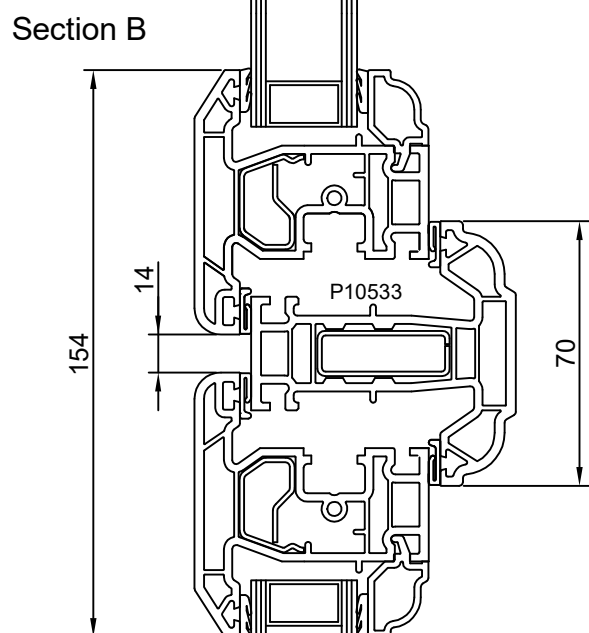
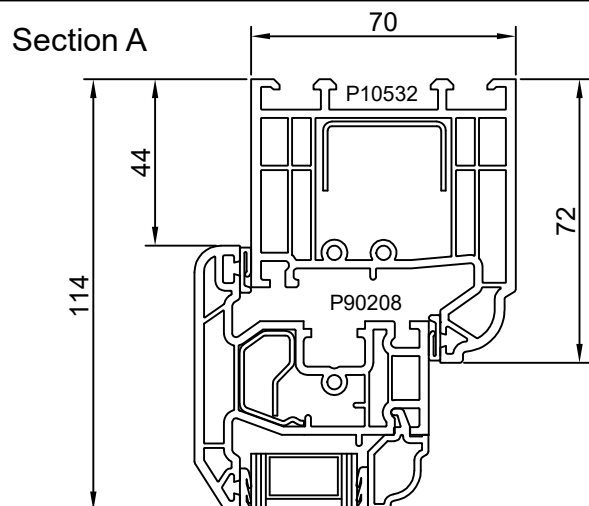
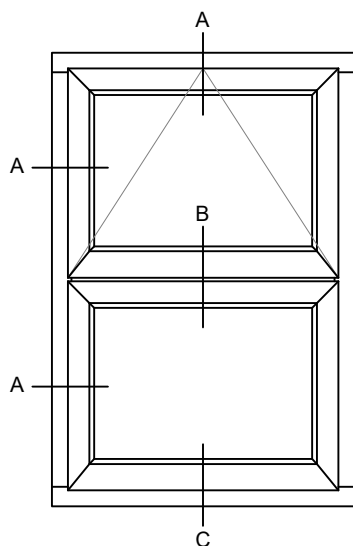


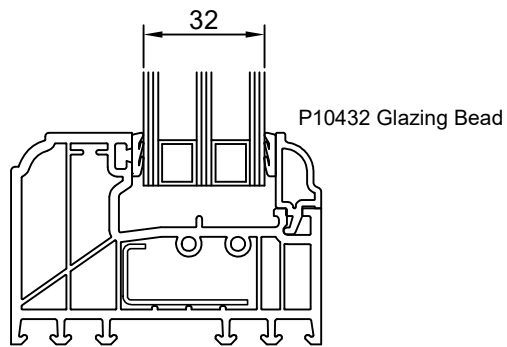


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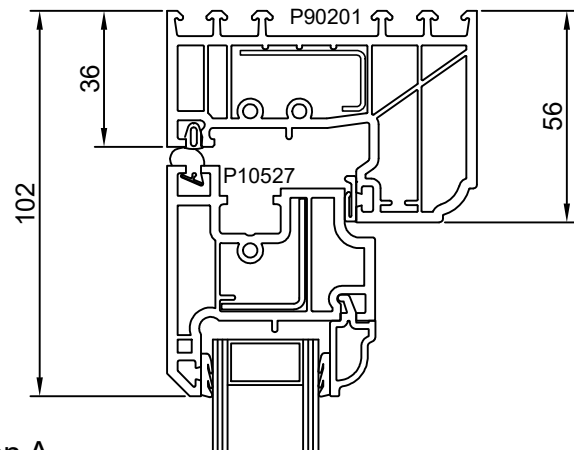




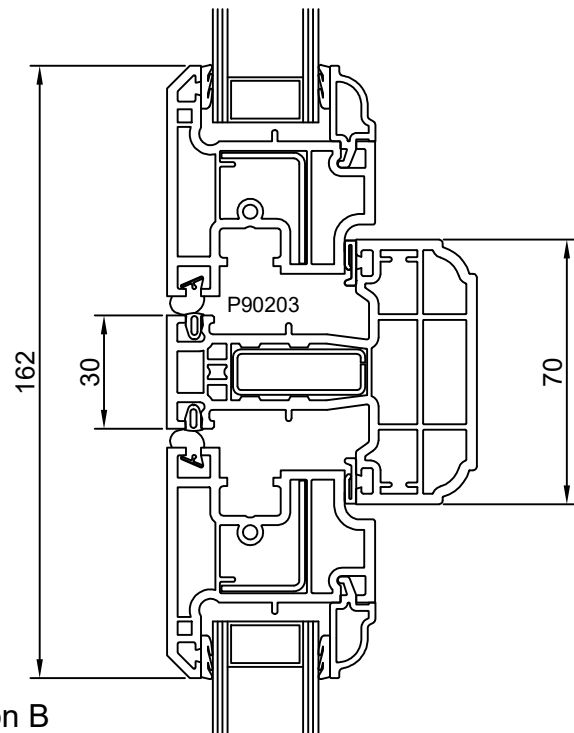
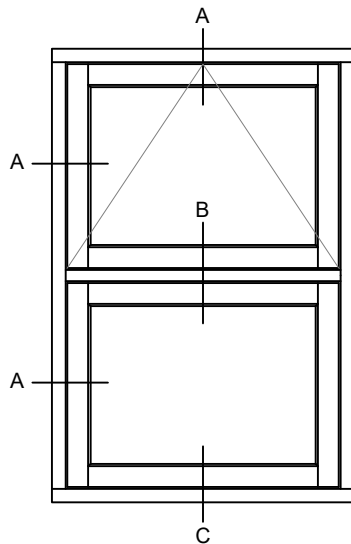




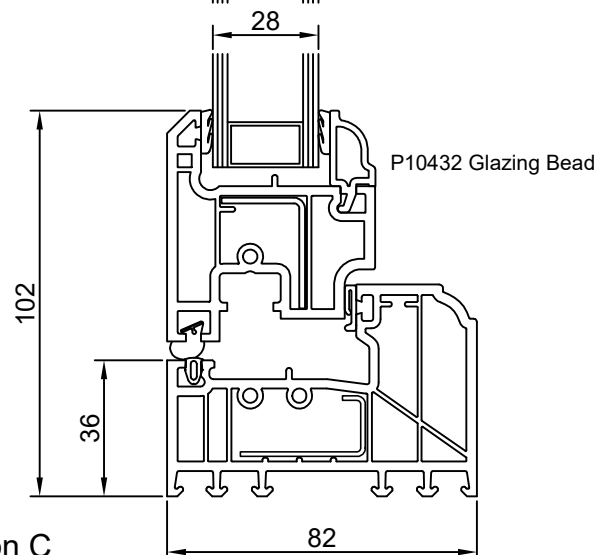
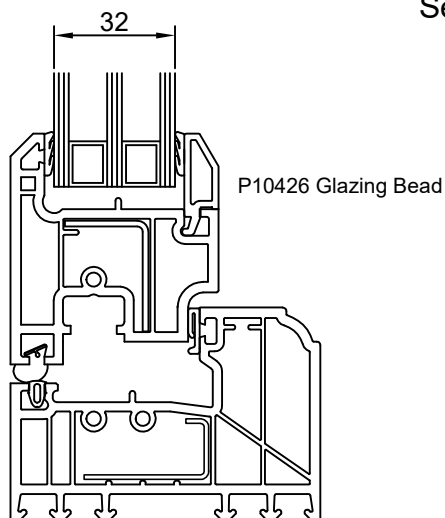
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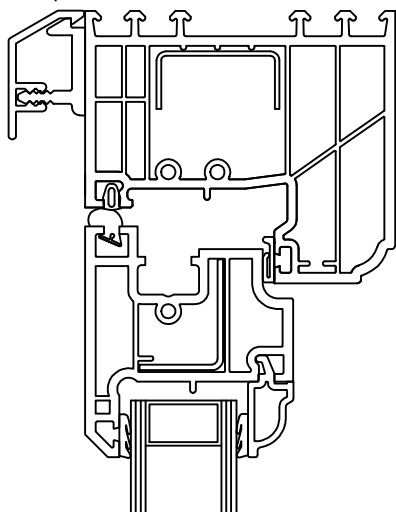


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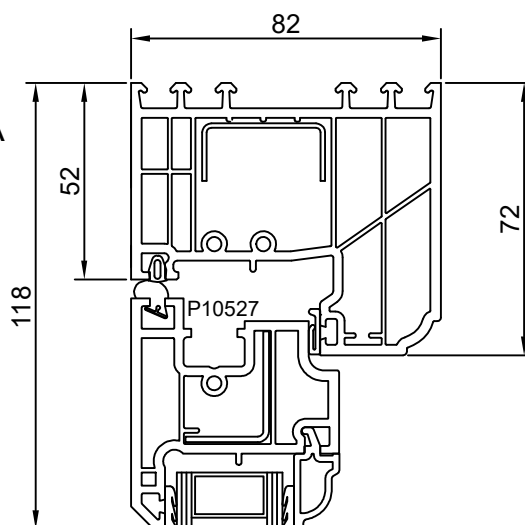


Section C

P91034 Head Drip / Ventilator Cover

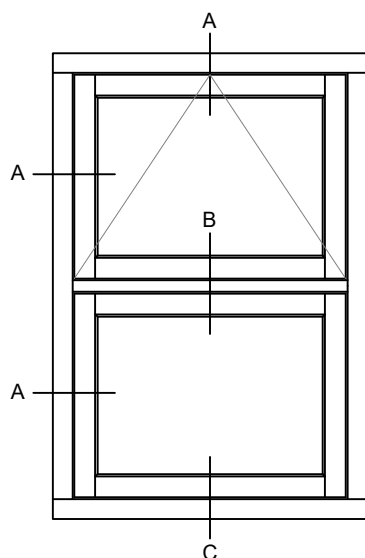
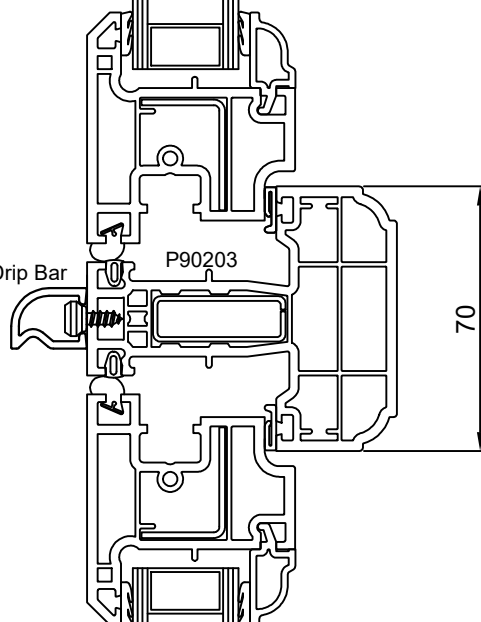


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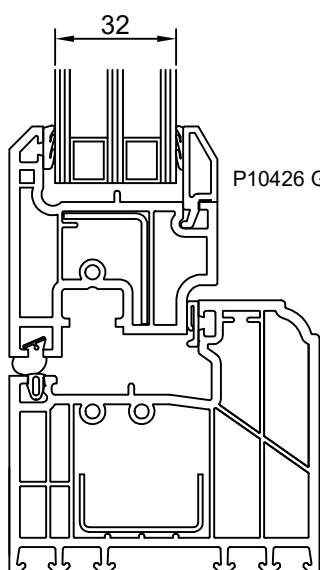


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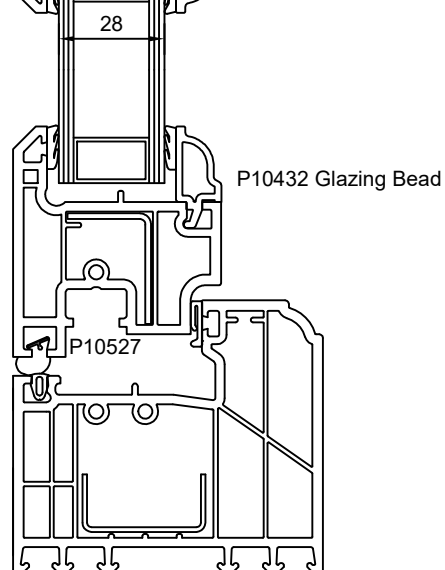
3851
Flush Transom Drip Bar



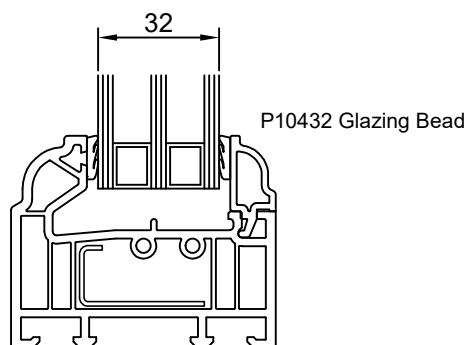
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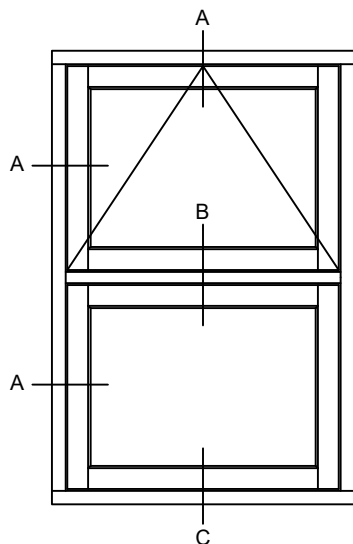
P10426 Glazing Bead



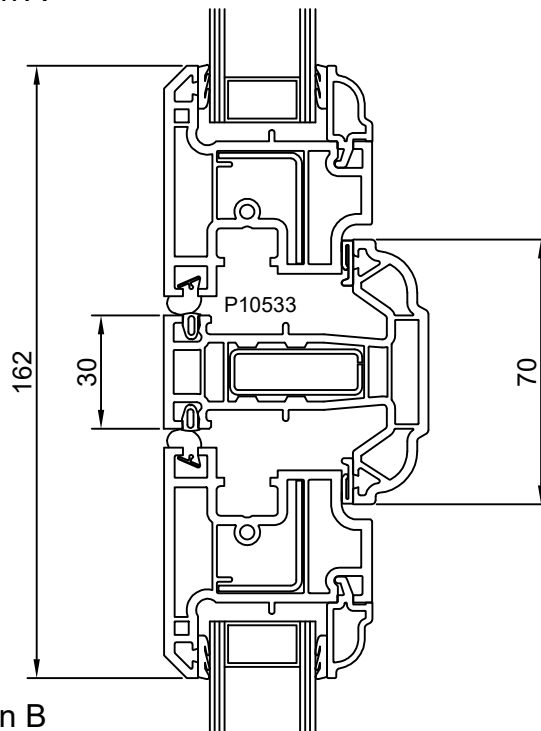
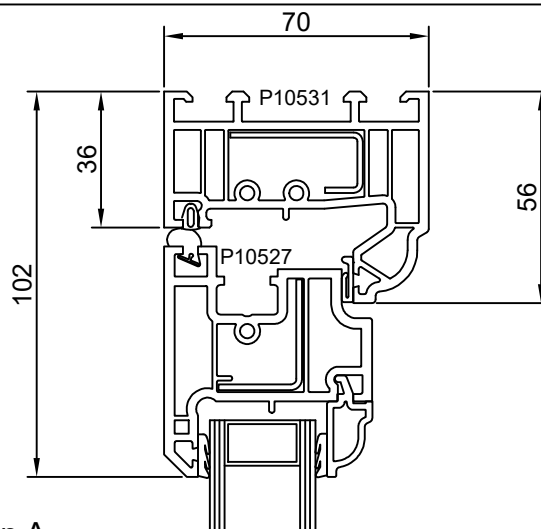
P10432 Glazing Bead



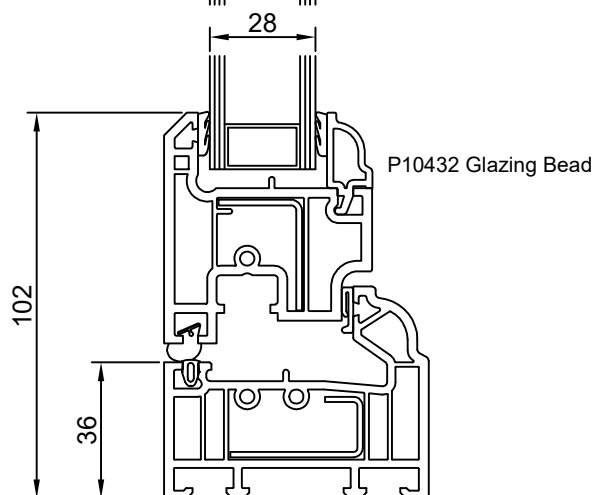
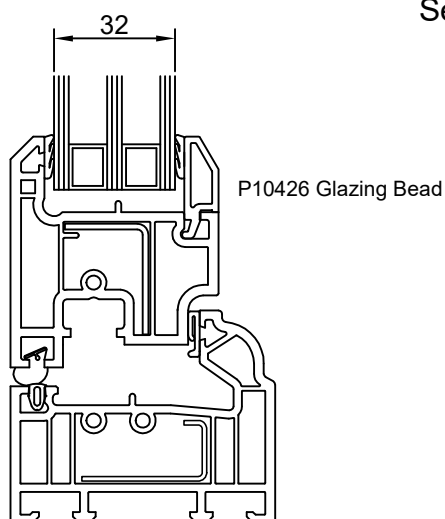
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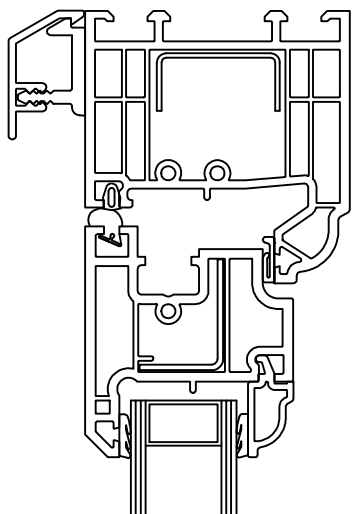


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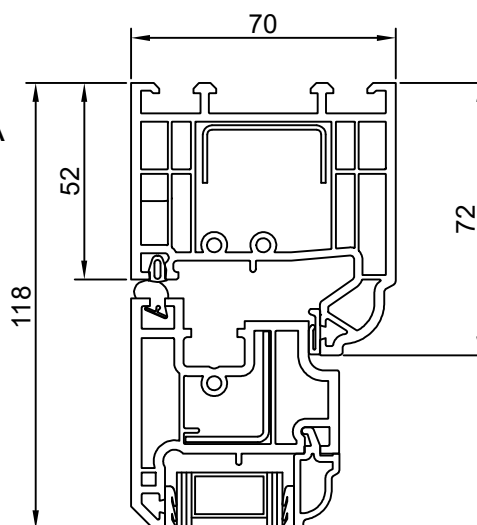


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P91034 Head Drip / Ventilator Cover

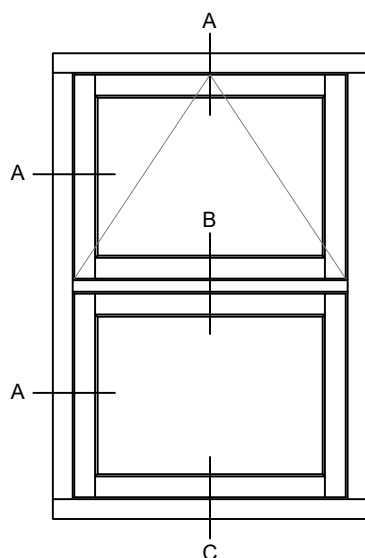
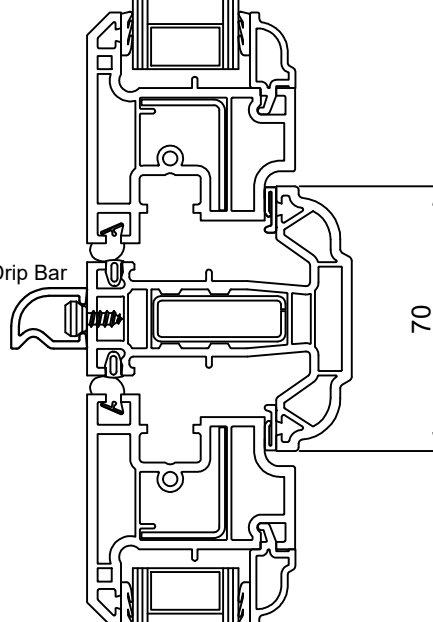


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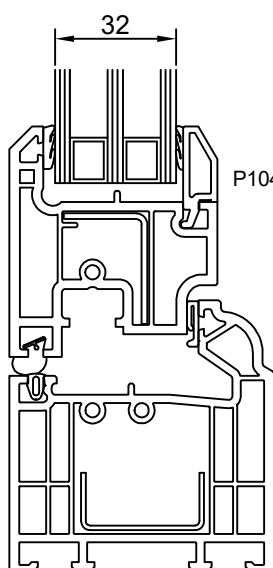
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3851
Flush Transom Drip Bar

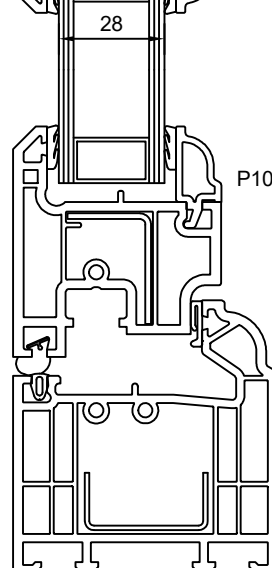


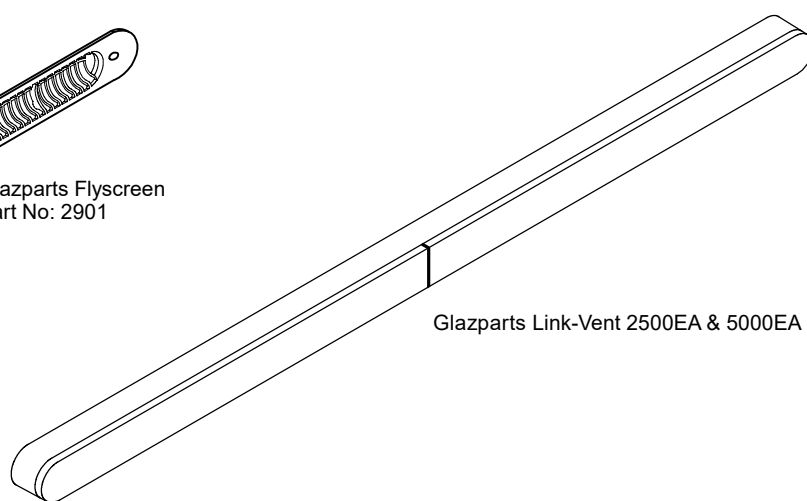
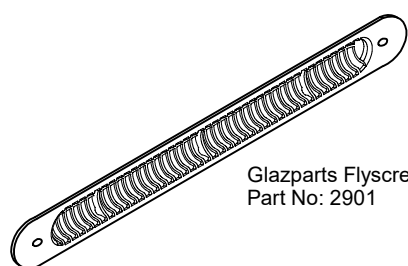
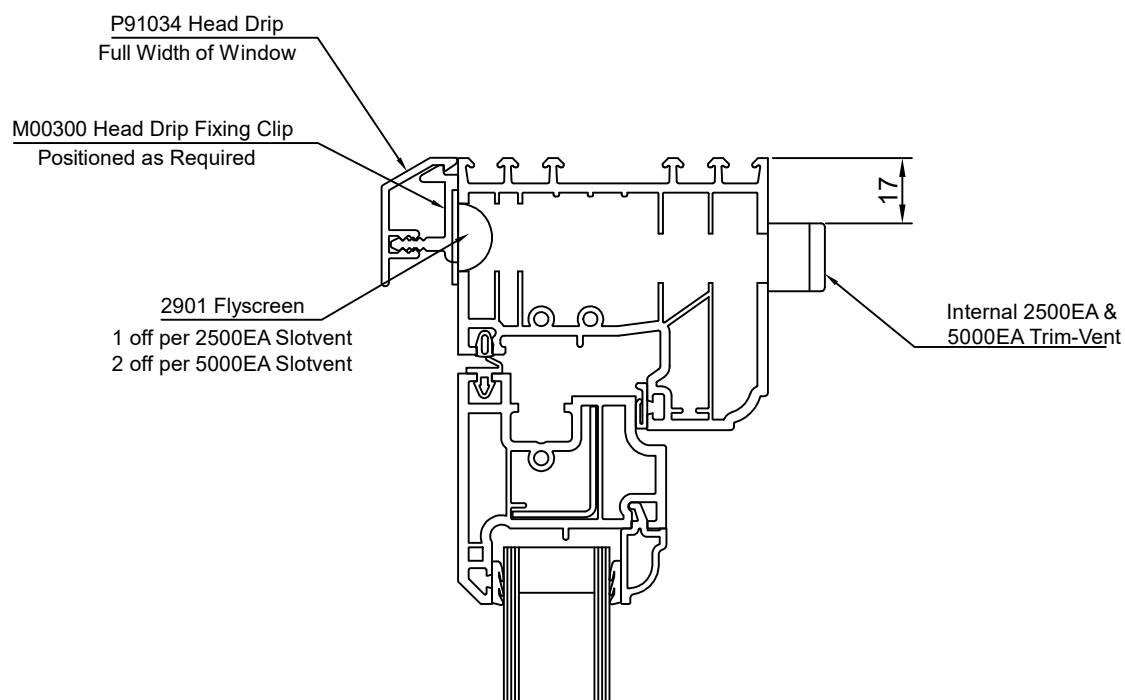
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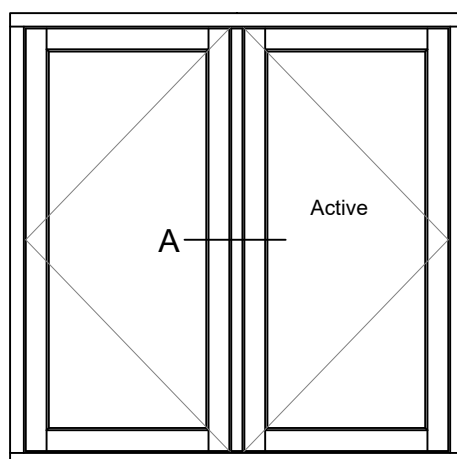
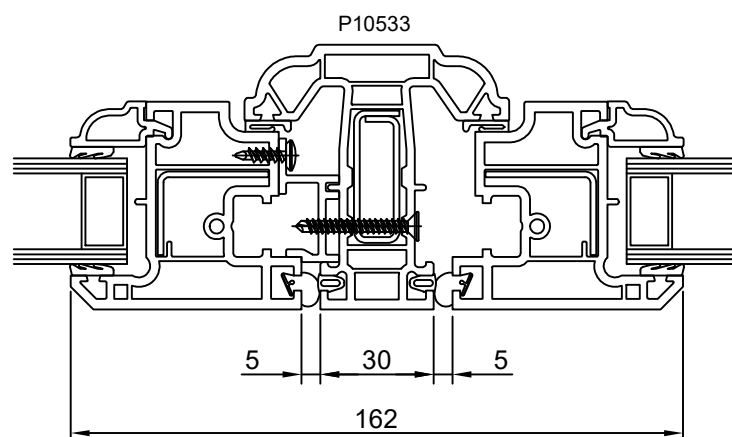


P10432 Glazing Bead

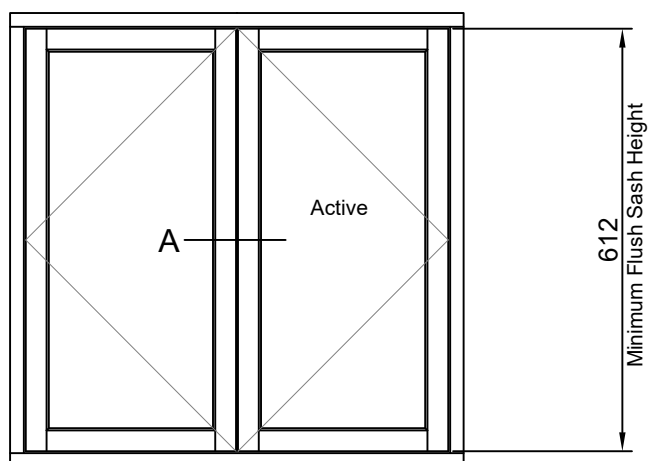
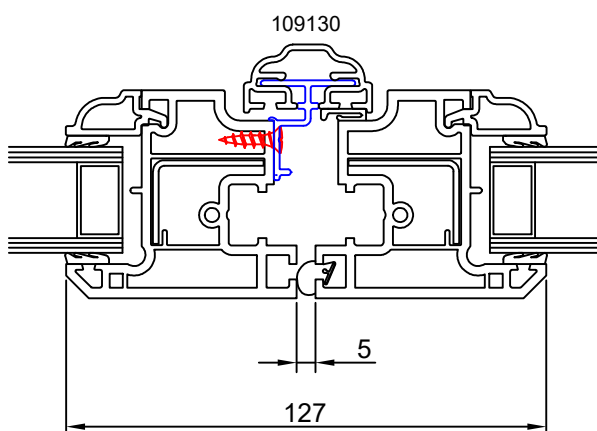




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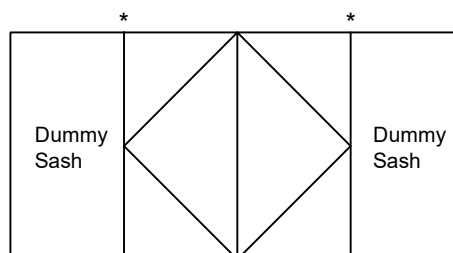
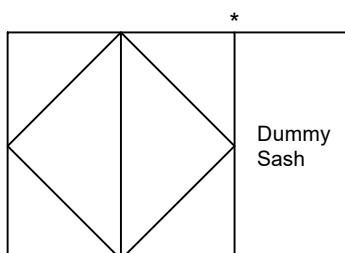
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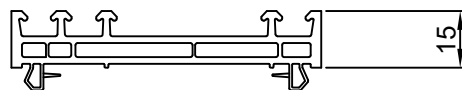
Only available in Flush 82.

NOTE. STYLE RESTRICTIONS

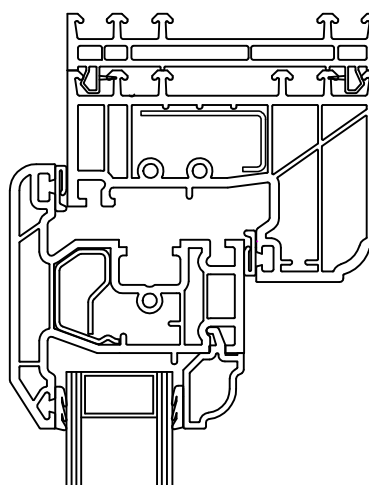
Owing to concerns regarding the security of Zero Sightline mullions, Evolution Windows are currently unable to manufacture the 'Invisiline' window in the styles shown below, where Zero Sightline mullions are required between the opening and dummy sashes (shown *).



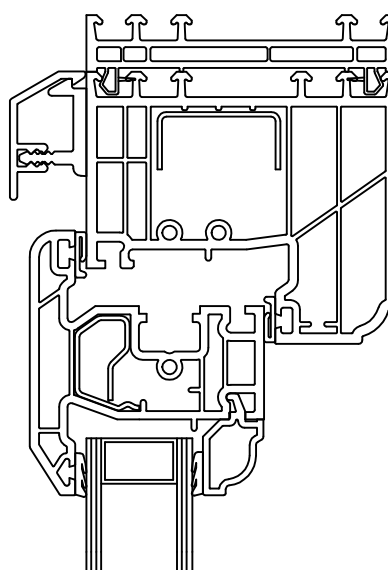
114 040 15mm Frame Extender



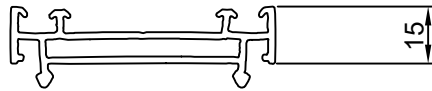
Clips to Head, Sides or Bottom of
any Storm 2 Window or Door Outer Frame



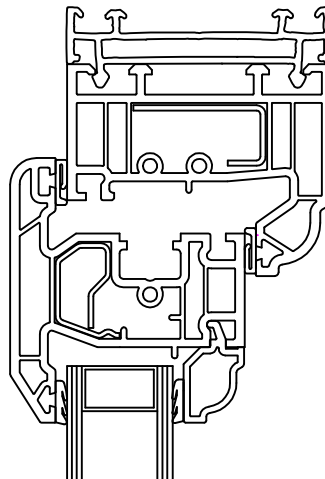
Please Note
If used in conjunction with Head Drip Bar,
the Extender will sit above the top of the
Outer Frame



114 063 15mm Frame Extender

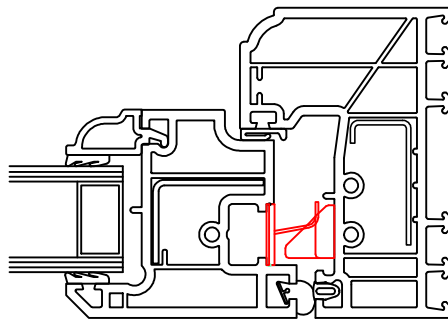
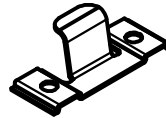
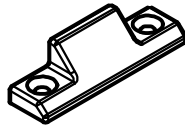


Clips to Head, Sides or Bottom of
any Storm 1 Window or Door Outer Frame



Pull-in Block (Black)
Part No. 140117101000

Pull-in Clip (Steel)
Part No. 140117200000



Enables the Flush casement sash to achieve improved weather performance regarding air permeability, moving from a Class 3 to Class 4

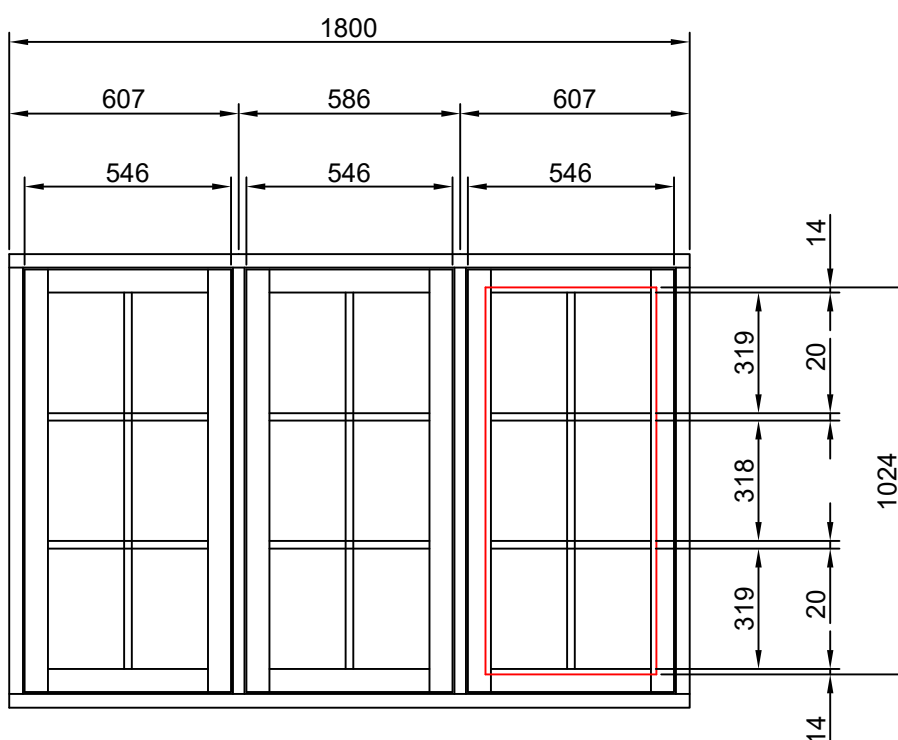
May also help prevent bowing in tall / wide sashes.

Part of the ethos of Evolution Windows when manufacture first started was to create windows with equal sight lines. This applied to both the window sashes, and the glass when fitted with Georgian bars.

In the first instance, this meant a commitment to dummy sashes where no openers were required.

To achieve equal sash widths in this situation it will be noted that the example window as shown below (1800mm wide) window has unequal mullion splits of 607mm / 586mm / 607mm but the 3 sash widths are identical at 546mm.

This system works for Storm and Flush casement sashes, and is our default for mullion positioning.



To apply this process to the glass, we first take the overall (in this instance) height of the sealed unit at 1024mm, which has its outline shown in Red, and firstly subtract the amount that the sealed unit sits behind the glazing bead (in this case 2 x 14mm) which gives the overall visible glass height when glazed.

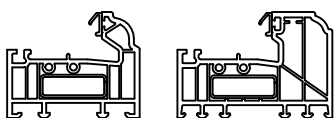
We further subtract the width of the Georgian bars, the example above which shows 2 x 20mm bars.

The final process is to divide the answer (956mm) by the amount of squares (3) and the answer will be the visible glass height of each georgian square (318.66mm) which is rounded to the figures shown above.

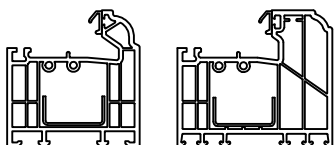
General Guidelines

These guidelines are based on Galvanised steel sections for strength purposes regardless of finish. The use of a continuous length of reinforcement is essential in all sashes, mullions and transoms. Outerframe reinforcement can be in segments except when the profile is adjacent to 20mm Couplers, Variable and Square Bay Posts. Reinforcement should be screw fixed as detailed elsewhere.

Storm 1 and Storm 2 56mm Outer Frames

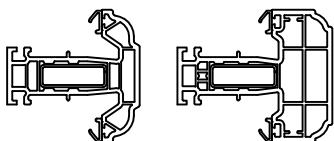


- Reinforcement: S00187
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles:
 - Reinforce over 1800mm wide
 - Reinforce over 1200mm high
- Dark Coloured Foiled & Dark Coloured Sprayed Profiles: Fully Reinforce
- All Bay Windows height: Fully Reinforce
- All Doors, Side panels, Conservatories, Porches' Dormers, Orangeries and Flags: Fully Reinforce
- Enhanced Security: Fully Reinforce



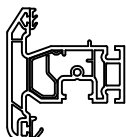
Storm 1 and Storm 2 72mm Outer Frames

- Reinforcement: S41101
- 72mm Outer Frames: Fully Reinforce all around



Storm 1 and Storm 2 70mm Mullion/Transom

- Reinforcement: S00187
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles: Reinforce over 1000mm
- Dark Coloured Foiled & Dark Coloured Sprayed Profiles: Fully Reinforce
- All Bay Windows height: Fully Reinforce
- All Doors, Side panels, Conservatories, Porches' Dormers, Orangeries and Flags: Fully Reinforce
- Enhanced Security: Fully Reinforce

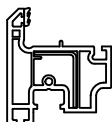


S00184



Storm Casement Sash - Opening and Dummy

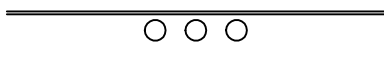
- Reinforcement: S00183 or S00184 when Extreme hinges required
- White or Light Coloured Foiled & White or Light Sprayed Profiles:
 - Reinforce over 650mm width and 1200mm height Side Hung*
 - Reinforce over 1000mm width and 1000mm height Top Hung
- Dark Coloured Foiled & Dark Coloured Sprayed Profiles: Fully Reinforce
- Enhanced Security: Fully Reinforce
- Note: The base member of all triple glazed sashes must be reinforced



Flush Casement Sash - Opening and Dummy

- Reinforcement: S00226 or S00227 Pre-Punched for handle member
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles:
 - Reinforce over 650mm width and 1050mm height Side Hung
 - Reinforce over 1000mm width and 1000mm width Top Hung
- Dark Coloured Foiled & Dark Coloured Sprayed Profiles: Fully Reinforce
- Enhanced Security: Fully Reinforce
- Note: The base member of all triple glazed sashes must be reinforced

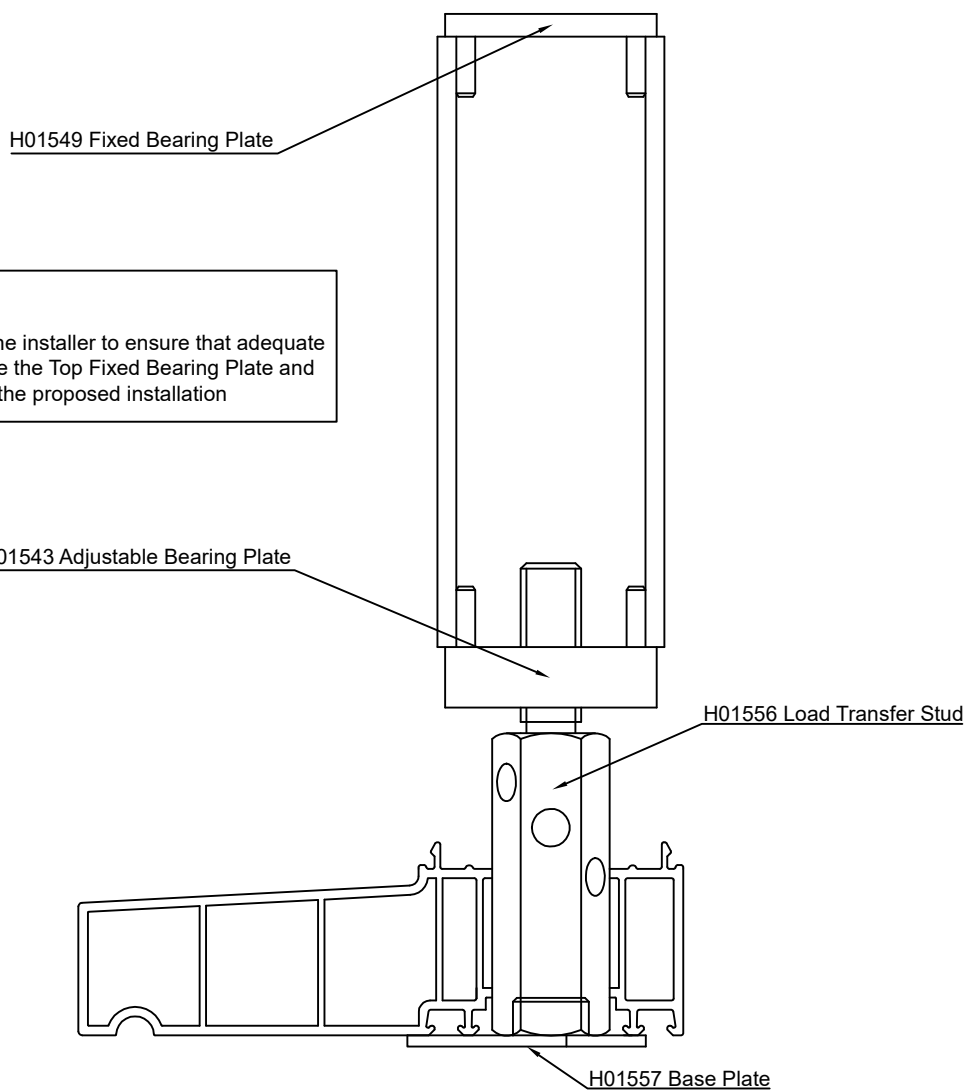
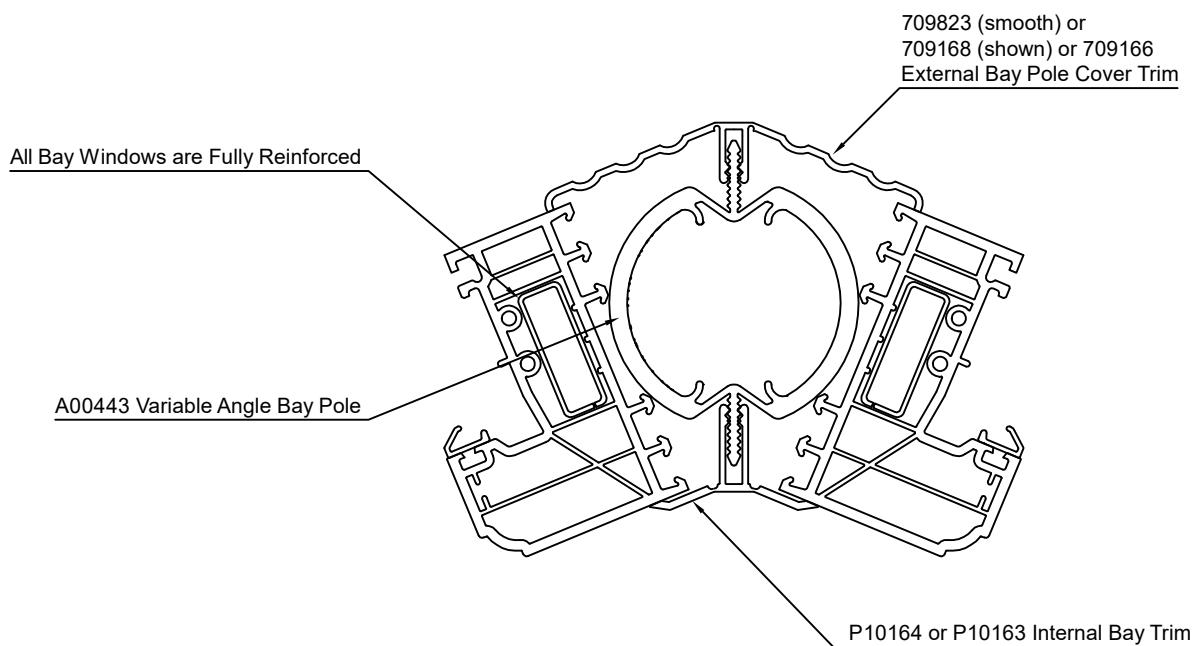
S00227 Pre-Punched





Section

2

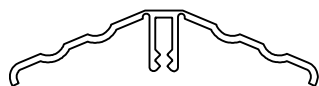


IMPORTANT

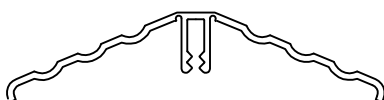
It is the responsibility of the installer to ensure that adequate support is provided above the Top Fixed Bearing Plate and below the Base Plate for the proposed installation

Sculptured External Bay Pole Cover Trim

709166 (P10166)

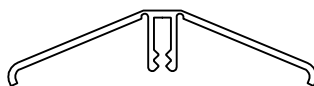


709168 (P10168)

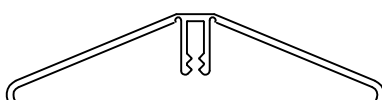


Smooth External Bay Pole Cover Trim

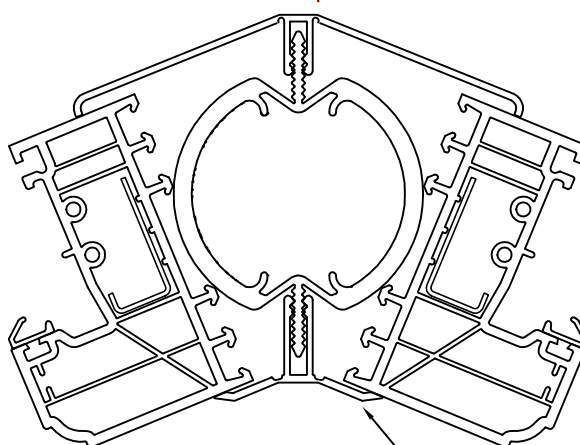
709165 (P10165)



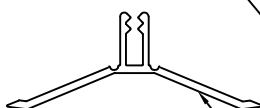
709167 (P10167)



709823 (P90167)

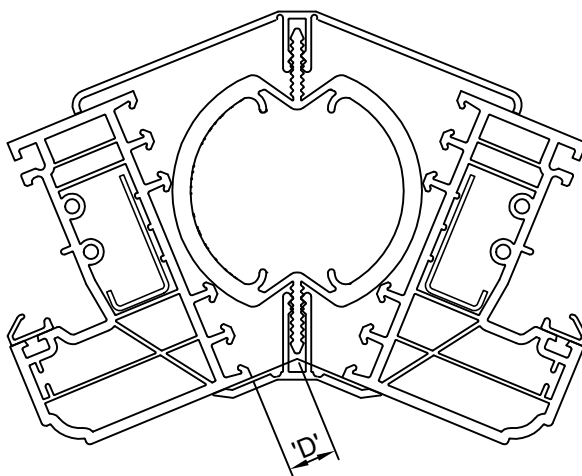


709164 (P10164) Internal Bay Pole Cover Trim



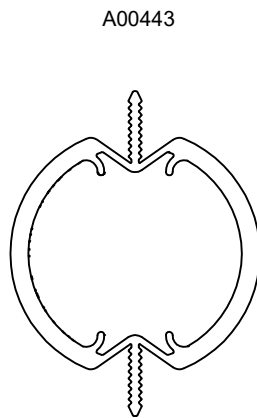
709163 (P10163) Internal Bay Pole Cover Trim

Bay Angle	External Bay Pole Cover	Internal Bay Pole Cover
110° - 118°	709823 (P90167)	No Internal Cover ***
119° - 138°	709823 (P90167)	709164 (P10164)
139° - 145°	709167 (P10167)	709163 (P10163)
146° - 169°	709167 (P10167)	709163 (P10163)



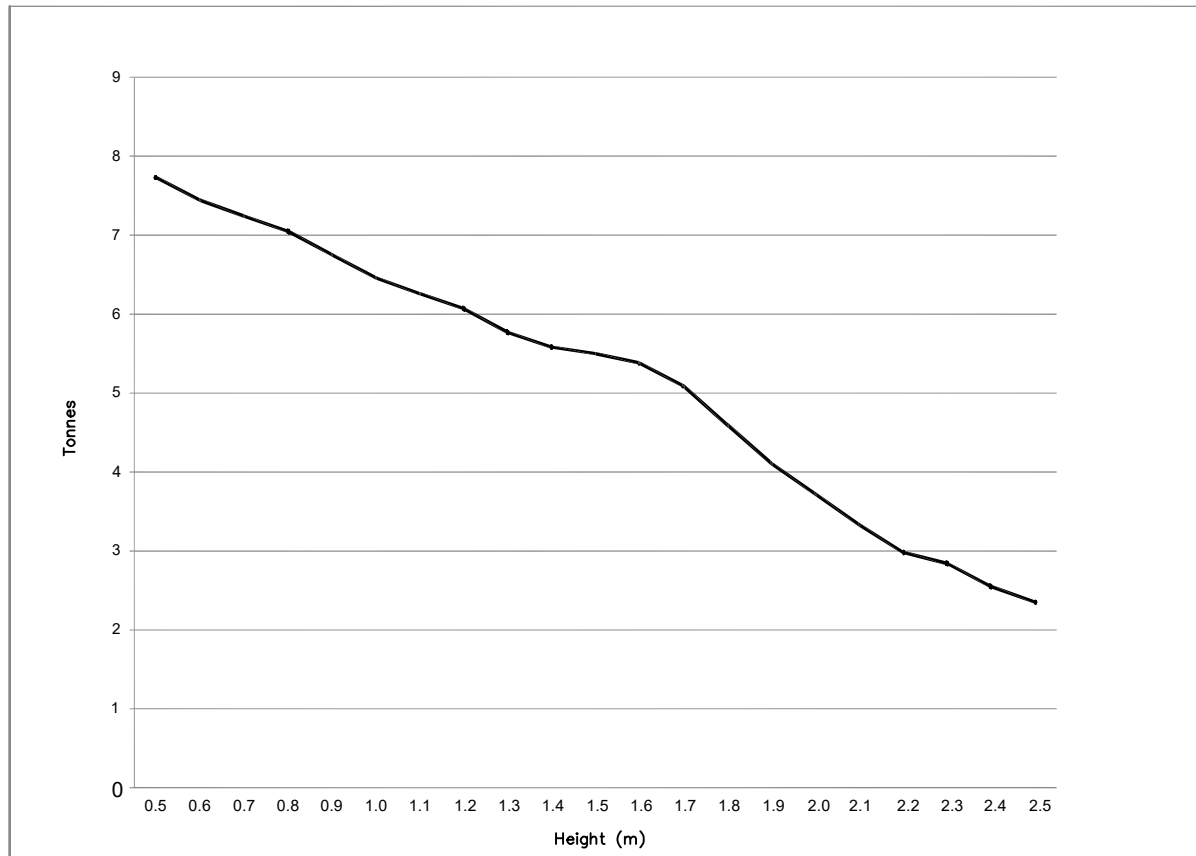
Bay Angle	Deduction 'D' mm
110°	0.9
111°	1.4
112°	1.9
113°	2.5
114°	3.0
115°	3.5
116°	4.0
117°	4.5
118°	5.0
119°	5.4
120°	5.9
121°	6.4
122°	6.9
123°	7.3
124°	7.8
125°	8.3
126°	8.7
127°	9.2
128°	9.6
129°	10.0
130°	10.5
131°	11.0
132°	11.3
133°	11.8
134°	12.2
135°	12.6
136°	13.0
137°	13.4
138°	13.9
139°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

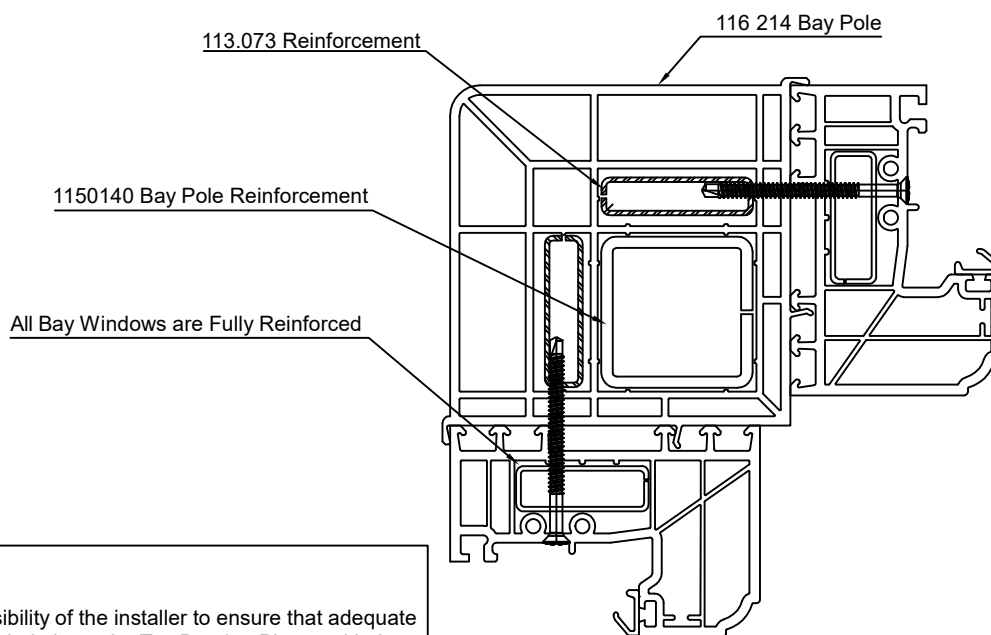
Bay Angle	Deduction 'D' mm
140°	14.7
141°	15.1
142°	15.5
143°	15.9
144°	16.3
145°	16.7
146°	17.1
147°	17.5
148°	17.8
149°	18.2
150°	18.6
151°	19.0
152°	19.4
153°	19.8
154°	20.1
155°	20.5
156°	20.9
157°	21.3
158°	21.6
159°	22.0
160°	22.4
161°	22.7
162°	23.1
163°	23.5
164°	23.8
165°	24.2
166°	24.6
167°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



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

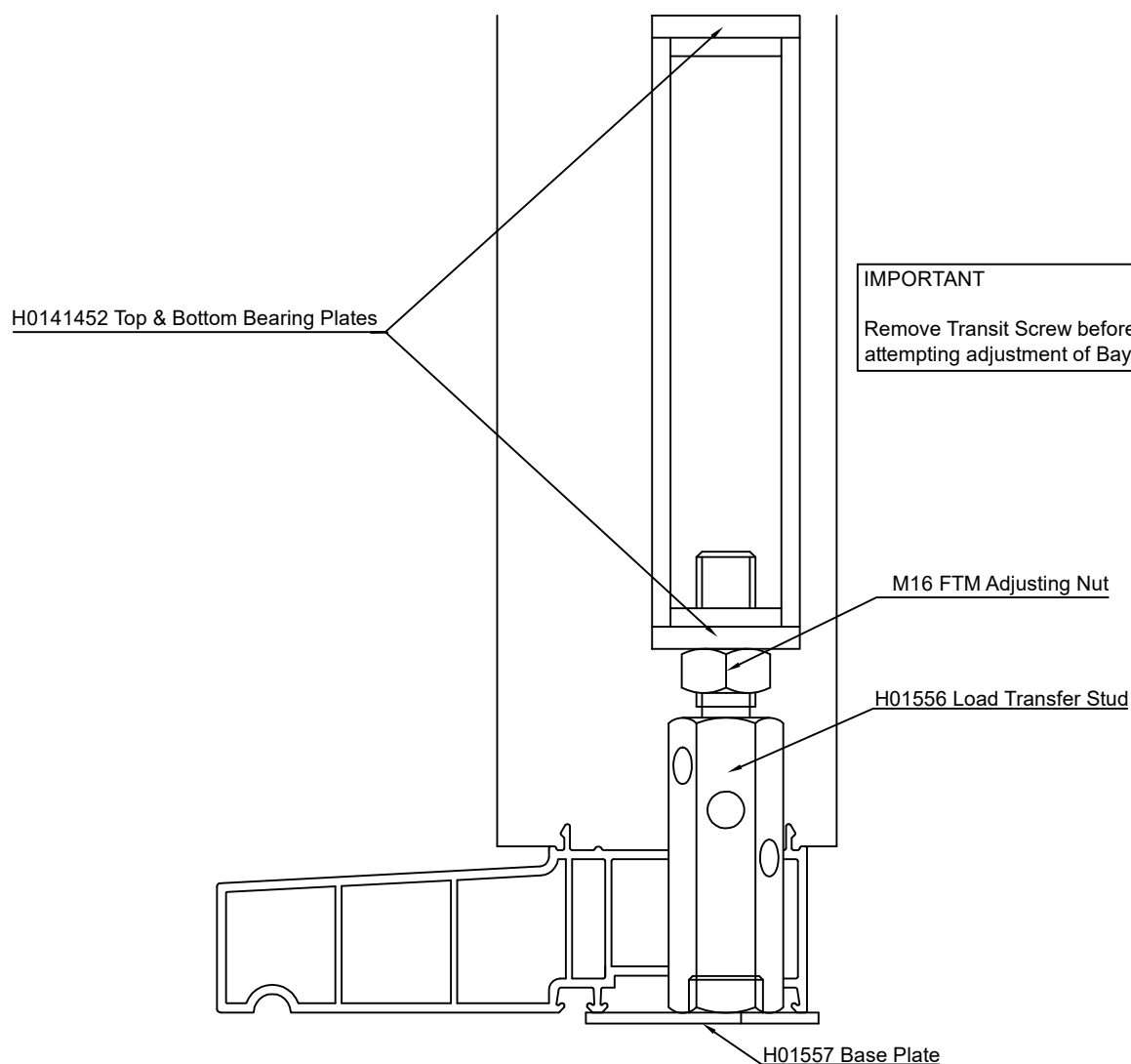
Please note that the use of our adjustable bay jacking kits limits the load bearing capacity to 3 tonnes



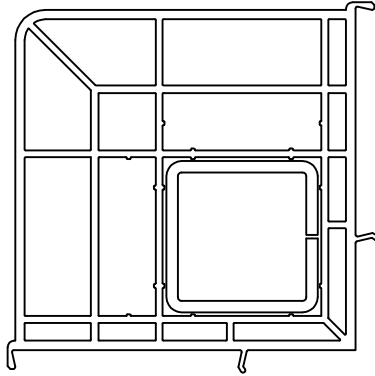


IMPORTANT

It is the responsibility of the installer to ensure that adequate support is provided above the Top Bearing Plate and below the Base Plate for the proposed installation

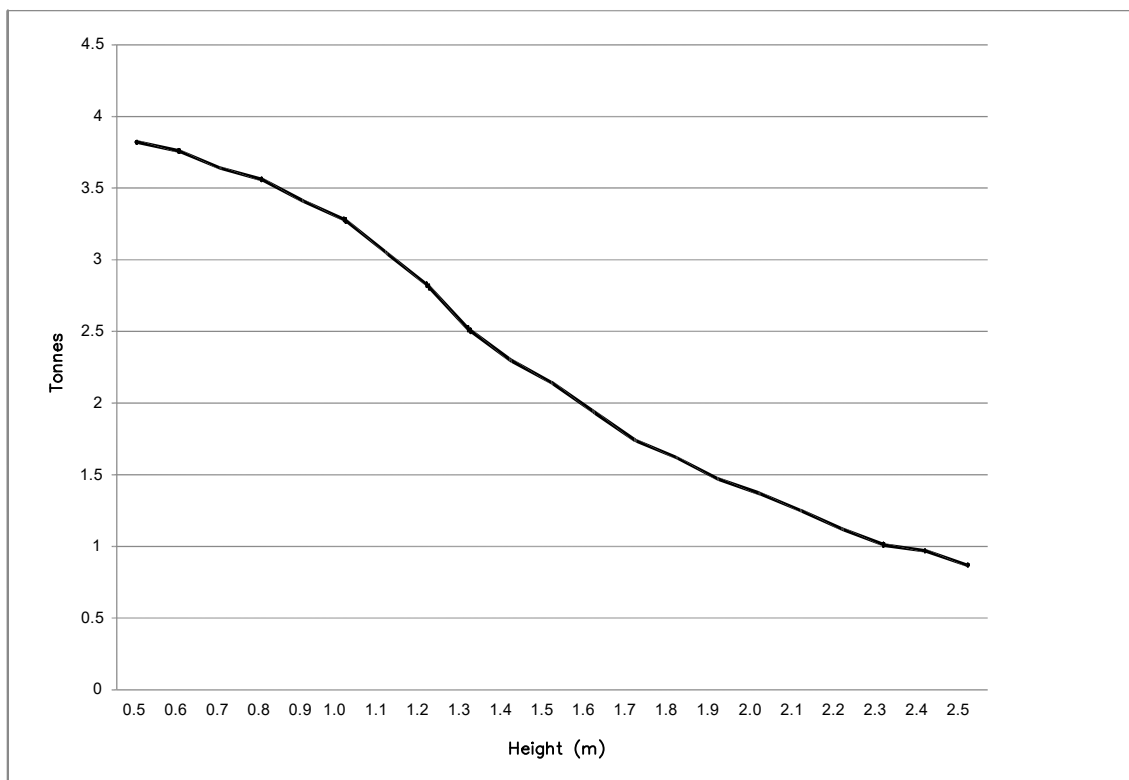


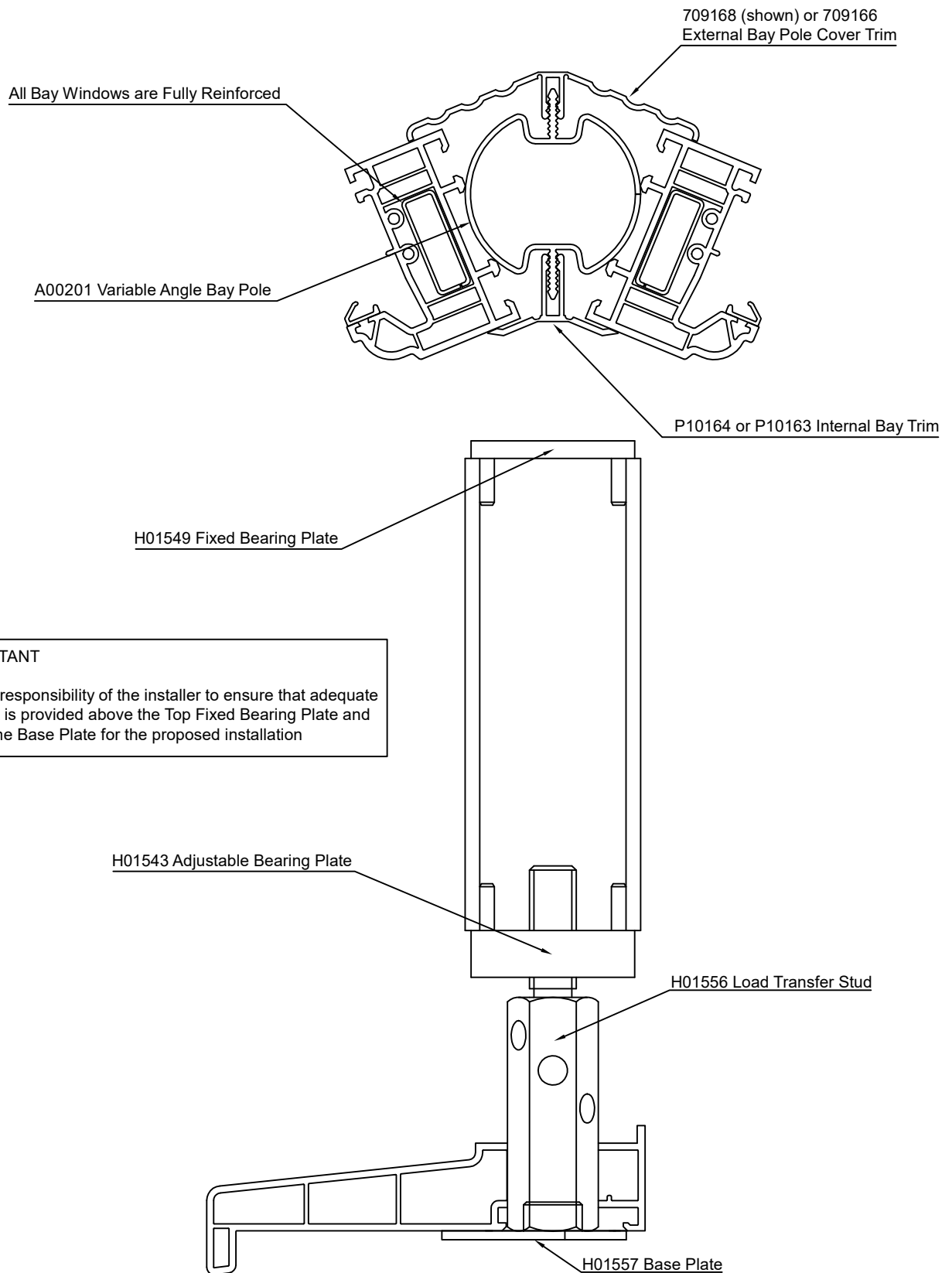
113128



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

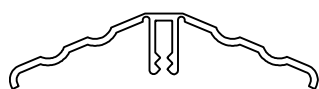
Please note that the use of our adjustable bay jacking kits limits the load bearing capacity to 3 tonnes



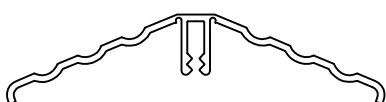


Sculptured External Bay Pole Cover Trim

709166 (P10166)

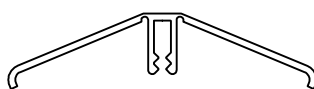


709168 (P10168)

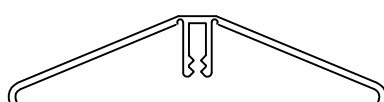


Smooth External Bay Pole Cover Trim

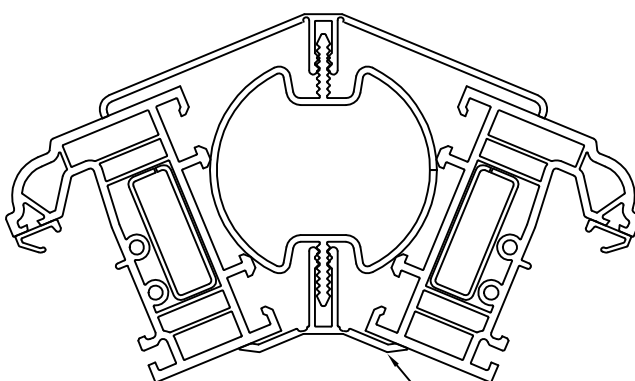
709165 (P10165)



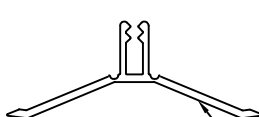
709167 (P10167)



709823 (P90167)



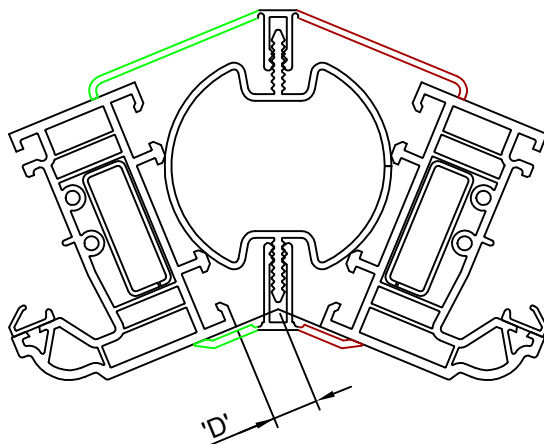
P10164



709164 (P10164) Internal Bay Pole Cover Trim

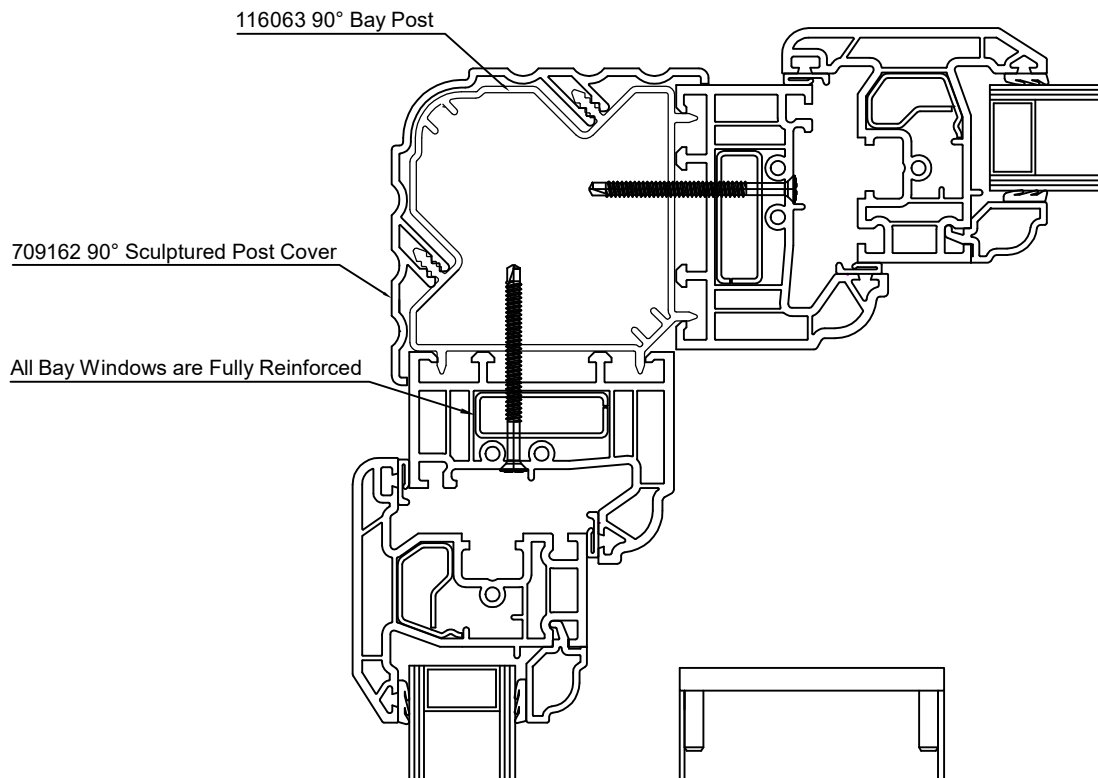
709163 (P10163) Internal Bay Pole Cover Trim

Bay Angle	External Bay Pole Cover	Internal Bay Pole Cover
106° - 116°	709823 (P90167)	No Internal Cover ***
117° - 120°	709823 (P90167)	709164 (P10164)
121° - 135°	709167 (P10167)	709164 (P10164)
136° - 150°	709167 (P10167)	709163 (P10163)
151° - 169°	709165 (P10165)	709163 (P10163)



Bay Angle	Deduction 'D' mm
110°	2.0
111°	2.5
112°	2.9
113°	3.4
114°	3.8
115°	4.2
116°	4.6
117°	5.0
118°	5.4
119°	5.8
120°	6.2
121°	6.7
122°	7.1
123°	7.5
124°	7.9
125°	8.3
126°	8.7
127°	9.1
128°	9.5
129°	9.8
130°	10.2
131°	10.5
132°	10.9
133°	11.4
134°	11.8
135°	12.1
136°	12.4
137°	12.7
138°	13.1
139°	13.5

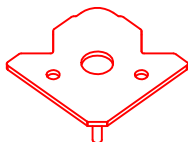
Bay Angle	Deduction 'D' mm
140°	13.8
141°	14.1
142°	14.5
143°	14.8
144°	15.2
145°	15.5
146°	15.8
147°	16.1
148°	16.5
149°	16.8
150°	17.2
151°	17.5
152°	17.8
153°	18.1
154°	18.4
155°	18.7
156°	19.0
157°	19.3
158°	19.7
159°	20.0
160°	20.4
161°	20.7
162°	21.0
163°	21.3
164°	21.6
165°	21.9
166°	22.2
167°	22.5
168°	22.8
169°	23.2



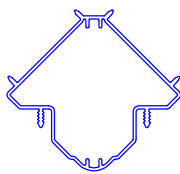
IMPORTANT

It is the responsibility of the installer to ensure that adequate support is provided above the Top Bearing Plate and below the Base Plate for the proposed installation

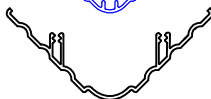
744783
Bearing Plate
for 116063



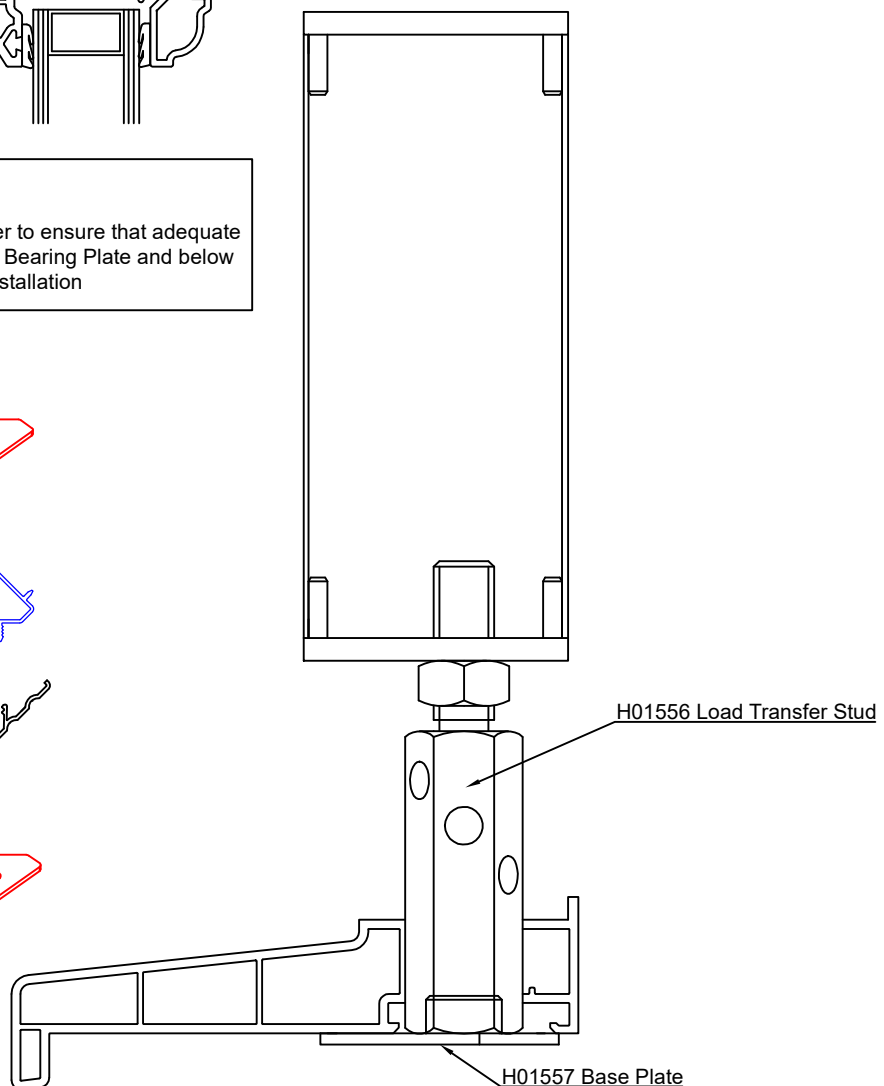
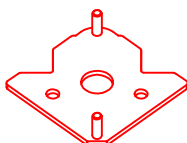
116063
90° Bay Post

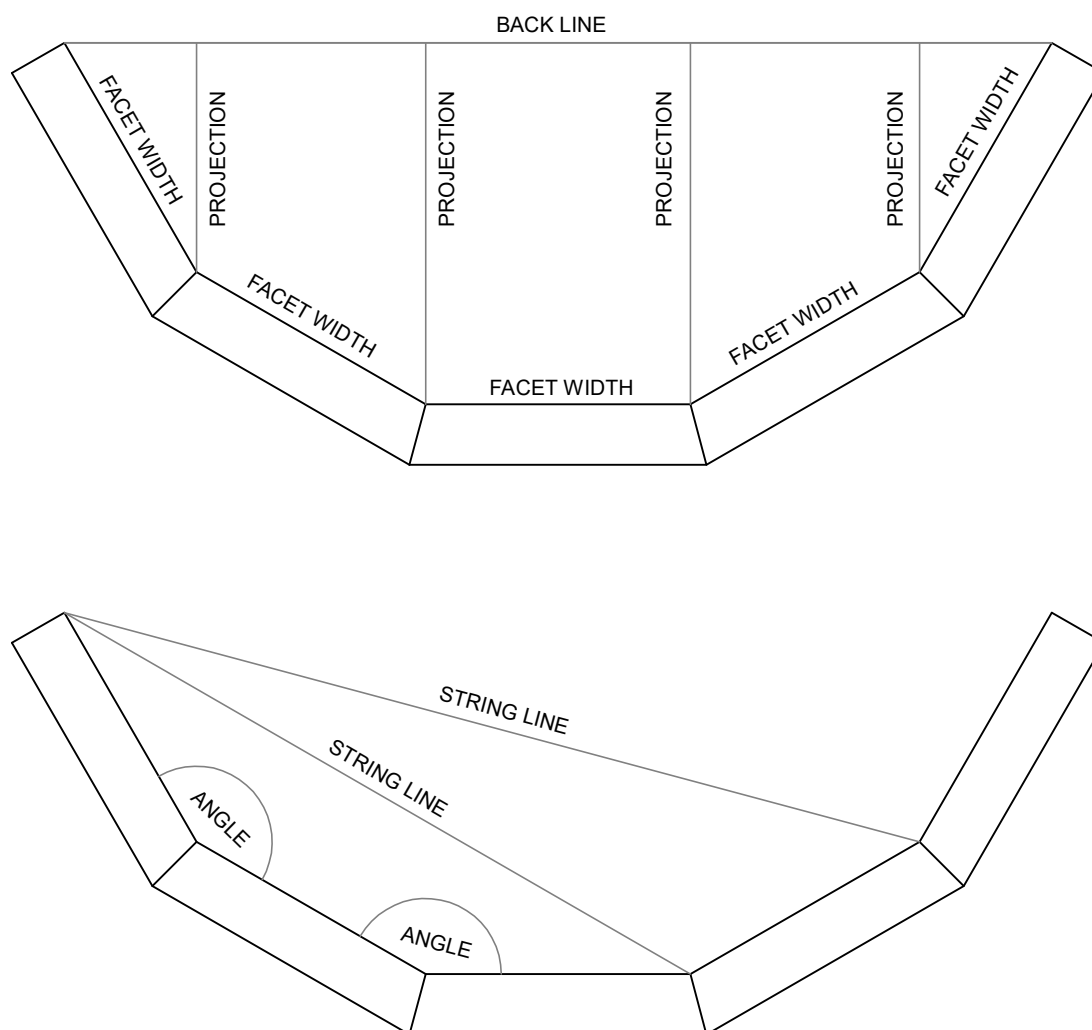


709162
90° Sculptured
Post Cover



744783
Bearing Plate
for 116063





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.

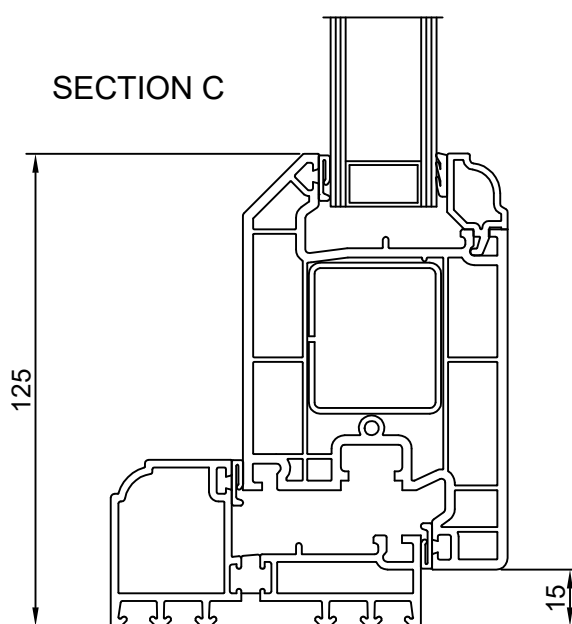
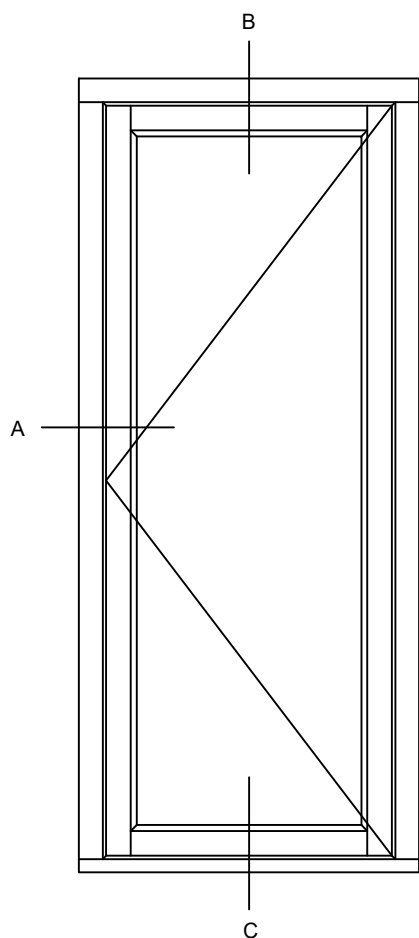
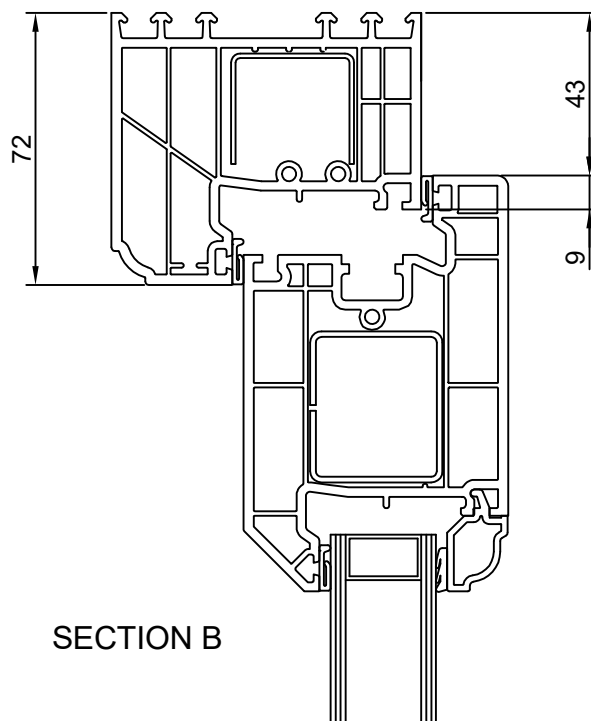
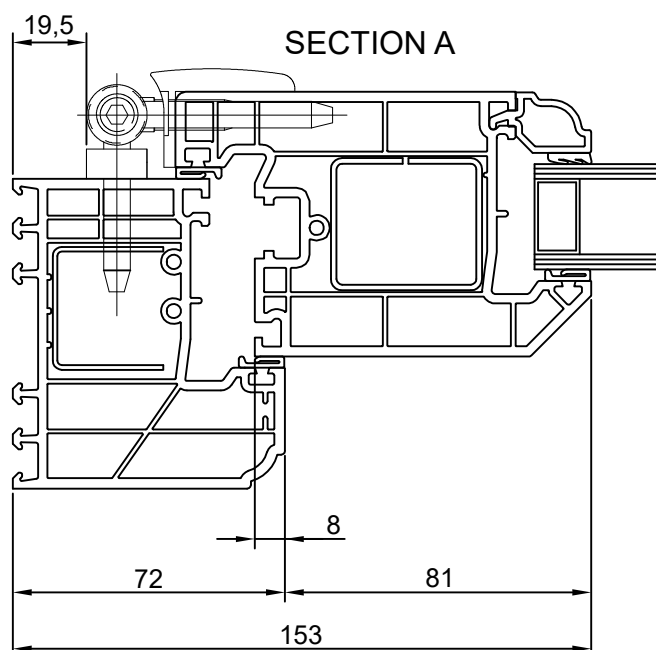
All Evolution Bay Windows should be measured internally to allow them to fit back to existing window boards. If existing Bay Window frames have to be measured externally it is crucial that we know the thickness of the existing frames. Our software will only recognise 82mm and 70mm thick framework when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

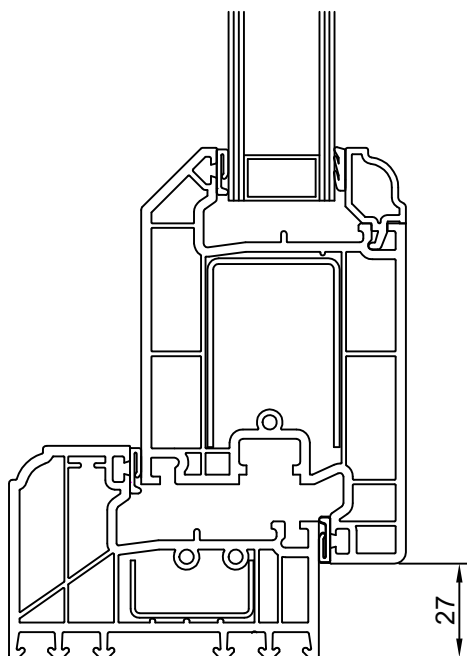


Section

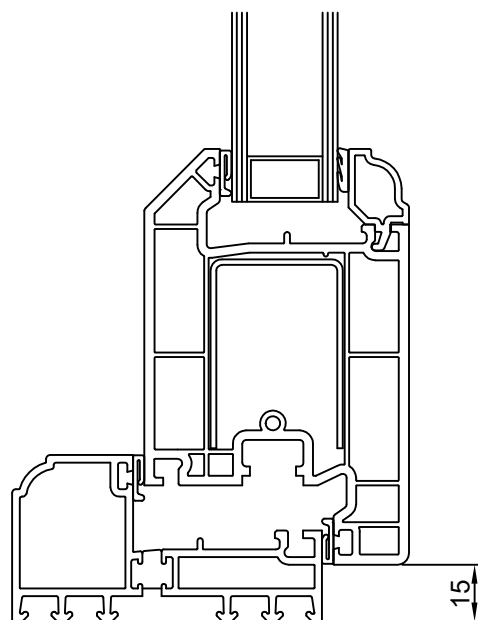
3

A 56mm deep top rail can also be used

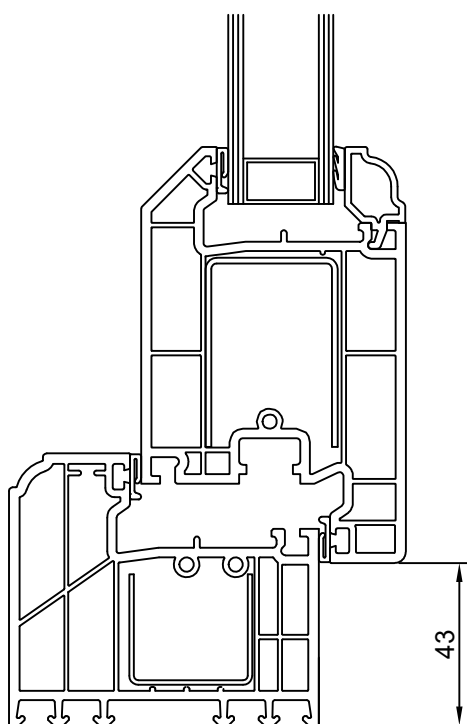




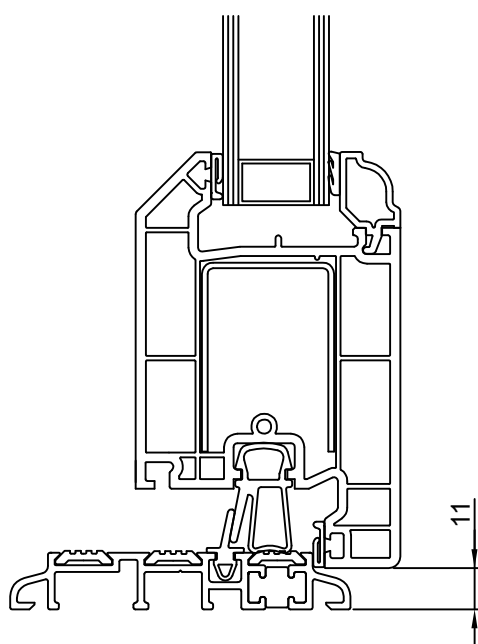
56mm PVC Threshold



44mm Aluminium Threshold

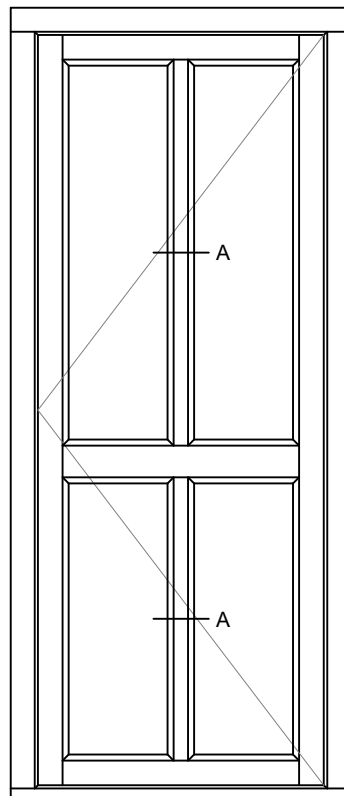
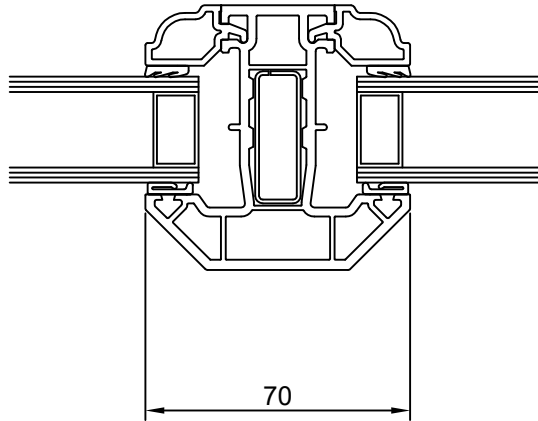


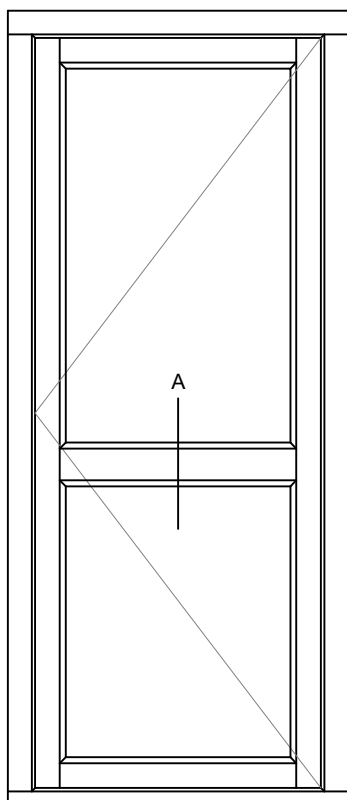
72mm PVC Threshold



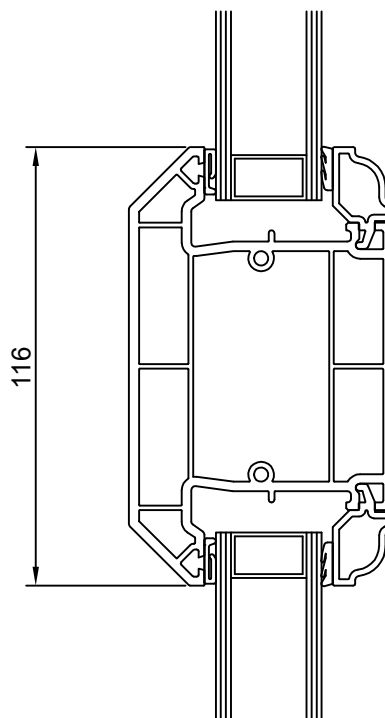
Part M Aluminium Threshold
Not available for use on French Doors
Cannot be guaranteed against air and water infiltration

SECTION A

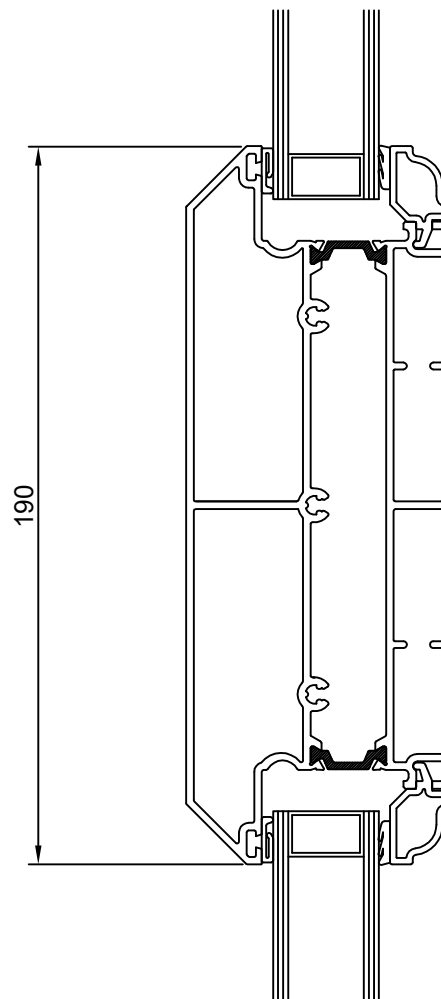
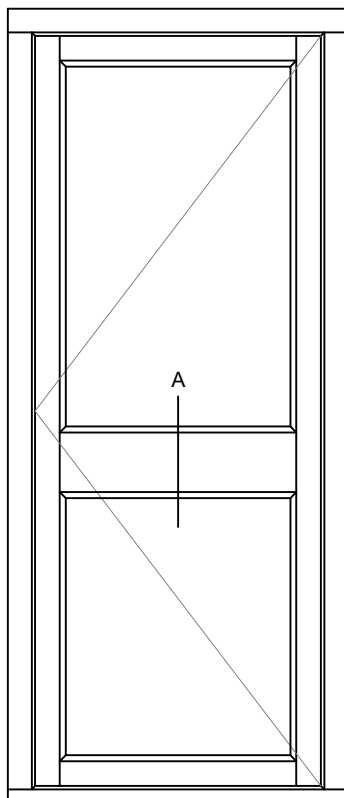




SECTION A



SECTION A



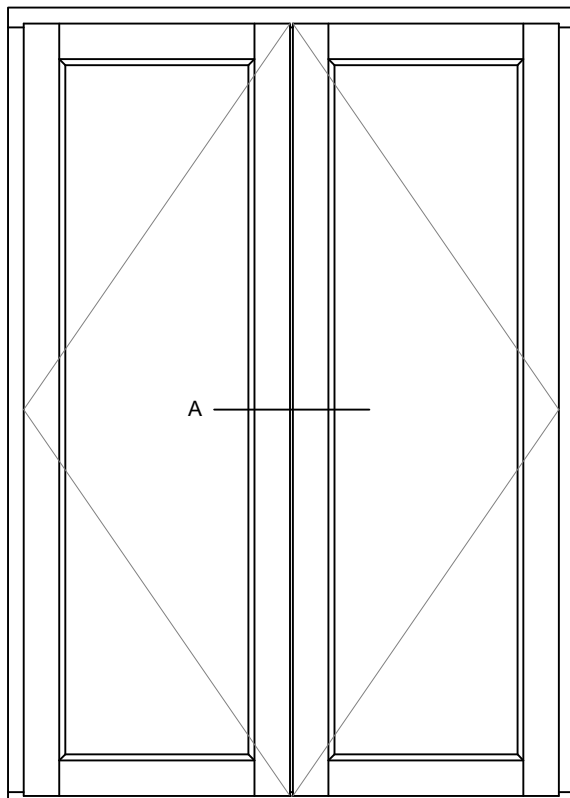
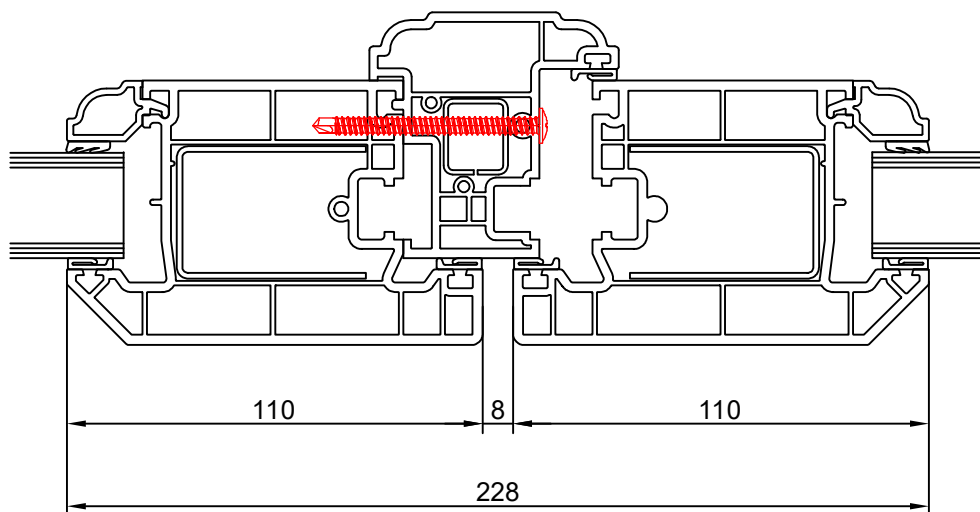
Please note.

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.

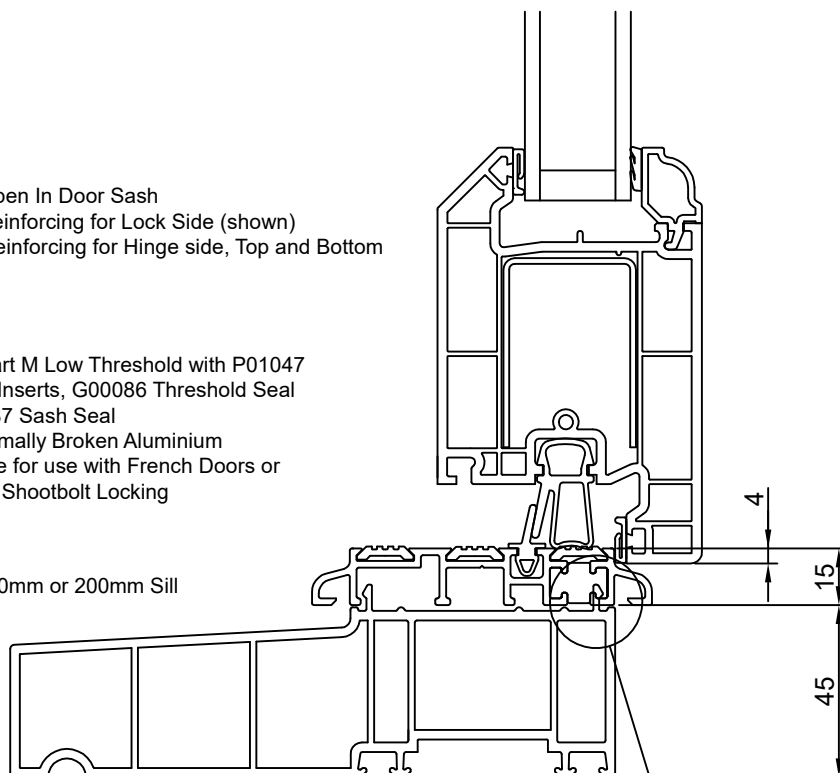
SECTION A



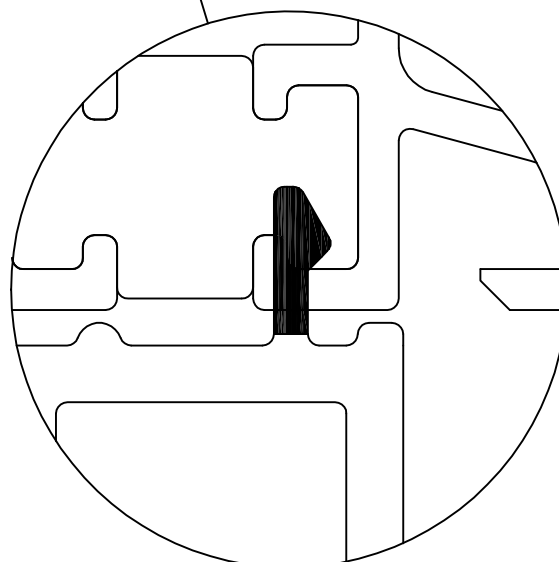
P10510 Open In Door Sash
S00163 Reinforcing for Lock Side (shown)
S00164 Reinforcing for Hinge side, Top and Bottom

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

Storm 2 160mm or 200mm Sill



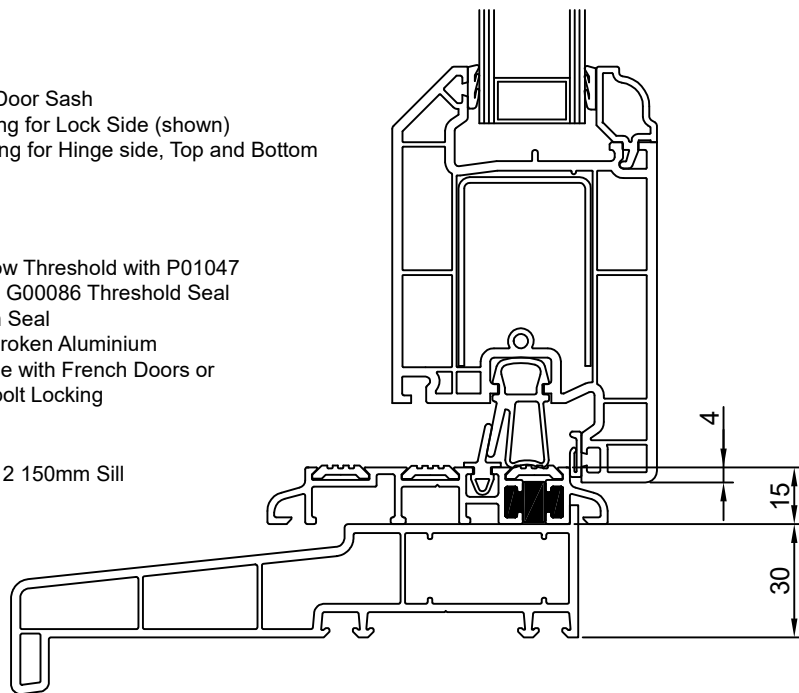
REMOVE REAR UPSTAND FROM SILL



P10510 Open In Door Sash
S00163 Reinforcing for Lock Side (shown)
S00164 Reinforcing for Hinge side, Top and Bottom

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

110103 Storm 1 & 2 150mm Sill



CALCULATION:

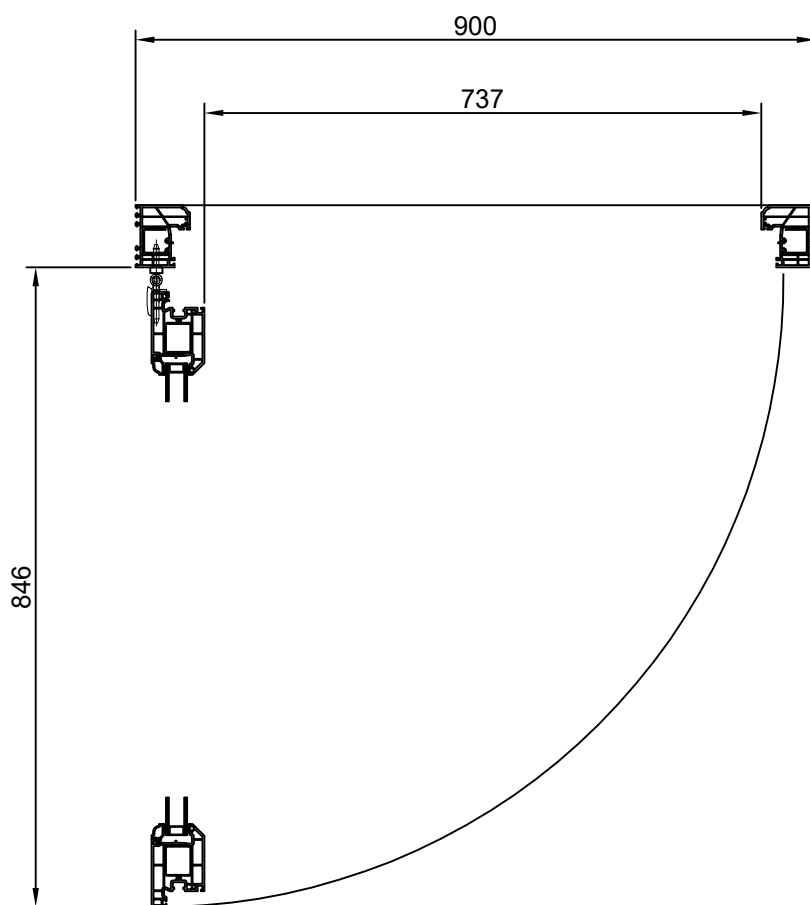
Overall Frame width (not including Frame Extenders) minus 54mm

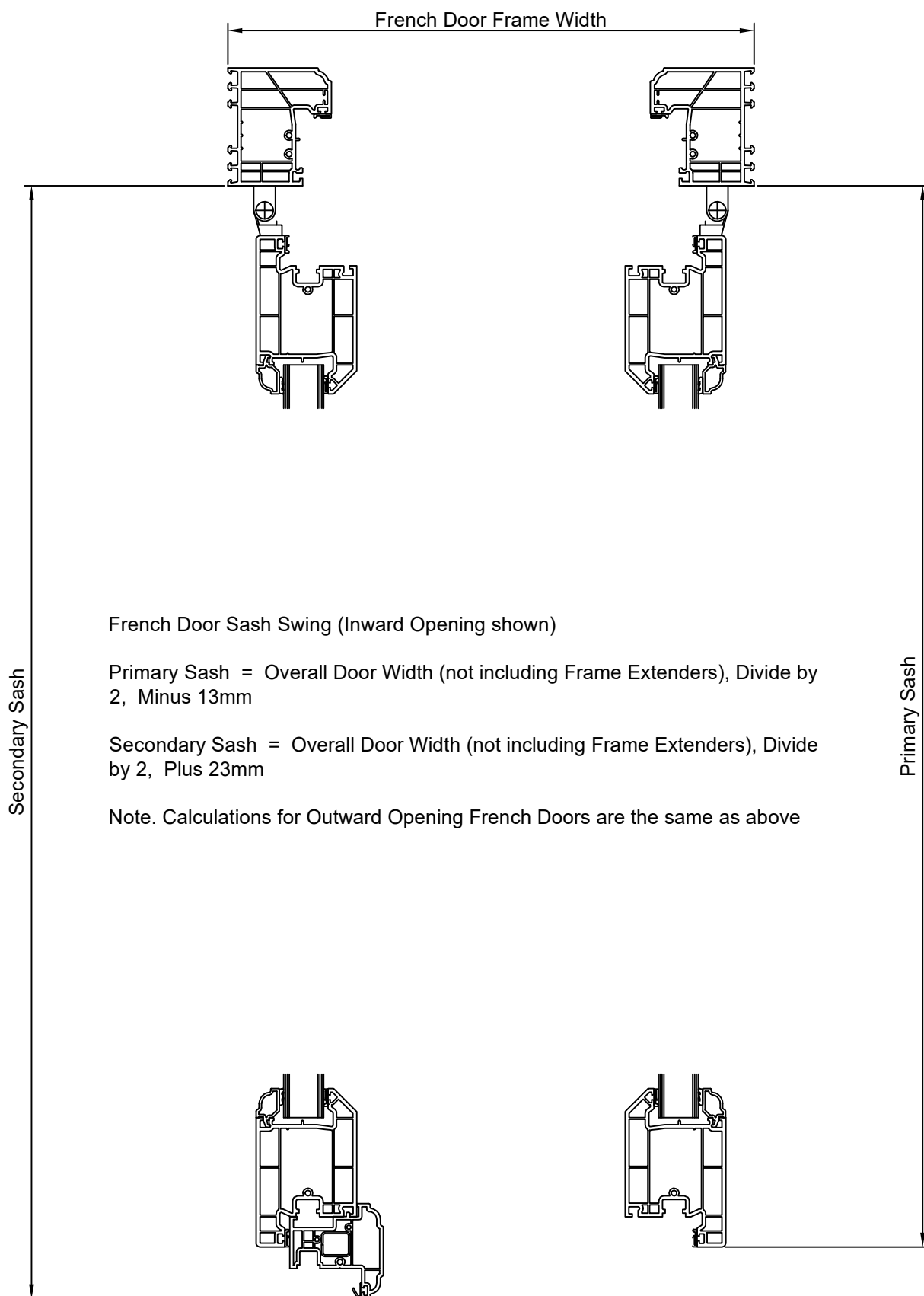
EXAMPLE:

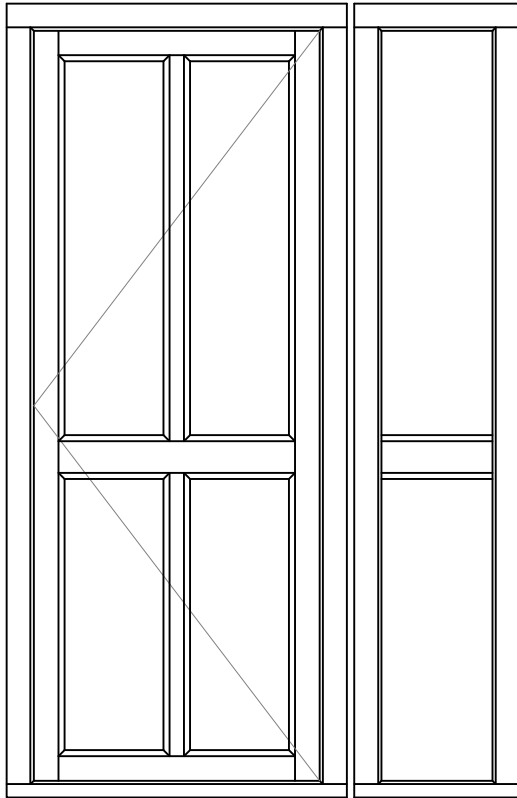
Overall Frame Width of 900mm - 54mm = 846mm Door Swing

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



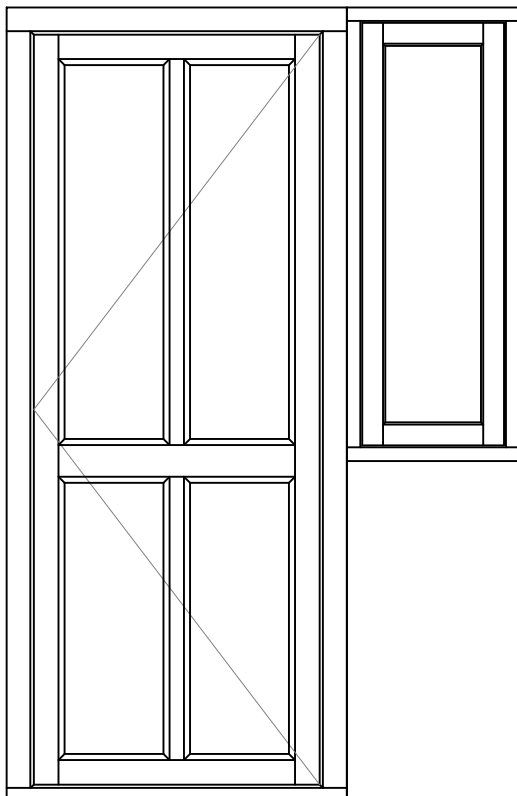




DOOR WITH FULL HEIGHT SIDE PANEL

20mm Coupler Only

Reinforced 72mm or 56mm Outer Frame adjacent to Door



DOOR WITH PARTIAL HEIGHT SIDE WINDOW

20mm or 2mm Coupler

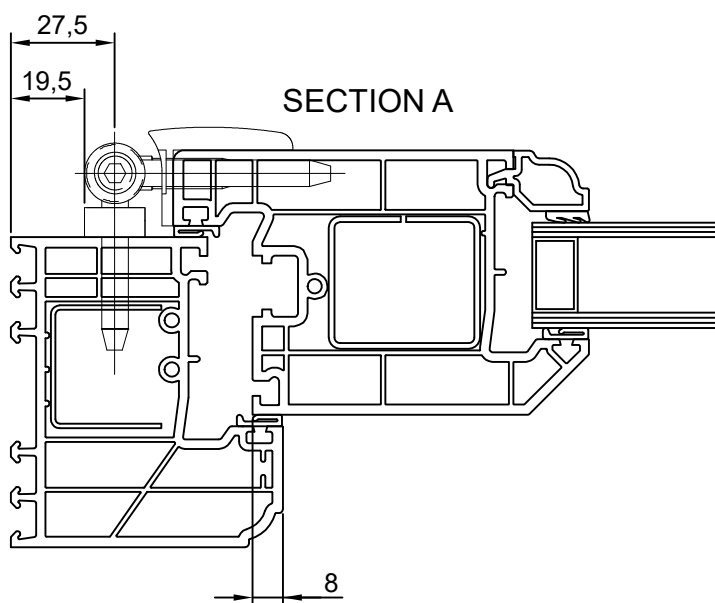
If using 20mm Coupler:

Reinforced 72mm or 56mm Outer Frame adjacent to Door

If using 2mm Coupler:

Reinforced 72mm Outer Frame Only adjacent to Door

THE USE OF TOWNHOUSE LOCKS IS NOT RECOMMENDED IN EITHER OF THE ABOVE SITUATIONS



Top of Sash to
Centre of Hinge

160

Hinge Body Height

100

Bottom of Sash to
Centre of Hinge

160

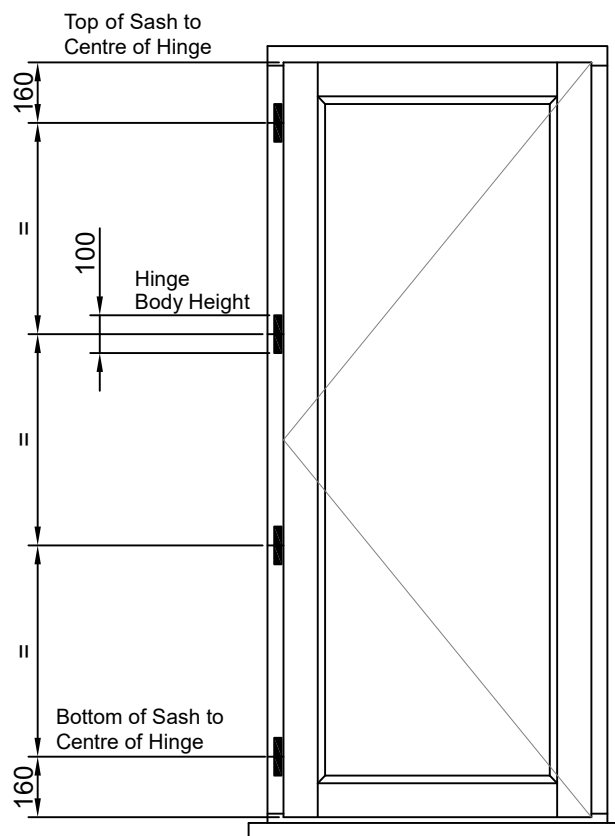
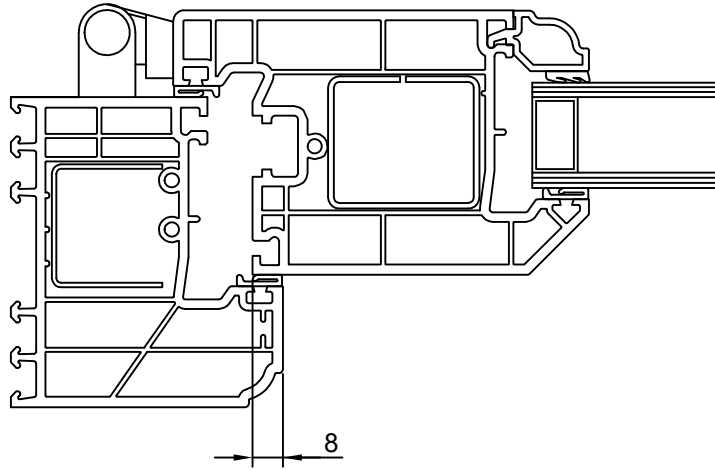
150

150

150

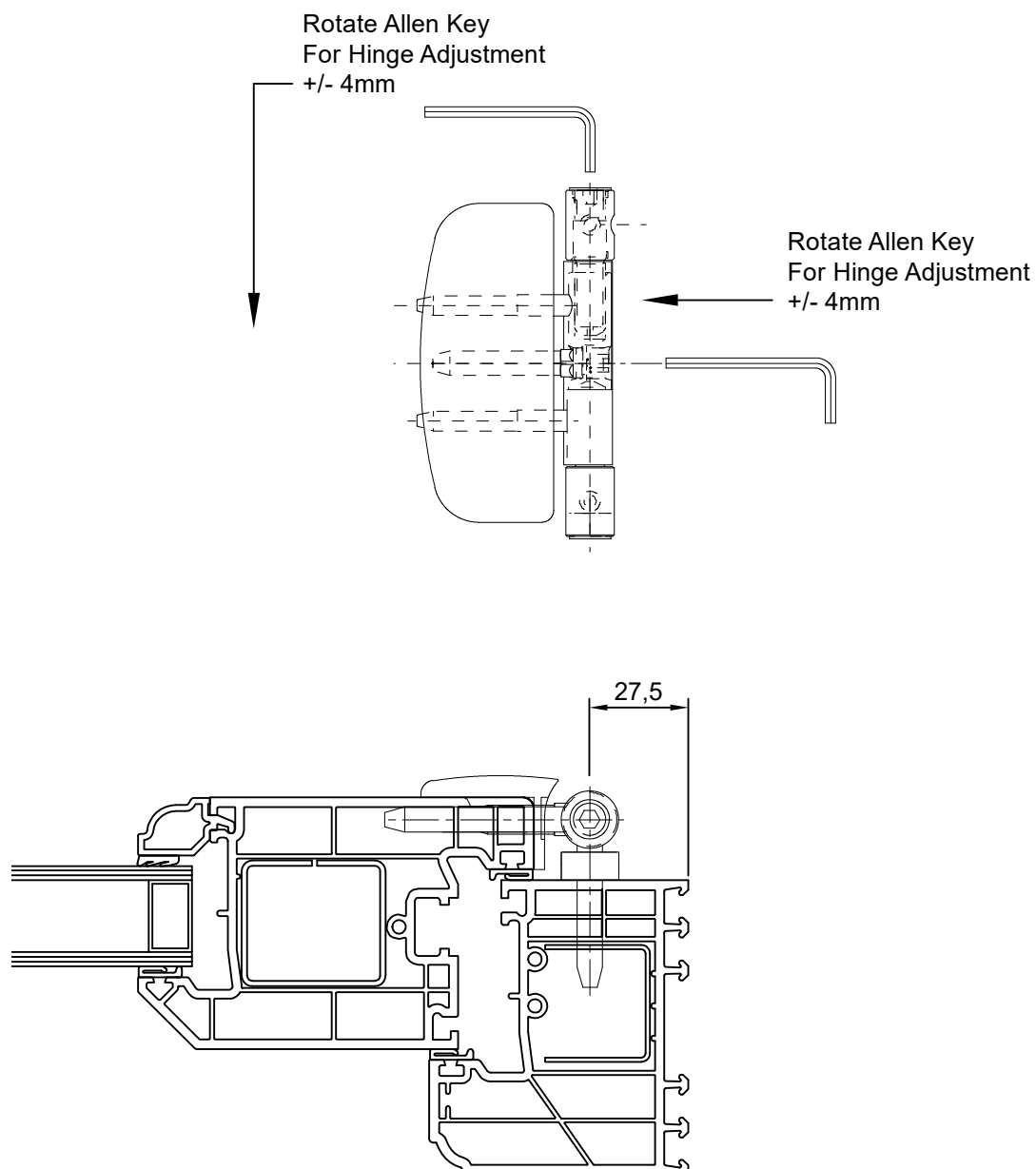
150

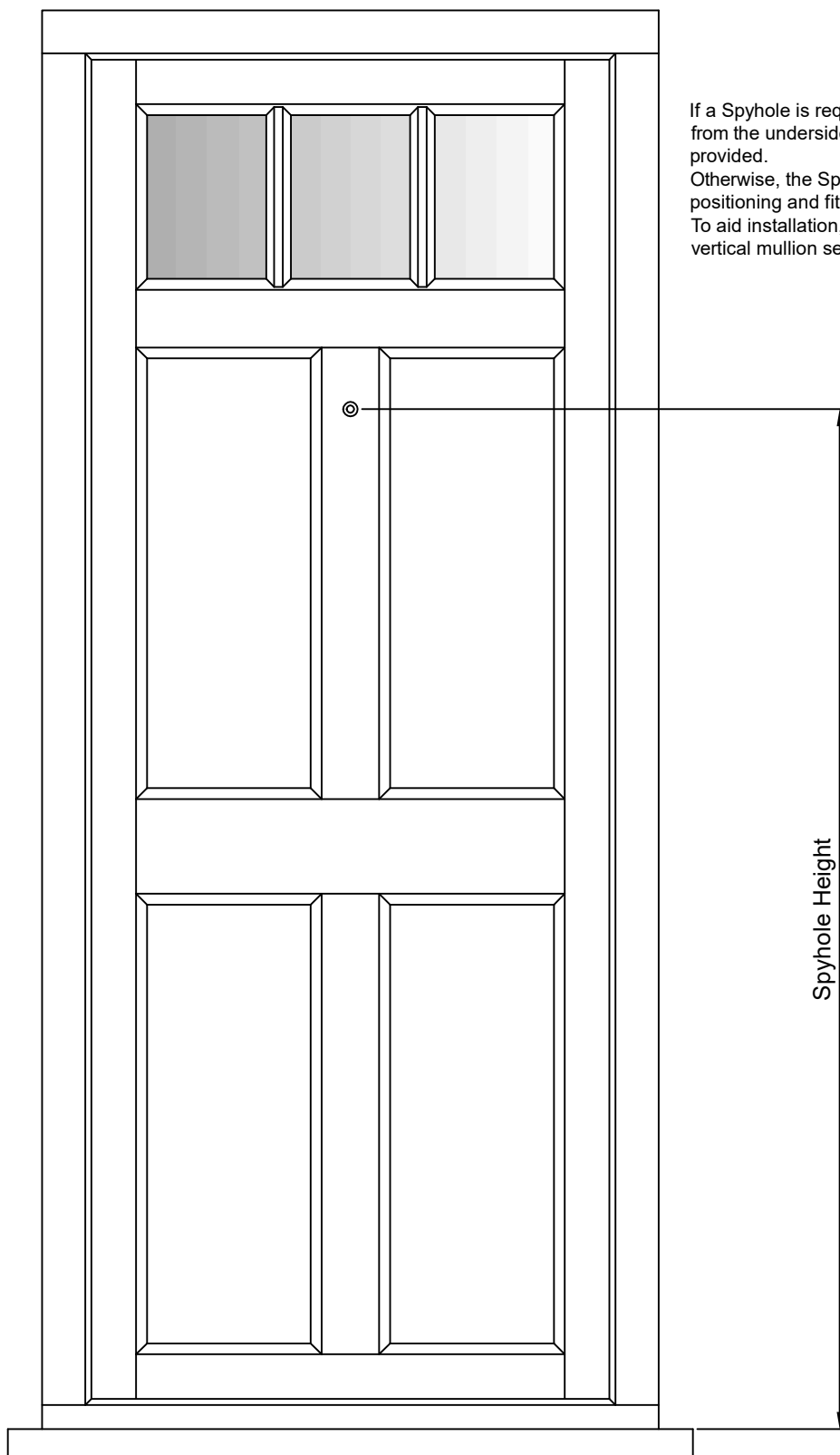
Bottom Hinges can be positioned further
up to help clearance of large skirtings etc.



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

Enhanced Security For EDC Doors



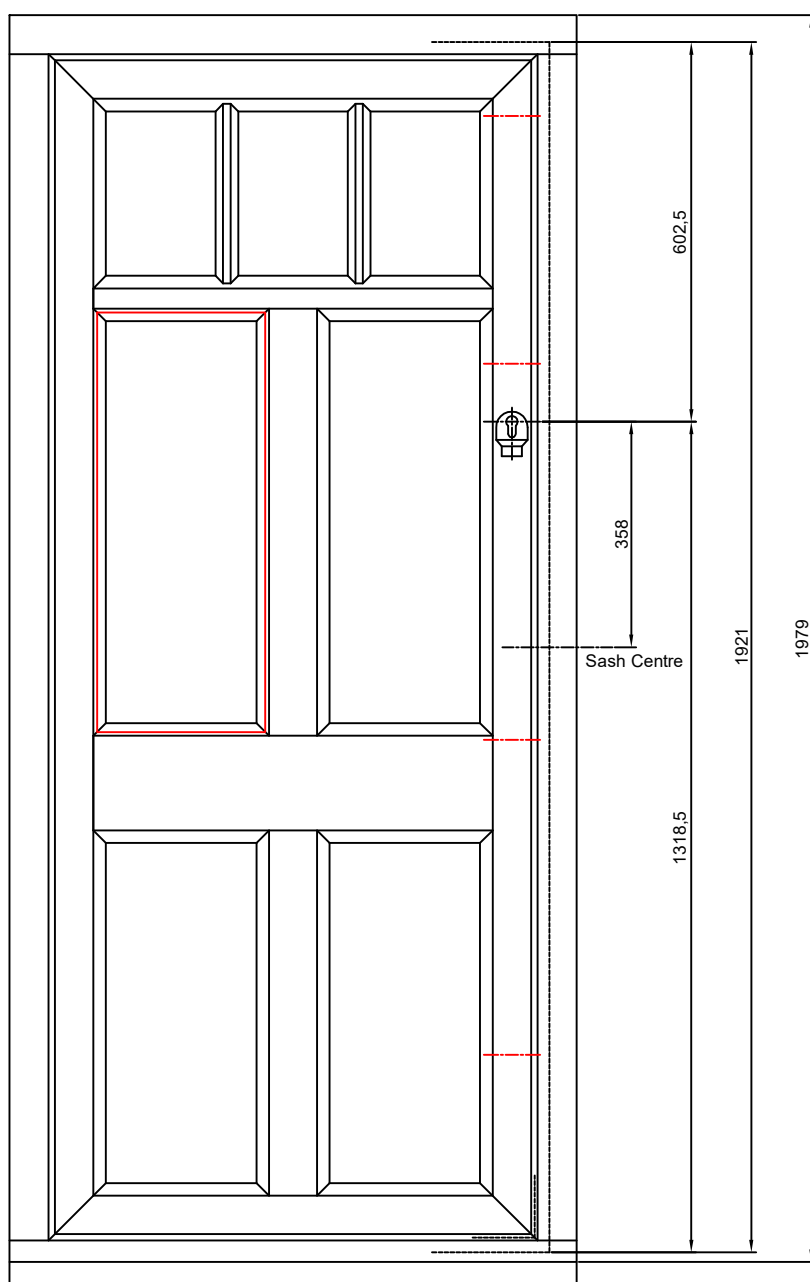


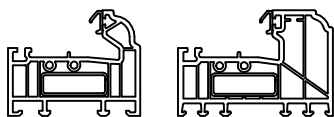
If a Spyhole is requested with an EDC door, a height from the underside of the door outer frame must be provided.
 Otherwise, the Spyhole will be supplied loose for positioning and fitting on site by the installer.
 To aid installation, reinforcing will be omitted from the vertical mullion section.

Door Sash Long Leg Sizes
Cylinder Position Rules

From 1723 to 1920mm the cylinder is positioned 602mm down from the top of the sash Long Leg.

From 1921 to 2240mm the cylinder is positioned 1318mm up from the bottom of the sash Long Leg

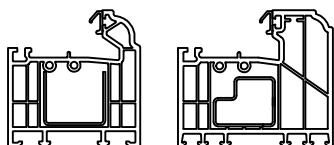




Storm 1 and Storm 2 56mm Thresholds

- Reinforcement: S41101
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles: Fully Reinforce
- Dark Coloured Foiled & Dark Coloured Foiled Sprayed Profiles: Fully Reinforce
- Enhanced Security: Fully Reinforce

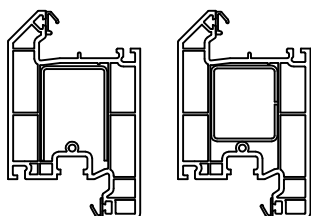
Lock Side



Storm 1 and Storm 2 72mm Outer Frames and Thresholds

- Reinforcement: S41102 to Hinge, Top and Bottom Sides S41131 to Lock Side
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles: Fully Reinforce
- Dark Coloured Foiled & Dark Coloured Foiled Sprayed Profiles: Fully Reinforce
- Enhanced Security: Fully Reinforce

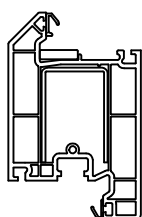
Lock Side



Storm Inward Opening Door Sash when fitted with Standard Lock

- Reinforcement: S00163 Lazer Steel to Lock Side S00164 to Hinge Side, Top & Bottom
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles: Fully Reinforce
- Dark Coloured Foiled & Dark Coloured Foiled Sprayed Profiles: Fully Reinforce
- Enhanced Security: Fully Reinforce

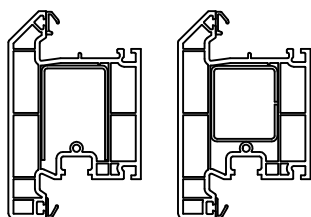
Lock Side



Storm Inward Opening Door Sash when fitted with Townhouse Lock

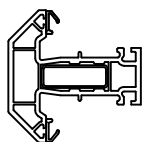
- Reinforcement: Timac Engineering Special 34mm x 50mm x 2mm Steel to Lock Side
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles: Fully Reinforce
- Dark Coloured Foiled & Dark Coloured Foiled Sprayed Profiles: Fully Reinforce
- Enhanced Security: Fully Reinforce

Lock Side



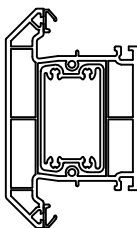
Storm Outward Opening Door Sash when fitted with Fullex XL Lock

- Reinforcement: S00163 Lazer Steel to Lock Side S00164 to Hinge Side, Top & Bottom
- White or Light Coloured Foiled & White or Light Coloured Sprayed Profiles: Fully Reinforce
- Dark Coloured Foiled & Dark Coloured Foiled Sprayed Profiles: Fully Reinforce
- Enhanced Security: Fully Reinforce



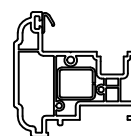
Door 70mm Mullion/Transom

- S00187 Reinforcing
- Fully Reinforce all profiles



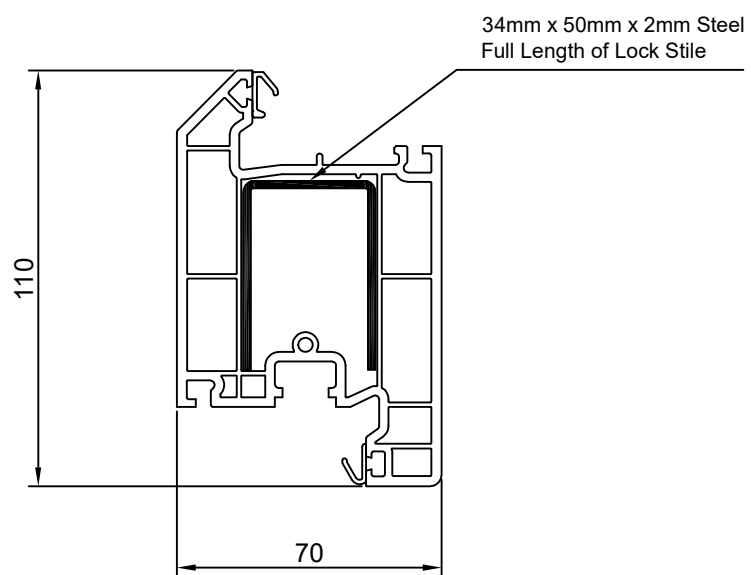
Door 116mm Mullion/Transom

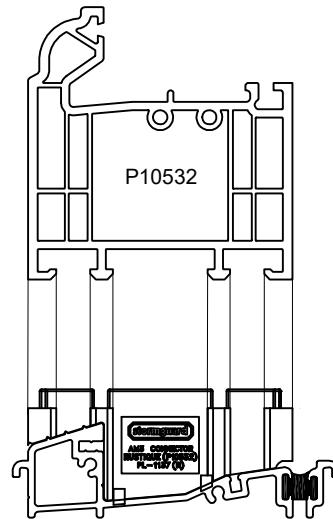
- A00428 Aluminium Reinforcing
- Fully Reinforce all profiles
- Truncate either side of Letterplates



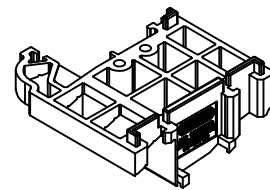
Door French Overlap

- S41135 Reinforcing
- Fully Reinforce all profiles





Special adapter connects Storm 1 outer frame to aluminium threshold



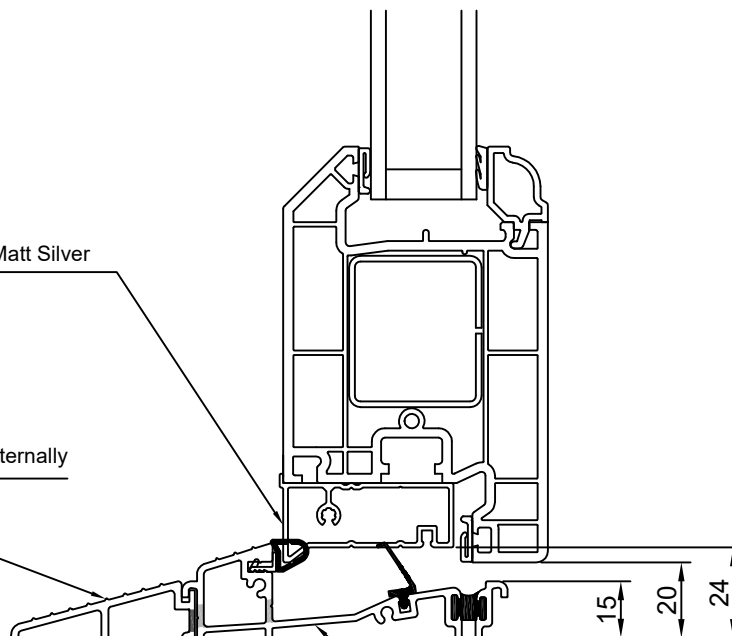
For inward opening EDC doors that have to have Enhanced Security and that are also required to have a Part M compliant low threshold for wheelchair access.

Note.

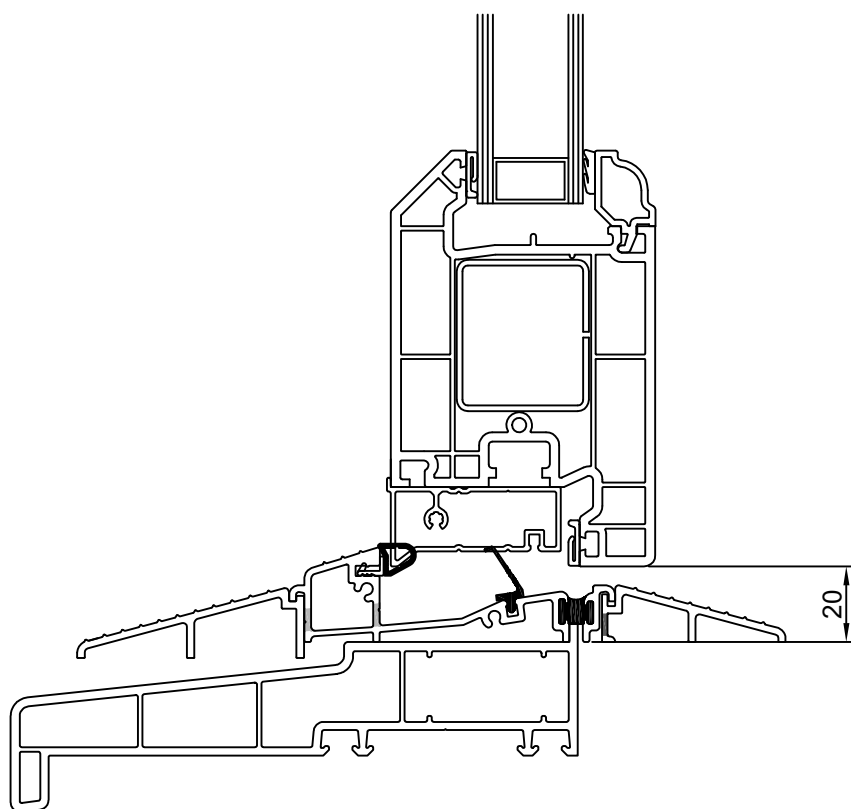
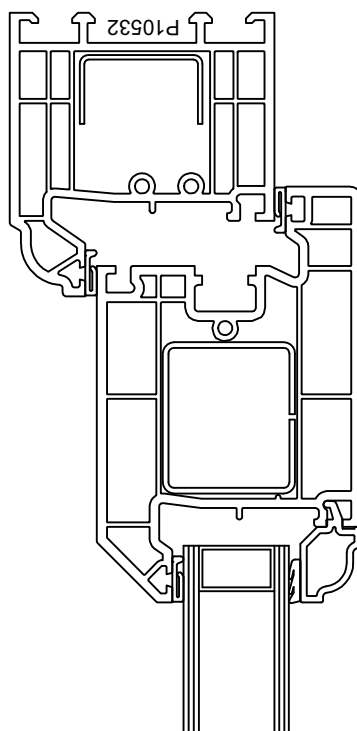
These doors can only be manufactured with a Storm 1 outer frame.

Aluminium Infill Profile - Matt Silver

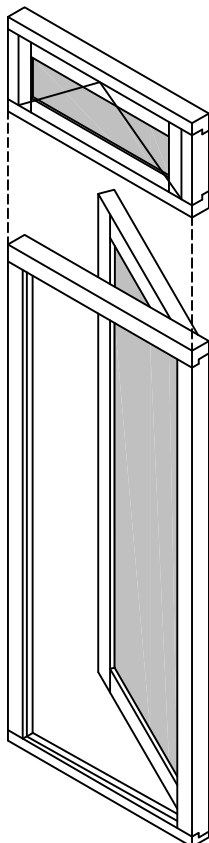
Optional Ramp
Can also be fitted internally



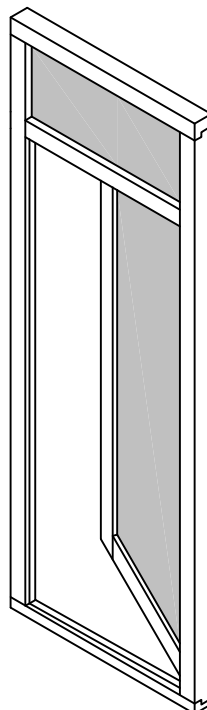
AM3EX-78 Low Aluminium Threshold - Matt Silver



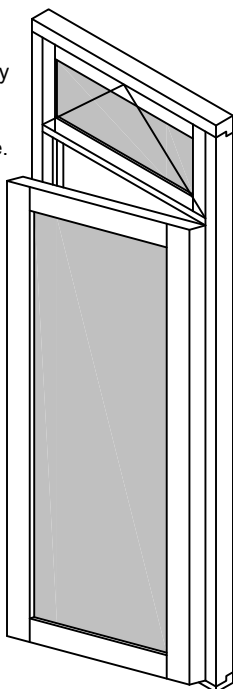
If the proposed door opens inwards and requires a dummy or opening sash to the toplight, the toplight will have to be manufactured as a separate, coupled frame.



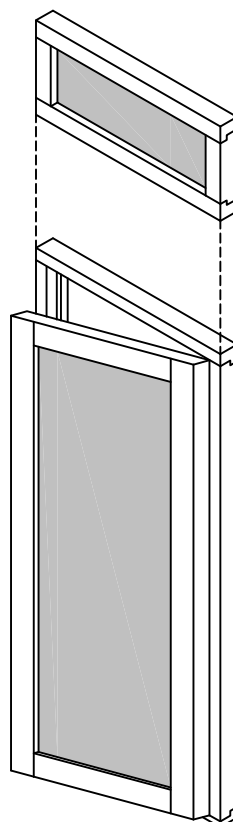
If the proposed door opens inwards and requires a direct glazed, internally beaded toplight, the door and toplight can be manufactured as a single frame.



If the proposed door opens outwards and requires a dummy or opening sash to the toplight, the door and toplight can be manufactured as a single frame.

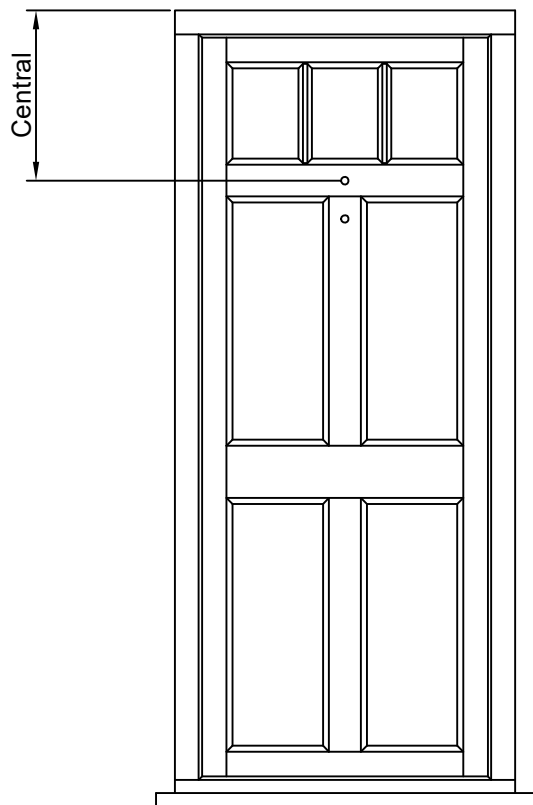


If the proposed door opens outwards and requires a direct glazed, internally beaded toplight, the toplight will have to be manufactured as a separate, coupled frame.

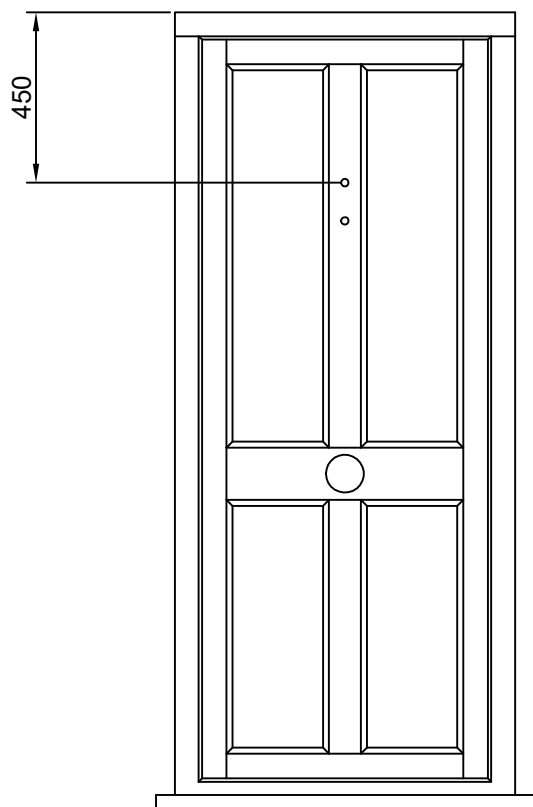


PLEASE NOTE.

The above information does not apply to French Doors. If French Doors require toplights, the toplight should always be manufactured as a separate, coupled frame. This is for the purposes of strength and to prevent 'sash bounce' when closing the doors.



Unless specified otherwise by the customer, for Ballingdon, Maple and Nash Doors, the top fixing hole of the Knocker will be positioned in the centre of the upper transom as shown.

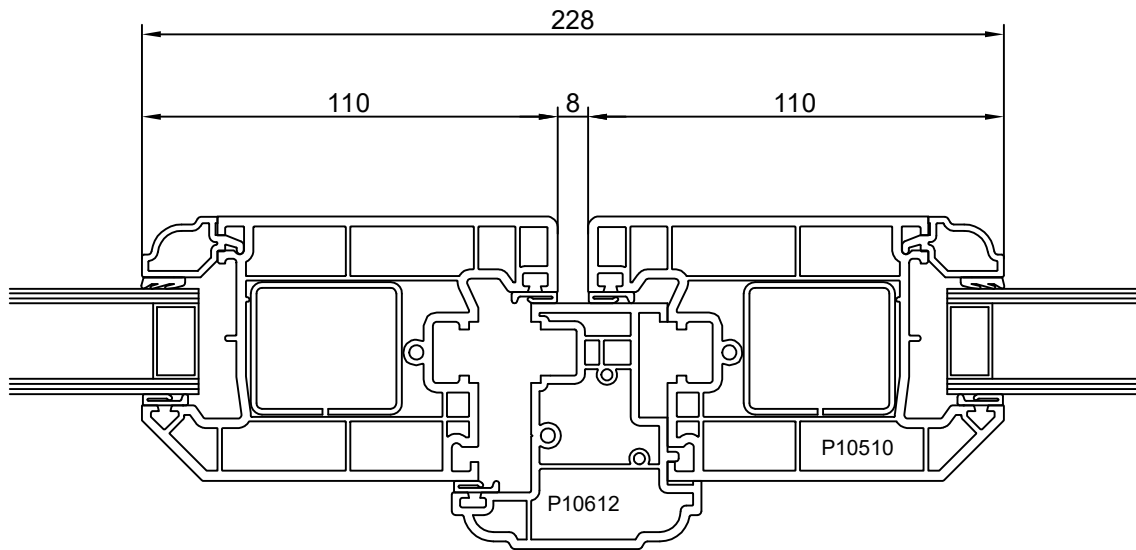


Unless specified otherwise by the customer, for Colney and Ashwell Doors, the top fixing hole of the Knocker will be positioned 450mm from the top of the door outer frame

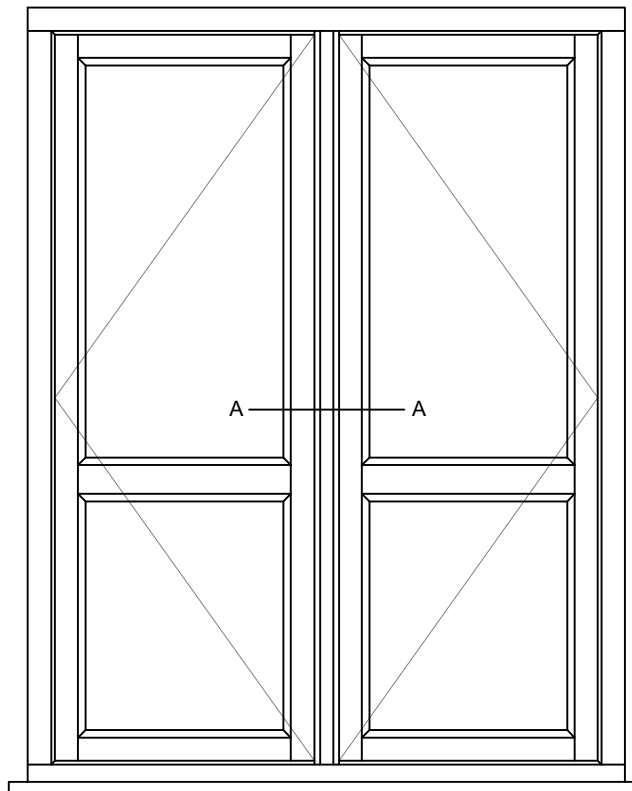
Unless specified otherwise by the customer, Pull Knobs will be positioned centrally in the midrail as shown.

Note.

If the midrail is fitted with a letterplate, customers must specify the position of the Pull Knob.



SECTION A-A

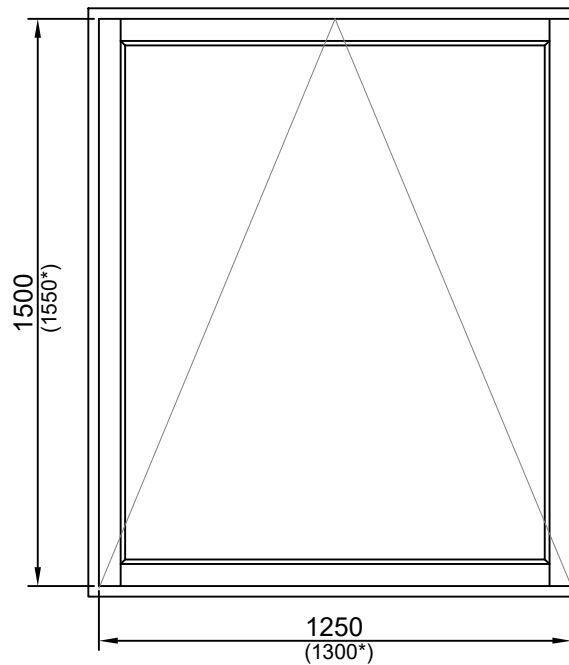
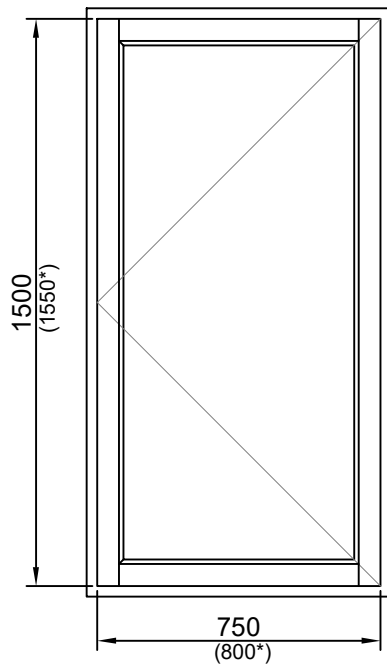




Section

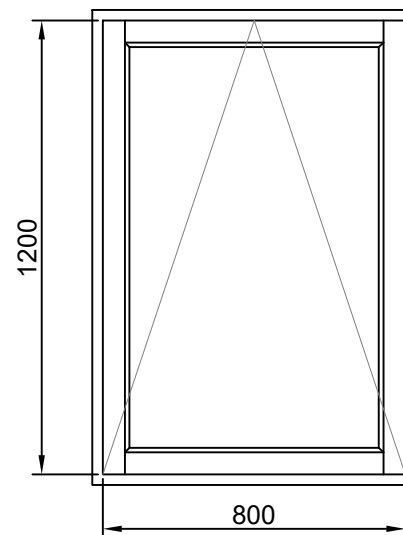
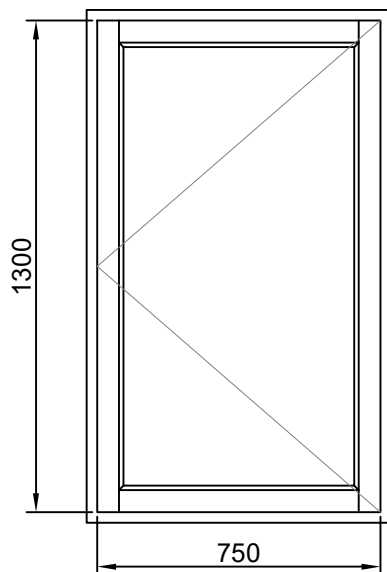
4

28mm Double Glazed - 4/20/4



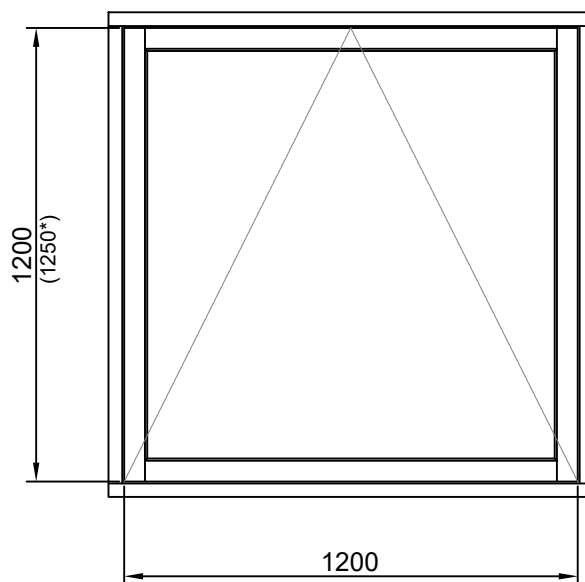
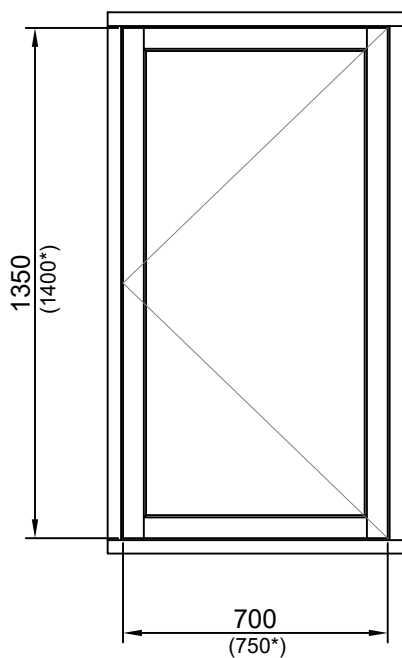
* = +50mm WITH A DISCLAIMER

32mm Triple Glazed - 4/10/4/10/4
or
28mm Double Glazed - 6/18/4



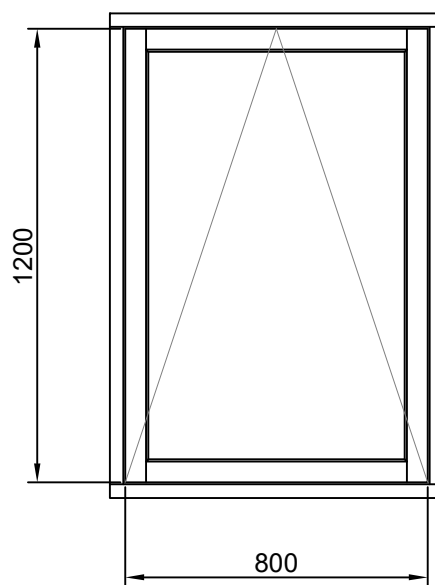
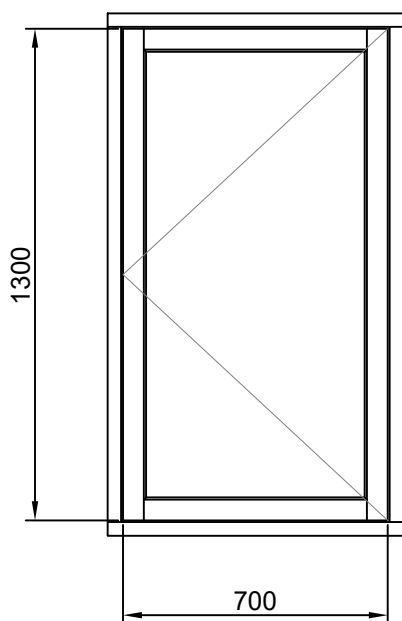
Or 1200 width x 800 height

28mm Double Glazed - 4/20/4

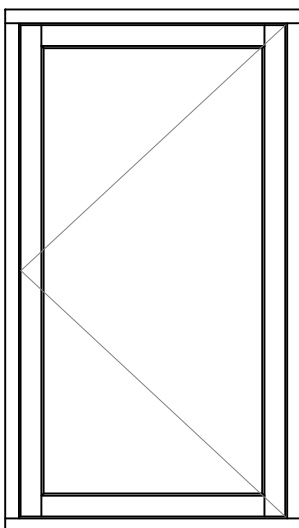


* = +50mm WITH A DISCLAIMER

32mm Triple Glazed - 4/10/4/10/4
or
28mm Double Glazed - 6/18/4



Or 1200 width x 800 height



SIDE HUNG FRICTION STAYS

Standard Friction Stays

Yale 8" Universal - Opening Angle = 60°

Yale 12" Universal - Opening Angle = 65°

Yale 16" Side Hung - Opening Angle = 60°

Egress Easy Clean Friction Stays

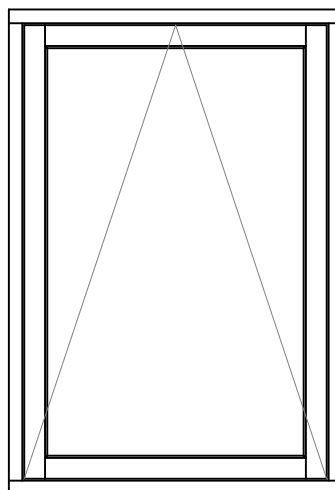
Yale 12" Egress Easy Clean - Opening Angle 81°

Yale 16" Egress Easy Clean - Opening Angle 84°

Restrictor Friction Stays

Yale 12" Restrictor (Paired Left or Paired Right) -
Opening Angle = 58°; Restricted Angle = 13°

Yale 16" Restrictor (Paired Left or Paired Right) -
Opening Angle = 58°; Restricted Angle = 11°



TOP HUNG FRICTION STAYS

Standard Friction Stays

Yale 8" Universal - Opening Angle = 60°

Yale 10" Top Hung - Opening Angle = 58°

Yale 12" Universal - Opening Angle = 65°

Yale 16" Top Hung - Opening Angle = 52°

Yale 20" Top Hung - Opening Angle = 42°

Yale 24" Top Hung - Opening Angle = 38°

Heavy Duty Friction Stays

Yale 24" Heavy Duty - Opening Angle = 32° (Storm only)

Restrictor Friction Stays

Yale 12" Restrictor -
Opening Angle = 65°; Restricted Angle = 14°

Yale 16" Restrictor -
Opening Angle = 59°; Restricted Angle = 10°

Yale 20" Restrictor -
Opening Angle = 50°; Restricted Angle = 7°

Yale 24" Restrictor -
Opening Angle = 37.5°; Restricted Angle = 6°

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

WIDTH: 331mm (336mm)

HEIGHT: 331mm (336mm)

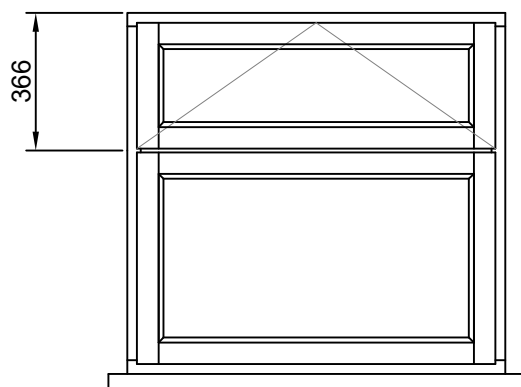
FLUSH SASH - P10527 - Sizes shown in brackets will be as displayed in Window Designer

WIDTH: 324mm (329mm)

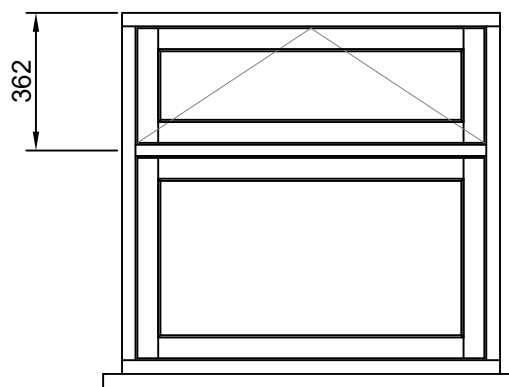
HEIGHT: 301mm (306mm)

MINIMUM TRANSOM DROPS FOR 'TIMBERLOOK' SASHES

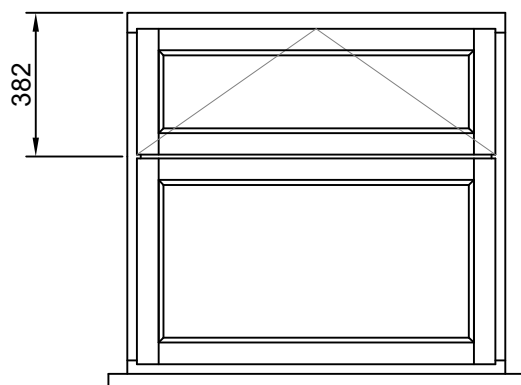
Storm 2 - 56mm Head



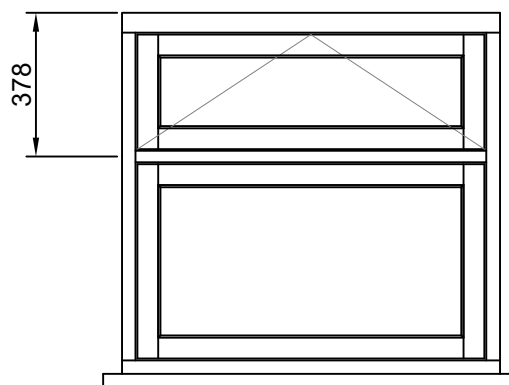
Flush - 56mm Head



Storm 2 - 72mm Head



Flush - 72mm Head



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

WIDTH: 328mm (333mm)

HEIGHT: 342mm (347mm)

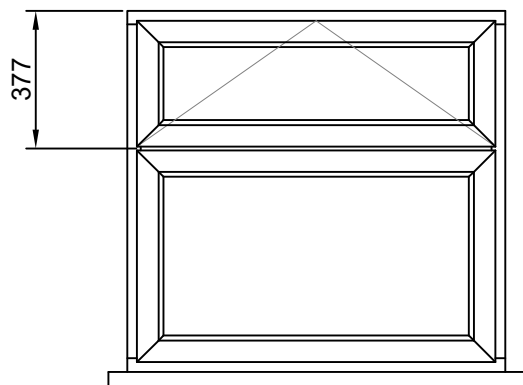
FLUSH SASH - P10527 - Sizes shown in brackets will be as displayed in Window Designer

WIDTH: 319mm (324mm)

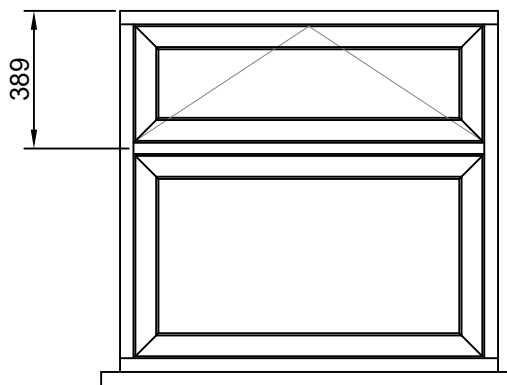
HEIGHT: 328mm (333mm)

MINIMUM TRANSOM DROPS FOR 'WELDED' SASHES

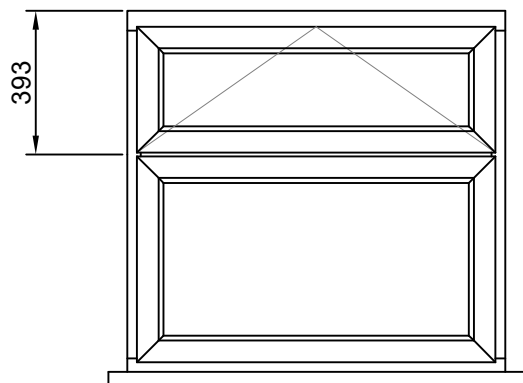
Storm 2 - 56mm Head



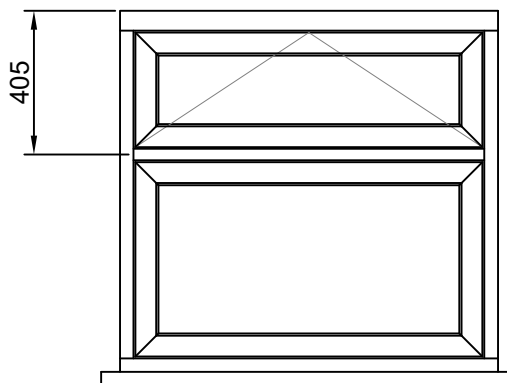
Flush - 56mm Head



Storm 2 - 72mm Head



Flush - 72mm Head



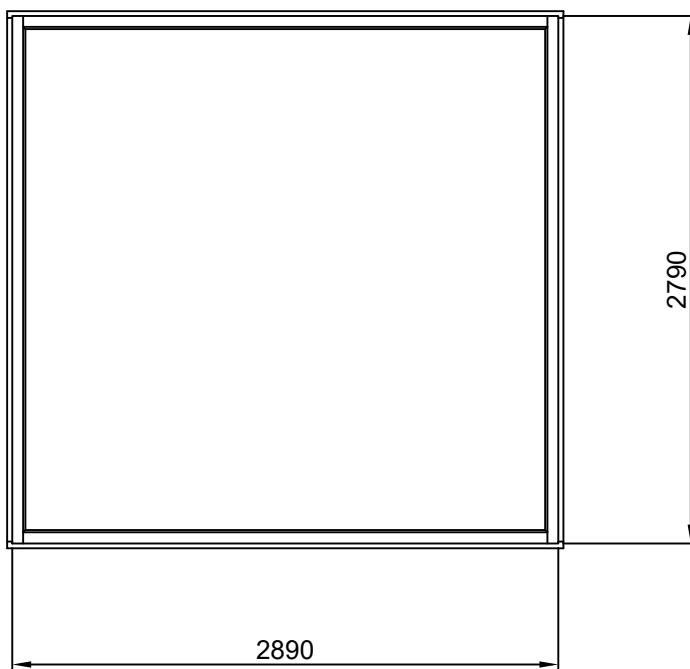
Where large sealed units are required in fixed frames, Evolution Windows strongly recommend direct glazing into the outer frame.

However, if a client specifically wants a large fixed dummy sash, we can provide these with Timberlook joints to the maximum sizes shown below.

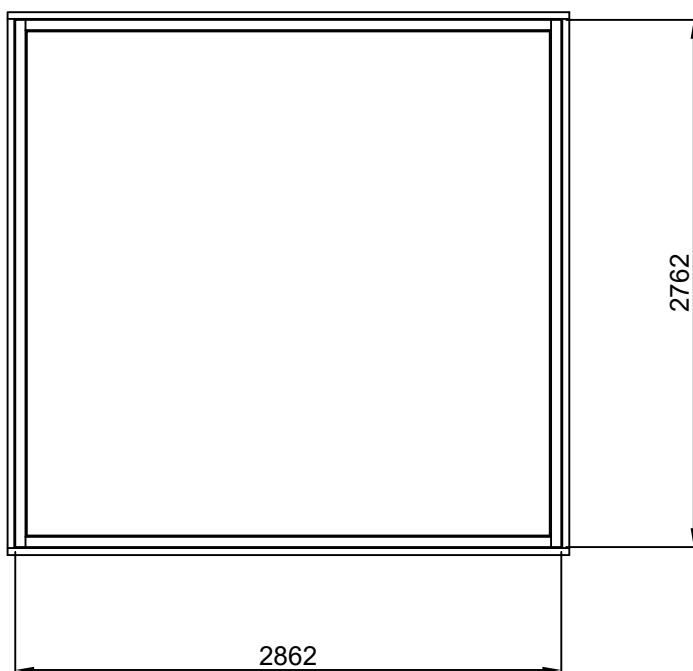
The sashes may suffer adversely owing to the weight of the glass (especially Flush sashes) and therefore must be installed on packers at 50mm from each bottom corner and no more than 300mm spacings along the bottom edge to prevent deflection.

Outer Frames, Sashes and Sill must be fully reinforced.

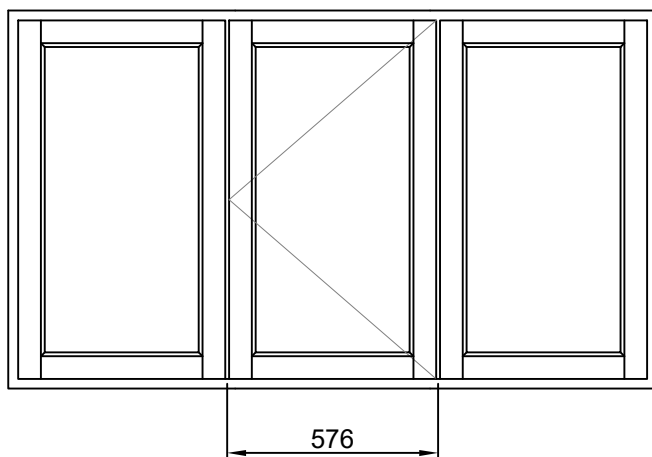
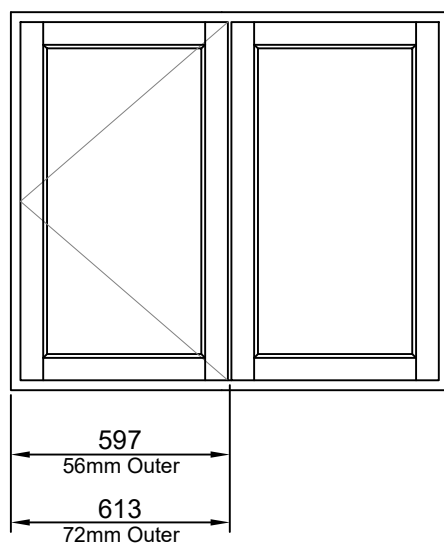
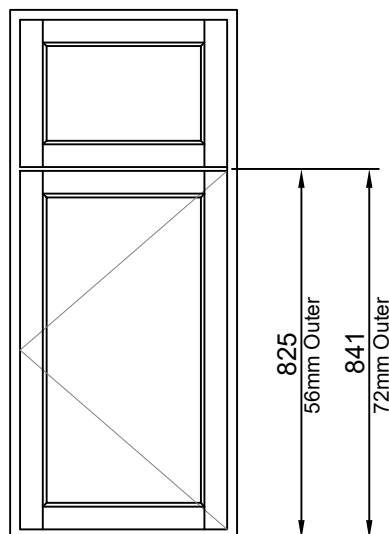
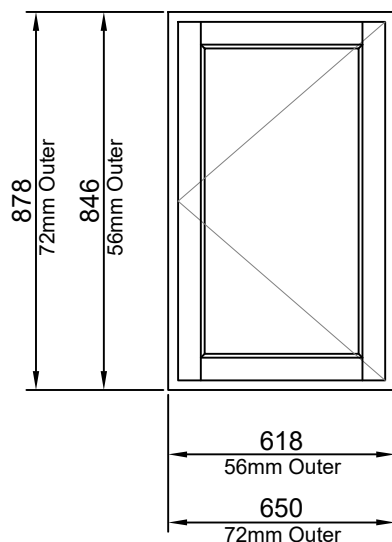
STORM



FLUSH



STORM 1 & 2



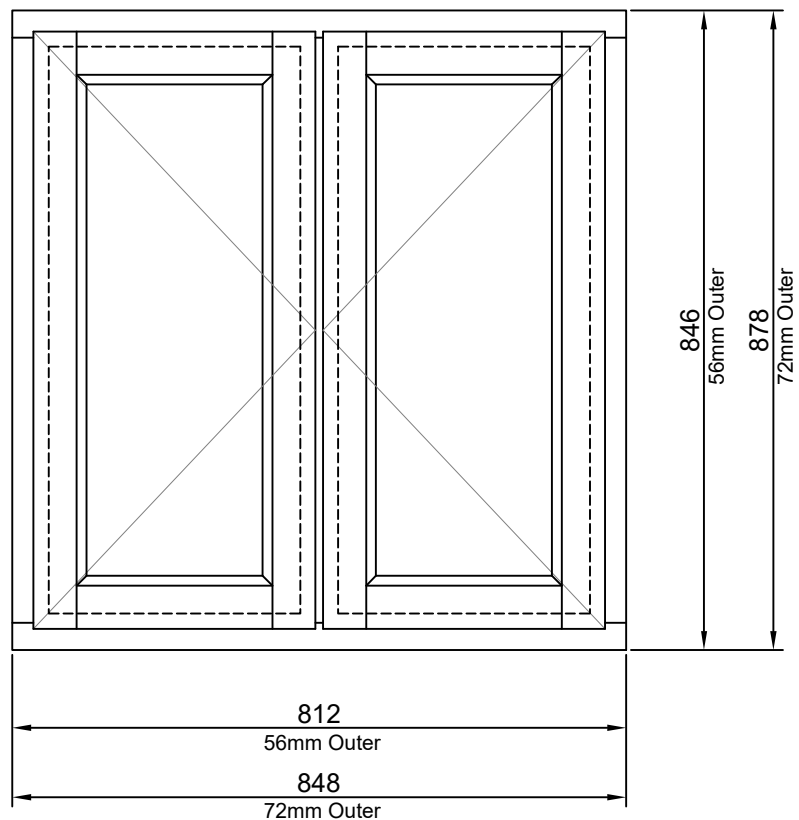
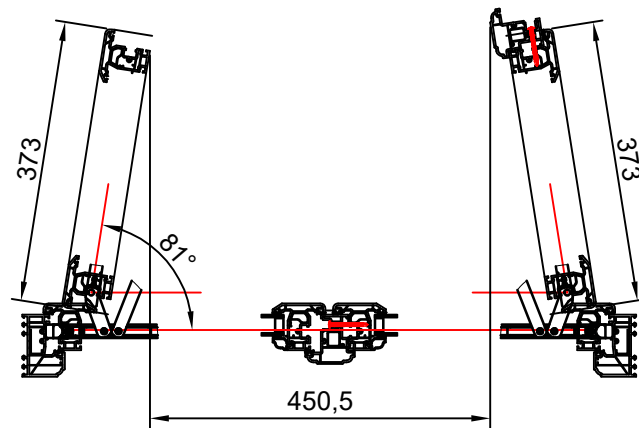
NOTES

PART 'B' OF THE BUILDING REGULATIONS
REQUIRES A MINIMUM CLEAR WIDTH &
HEIGHT OF 450mm COMBINED WITH A
MINIMUM OPENING AREA OF 0.33m².

THE MINIMUM WIDTHS ARE BASED UPON
THE OPENING ANGLE OF A YALE YEC12-H7
FRICTION STAY & A MINIMUM CLEAR
OPENING OF 450mm.

THE MINIMUM HEIGHT IS 0.33m² / 0.45mm.

STORM FRENCH



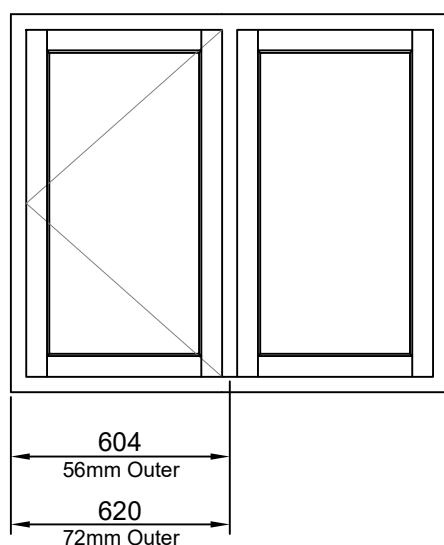
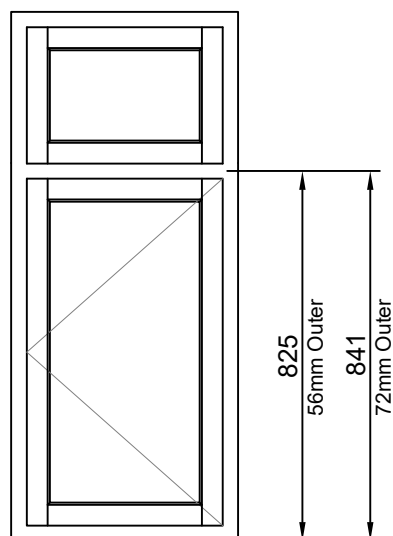
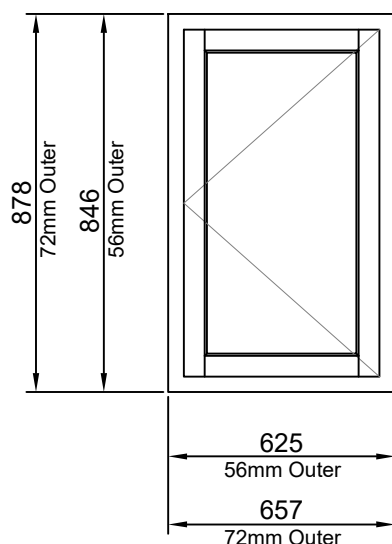
NOTES

PART 'B' OF THE BUILDING REGULATIONS REQUIRES A MINIMUM CLEAR WIDTH & HEIGHT OF 450mm COMBINED WITH A MINIMUM OPENING AREA OF 0.33m².

THE MINIMUM WIDTHS ARE BASED UPON THE OPENING ANGLE OF A YALE YEC12-H7 FRICTION STAY & A MINIMUM CLEAR OPENING OF 450mm.

THE MINIMUM HEIGHT IS 0.33m² / 0.45mm.

FLUSH

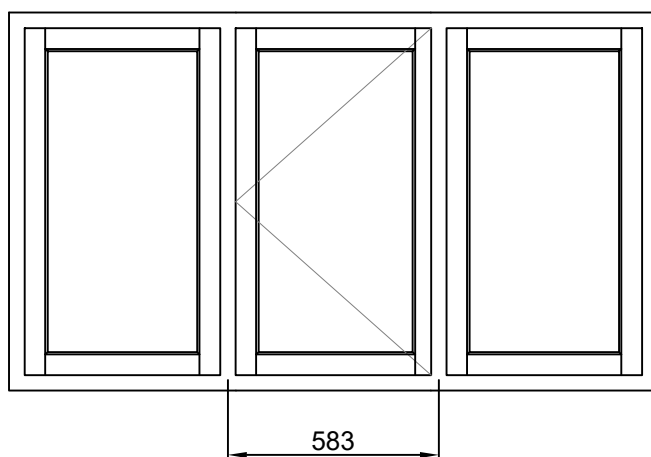


NOTES

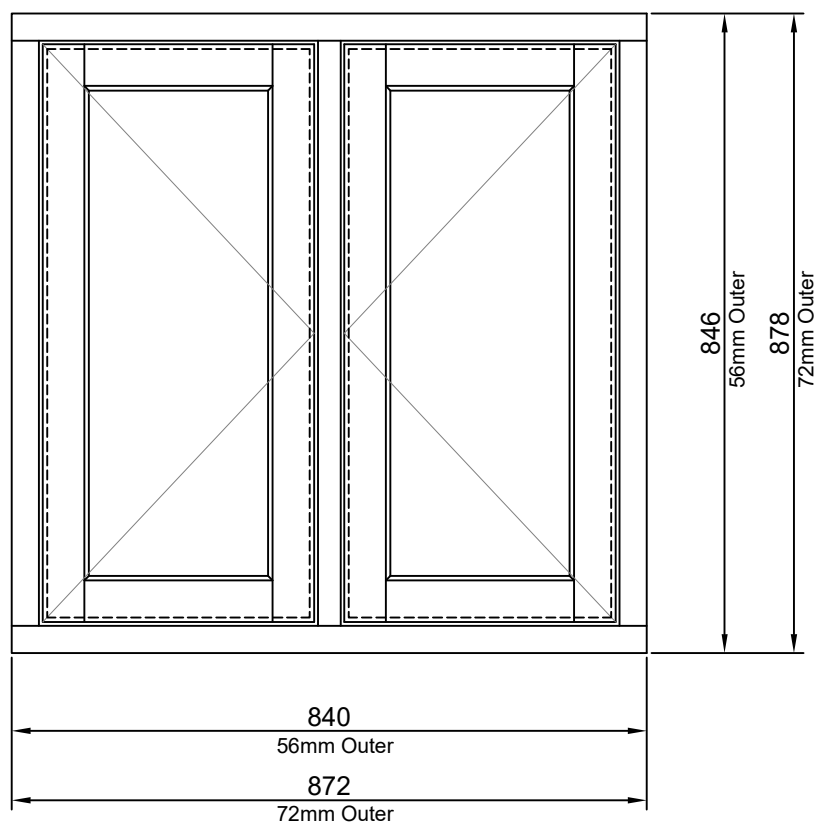
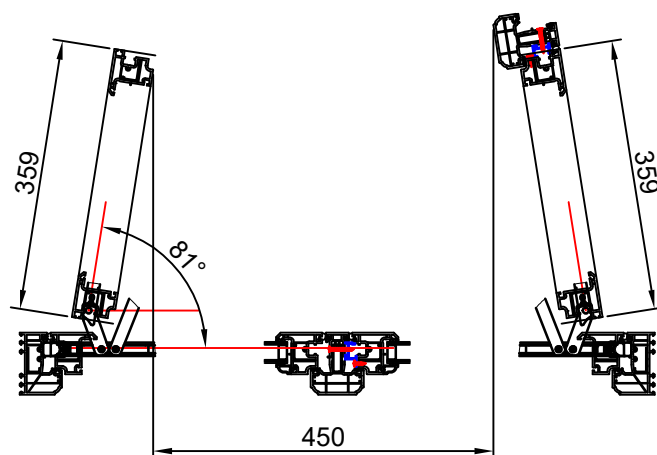
PART 'B' OF THE BUILDING REGULATIONS REQUIRES A MINIMUM CLEAR WIDTH & HEIGHT OF 450mm COMBINED WITH A MINIMUM OPENING AREA OF 0.33m².

THE MINIMUM WIDTHS ARE BASED UPON THE OPENING ANGLE OF A YALE YEC12-H7 FRICTION STAY & A MINIMUM CLEAR OPENING OF 450mm.

THE MINIMUM HEIGHT IS 0.33m² / 0.45mm.



FLUSH FRENCH



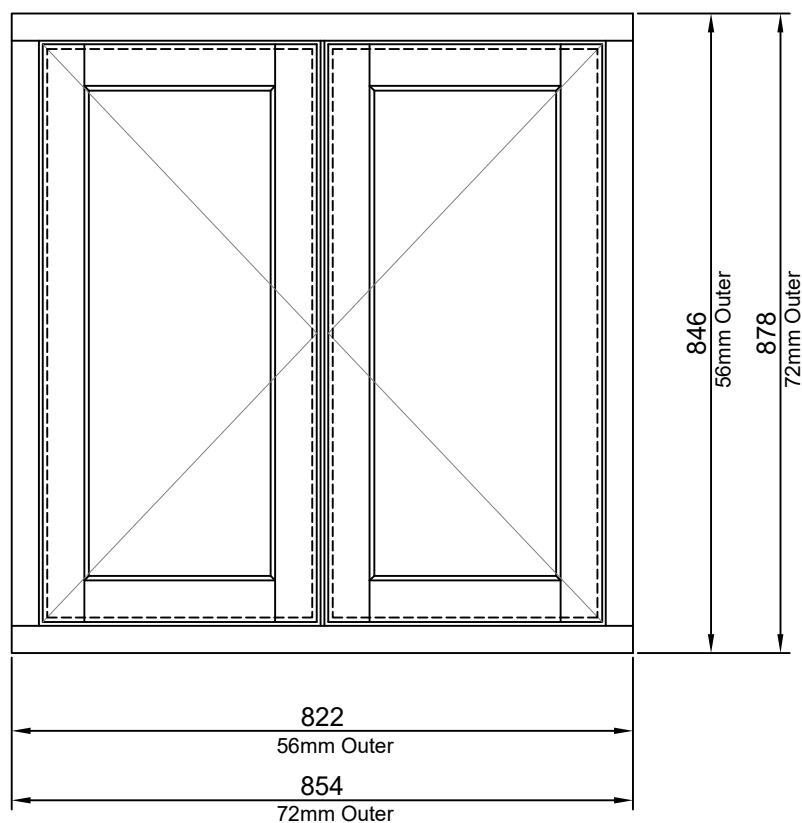
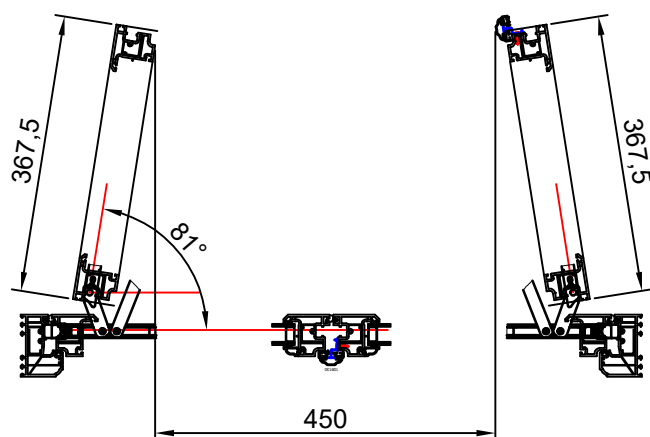
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THE OPENING ANGLE OF A YALE YEC12-H7
FRICTION STAY & A MINIMUM CLEAR
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THE MINIMUM HEIGHT IS 0.33m² / 0.45mm.

INVISILINE



NOTES

PART 'B' OF THE BUILDING REGULATIONS
REQUIRES A MINIMUM CLEAR WIDTH &
HEIGHT OF 450mm COMBINED WITH A
MINIMUM OPENING AREA OF 0.33m².

THE MINIMUM WIDTHS ARE BASED UPON
THE OPENING ANGLE OF A YALE YEC12-H7
FRICTION STAY & A MINIMUM CLEAR
OPENING OF 450mm.

THE MINIMUM HEIGHT IS 0.33m² / 0.45mm.

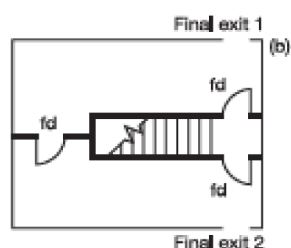
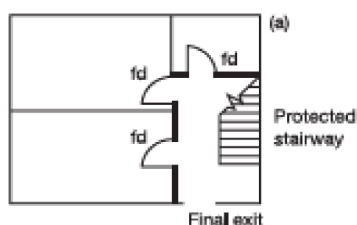
MEANS OF ESCAPE

ONLINE VERSION

B1

Diagram 2 Alternative arrangements for final exits

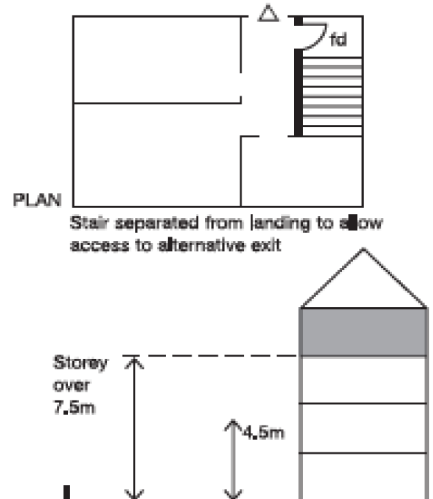
See para 2.6(a)



Key
fd Fire door
— 30 minute fire-resisting construction

Diagram 3 Fire separation in houses with more than one floor over 4.5m above ground level

Example of alternative exit in para 2.6(b)



Key
fd Fire door
— 30 minute fire-resisting construction
△ Alternative escape route (see Appendix E)

General provisions

Emergency egress windows and external doors

2.8 Any window provided for emergency egress purposes and any external door provided for escape should comply with the following conditions:

- the window should have an unobstructed openable area that is at least 0.33m² and at least 450mm high and 450mm wide (the route through the window may be at an angle rather than straight through). The bottom of the openable area should be not more than 1100mm above the floor; and
- the window or door should enable the person escaping to reach a place free from danger from fire. This is a matter for judgement in each case, but, in general, a courtyard or back garden from which there is no exit other than through other buildings would have to be at least as deep as the dwellinghouse is high to be acceptable, see Diagram 4.

Note 1: Approved Document K *Protection from falling, collision and impact* specifies a minimum guarding height of 800mm, except in the case of a window in a roof where the bottom of the opening may be 600mm above the floor.

Note 2: Locks (with or without removable keys) and stays may be fitted to egress windows, subject to the stay being fitted with a release catch, which may be child resistant.

Note 3: Windows should be designed such that they will remain in the open position without needing to be held by a person making their escape.

Yale YT20-H Top Hung Friction Stay.

Building Regulations Part B require a minimum opening area of 0.33m² and at least 450mm high and 450mm wide unobstructed opening.

The Yale YT20-H shown below requires a frame height of 910mm minimum to achieve 450mm clear opening height when a 56mm outer frame is selected (942 for a 72 outer frame). The height required from a 56 outer frame to a transom is 889mm (905 for a 72 outer frame).

The minimum width of the window required to achieve the clear opening area of 0.33m² based on a frame height of 910 is 845mm with a 56 outer frame (877 for a 72 outer frame). The width required from a 56 outer frame to a mullion is 824mm (940 for a 72 outer frame).

The sash long leg range for a YT20-H is 751 - 1000.

The sash long leg range per Yale for a YT20-H is 745 - 1045.

To calculate the increase in opening gained with an increase in sash long leg:

$$\sin 41.8^\circ = 'Y' / 'X'$$

$$'Y' = 'X' \times \sin 41.8^\circ$$

So, if the sash is 973, the increase in 'X' = 973-854 = 119mm.

The increase in opening is:

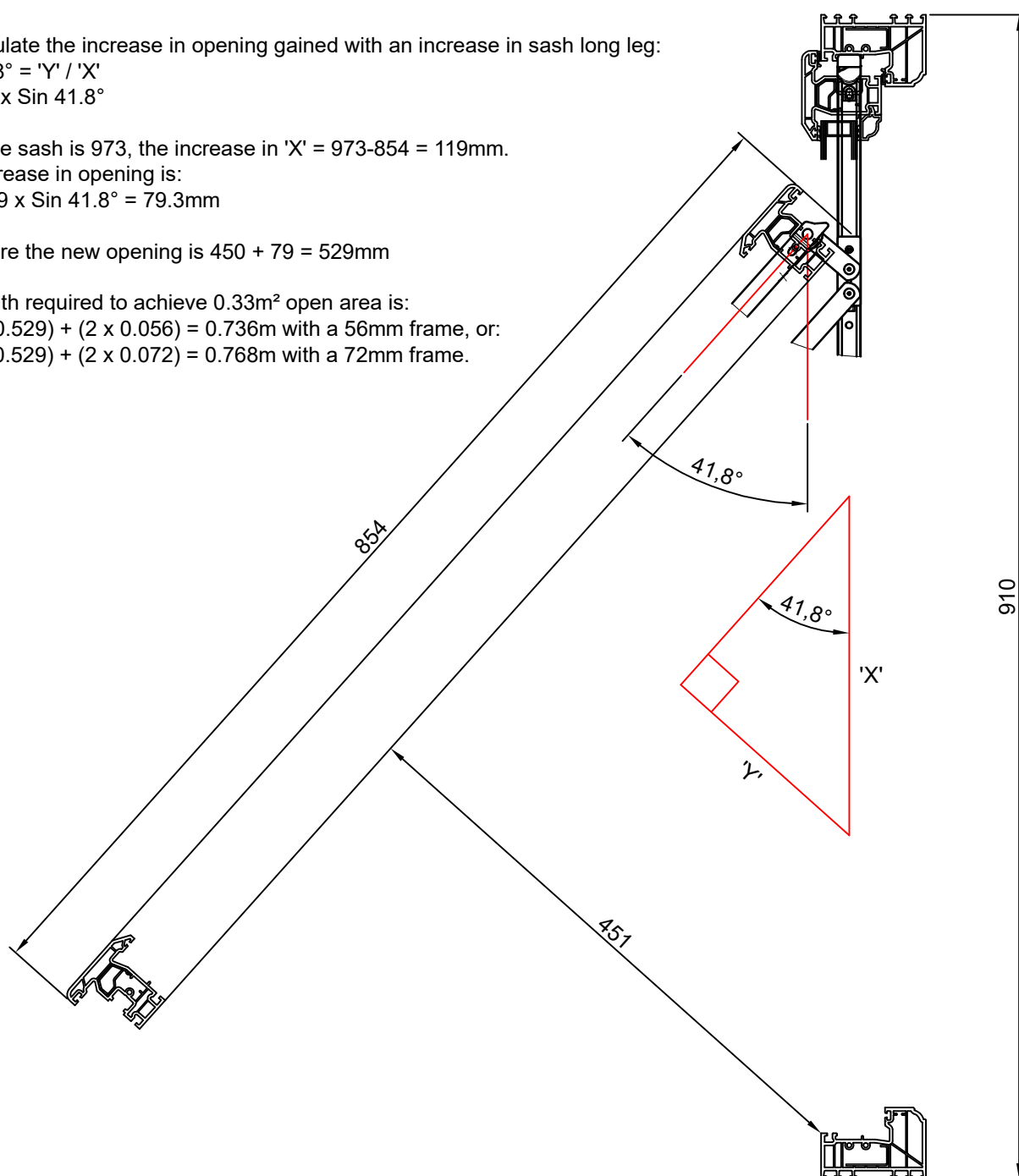
$$'Y' = 119 \times \sin 41.8^\circ = 79.3\text{mm}$$

Therefore the new opening is 450 + 79 = 529mm

The width required to achieve 0.33m² open area is:

$$(0.33 / 0.529) + (2 \times 0.056) = 0.736\text{m with a 56mm frame, or:}$$

$$(0.33 / 0.529) + (2 \times 0.072) = 0.768\text{m with a 72mm frame.}$$



Yale YT24-H Top Hung Friction Stay.

Building Regulations Part B require a minimum opening area of 0.33m² and at least 450mm high and 450mm wide unobstructed opening.

The Yale YT24-H shown below requires a frame height of 971mm minimum to achieve 450mm clear opening height when a 56mm outer frame is selected (1003 for a 72 outer frame). The height required from a 56 outer frame to a transom is 950mm (966 for a 72 outer frame).

The minimum width of the window required to achieve the clear opening area of 0.33m² based on a frame height of 971 is 845mm with a 56 outer frame (877 for a 72 outer frame). The width required from a 56 outer frame to a mullion is 824mm (840 for a 72 outer frame).

The sash long leg range for a YT24-H is 1001 - 1200.

The sash long leg range per Yale for a YT24-H is 895 - 1245.

To calculate the increase in opening gained with an increase in sash long leg:

$$\sin 38^\circ = 'Y' / 'X'$$

$$'Y' = 'X' \times \sin 38^\circ$$

So, if the sash is 1030, the increase in 'X' = 1030-915 = 115mm.

The increase in opening is:

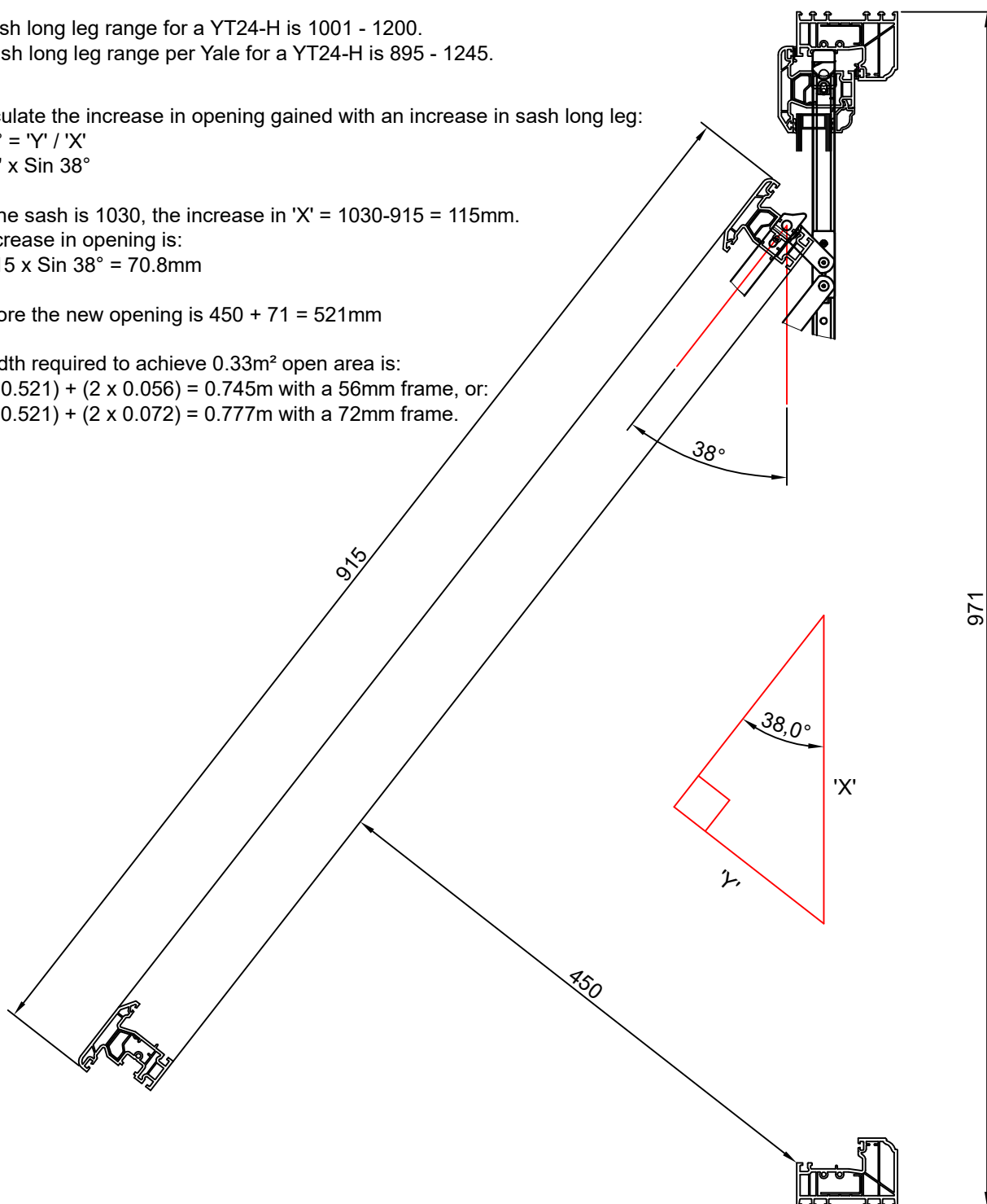
$$'Y' = 115 \times \sin 38^\circ = 70.8\text{mm}$$

Therefore the new opening is 450 + 71 = 521mm

The width required to achieve 0.33m² open area is:

$$(0.33 / 0.521) + (2 \times 0.056) = 0.745\text{m with a 56mm frame, or:}$$

$$(0.33 / 0.521) + (2 \times 0.072) = 0.777\text{m with a 72mm frame.}$$



Yale YT20-H Top Hung Friction Stay.

Building Regulations Part B require a minimum opening area of 0.33m² and at least 450mm high and 450mm wide unobstructed opening.

The Yale YT20-H shown below requires a frame height of 920mm minimum to achieve 450mm clear opening height when a 56mm outer frame is selected (952 for a 72 outer frame). The height required from a 56 outer frame to a transom is 899mm (915 for a 72 outer frame).

The minimum width of the window required to achieve the clear opening area of 0.33m² based on a frame height of 920 is 845mm with a 56 outer frame (877 for a 72 outer frame). The width required from a 56 outer frame to a transom is 824mm (840 for a 72 outer frame).

The sash long leg range for a YT20-H is 751 - 1000.

The sash long leg range per Yale for a YT20-H is 745 - 1045.

To calculate the increase in opening gained with an increase in sash long leg:

$$\sin 41.8^\circ = 'Y' / 'X'$$

$$'Y' = 'X' \times \sin 41.8^\circ$$

So, if the sash is 957, the increase in 'X' = 957-838 = 119mm.

The increase in opening is:

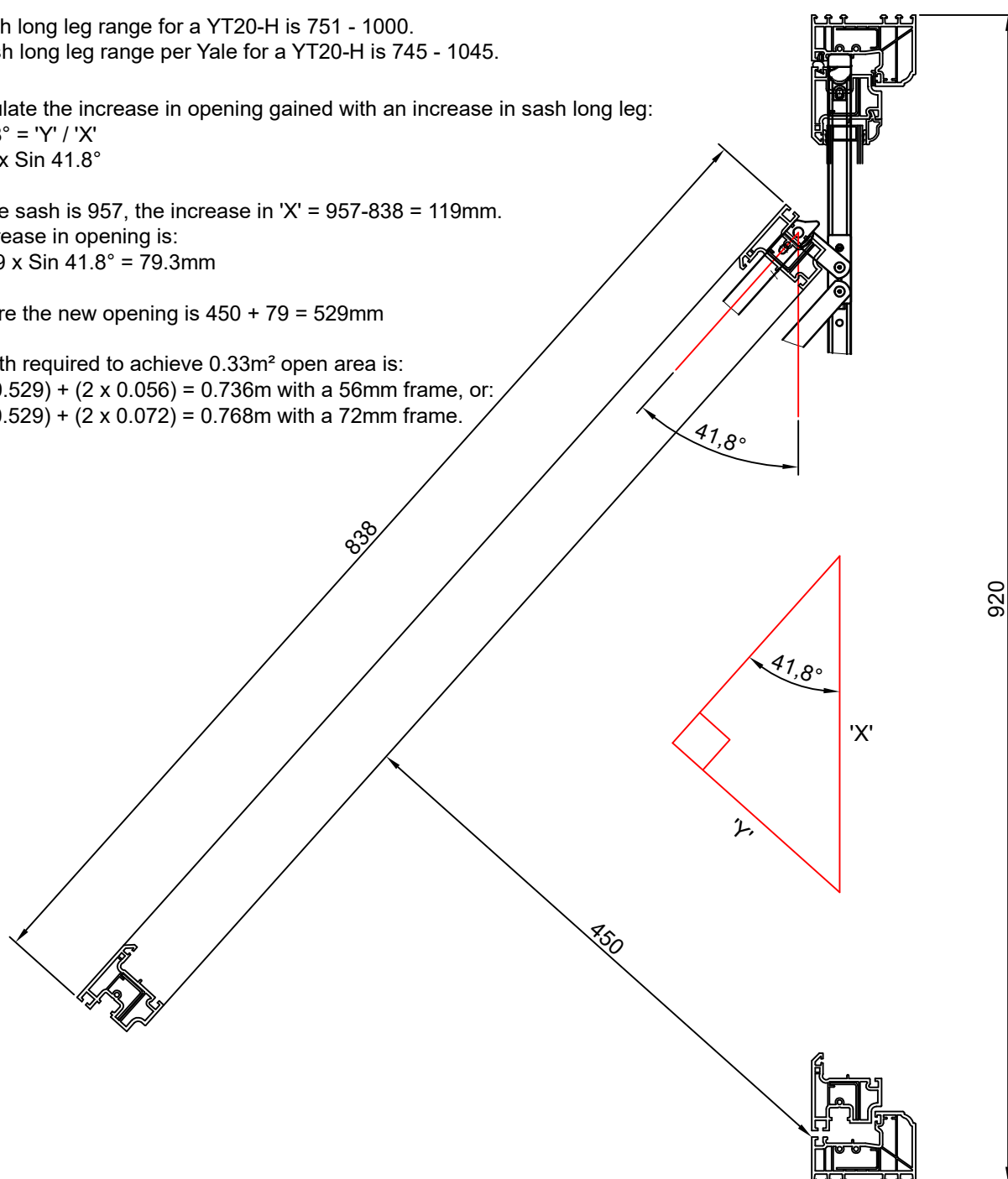
$$'Y' = 119 \times \sin 41.8^\circ = 79.3\text{mm}$$

Therefore the new opening is 450 + 79 = 529mm

The width required to achieve 0.33m² open area is:

$$(0.33 / 0.529) + (2 \times 0.056) = 0.736\text{m with a 56mm frame, or:}$$

$$(0.33 / 0.529) + (2 \times 0.072) = 0.768\text{m with a 72mm frame.}$$



Yale YT24-H Top Hung Friction Stay.

Building Regulations Part B require a minimum opening area of 0.33m² and at least 450mm high and 450mm wide unobstructed opening.

The Yale YT24-H shown below requires a frame height of 984mm minimum to achieve 450mm clear opening height when a 56mm outer frame is selected (1016 for a 72 outer frame). The height required from a 56 outer frame to a transom is 963mm (979 for a 72 outer frame).

The minimum width of the window required to achieve the clear opening area of 0.33m² based on a frame height of 984 is 845mm with a 56 outer frame (877 for a 72 outer frame). The width required from a 56 outer frame to a mullion is 824mm (840 for a 72 outer frame).

The sash long leg range for a YT24-H is 1001 - 1200.

The sash long leg range per Yale for a YT24-H is 895 - 1245.

To calculate the increase in opening gained with an increase in sash long leg:

$$\sin 38^\circ = 'Y' / 'X'$$

$$'Y' = 'X' \times \sin 38^\circ$$

So, if the sash is 1017, the increase in 'X' = 1017-902 = 115mm.

The increase in opening is:

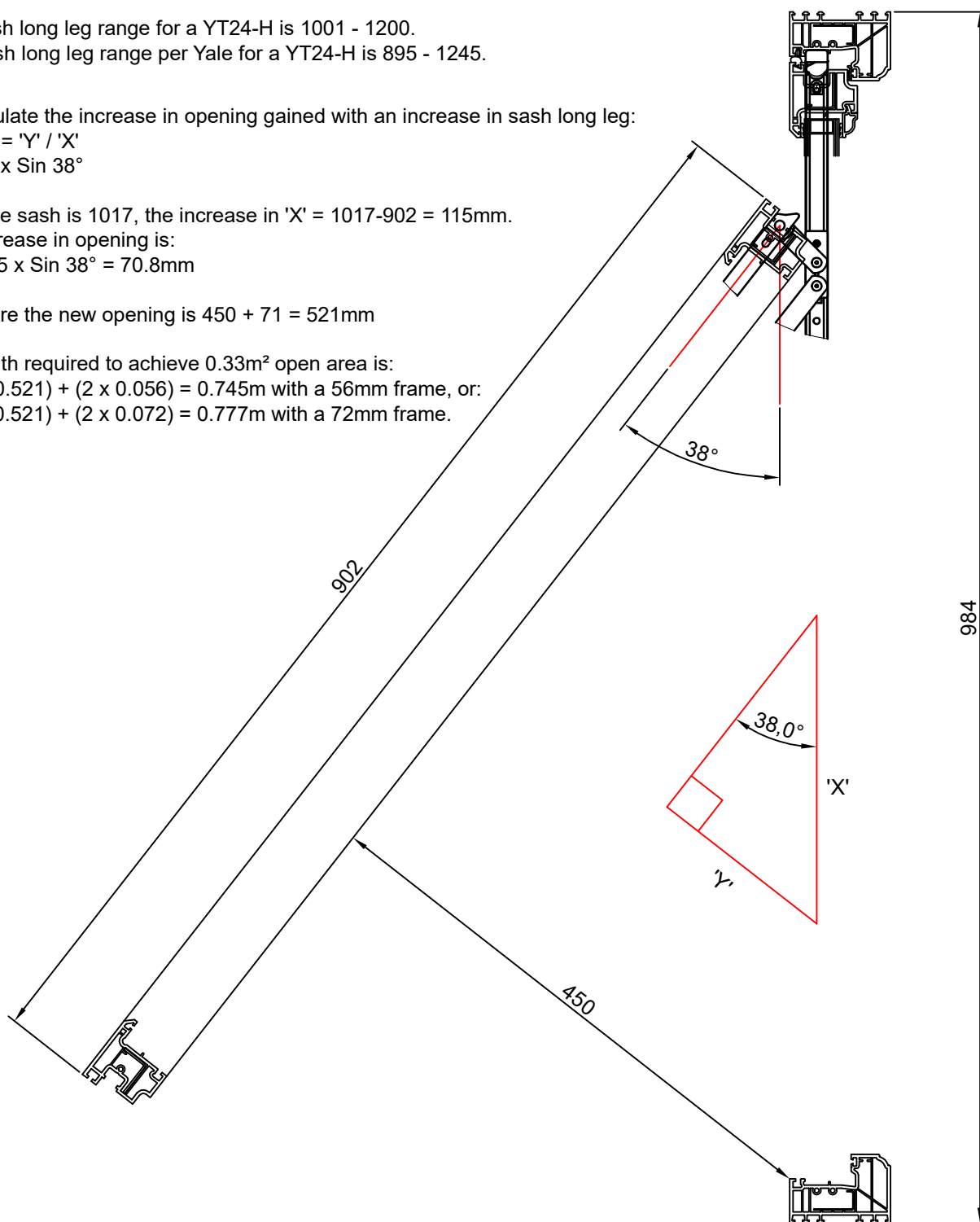
$$'Y' = 115 \times \sin 38^\circ = 70.8\text{mm}$$

Therefore the new opening is 450 + 71 = 521mm

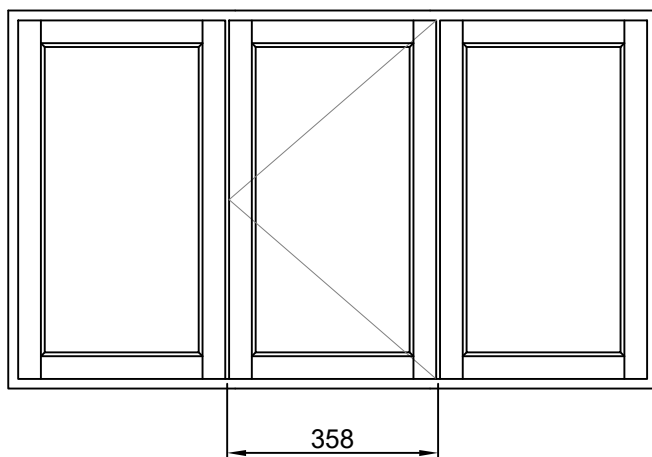
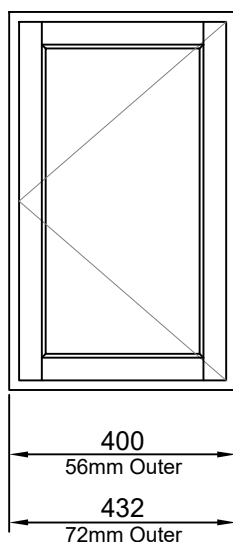
The width required to achieve 0.33m² open area is:

$$(0.33 / 0.521) + (2 \times 0.056) = 0.745\text{m with a 56mm frame, or:}$$

$$(0.33 / 0.521) + (2 \times 0.072) = 0.777\text{m with a 72mm frame.}$$



STORM 1 & 2



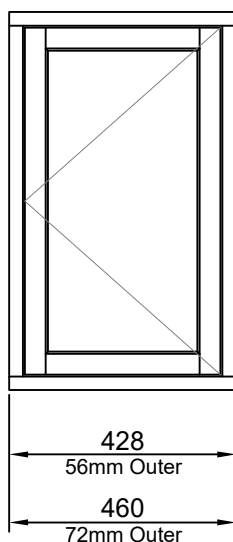
NOTES

THE MINIMUM WIDTHS ARE BASED UPON A YALE YEC12-H7 FRICTION STAY.

THE SASH LONG LEG RANGE FOR A YEC12-H7 IS 344 - 600mm.

THE SASH LONG LEG RANGE FOR A YEC16-H7 IS 601 - 750mm.

FLUSH

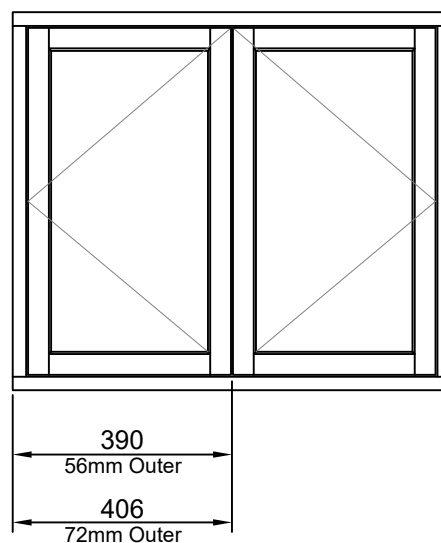
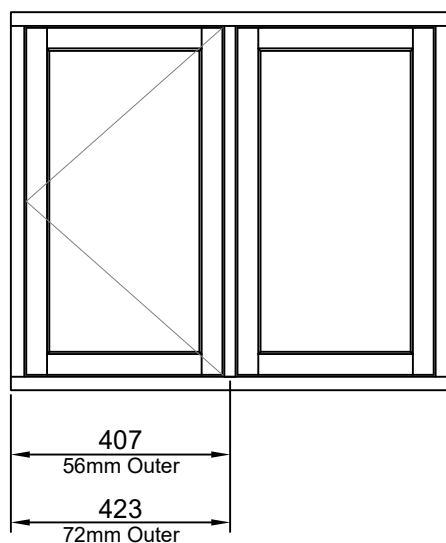


NOTES

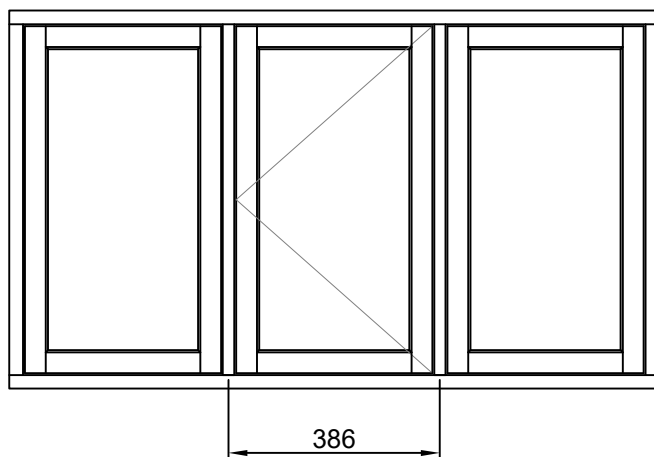
THE MINIMUM WIDTHS ARE BASED UPON A YALE YEC12-H7 FRICTION STAY PLUS 30mm FOR THE SHOOTBOLT CORNER KEEP.

THE SASH LONG LEG RANGE FOR A YEC12-H7 IS 346 - 600mm.

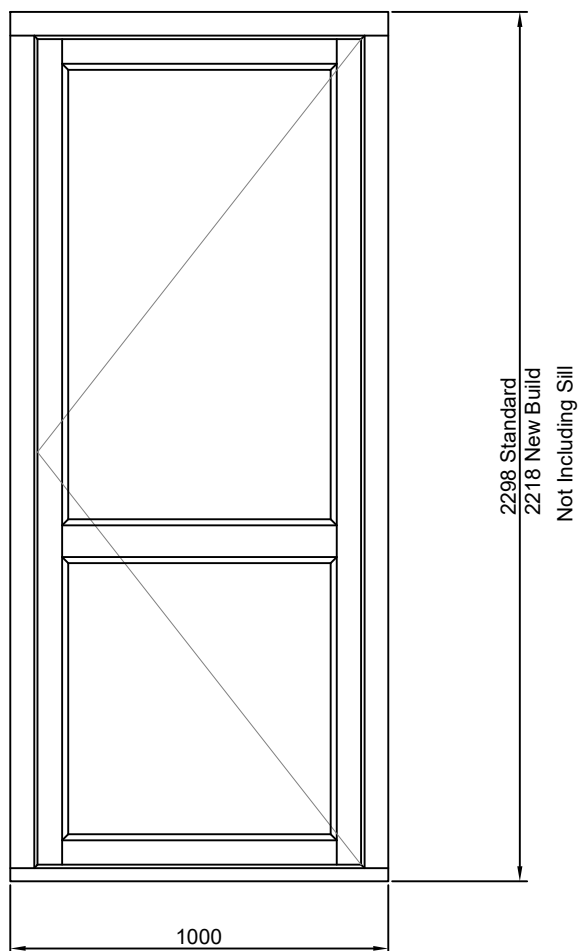
THE SASH LONG LEG RANGE FOR A YEC16-H7 IS 601 - 700mm.



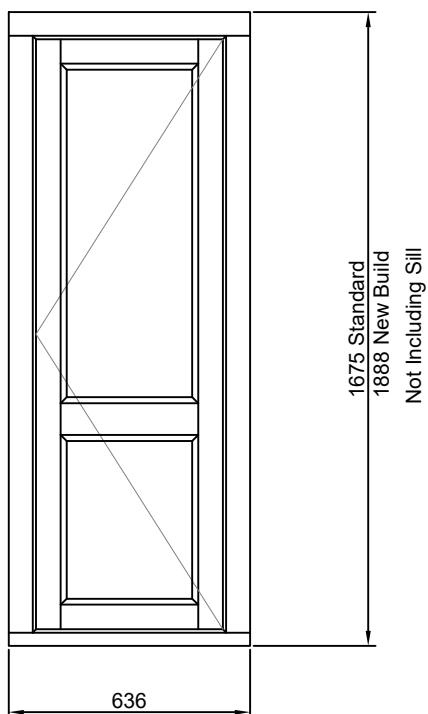
INVISILINE FRENCH CASEMENT



MAXIMUM SIZES



MINIMUM SIZES



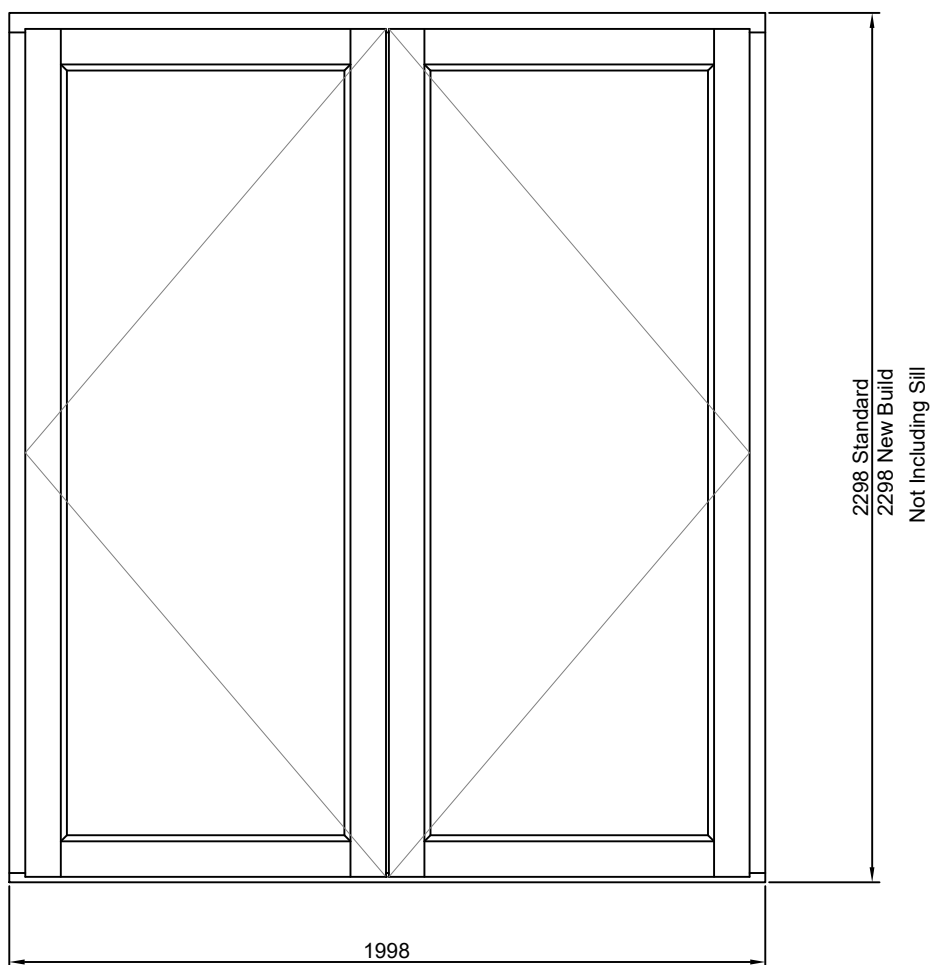
NOTES

THE DIMENSIONS SHOWN ARE FOR 72mm HEAD & SIDES AND 44mm THRESHOLD.

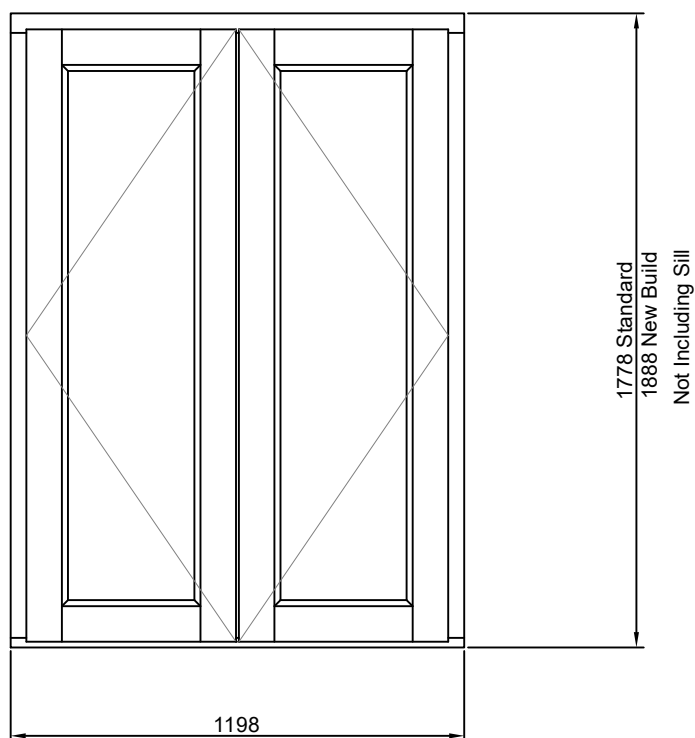
THE DIMENSIONS SHOWN ARE WITH YALE LOCKS.

DOORS OVER 2200 HIGH x 950 WIDE REQUIRE 4 HINGES.

MAXIMUM SIZES



MINIMUM SIZES



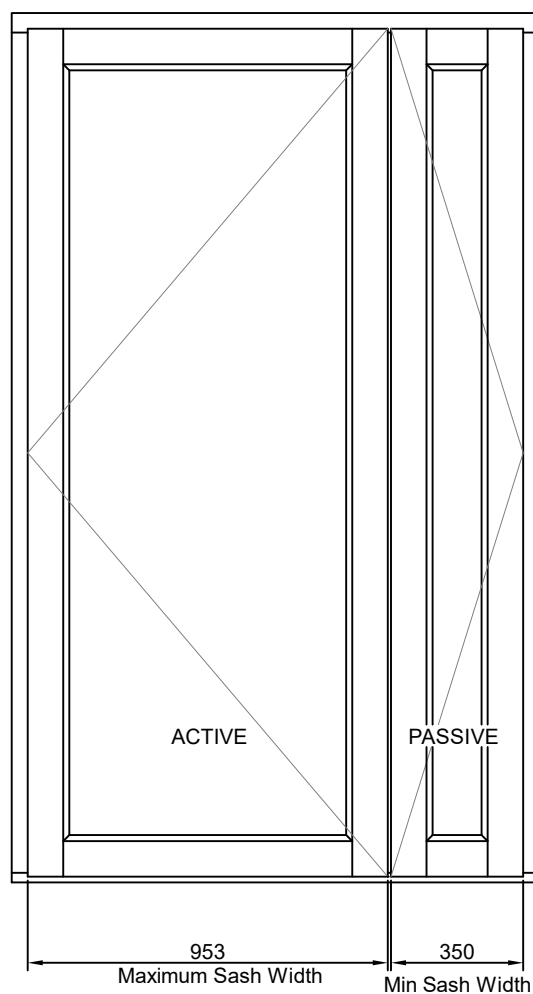
NOTES

THE DIMENSIONS SHOWN ARE FOR 72mm HEAD & SIDES AND 44mm THRESHOLD.

THE DIMENSIONS SHOWN ARE WITH YALE LOCKS.

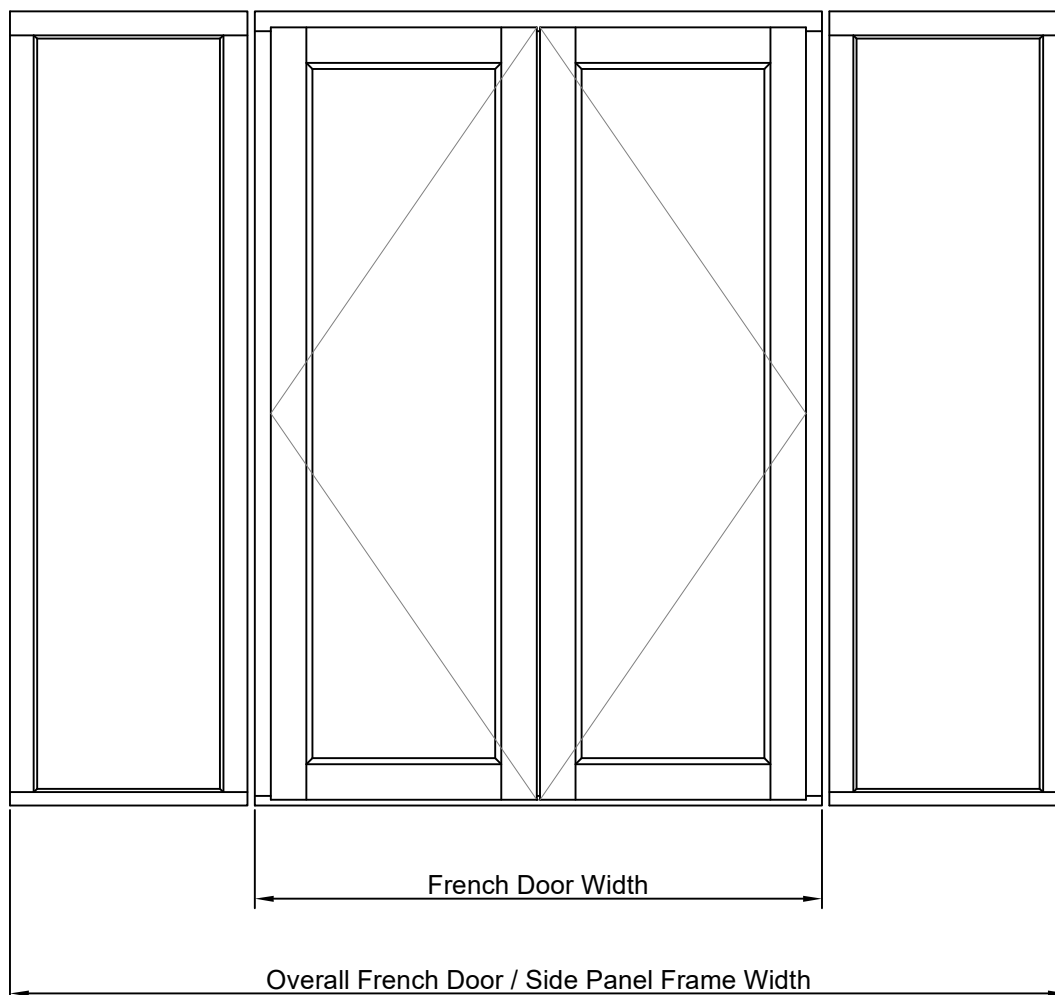
DOORS OVER 2200 HIGH x 950 WIDE REQUIRE 4 HINGES.

MINIMUM SIZES



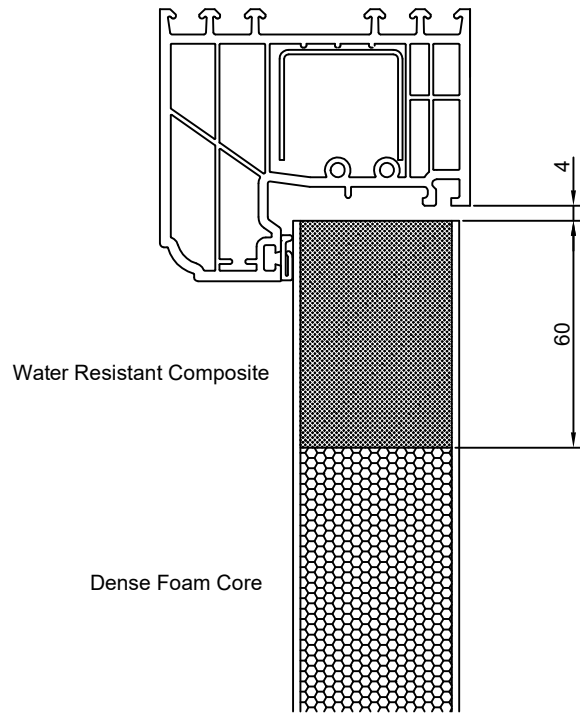
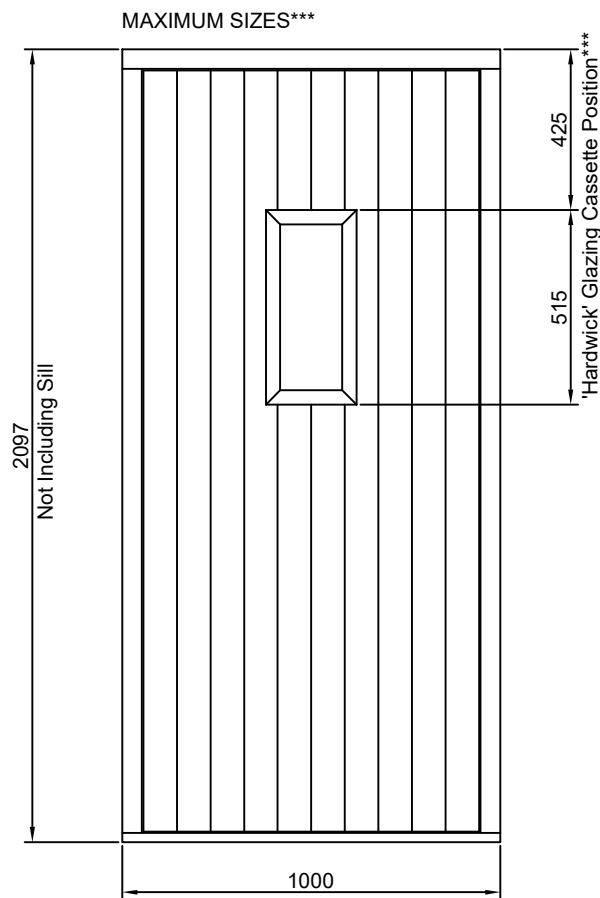
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DIMENSIONS SHOWN ASSUME THE USE OF 72mm HEADS & SIDES AND 44mm THRESHOLDS

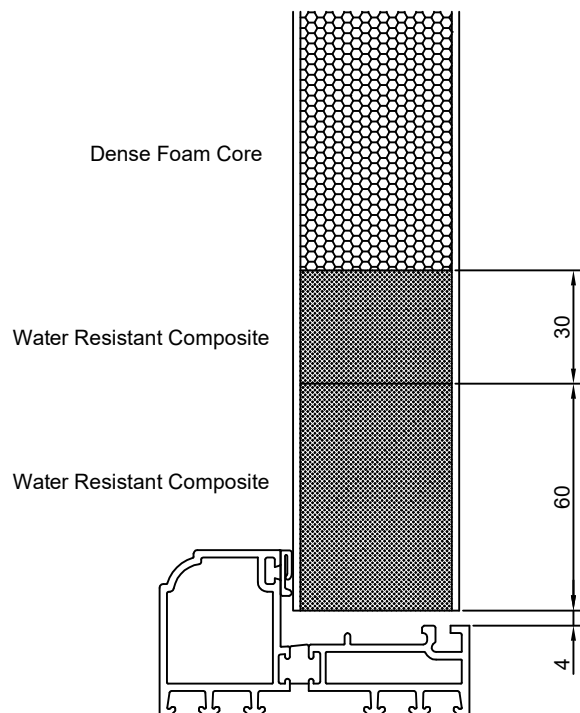
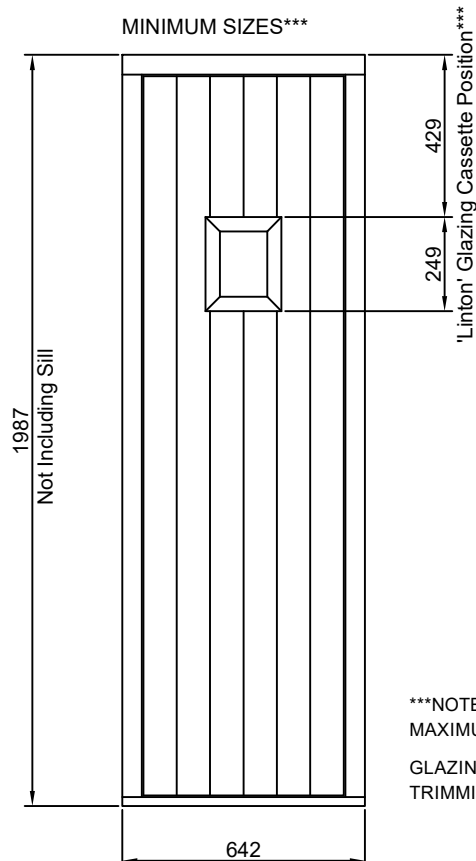


The following calculations assume that the Side Panels have 72mm Outer Frames to both sides and are connected to the French Doors with 20mm Couplers.

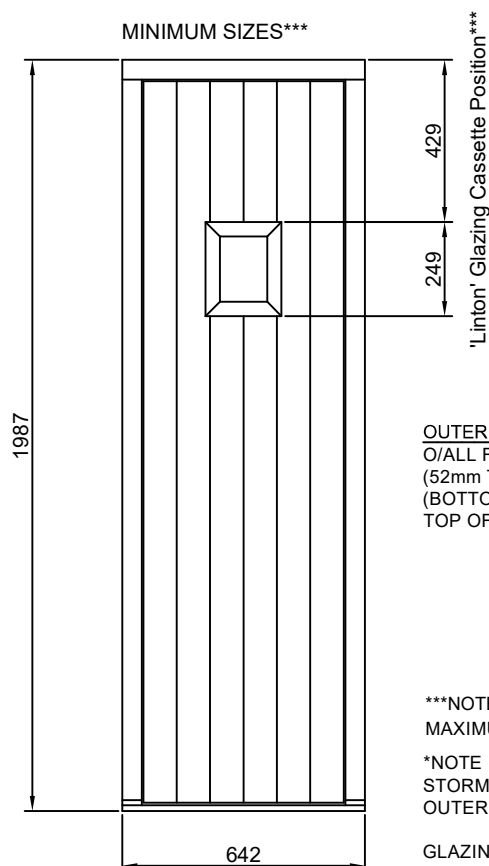
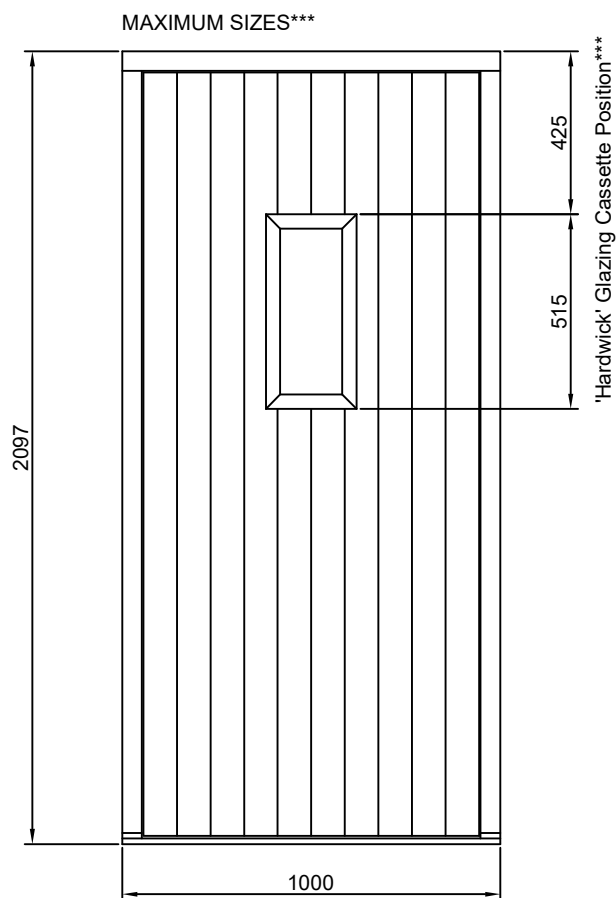
1. When Side Panels are Directly Glazed (internally beaded):
French Door width = (Overall Frame Width divided by 2) + 104mm
2. When Side Panels are fitted with Storm Sashes:
French Door width = (Overall Frame Width divided by 2) + 18mm
3. When Side Panels are fitted with Flush Sashes:
French Door Width = (Overall Frame Width divided by 2) + 10mm



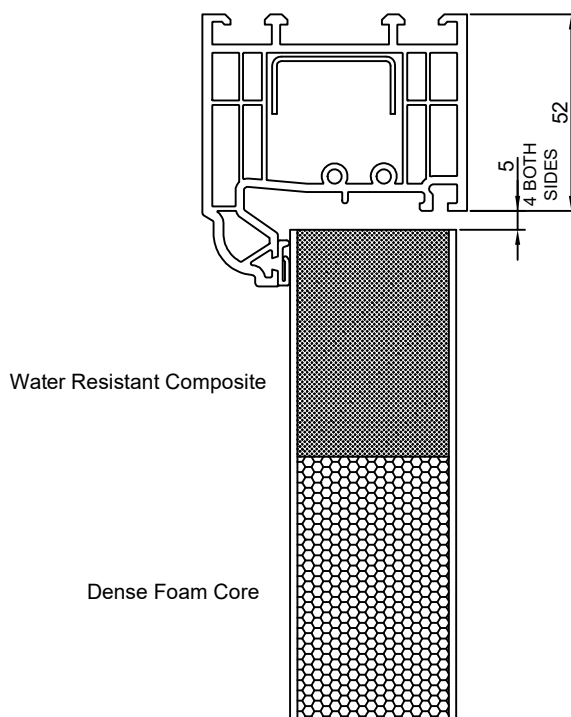
Construction



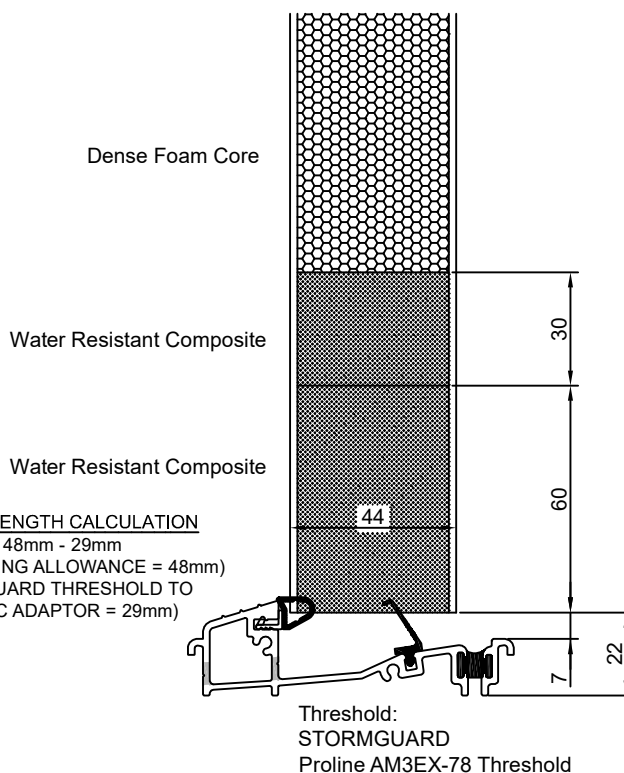
***NOTE
MAXIMUM AND MINIMUM SIZES SHOWN ASSUME 72mm HEAD & SIDES AND 44mm THRESHOLD
GLAZING CASSETTE POSITIONING MAY VARY DEPENDENT UPON REQUIRED
TRIMMING OF COMPOSITE DOOR SLAB AT TOP



* STORM 1 OUTER FRAMES ONLY



Construction



OUTER FRAME SIDES LENGTH CALCULATION

O/ALL FRAME HEIGHT - 48mm - 29mm
(52mm TOP - 4mm MILLING ALLOWANCE = 48mm)
(BOTTOM OF STORMGUARD THRESHOLD TO
TOP OF BLACK PLASTIC ADAPTOR = 29mm)

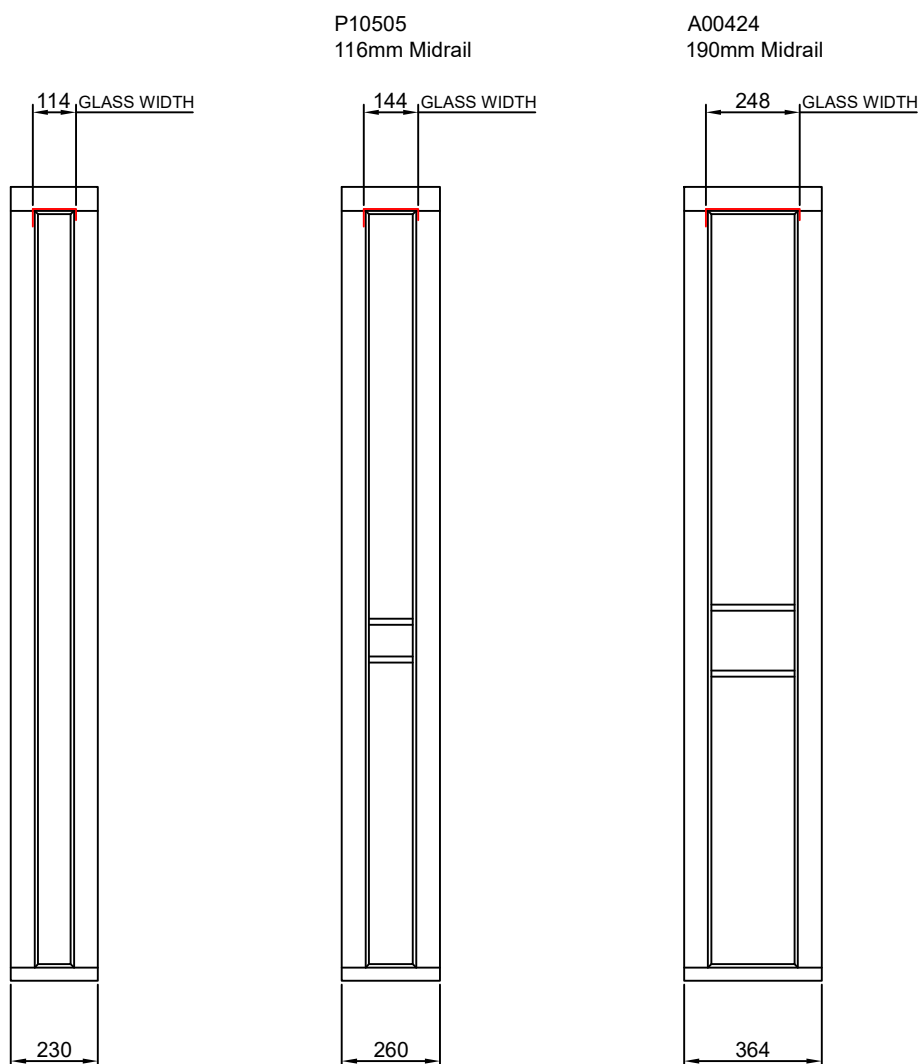
***NOTE

MAXIMUM AND MINIMUM SIZES SHOWN ASSUME 72mm HEAD & SIDES AND LOW THRESHOLD

*NOTE

STORMGUARD THRESHOLDS ARE ONLY COMPATIBLE WITH STORM 1
OUTER FRAMES

GLAZING CASSETTE POSITIONING MAY VARY DEPENDENT UPON
REQUIRED TRIMMING OF COMPOSITE DOOR SLAB AT TOP



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

These dimensions have been determined by the smallest length of mid-rail that can have the ends of the profiles milled safely.

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

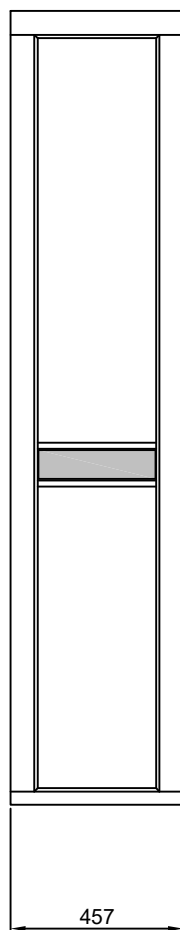
Minimum Side Panel Width with P10505 116mm Midrail = 244mm
Minimum Side Panel Width with A00424 190mm Midrail = 348mm

If using 56mm Outer Frame to both sides then:

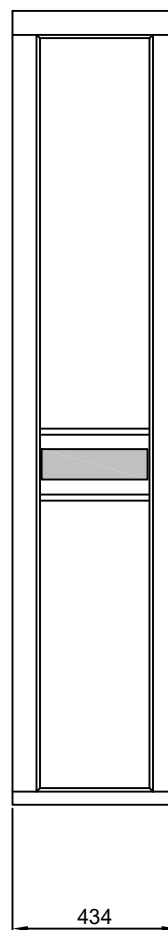
Minimum Side Panel Width with P10505 116mm Midrail = 228mm
Minimum Side Panel Width with A00424 190mm Midrail = 332mm

The Minimum Glass width for Toughened Glass is 150mm. This would require a frame width of 266mm with a 72mm outer frame or 234mm with a 56mm outer frame.

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:

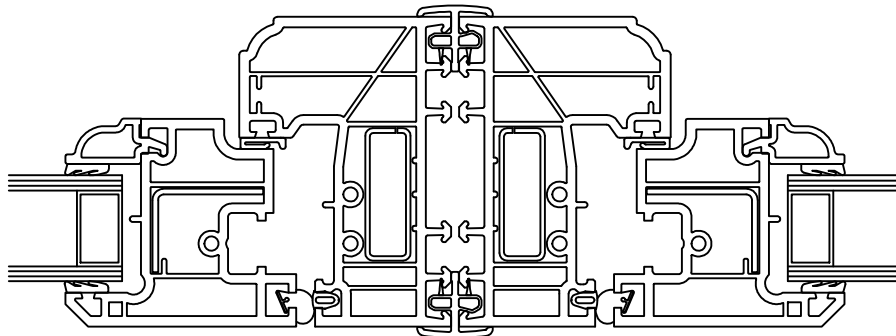
Minimum Side Panel Width for Fab 'n' Fix Nu Mail Letterplate = 425mm

Minimum Side Panel Width for Wrought Iron or Regency Flush Letterplate = 402mm

2mm COUPLING - Example Shown: Flush Casement in 56mm Outer Frame to Flush Casement in 56mm Outer Frame

2no. Couplers Required per frame join

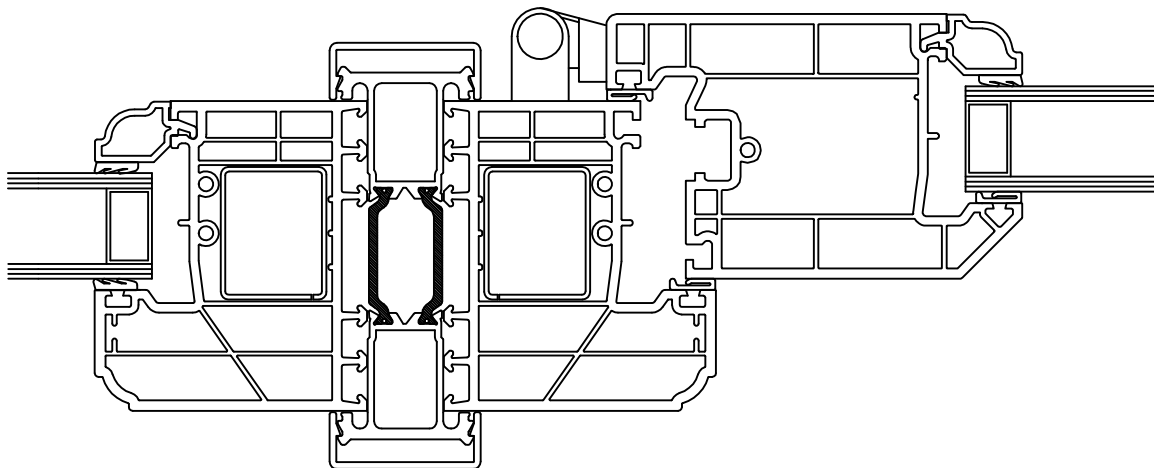
116 217 Storm 2 2mm Coupler



116 217 Storm 2 2mm Coupler

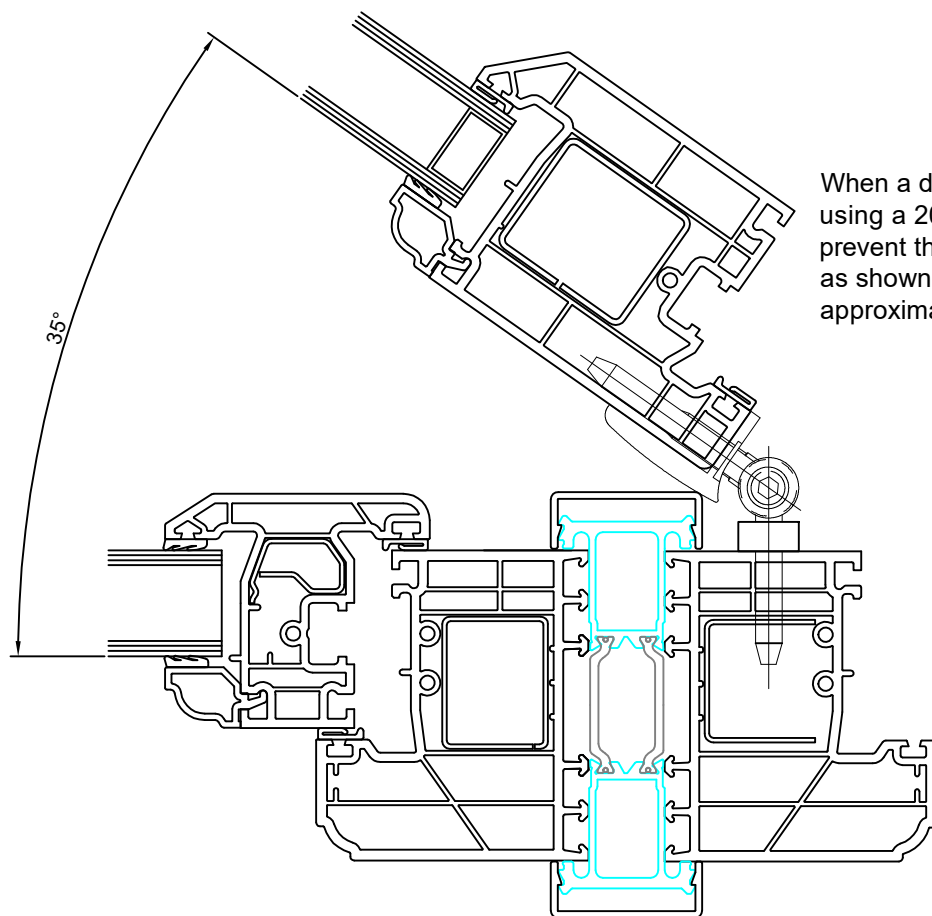
20mm HEAVY DUTY COUPLING - Example Shown: Direct Glazed 72mm Outer Frame to 72mm Door Outer Frame

For Vertical use only - Maximum length: 2500mm

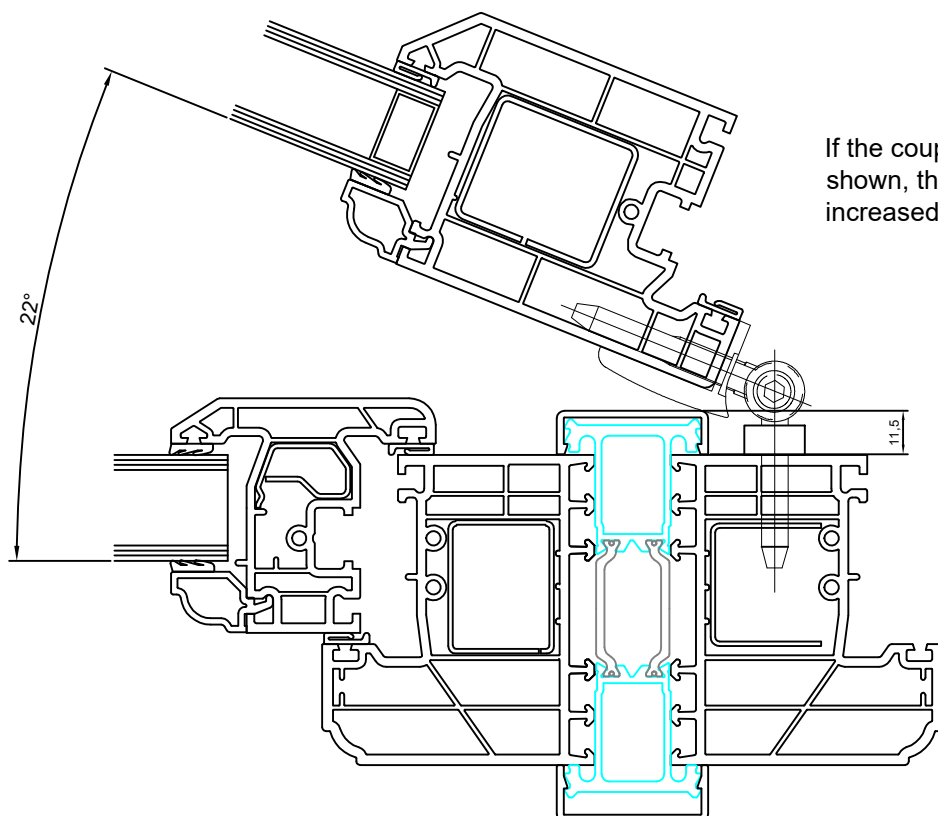


A00434 20mm Storm 2 Heavy Duty Coupler

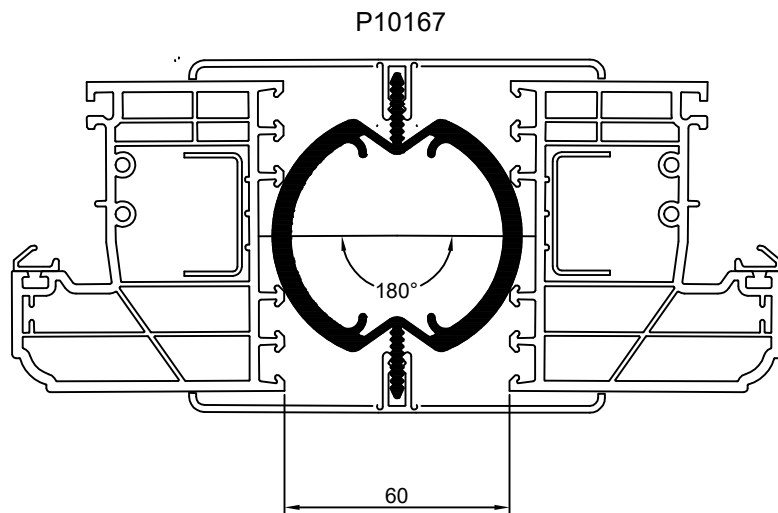
P10323 Plain Covers External & Internal



When a door is coupled to a side panel using a 20mm coupler, the cover will prevent the door opening back at 180° as shown. The angle is restricted to approximately 145°.

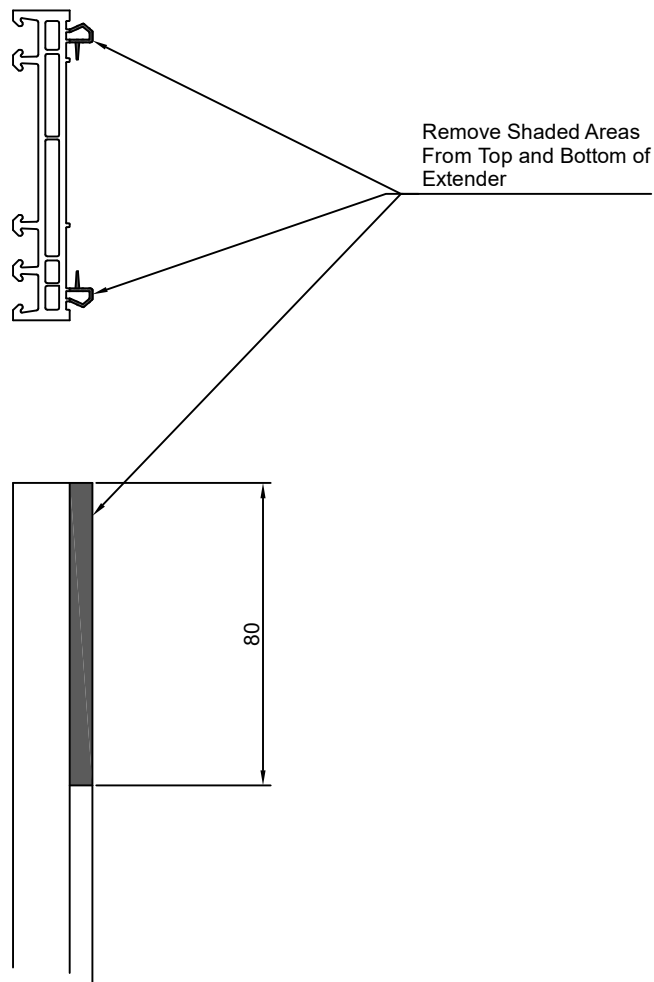
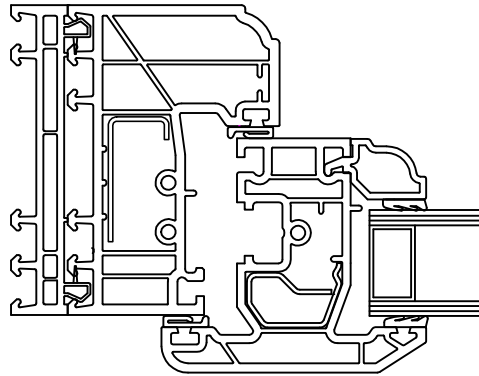


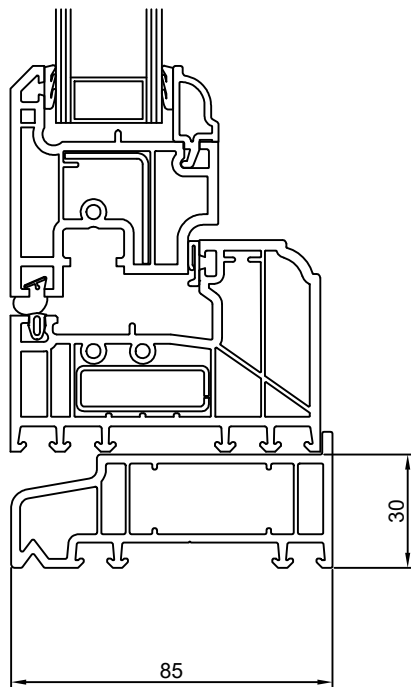
If the coupler can be cut down as shown, the opening angle can be increased to approximately 158°.



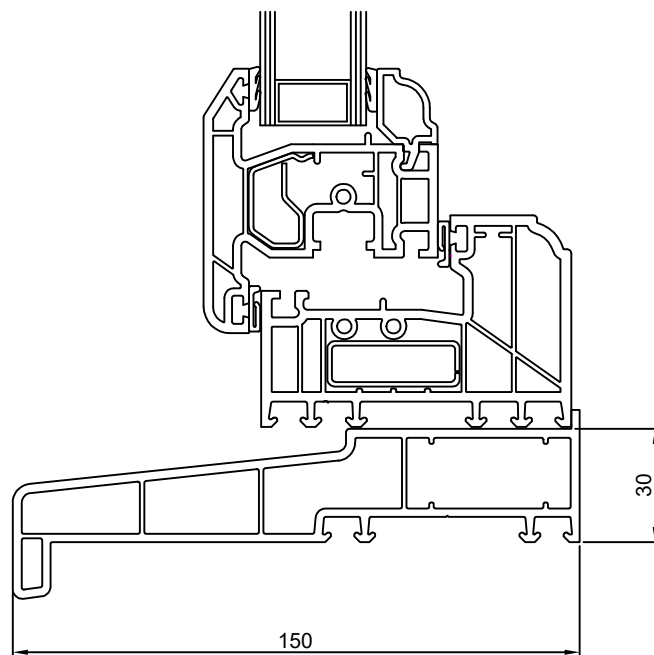
When fitting 15mm Frame Extenders to the sides of Storm 2 Outer Frames it will be necessary to remove the two locating legs from the top and bottom sections.

This is due to the positioning of the outer frame connectors on the mechanical outer frame joints.





110122 Storm 1 & 2 85mm Sill



110103 Storm 1 & 2 150mm Sill

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

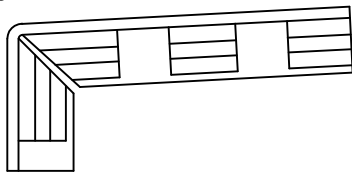
If a job requires the use of the Storm 1 30mm Sill sections, please see above for the positioning of the Sill relative to the Outer Frame.

When a 160mm x 45mm or 200 x 45mm Sill 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 Sill.

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

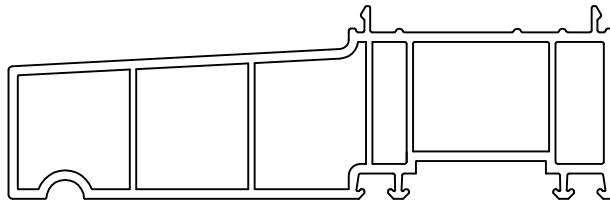
Section mitred then bent
to form front edge



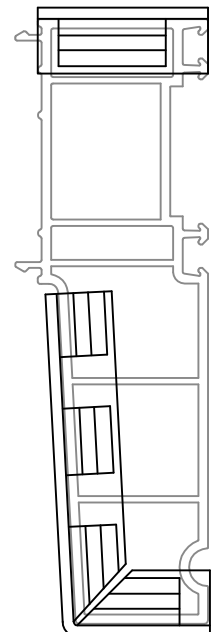
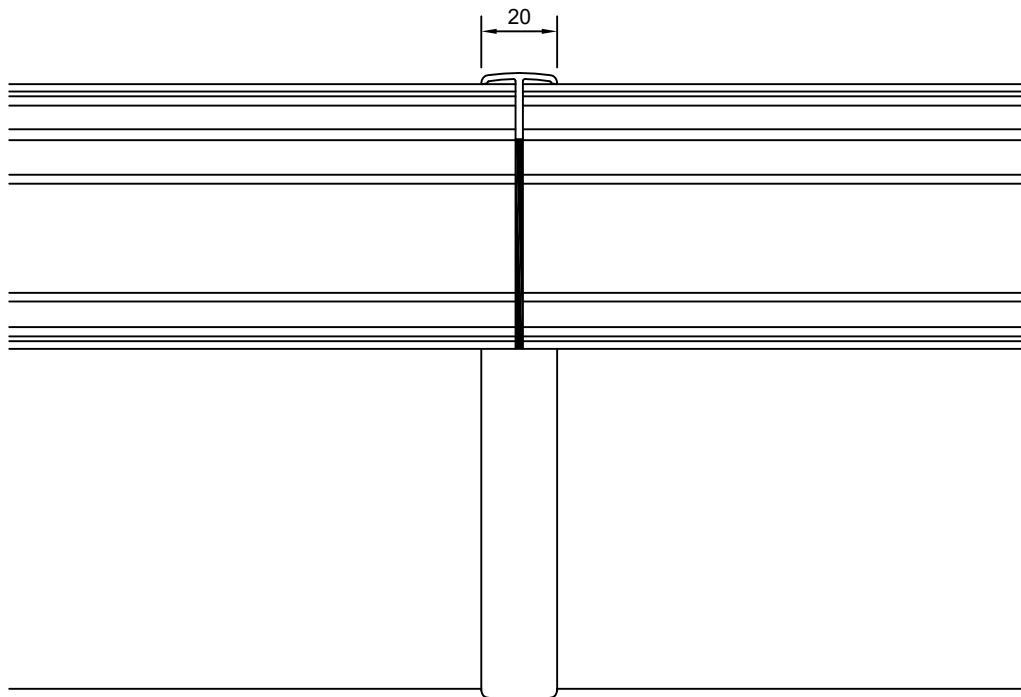
Standard 2mm Coupler section

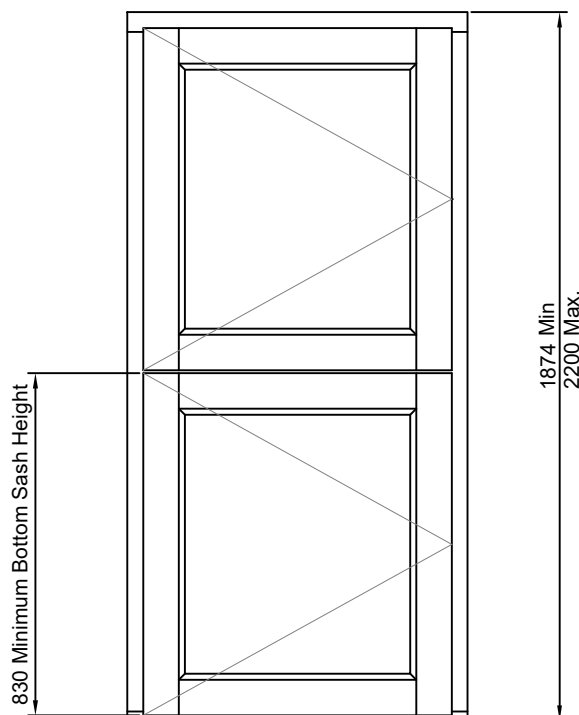


Shaded portions of 2mm Coupler removed
where shown, to avoid internal ribs of Sill



Additional section of 2mm Coupler
required to back edge of Sill

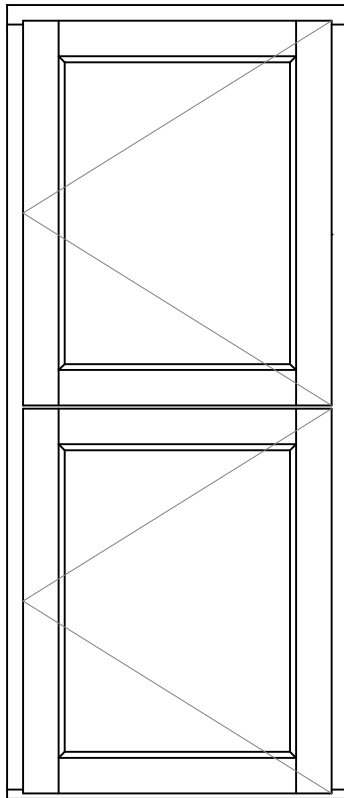




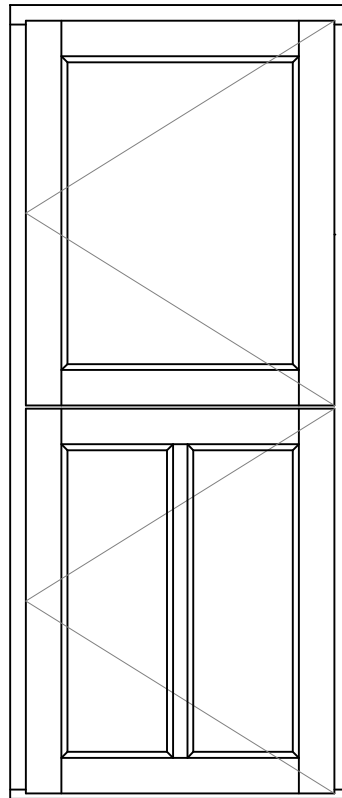
Dimensions shown above assume the use of 72mm head & sides and 44mm threshold
 Dimension shown is for doors fitted with non-cropped MACO CTS lock with equal sash heights

Top and bottom sashes can be manufactured with differing heights, but there is only a limited amount of the bottom lock gear that can be cropped. Also, when specifying a larger top sash, please bear in mind that the top hook bolt in the upper sash moves further away from the top of the sash as it increases in height which may compromise the weather performance.

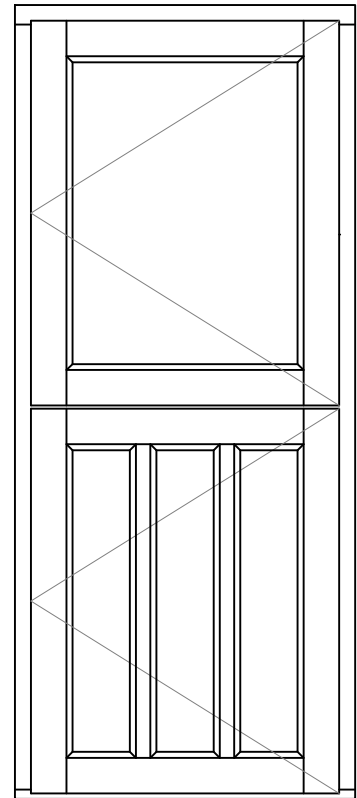
Evolution Windows advises that the offset should only be a maximum of 150mm, for example, a top sash height of 1100mm and a bottom sash height of 950mm



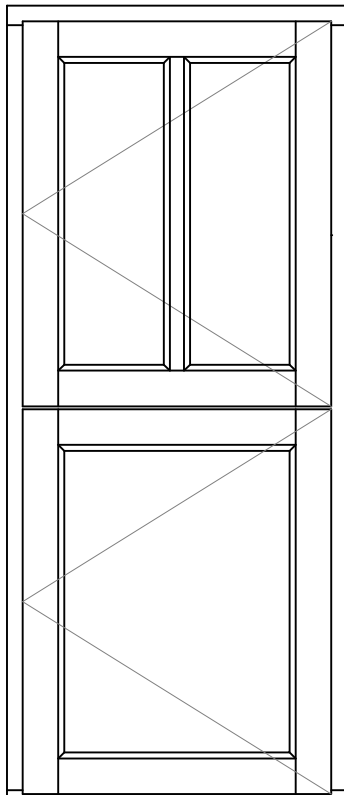
Style 1001 - L/H
Style 1002 - R/H



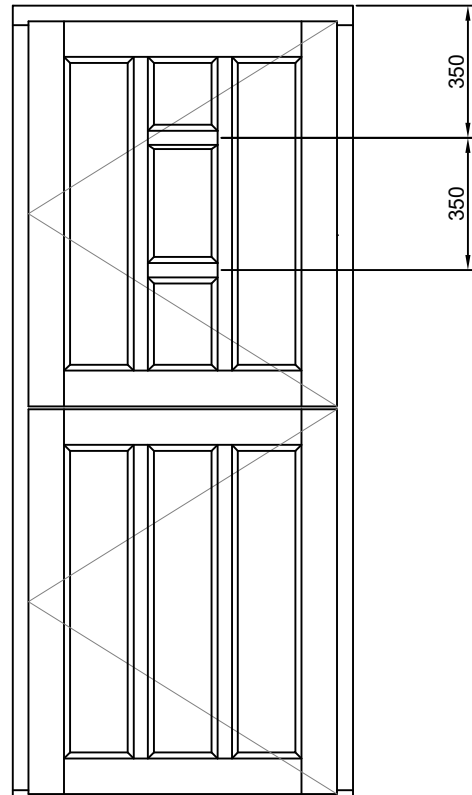
Style 1003 - L/H
Style 1004 - R/H



Style 1005 - L/H
Style 1006 - R/H



Style 1007 - L/H
Style 1008 - R/H

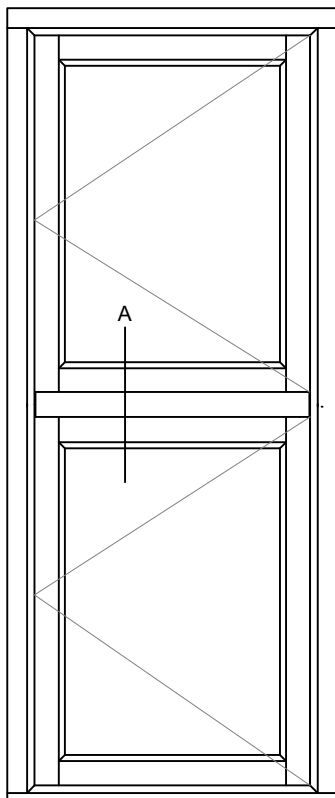
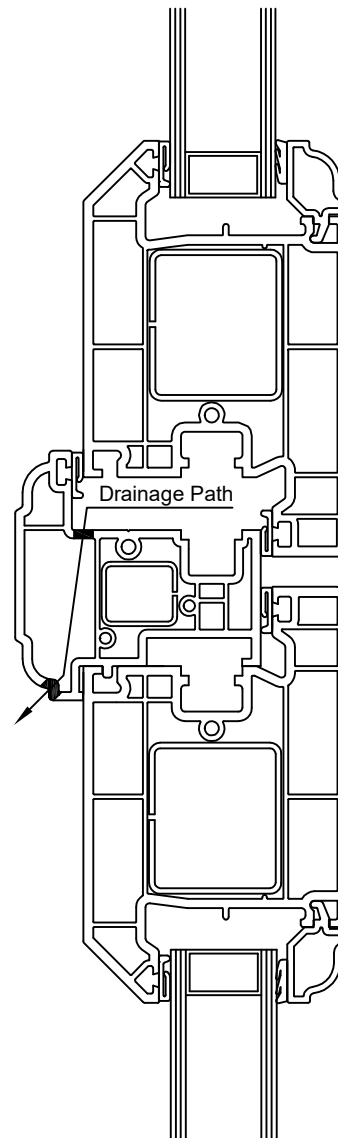


Style 1009 Oakland Stable - L/H
Style 1010 Oakland Stable - R/H

NOTE: USE ONLY THE STABLE DOOR STYLES SHOWN ABOVE - ONLY THESE STYLES CAN BE MANUFACTURED
DO NOT ATTEMPT TO CREATE A CUSTOM STYLE IF USING THE EVOLUTION ONLINE ORDERING SYSTEM.
DOORS CAN BE OPEN IN OR OPEN OUT.

Section A

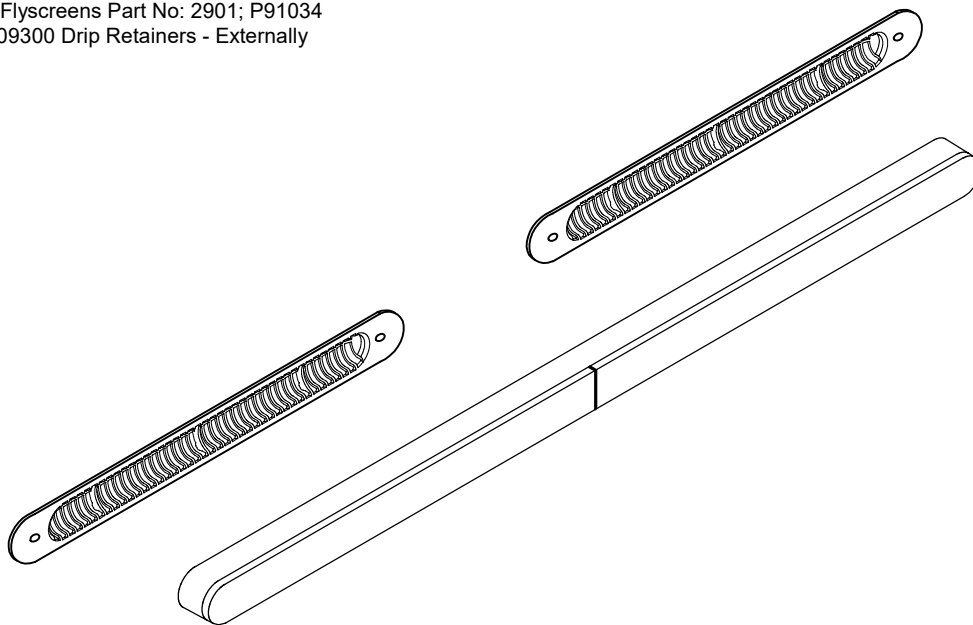
To prevent rainwater collecting on the top of the overlap profile on an inward opening stable door, provide drainage holes where shown. 1 x 5mm hole centrally and 1 x 5mm hole 25mm from each end.



CONCEALED 5000 VENTILATION

Consists of:

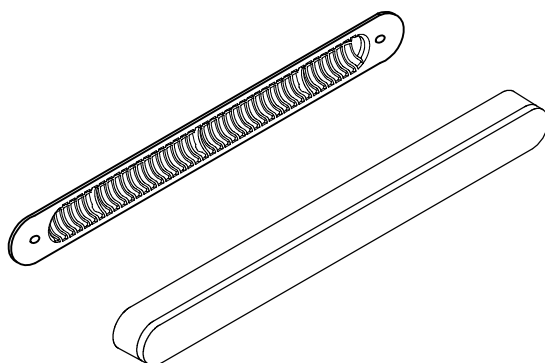
- 1 off - Glazparts Link-Vent 5000EA - Internally
- 2 off - Glazparts Flyscreens Part No: 2901; P91034
- Head Drip and 709300 Drip Retainers - Externally



CONCEALED 2500 VENTILATION

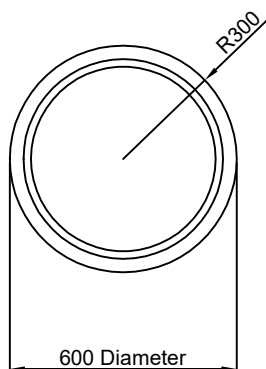
Consists of:

- 1 off - Glazparts Link-Vent 2500EA - Internally
- 1 off - Glazparts Flyscreen Part No: 2901; P91034
- Head Drip and 709300 Drip Retainers - Externally

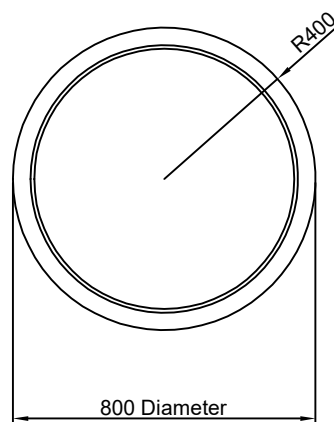


MINIMUM DIMENSIONS USING 56mm or 72mm OUTER FRAME

STORM 1



STORM 2



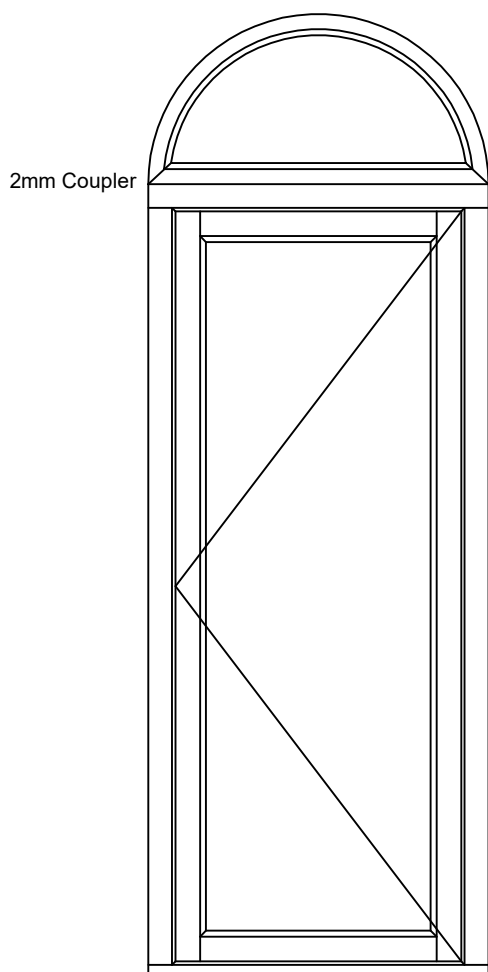
Please Note.

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

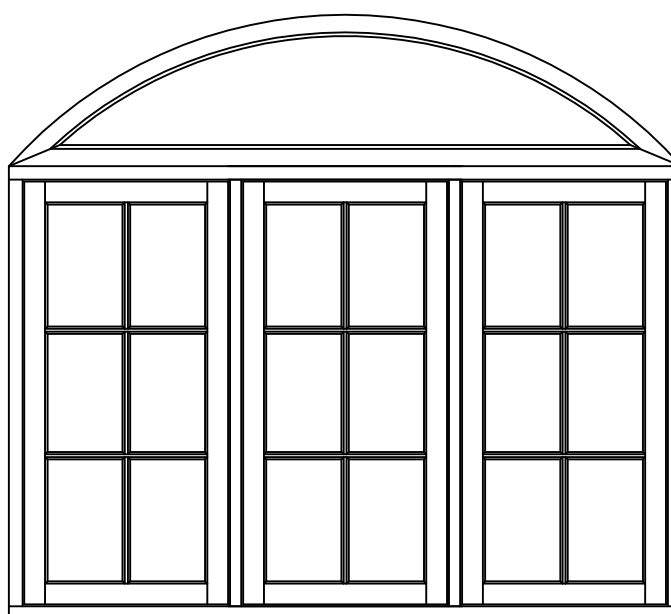
If arched sections are required above windows or doors, these will be manufactured as separate, direct glazed, internally beaded frames and coupled to the item as shown below.

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

Semi Circular Toplight Over Door

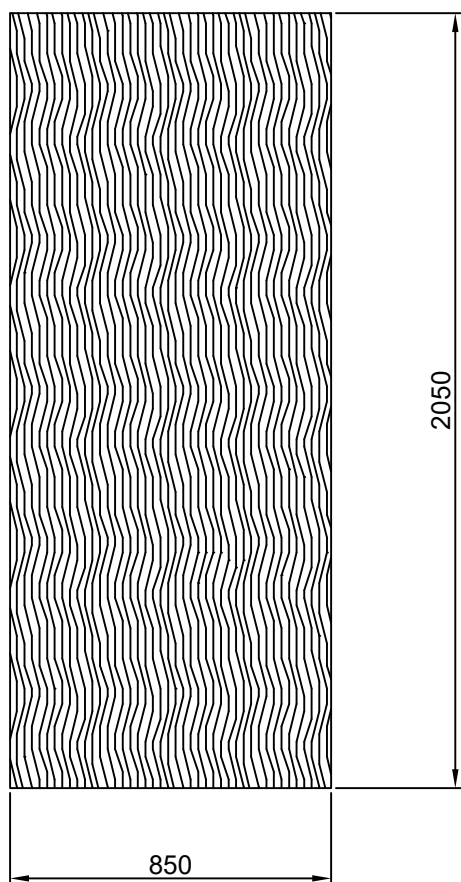


Constant Radius Arch Over Window



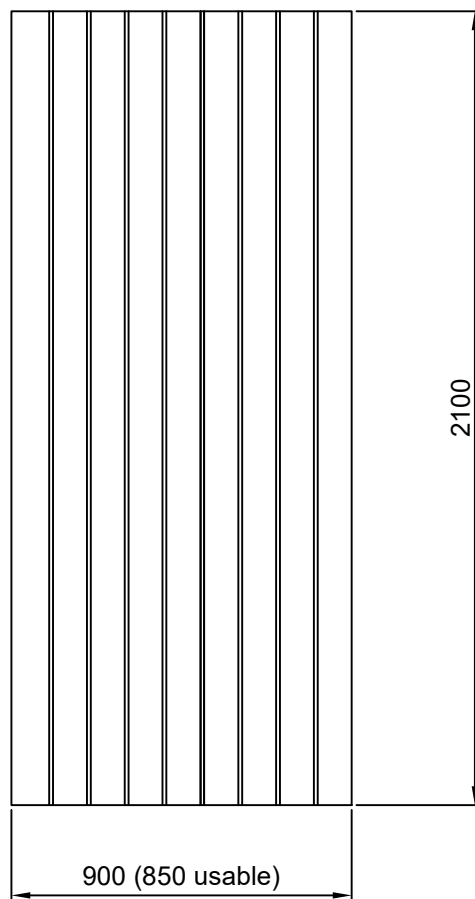
FLAT WOODGRAINED

28mm thickness
9mm MDF reinforcing



WALLCOTT EURO

28mm thickness
9mm MDF reinforcing

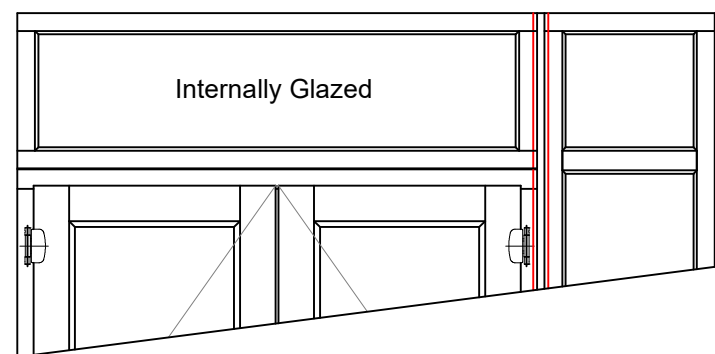
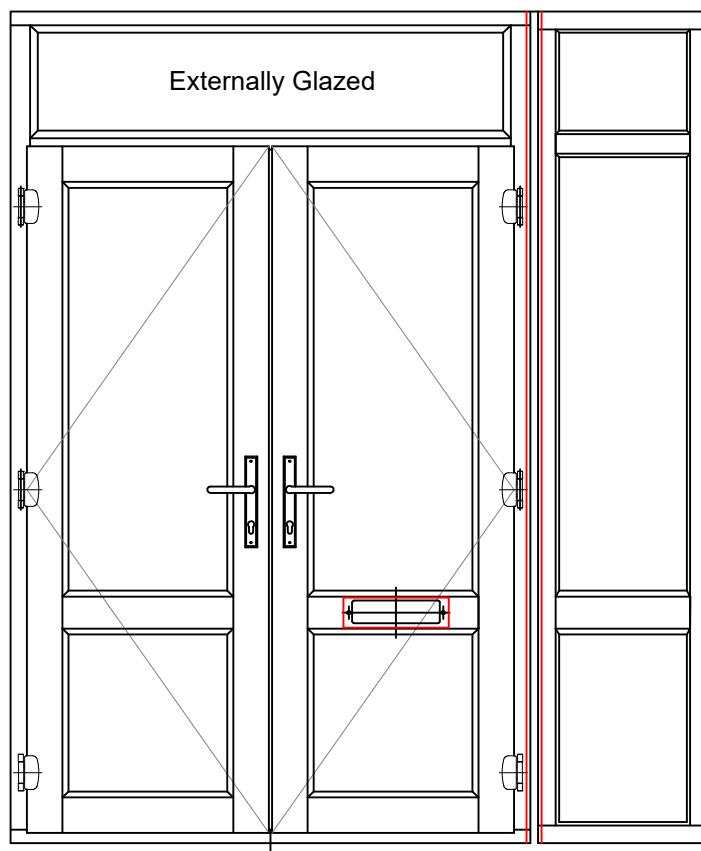


The dimensions above show the sizes that the panels are manufactured. However, there is a possibility that some wastage may occur in the widths (and to some extent, the heights) of the Flat Woodgrained panels due to the way that they are made. The same also applies to the Wallcott panels as there will be a need, in most cases, to centralise the shiplap pattern when using in doors or windows. Therefore, in Window Designer, the maximum usable width of a Wallcott panel is set at 850mm

The orientation of the panels is as shown above, but in some cases it may be necessary to turn the panel through 90°. Window Designer will not allow this, but provided it is practical to do so and the end user is aware that the grain pattern or shiplap pattern will run horizontally, a temporary change to the Material List for the specific job can be made by Evolution Windows.

Please note.

Wallcott panels have a GRP skin and always require spraying to match Evolution foil colours, including White Wood. The exceptions to this are Evo Oak (Irish Oak), Natural Wood (Sienna) and Rosewood. It must also be noted that the grain pattern of a Wallcott panel does not match the grain pattern of Evolution window and door profiles. There may also be some variance in the grain patterns of Flat Woodgrained panels if sprayed a specific colour.

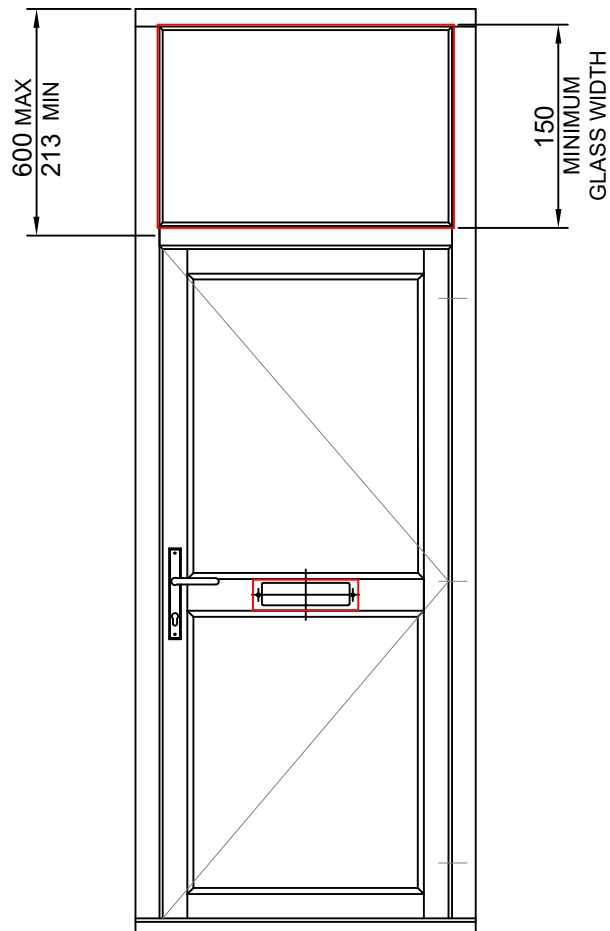


A 20mm coupler is required the full height between the door and the side light in order to provide rigidity for the hinges. If a top light is also required it should be either two separate casements either side of the 20mm coupler or as drawn above, in which case, for open out French doors, the top light will be externally glazed.

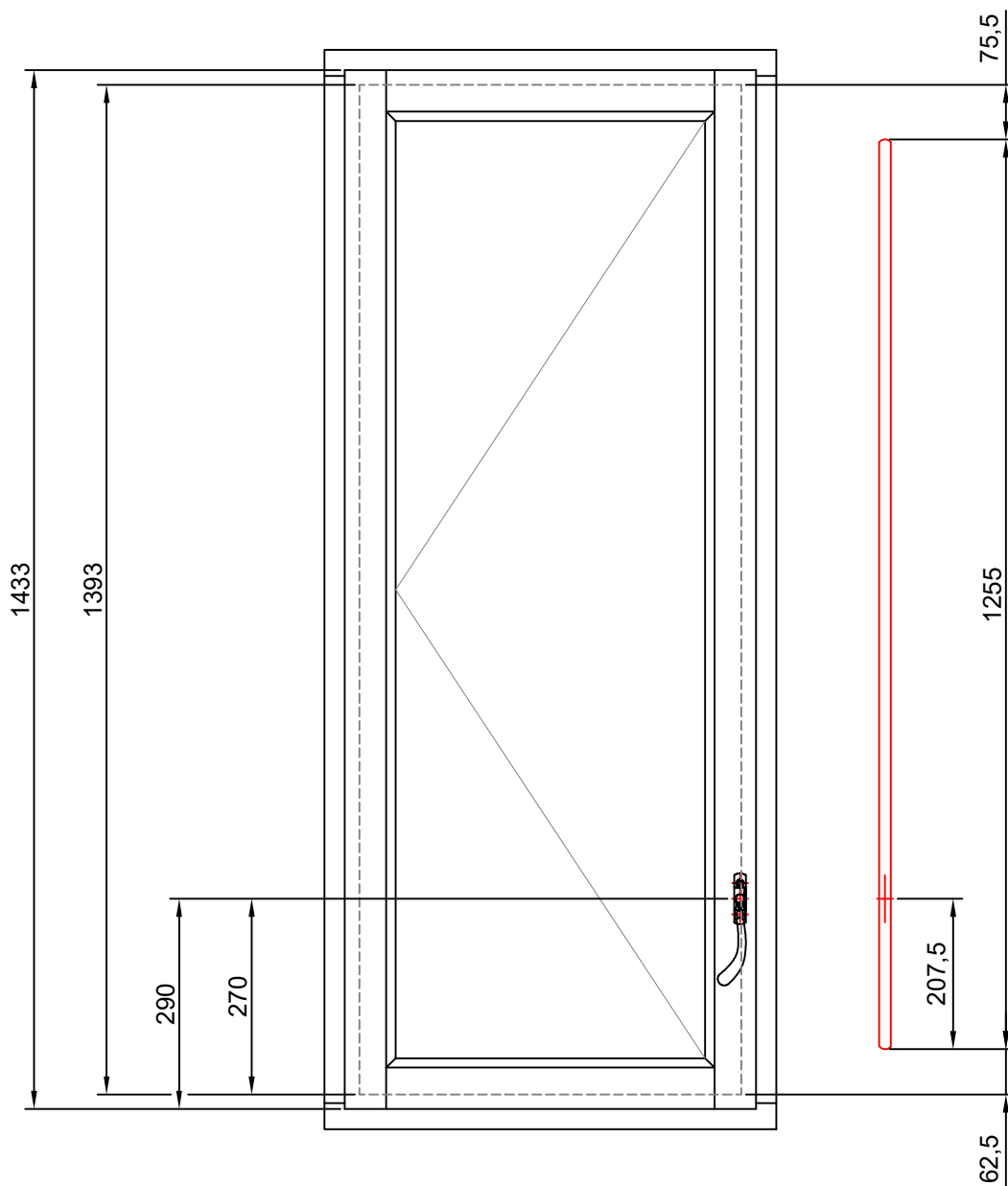
If a separate top light is chosen, the coupler should be a 2mm coupler as the 20mm coupler has no strength as a horizontal beam. If the customer insists on a 20mm coupler horizontally, the frame profiles must be 72mm deep because the coupler will cover over the face drainage slots if a 56mm frame profile was used.

This applies to standard doors and directly glazed windows/rakes as well.

DIMENSIONS BASED UPON A 56mm TOP RAIL



THE HEIGHT OF THE INTEGRAL TOP LIGHT IS MINIMIZED TO PREVENT UNDUE FLEX OF THE FRAME.
THE MINIMUM GLASS WIDTH THAT CAN BE SUPPLIED IN TUFFENED GLASS IS 150mm.



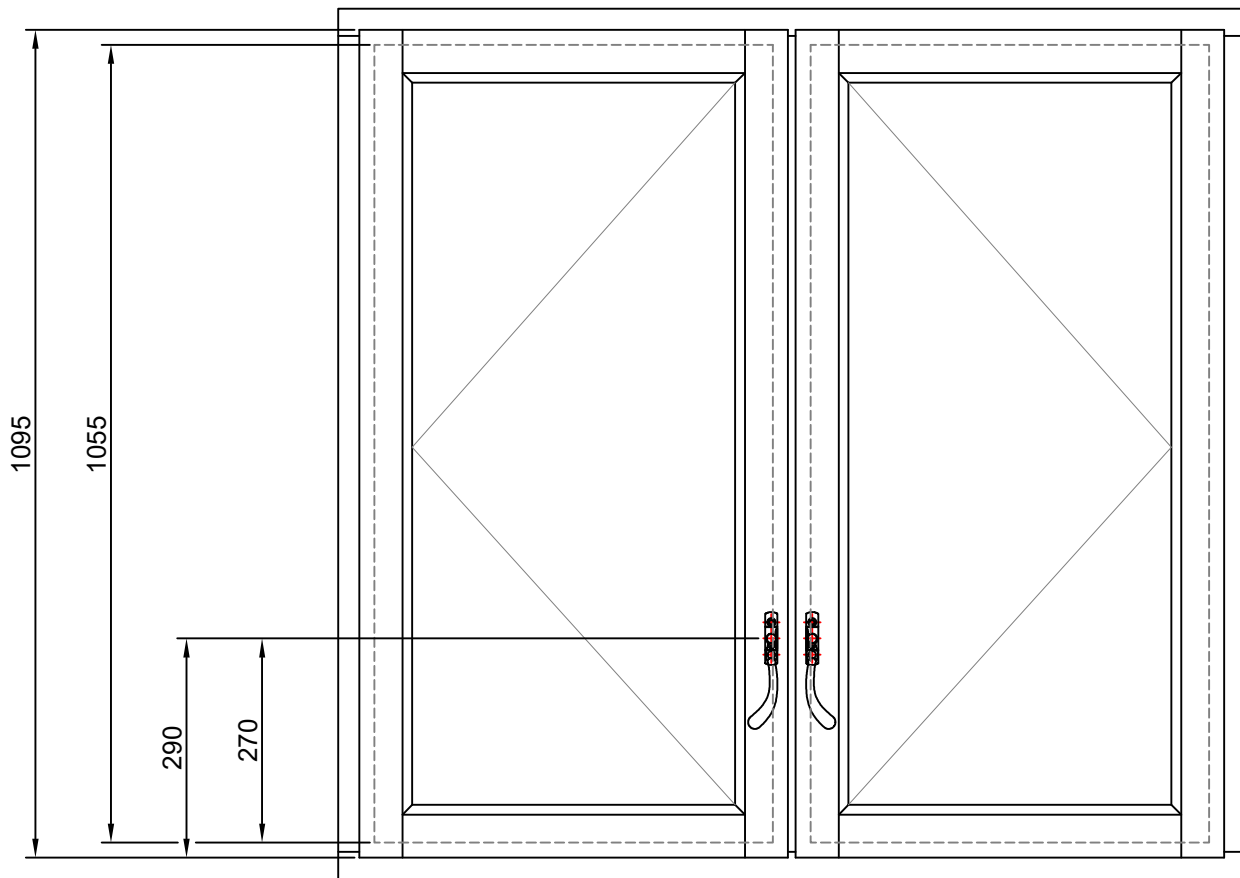
STORM CASEMENT

NOTES

THE MINIMUM HANDLE HEIGHT IS FIXED AT 290mm FROM THE BOTTOM OF THE SASH LONG LEG. THE HANDLE HEIGHT IS NOT VARIABLE.

THE MINIMUM SASH HEIGHT FOR A LOW HANDLE IS 647mm SASH LONG LEG.

THE MAXIMUM SASH HEIGHT FOR A LOW HANDLE IS 1433mm SASH LONG LEG.



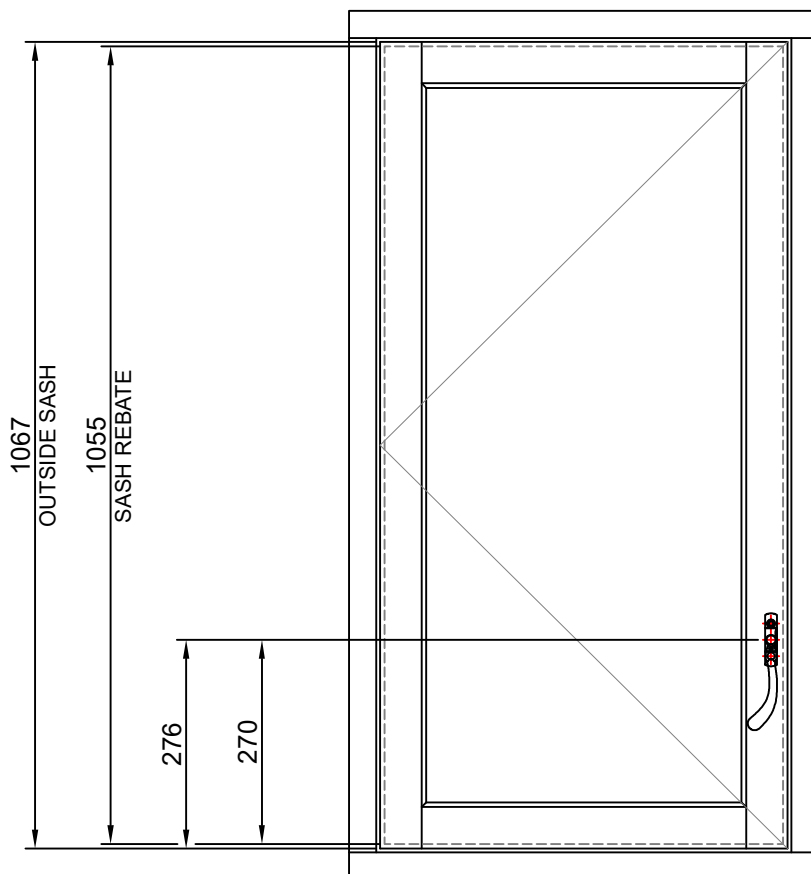
STORM FRENCH CASEMENT

NOTES

THE MINIMUM HANDLE HEIGHT IS FIXED AT 290mm FROM THE BOTTOM OF THE SASH LONG LEG. THE HANDLE HEIGHT IS NOT VARIABLE.

THE MINIMUM SASH HEIGHT FOR A LOW HANDLE IS 647mm SASH LONG LEG.

THE MAXIMUM SASH HEIGHT FOR A LOW HANDLE IS 1095mm SASH LONG LEG.



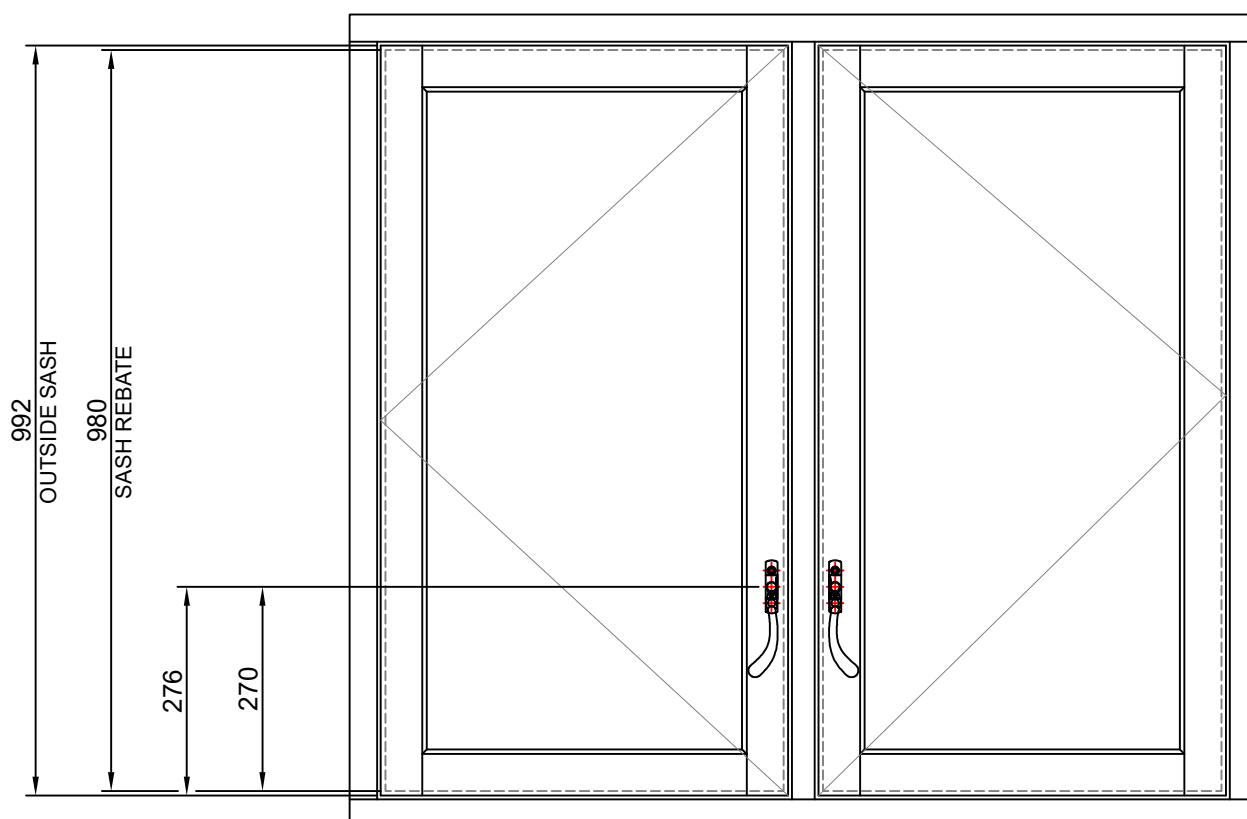
FLUSH CASEMENT

NOTES

THE MINIMUM HANDLE HEIGHT IS FIXED AT 276mm FROM THE BOTTOM OF THE SASH LONG LEG. THE HANDLE HEIGHT IS NOT VARIABLE.

THE MINIMUM SASH HEIGHT FOR A LOW HANDLE IS 552mm SASH LONG LEG.

THE MAXIMUM SASH HEIGHT FOR A LOW HANDLE IS 1067mm SASH LONG LEG.



FLUSH FRENCH CASEMENT

NOTES

THE MINIMUM HANDLE HEIGHT IS FIXED AT 276mm FROM THE BOTTOM OF THE SASH LONG LEG. THE HANDLE HEIGHT IS NOT VARIABLE.

THE MINIMUM SASH HEIGHT FOR A LOW HANDLE IS 552mm SASH LONG LEG.

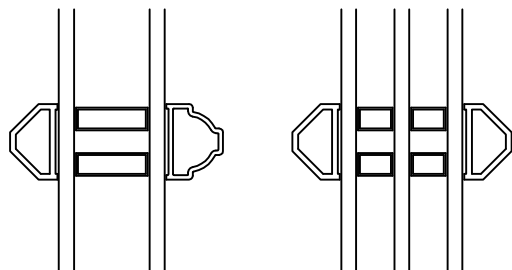
THE MAXIMUM SASH HEIGHT FOR A LOW HANDLE IS 992mm SASH LONG LEG.



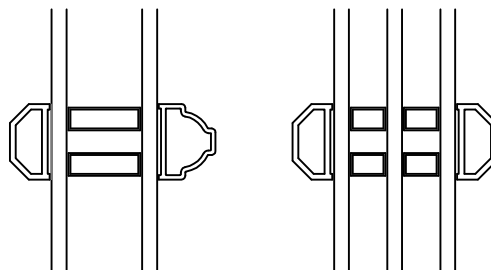
Section

5

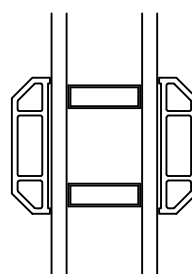
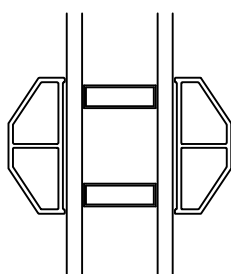
STORM & EDC DOORS



FLUSH CASEMENTS



20mm PUTTY LINE / OVOLO



36mm ASTRAGAL BARS



P10191
20mm Astragal Bar
External - Putty Line - Storm



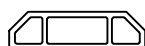
P10193
20mm Astragal Bar
External - Putty Line - Flush
Internal if used on Flush in combination with the 36mm Bar



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



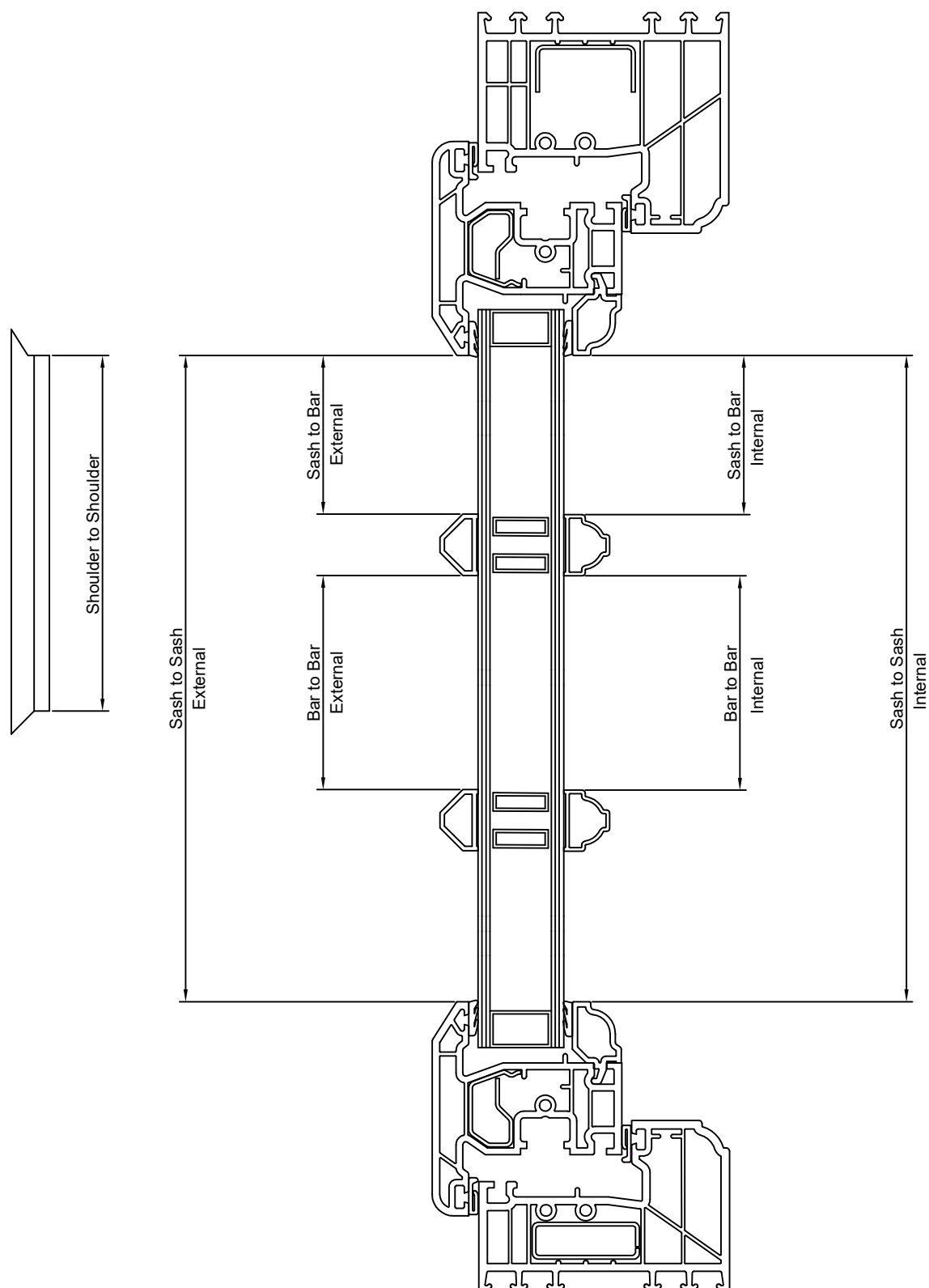
EV03
36mm Astragal Bar
External & Internal - Storm

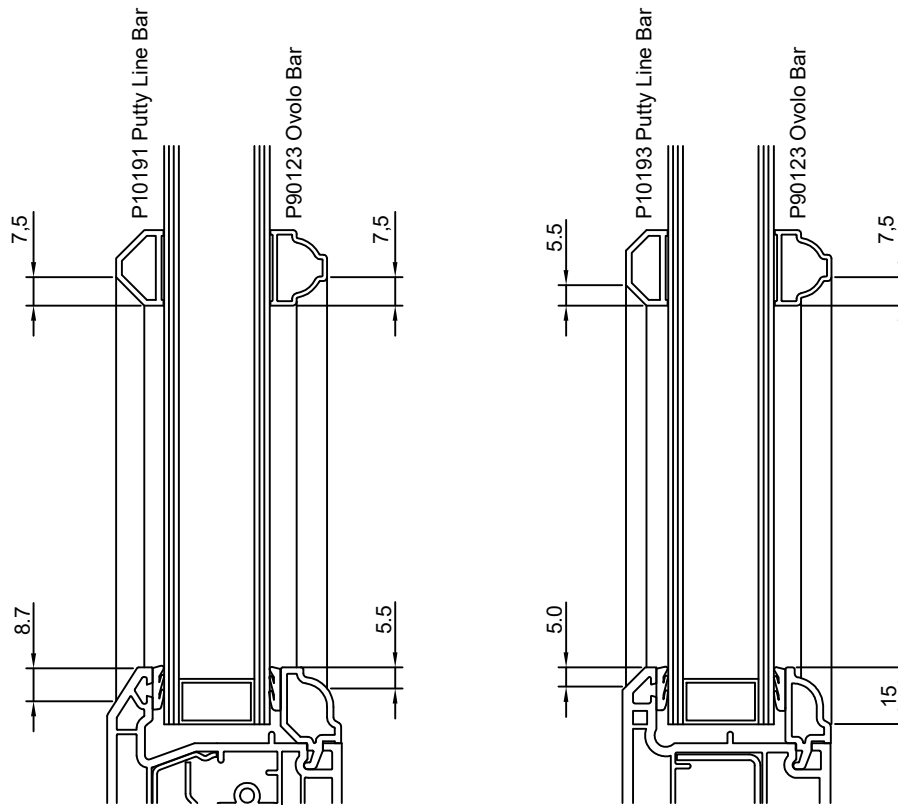


709021
36mm Astragal Bar
External & Internal - Flush

When ordering replacement Astragal 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 Astragal 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 Astragal bar is required, either 20mm or 36mm.





Storm Sash

Flush Sash

Due to the way our milling machines are calibrated, it is impossible to be accurate when calculating the cutting length of an astragal bar when we have been provided with an end point to end point measurement.

Our saws and milling machines are calibrated to work from shoulder to shoulder measurements (see page 05.02 of the Evolution Technical Manual), and it is only when provided with these measurements, we can be confident that the bars will fit.

Also, when fitting astragal bars on site, there are occasions when the duplex bars within a sealed unit may not be exactly in the correct position (our suppliers work to a 2mm tolerance) or the sealed unit may not have been glazed within its rebate with an equal spacing all round. This can cause the theoretical length of the bars to be incorrect and not line up with the duplex bars within the sealed unit. This is why we prefer to glaze sashes in our factory.

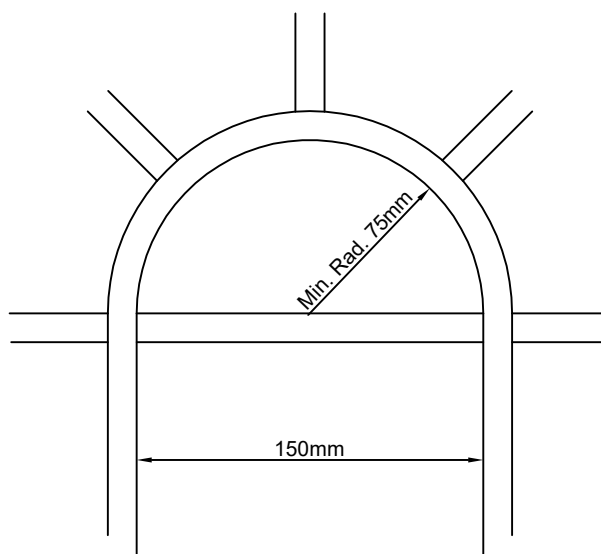
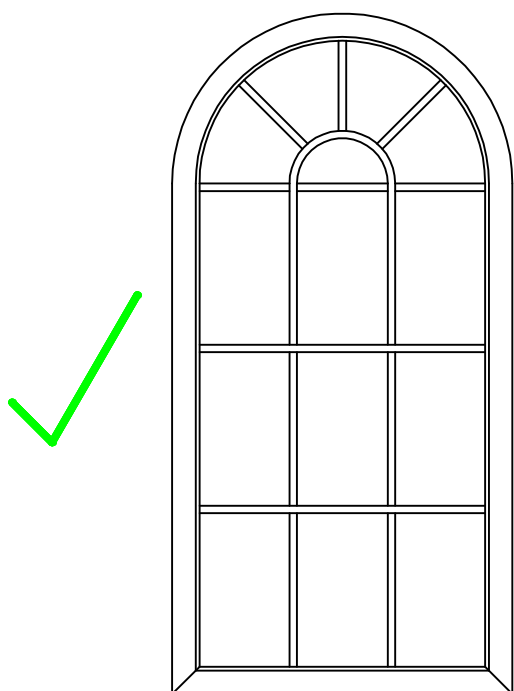
The machinery that Evolution uses to prepare the ends of the 20mm and 36mm Georgian bars only allow for 90° machining at the bar ends. This limits the design options available.

Please bear this in mind when designing any Georgian layout.

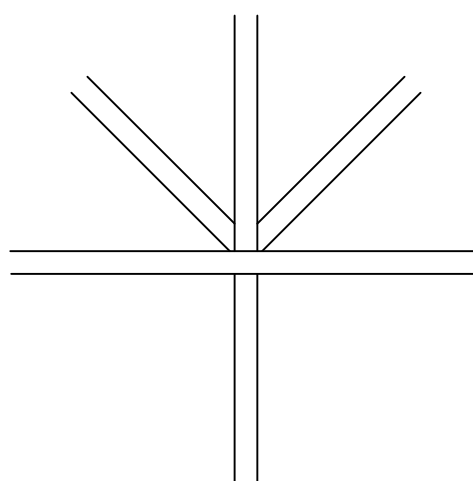
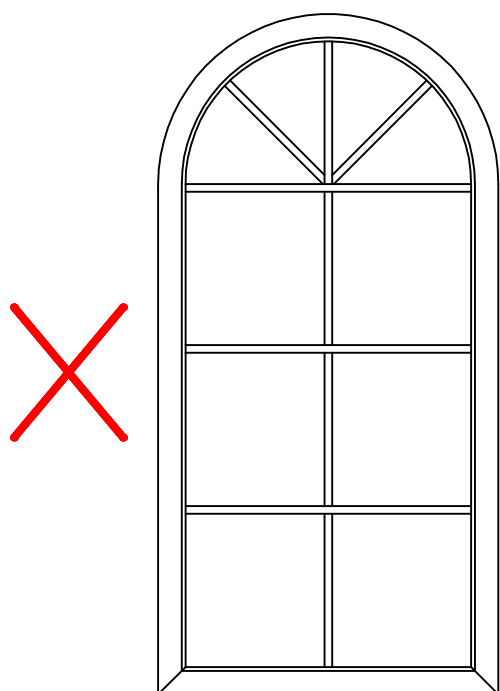
Please also be aware of the minimum radius of 75mm that the 20mm Georgian bars can be bent to.

36mm Georgian bars cannot be bent.

Although the examples below show arched windows, these rules apply to any shaped window or any Georgian layout where a bar meets the Outer Frame, Sash or another bar at any angle other than 90°.



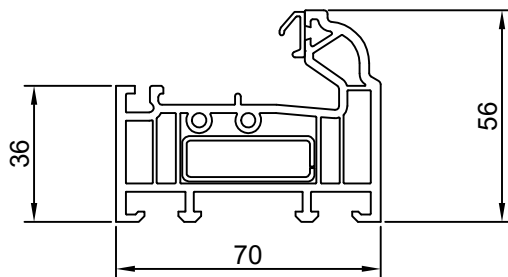
All Georgian bar end preparation is at 90°, therefore, this design is okay to be manufactured.



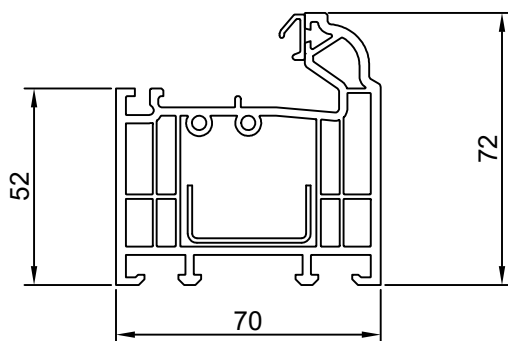
Two of the Georgian bar end preparations are at 45°, therefore, this design cannot be manufactured



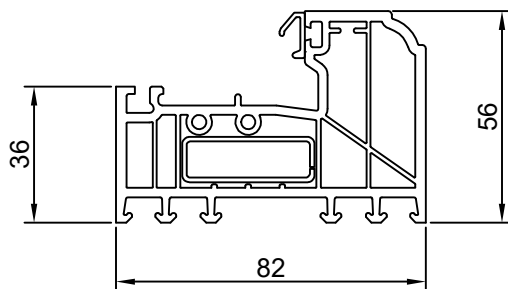
Section 6



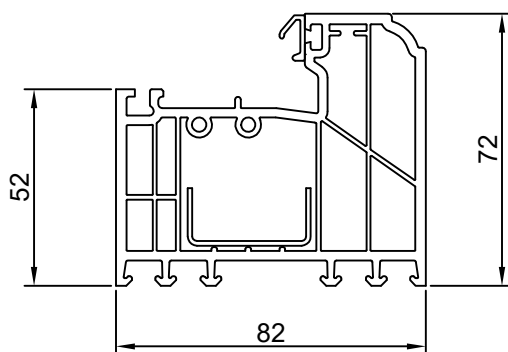
P10531 Storm 1 56mm Outerframe
S00187 (713187) Reinforcing



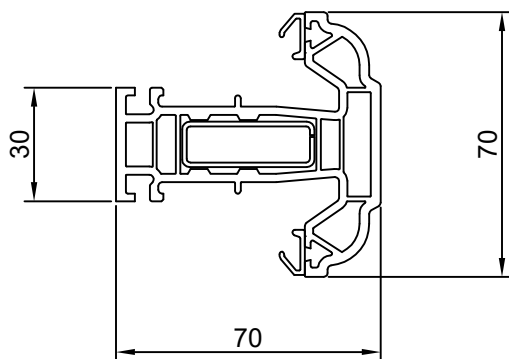
P10532 Storm 1 72mm Outerframe
S41101 Reinforcing



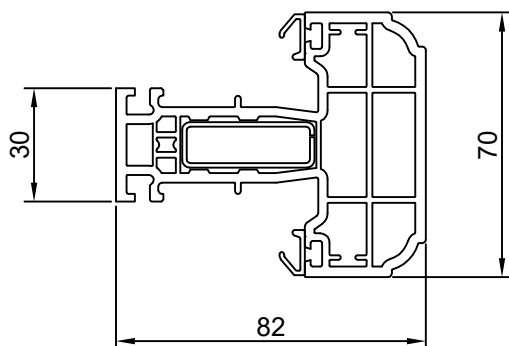
P90201 Storm 2 56mm Outerframe
S00187 (713187) Reinforcing



P90202 Storm 2 72mm Outerframe
S41101 Reinforcing



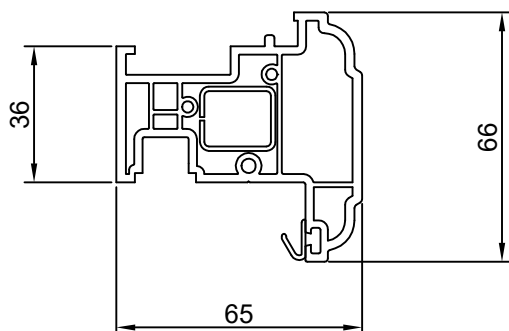
P10533 Storm 1 70mm Transom / Mullion
S00187 Reinforcing
Also Used As Flush French Casement Overlap



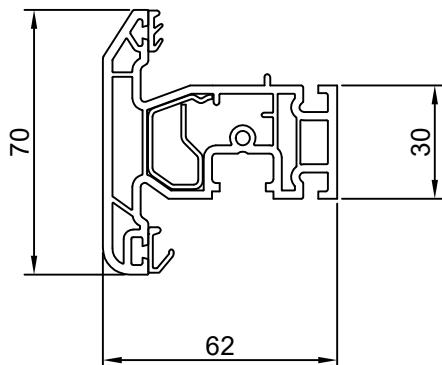
P90203 Storm 2 70mm Transom / Mullion
S00187 Reinforcing



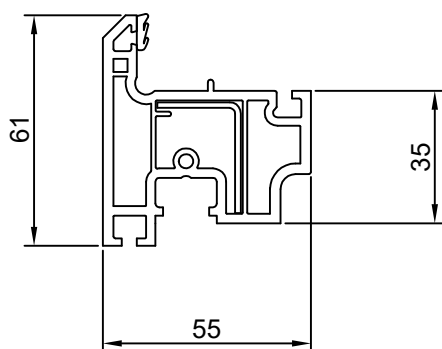
P62203 Storm 70mm Dummy Transom / Mullion
S00187 Reinforcing



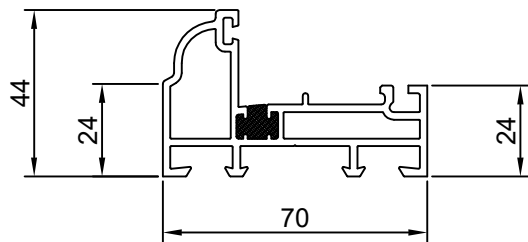
P10612 Storm French Casement Overlap
S41135 Reinforcing



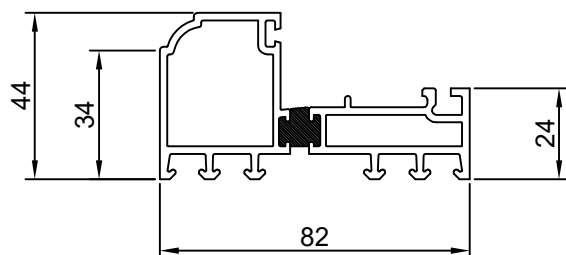
P90208 Storm Casement Sash
S00183 Reinforcing



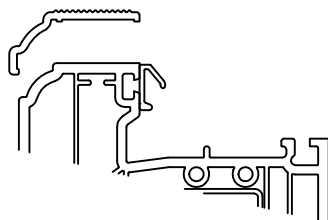
P10527 Flush Casement Sash
S00226 Reinforcing



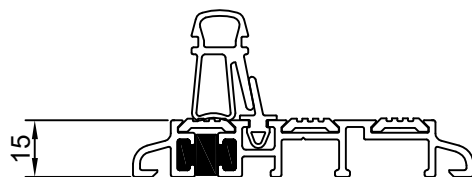
A00333 Storm 1 44mm Threshold
Note: Thermally Broken Aluminium



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 for Wheelchair Access.

Note.

- Thermally Broken Aluminium
- Not suitable for use with French Doors or
- Doors with Shootbolt Locking



PROLINE AM3EX-78 Connector
(04CP648)

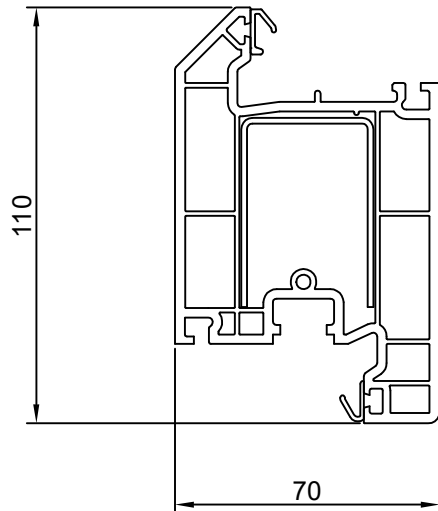
For Wheelchair Access.



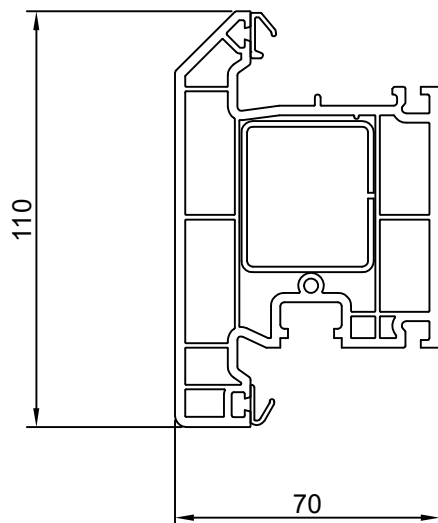
STORMGUARD Threshold:
Proline AM3EX-78

Note.

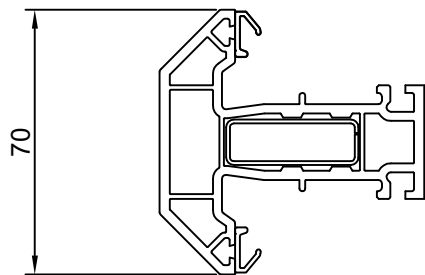
Thermally Broken Aluminium
For use with Composite doors
Storm 1 Only



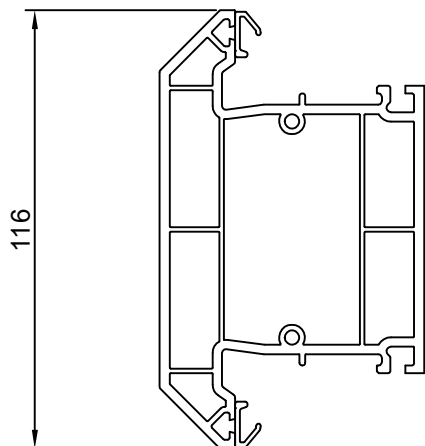
P10510 Open In Door Sash
S00162 Reinforcing for Lock Side (shown)
S00163 Reinforcing for Hinge side, Top and Bottom



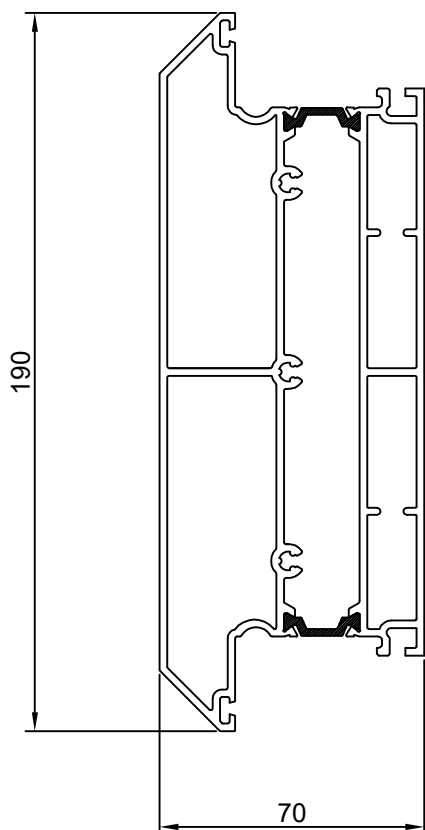
P10511 Open Out Door Sash
S00162 Reinforcing for Lock Side
S00163 Reinforcing for Hinge side, Top and Bottom (shown)



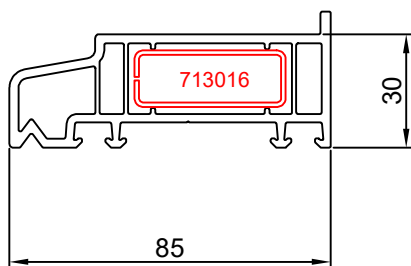
P10503 70mm Mullion / Transom
S00187 Reinforcing



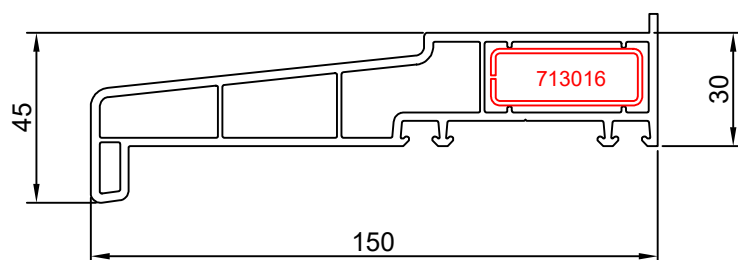
P10505 116mm Transom / Mullion / Midrail



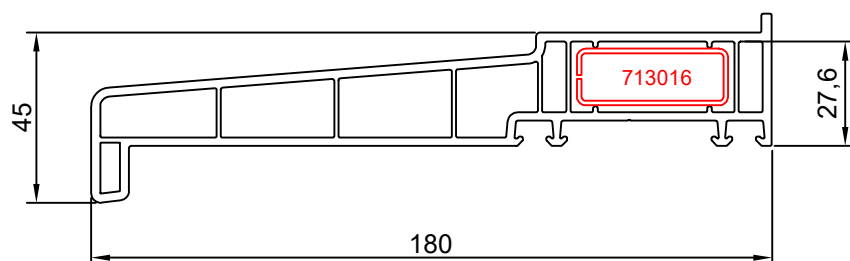
A00424 190mm Midrail
Note: Thermally Broken Aluminium



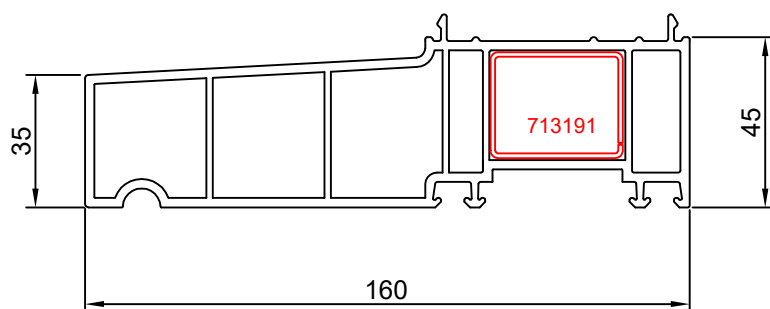
110122 Storm 1 & 2 85mm Sill



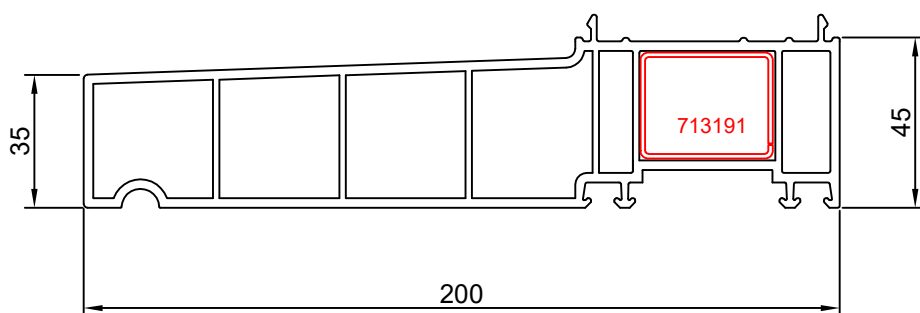
110103 Storm 1 & 2 150mm Sill



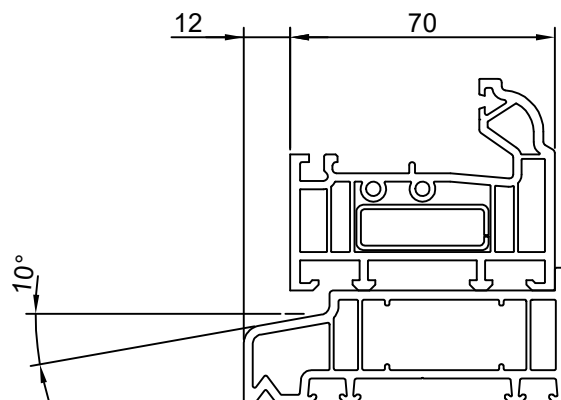
110123 Storm 1 & 2 180mm Sill
Available early 2021



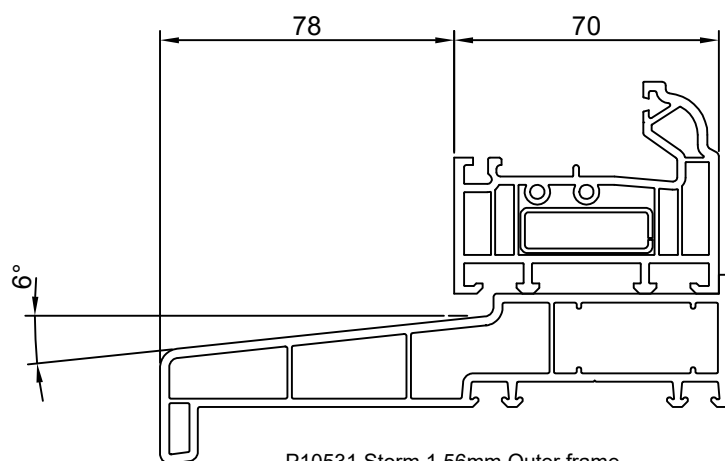
P90120 Storm 2 160mm Sill



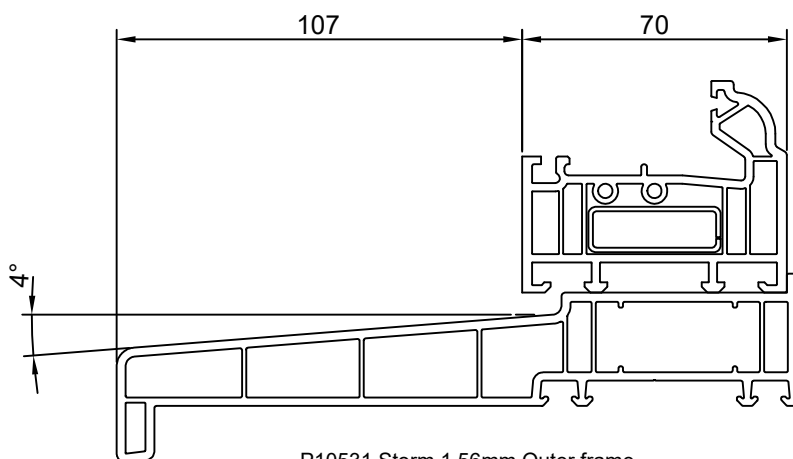
P90144 Storm 2 200mm Sill



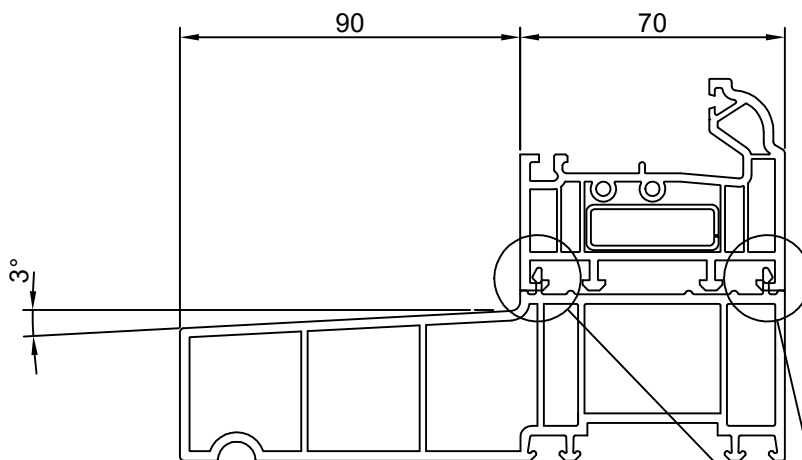
P10531 Storm 1 56mm Outer frame
110122 Storm 1 & 2 85mm x 30mm Sill



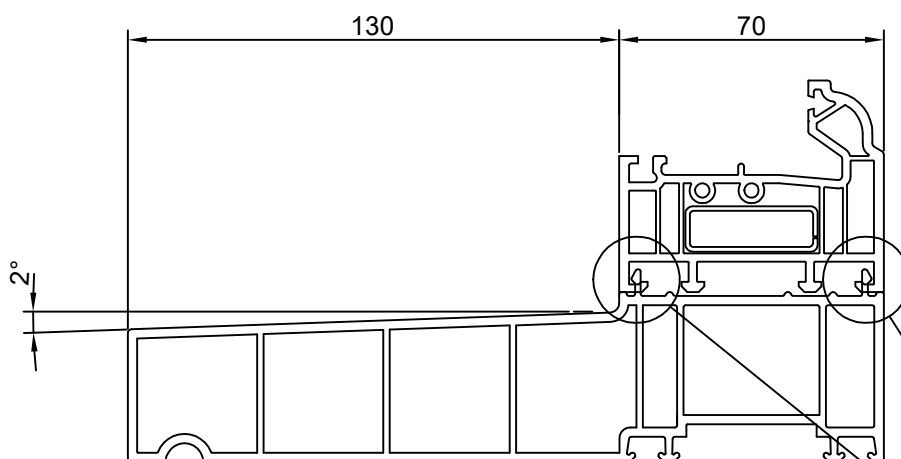
P10531 Storm 1 56mm Outer frame
110103 Storm 1 & 2 150mm x 30mm Sill



P10531 Storm 1 56mm Outer frame
110123 Storm 1 & 2 180mm x 30mm Sill

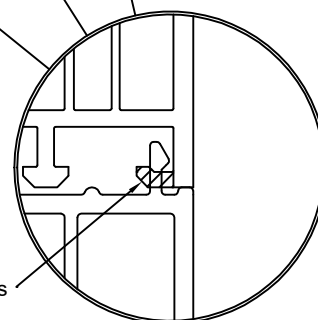


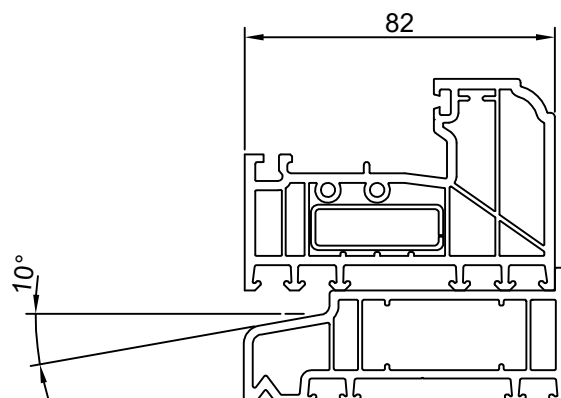
P10531 Storm 1 56mm Outer frame
P90120 Storm 2 160mm x 45mm Sill



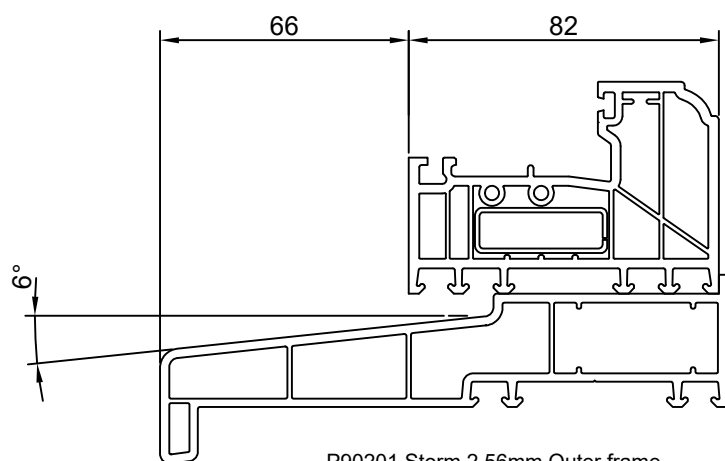
P10531 Storm 1 56mm Outer frame
P90144 Storm 2 200mm x 45mm Sill

Return leg of Outer frame Spigot interferes with the spigot on the sill. Customer to remove at site in order to fit to sill.

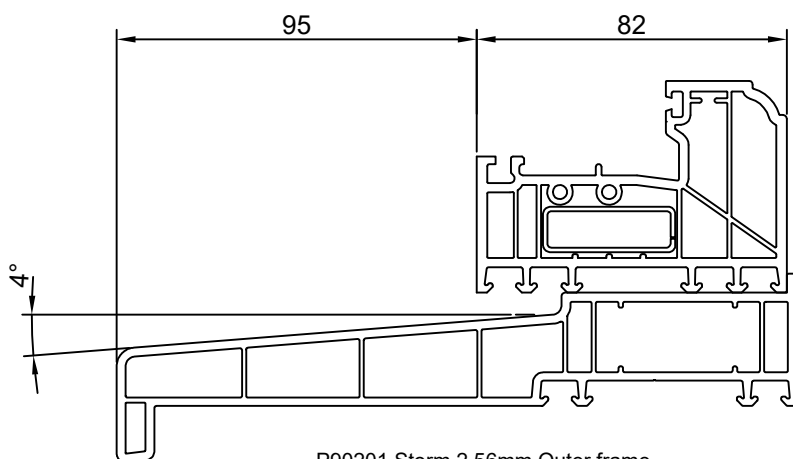




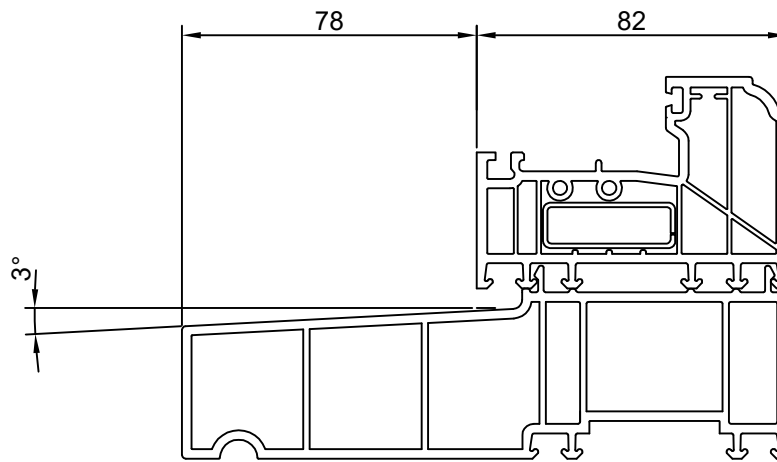
P90201 Storm 2 56mm Outer frame
110122 Storm 1 & 2 85mm x 30mm Sill



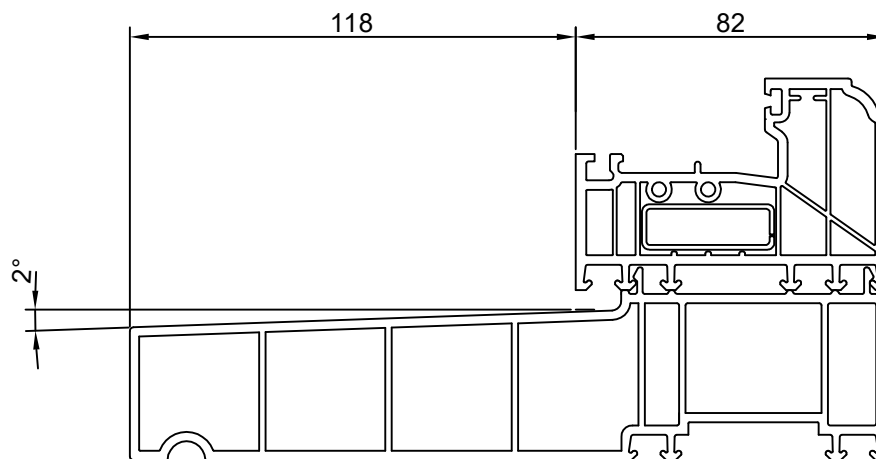
P90201 Storm 2 56mm Outer frame
110103 Storm 1 & 2 150mm x 30mm Sill



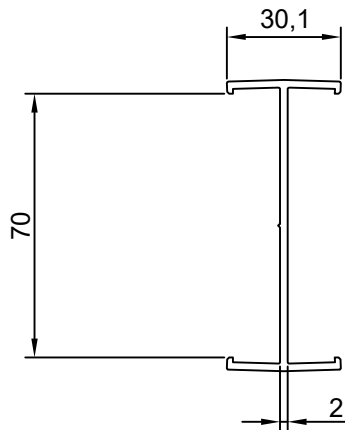
P90201 Storm 2 56mm Outer frame
110123 Storm 1 & 2 180mm x 30mm Sill



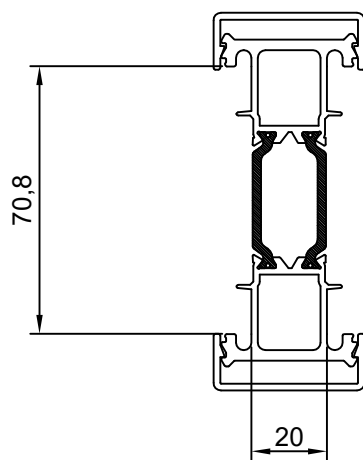
P90201 Storm 2 56mm Outer frame
P90120 Storm 2 160mm x 45mm Sill



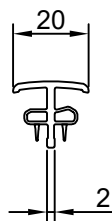
P90201 Storm 2 56mm Outer frame
P90144 Storm 2 200mm x 45mm Sill



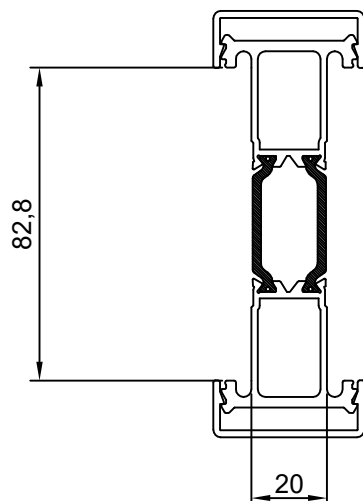
116058 Storm 1 2mm Coupler



704811 Storm 1, 20mm Coupler
Thermally- Broken 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



P10431
28mm Glazing Bead - Storm



P10432
28mm Glazing Bead - Flush
32mm Glazing Bead - Storm



P10426
32mm Glazing Bead - Flush



P10191
20mm Astragal Bar
External - Putty Line - Storm



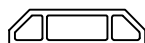
P10193
20mm Astragal Bar
External - Putty Line - Flush



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

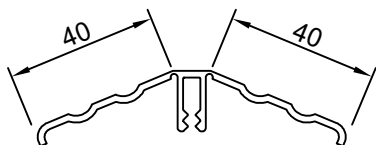


EV03
36mm Astragal Bar
External & Internal - Storm

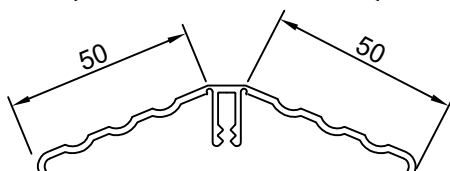


709021
36mm Astragal Bar
External & Internal - Flush

Sculptured External Bay Pole Covers

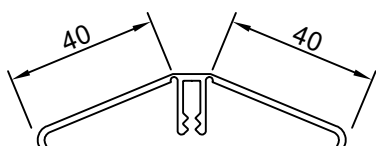


709166 (P10166)

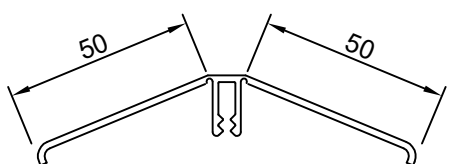


709168 (P10168)

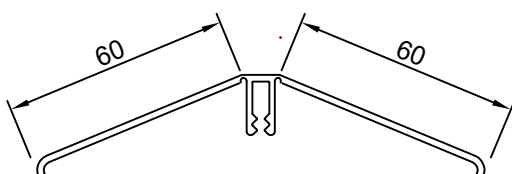
Smooth External Bay Pole Covers



709165 (P10165)

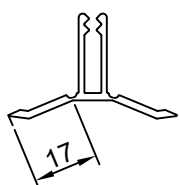


709167 (P10167)

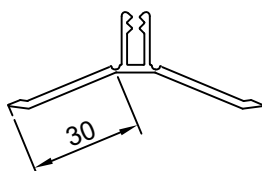


709823 (P90167)

Smooth Internal Bay Pole Covers



709163 (P10163)



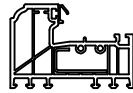
709164 (P10164)

Veka Colour Codes		Non-Bead Face		Bead Face
QQ		White Wood		White Wood
EQ		Cream Wood		White Wood
QE		White Wood		Cream Wood
EE		Cream Wood		Cream Wood
QB		White Wood		Black Wood*
BQ		Black Wood*		White Wood
Q5		White Wood		Natural Wood*
5Q		Natural Wood*		White Wood
55		Natural Wood*		Natural Wood*
QS		White Wood		Irish Oak*
SQ		Irish Oak*		White Wood
SS		Irish Oak*		Irish Oak*
WQ		Agate Grey		White Wood
QW		White Wood		Agate Grey
WW		Agate Grey		Agate Grey
Q6		White Wood		Olive Grey
6Q		Olive Grey		White Wood
66		Olive Grey		Olive Grey
QL		White Wood		Anthracite
LQ		Anthracite		White Wood
QR		White Wood		Rosewood
RQ		Rosewood		White Wood
RR		Rosewood		Rosewood
APAPA		Smooth White		Smooth White
QSPG		White Wood		Spectral
SPGQ		Spectral		White Wood
Suffixes				
Q		White Wood		
E		Cream Wood		
B		Black Wood	*aka	Beck Brown
5		Natural Wood	*aka	Sienna
W		Agate Grey		
S		Irish Oak	*aka	Evo Oak
6		Olive Grey		
L		Anthracite		
R		Rosewood		
APA		Smooth White	*aka	Gloss or Shiny White
SPG		Spectral		
C		Chartwell Green		

Face 1 - Non-Bead Face (A)

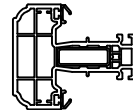
Face 2 - Bead Face (B)

OUTER FRAME



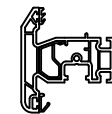
Storm 2 56mm Outer Frame Shown

TRANSOM / MULLION



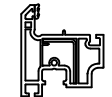
Storm 2 70mm Transom / Mullion Shown

CASEMENT SASH



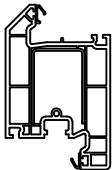
Storm 2

CASEMENT SASH



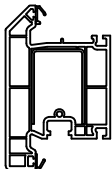
Flush

DOOR SASH



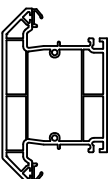
Open In

DOOR SASH



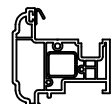
Open Out

DOOR MID-RAILS



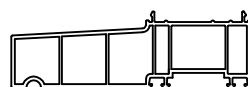
116mm Mid-rail Shown

FRENCH CASEMENT OVERLAPS



Storm French Casement Overlap Shown

SILLS

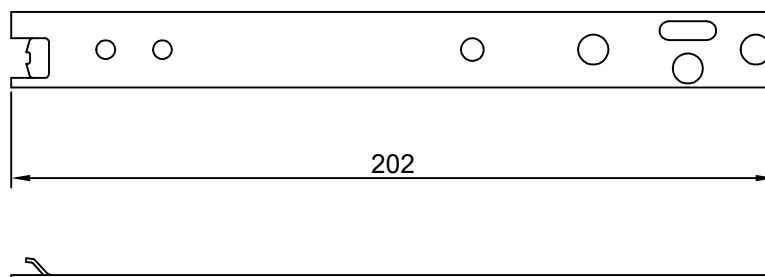
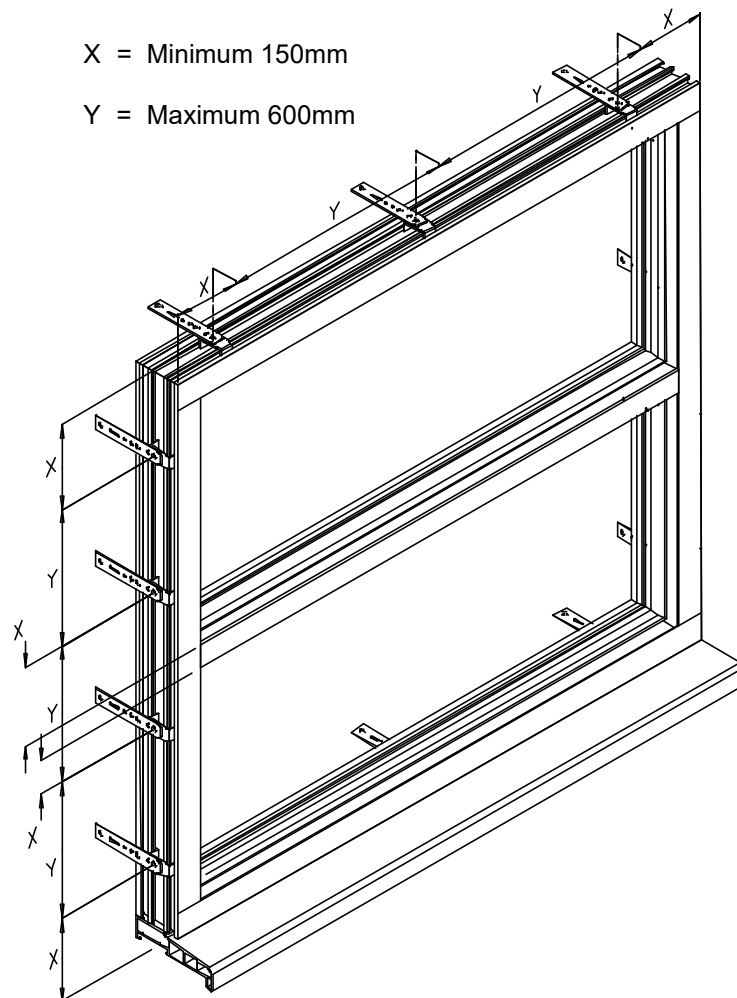


160 x 45 Storm 2 Sill Shown



Section

7



Standard Evolution Fixing Bracket

Will give a useable length of:

145mm with Storm 2 Outer Frame and 45mm Sills

150mm with Storm 1 Outer Frame and 30mm Sills

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