

imagine

VERTICAL SLIDER

FABRICATION MANUAL |
DECEMBER 2021



PREFACE

Vertical Sliding Windows are a specialist product. Thought needs to be given in regards to manufacture and installation. Tolerances are critical and therefore, VEKA UK Group recommends this product is manufactured on its own line or a specials line and not treated as a main line product.

All frames and sashes must be reinforced as per the guidelines within this manual, irrespective of size and/or colour.

Due to the nature of Vertical Sliding Windows and their assembly, they should be classed as domestic products only, and the location in which they are installed should be clarified in advance. Where the design wind pressure category is known to be 1200 pascals or greater, it is recommended that the advice of the VEKA Technical Department be sought prior to manufacture and installation.

The profiles and system used within this manual are designed to be internally beaded only. Any glazing used should be in accordance with the most recent British Standard applicable to the installation.

The information provided in this manual should be treated as guidance only. VEKA UK Group cannot control how the information is interpreted and therefore, cannot be held responsible for any failure. Regulations regarding Health & Safety of operatives, along with relevant Building Regulations should be strictly adhered to, as such, VEKA UK Group cannot be held responsible for any failure to comply with them. This statement does not affect the Fabricators statutory rights.

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Do not scale drawings in this manual. Any drawings shown are visual representations only. VEKA UK Group reserves the right to alter designs, specifications and descriptions without prior notice as part of our policy for continuous development and improvement.

PAS24:

The information detailed within this manual is based on a typical domestic specification. PAS24 applications require different configurations / combinations. For further information on a PAS24 specification, please contact the VEKA Technical Department on technical@veka.com / 01282 725 360.

Alternatively, further information can be sought within our 'Guide to Enhanced Security of Windows and Doorsets' document.

SPECTRAL Foils:

Due to their design, some systems require the use of hand-inserted gaskets. These can feature a thin film of lubricant, i.e. silicone or glycerol, which assists them being inserted within the gasket grooves during fabrication. Given their positioning, it is possible for some of the lubricant from the gaskets to migrate to the surface of the SPECTRAL foil, creating a slick appearance around the location of the gasket. Following extensive testing within our in-house lamination laboratory, we can confirm that this has no lasting effect on the foil and can be removed using warm soapy water and a non-abrasive cloth.

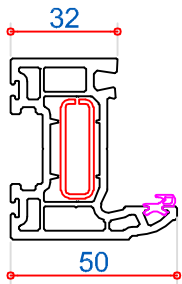
imagine

NOTES:

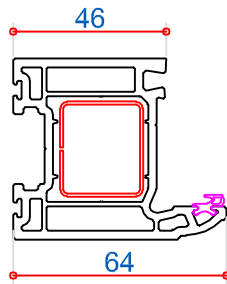
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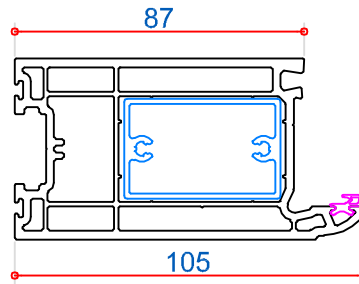
COMPONENTS



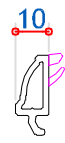
105032
50mm Upper Sash
Steel Box 113020
Aluminium Box 115119



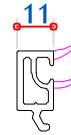
105033
64mm Lower Sash
Steel Box 113314
Aluminium Box 115120



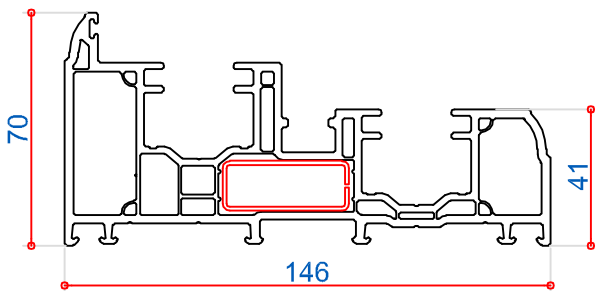
105034
105mm Lower Sash Bottom Rail
Aluminium Box 115287
Steel Box 113020



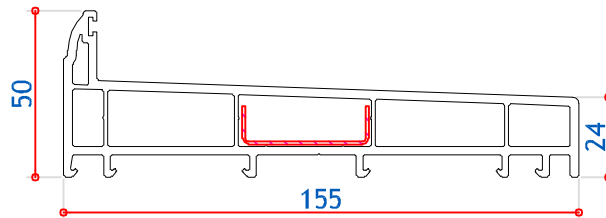
107169
Sculptured Glazing Bead



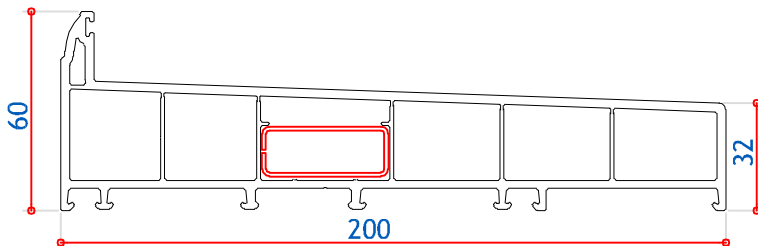
107118
Square Glazing Bead



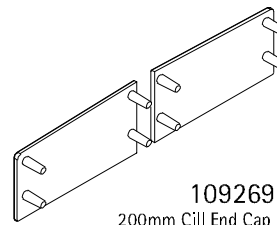
105411
70mm Outer Frame
Steel Box 113073



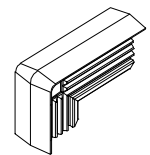
105037
155mm Cill Section
Steel U Channel 113321



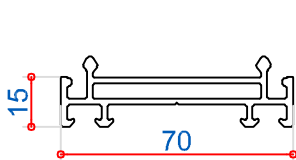
105410 200mm Cill Section
Steel Box 113073



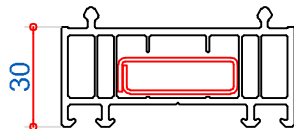
109269
200mm Cill End Cap



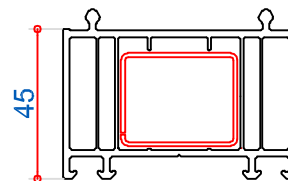
109270
200mm Cill
Straight Coupler



114063 15mm Frame Extension



114061 30mm Frame Extension
36 x 11 Steel Box 113412
35 x 12 Steel Box 713187



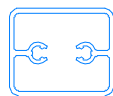
114062 45mm Frame Extension
35 x 28 Steel Box 713191



116010
2.5mm Frame Coupler



115119
Aluminium Box Mechanical
Joint 15.5 x 8



115120
Aluminium Box Mechanical
Joint 31.5 x 26.5



115287
Aluminium Box Mechanical
Joint 47 x 30



744540
M5 Rivet Nut

KEY:

- PVC
- Gasket
- Steel
- Aluminium

COMPONENTS



105412
Bead Bar



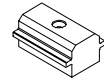
105413
Frame Infill With Brush



105414
Frame Infill Without Brush



109603
VS Anti Racking Block



109992
Upper Sash Packing Block



116030
Concealed Coupler



112279
3.5mm Weldable
Gasket



112369
Bottom Rail Sealing
Gasket



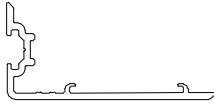
112365
8.5mm Brushpile
Seal



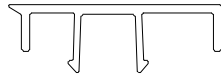
112361
8mm Brushpile Seal
(40mm lengths)



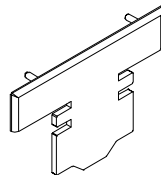
112530
Interlock Brushpile Seal



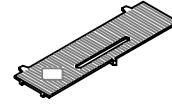
105039
Sash Cover/Interlock



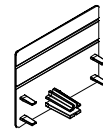
105415
Infill Sash Stop



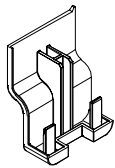
109268
Sash Stop End Cap



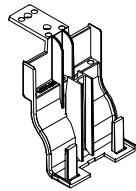
109386
Clip In Packer



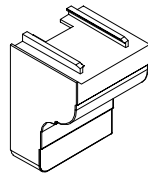
109167
Profile Cover Cap



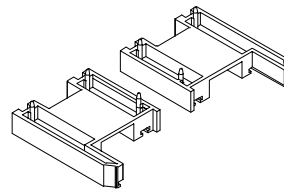
109991
Integrated Sash Horn



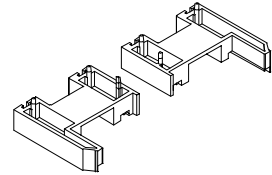
109102
Lipped Sash Horn



109990
Sash Horn Moulding



109996
Mechanical Joint End Cap
Lower Sash



109092
Mechanical Joint End Cap
Upper Sash



143070
Spring Balance
Draught Stop



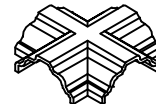
709191
Georgian Bar



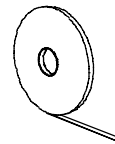
709122
Georgian Bar



709189
Georgian Bar



709183
Cruciform Cover moulding for
709189 Georgian Bar.



1mm x 16.5mm Tape
(For 20mm Georgian Bar)
744615.000100 White
744615.001000 Black



113020
Steel Box
30 x 10

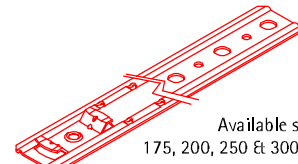
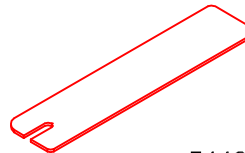
744703
Coupling Nut



709177
Coupling Nut Cover



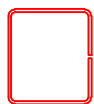
744801
Coupling Nut Spanner



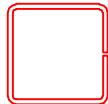
Available sizes
175, 200, 250 Et 300mm
141428 Frame Fixing Bracket



113073
Steel Box
38 x 15



113314
Steel Box
25 x 29



113025
Steel Box
30 x 30



113271
Steel Box
38 x 30



113040
Steel Box
25 x 25



113321
Steel U Channel
38 x 12

KEY:

-  PVC
-  Gasket
-  Steel
-  Aluminium

MAXIMUM SIZES

Frames

Maximum Frame Size are dependant on the hardware used - please refer to the table on the next page.

Dark coloured profiles should always be fully reinforced, please refer to the VEKA Variations document for guidance on light or dark colour foils.

Reinforcing guidelines for white & light coloured profiles;

Width - Reinforce the full length of the outer frame when the width exceeds 1200mm otherwise, local reinforcement is acceptable when mechanically jointing frames.

Height - Reinforce the full length of the outer frame when the height exceeds 1500mm otherwise, local reinforcement is acceptable when mechanically jointing frames.

Minimum frame size 400mm wide by 800mm high.

Sashes

The reinforcing should be cut to a length so that the pivot bar screws engage into the reinforcement.

All sashes are to be reinforced in accordance with the wind loading chart.

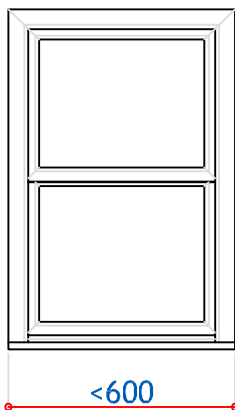
Important note

The overall weight of each sash has to be calculated so that the balances used to support them function properly. The sash reinforcement regime described above is used by the balance manufacturers to calculate sash weights. Deviation from this reinforcement regime may result in incorrect balance function.

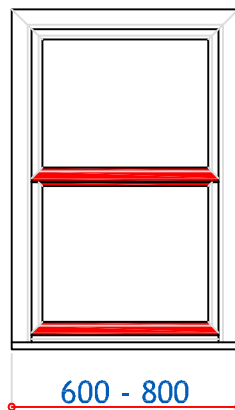
Fabricators should therefore state to the balance manufacturers the following information when ordering balances :-

- VEKA Imagine Vertical Slider
- Glass pane configuration, i.e. 4-20-4
- Transom split (Usually 50/50)
- Sash reinforcement (standard or heavy duty)

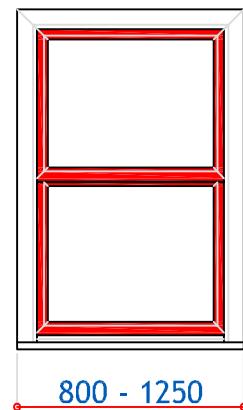
Equal Split up to 600mm:
No reinforcement required



Equal Split 600mm - 800mm:
Reinforce bottom of top sash and
top & bottom of bottom sash





Equal Split 800mm - 1250mm:
Reinforce all parts of the sashes



Reinforcement regime is for light coloured profiles ONLY.
Dark coloured profiles must ALWAYS be fully reinforced

MAXIMUM SIZES

The maximum sizes are calculated based on equally split (equal glass), fully reinforced sashes glazed with 28mm (4-20-4) double glazed units taking the maximum weight capacity of the hardware into consideration. Type testing has been performed at these sizes, test evidence is available on request by contacting technical@veka.com.

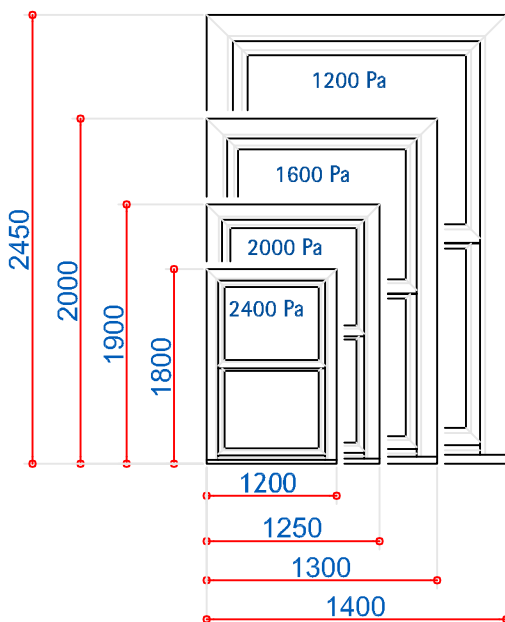
MAXIMUM SIZES - HARDWARE DEPENDENT			
HARDWARE SUPPLIER	HARDWARE TYPE	MAXIMUM WIDTH (mm)	MAXIMUM HEIGHT (mm)
	Torso II	1400	2450
	Ultralift 6	1175	2300
	V1.5	1084	1600
	Constant Force	950	1600

Wind Load Size Chart

Vertical Sliding window wind load analysis based on a window with sashes equally split. The sizes shown refer to the overall frame width & height.

Standard Reinforcing

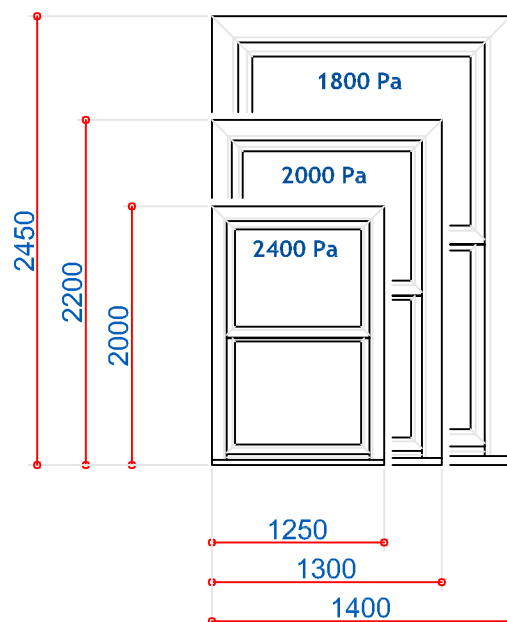
105032 use 113020
 105033 use 113314
 105034 use 115287



Heavy Duty Reinforcing

(welded frames & sashes only)

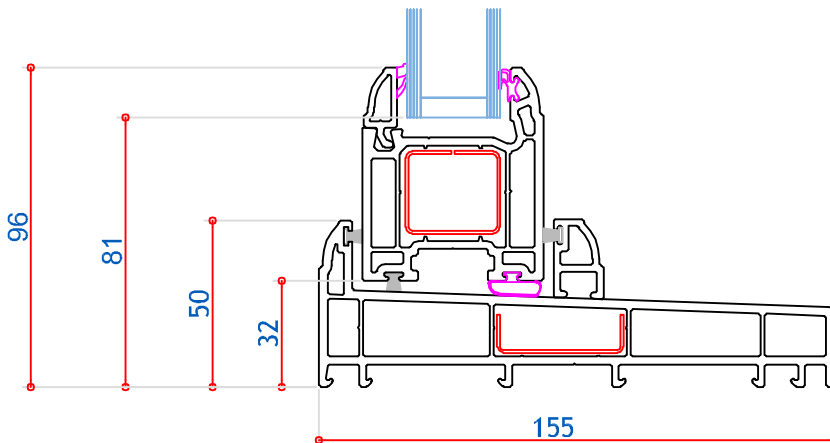
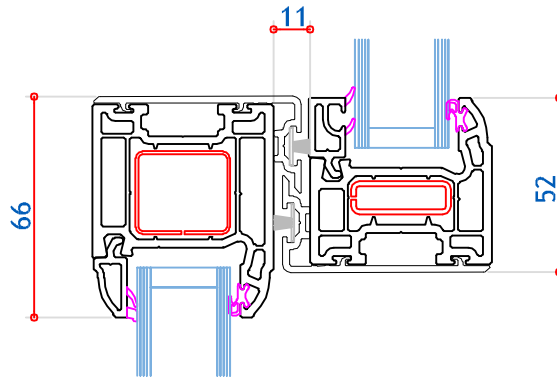
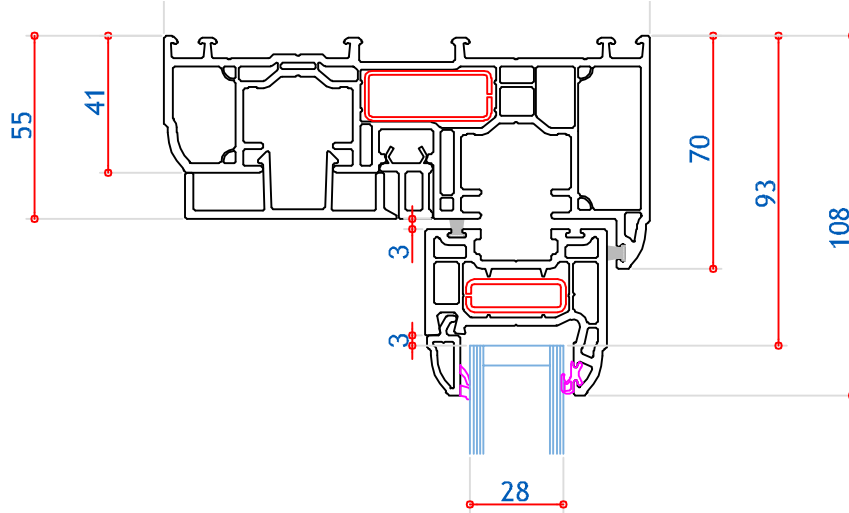
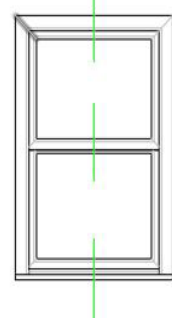
105032 use 113020
 105033 use 113040 (2.5mm)
 105034 use 115287 & 113020



CROSS SECTIONS

64mm Bottom Rail & 155mm Cill

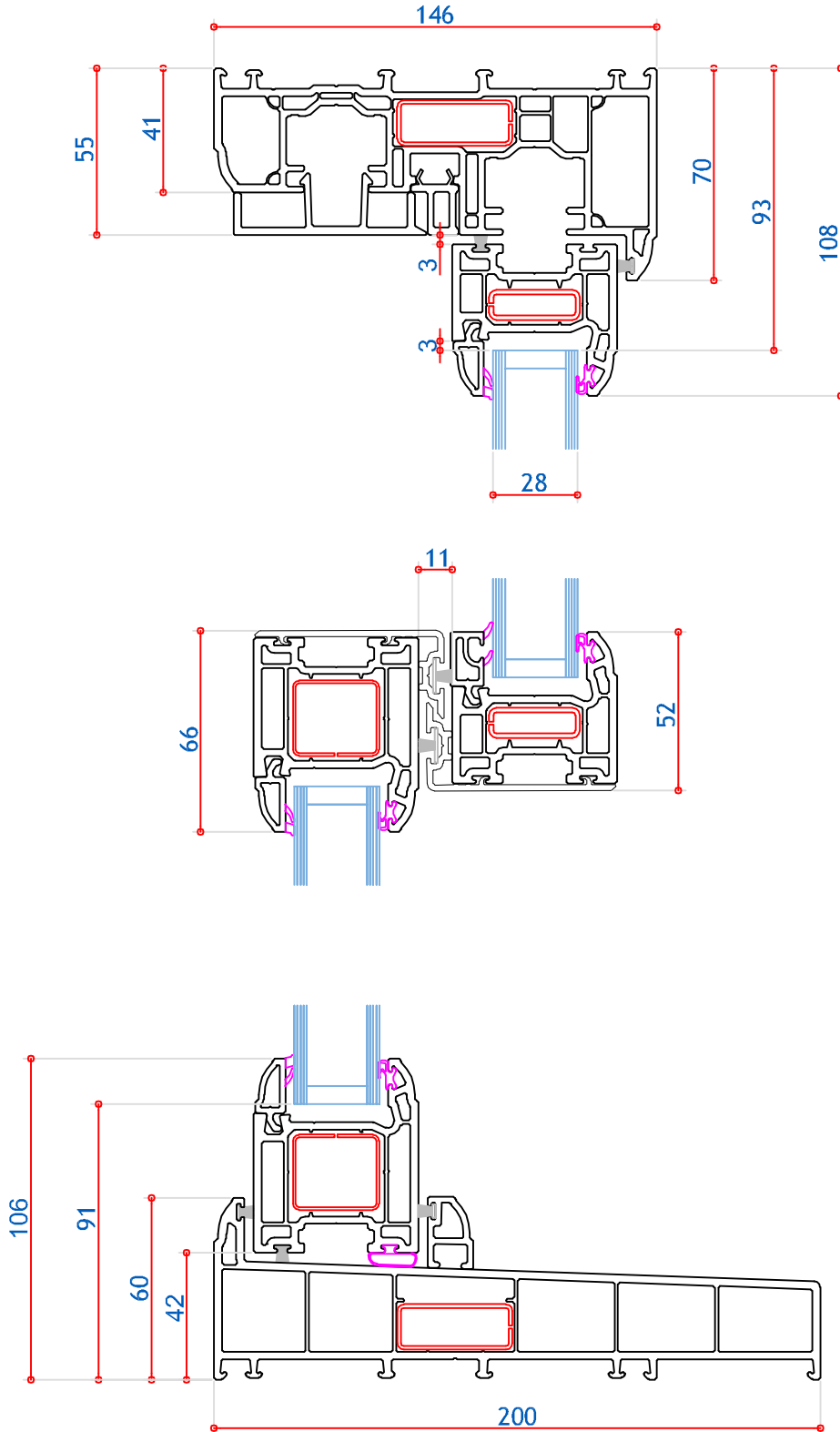
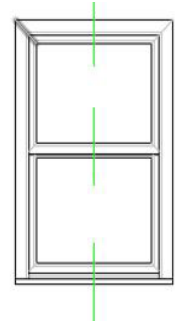
- 105411 Outer Frame
- 105032 Upper Sash
- 105033 Lower Sash
- 105039 Interlock
- 105037 Cill Section
- 105415 Sash Stop
- 105414 Infill No Brush
- 105412 Bead Bar



CROSS SECTIONS

64mm Bottom Rail & 200mm Cill

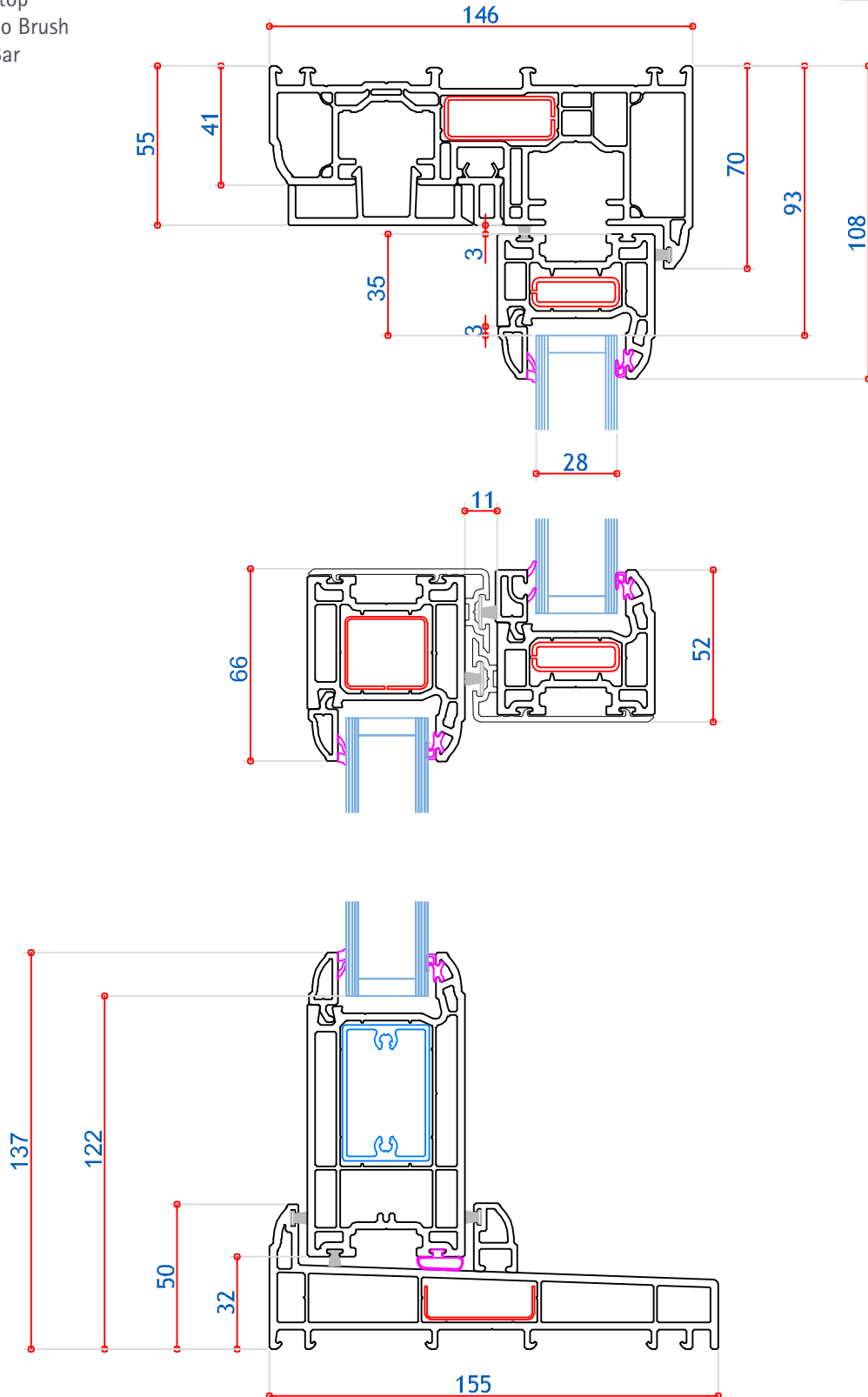
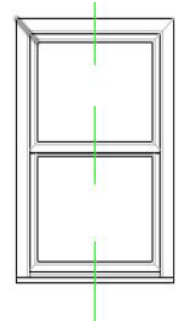
- 105411 Outer Frame
- 105032 Upper Sash
- 105033 Lower Sash
- 105039 Interlock
- 105410 Cill Section
- 105415 Sash Stop
- 105414 Infill No Brush
- 105412 Bead Bar



CROSS SECTIONS

105mm Deep Bottom Rail & 155mm Cill

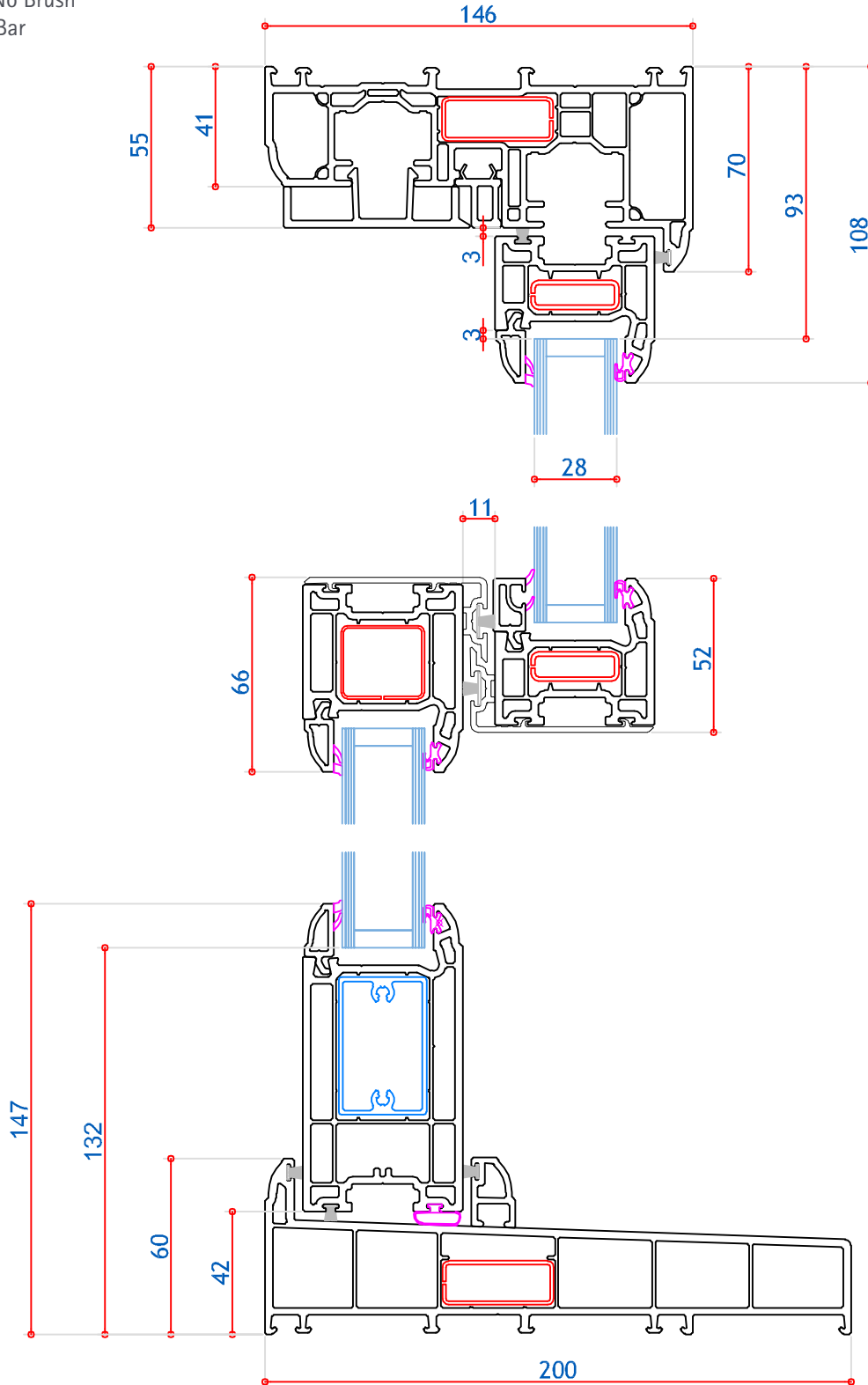
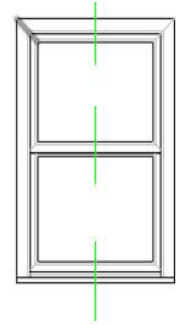
- 105411 Outer Frame
- 105032 Upper Sash
- 105033 Lower Sash
- 105034 Deep Rail
- 105039 Interlock
- 105037 Cill Section
- 105415 Sash Stop
- 105414 Infill No Brush
- 105412 Bead Bar



CROSS SECTIONS

105mm Deep Bottom Rail & 200mm Cill

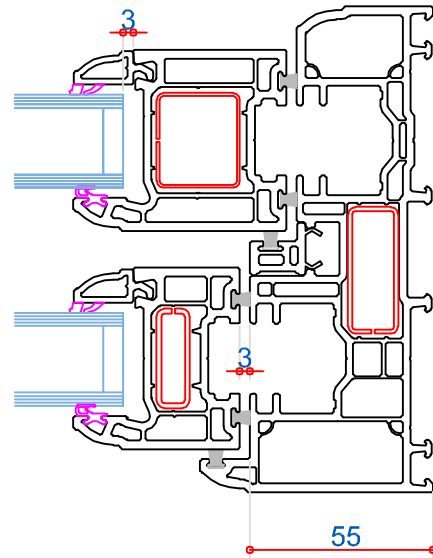
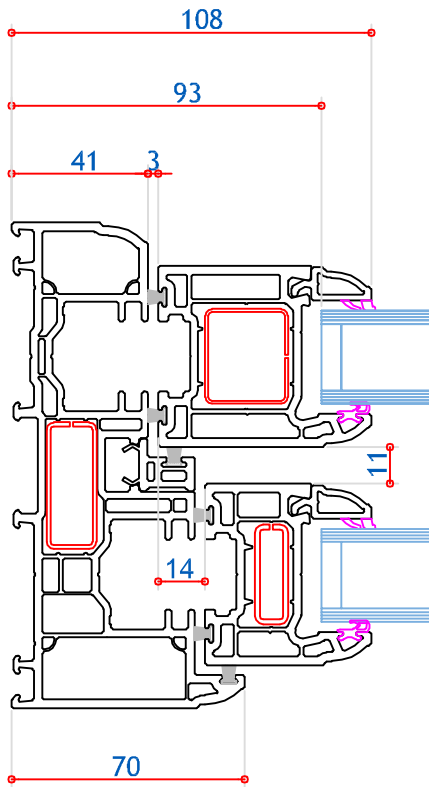
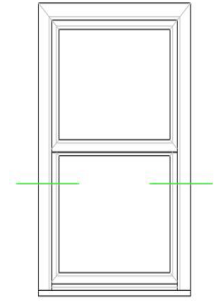
- 105411 Outer Frame
- 105032 Upper Sash
- 105033 Lower Sash
- 105034 Deep Rail
- 105039 Interlock
- 105410 Cill Section
- 105415 Sash Stop
- 105414 Infill No Brush
- 105412 Bead Bar



CROSS SECTIONS

146mm Outer Frame with Upper & Lower Sashes

- 105411 Outer Frame
- 105032 Upper Sash
- 105033 Lower Sash
- 105413 Infill



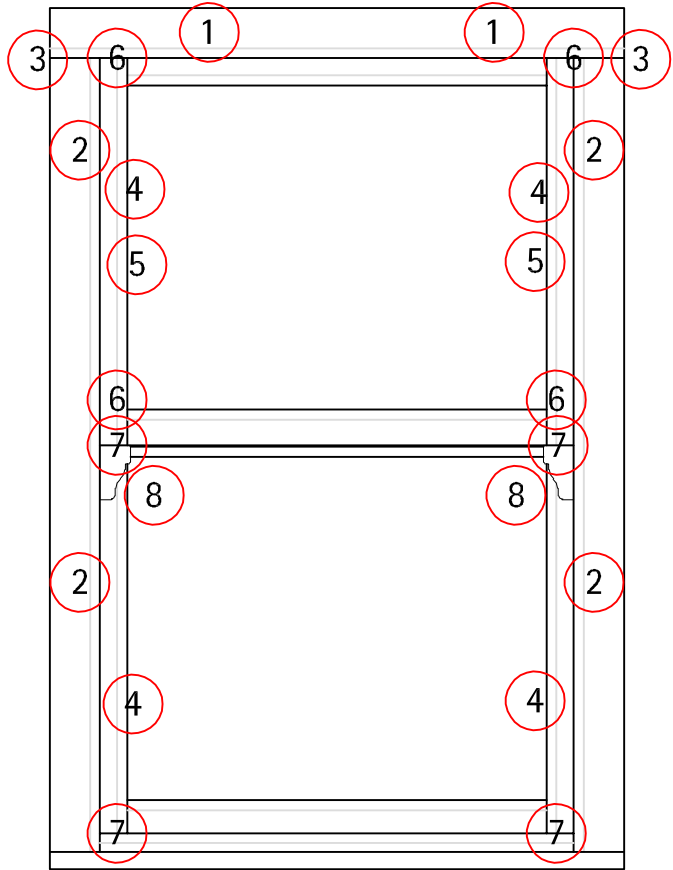
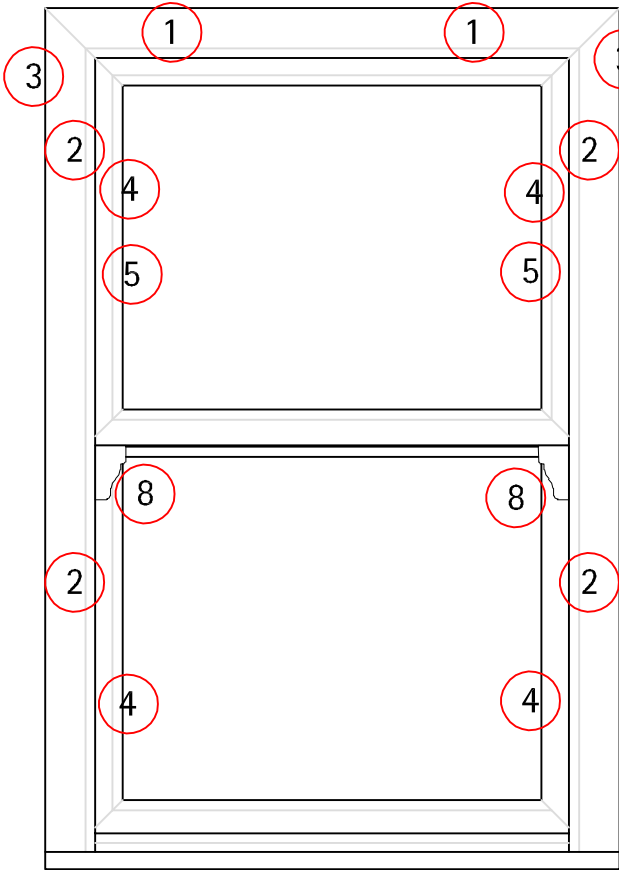
DIMENSIONS

Material List - Moulded Parts

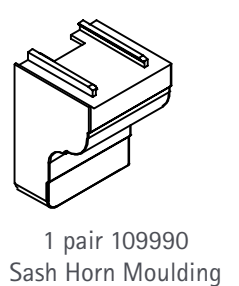
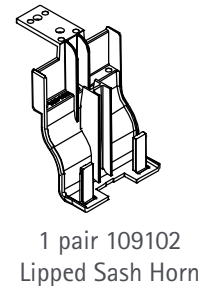
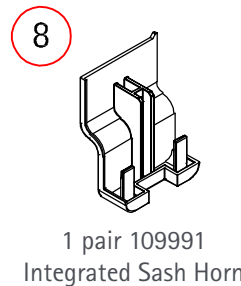
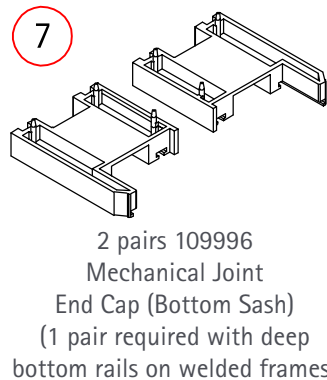
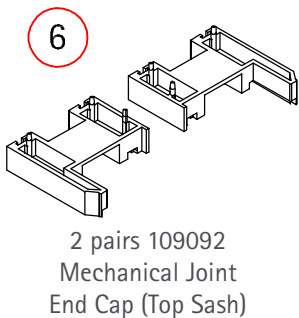
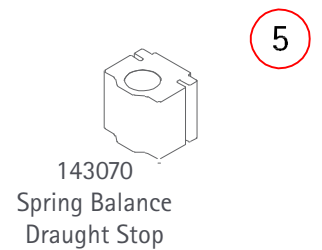
Locations of parts:

WELDED
FRAMES & SASHES

MECHANICAL JOINTED
FRAMES & SASHES



Quantities Required:



JOINT TOOLING

The Imagine Vertical Sliding Window is designed to be either welded or mechanically jointed.

The following welding blocks and internal cleaning chisels are available from Jade Engineering:

- Welding Block 6691
- Internal Cleaning Chisel 6691D

Mechanical Joint Cutters and machinery, where required, are available from Jade Engineering, please quote the following references to suit the Eco Miller. Please note; alternatives may be required depending on existing machinery.

105411 Mechanical joint cutter – 6691B.

This is a very large cutter and will normally be supplied as part of a full machine setup including clamp jaws.

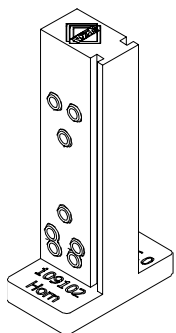
105037 & 105410 Cill to frame cutter – 6692.

	Jaws	Cutter
105032/105033 Sashes	5634A	4858E
109996/109092 End Cap	As above	4861A

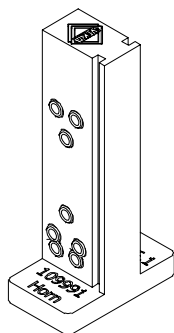
To suit the Extended Eco Miller for run through sash horns:

109991 Integrated Horn	5634	4858C
109102 Lipped Horn	As above	6129A

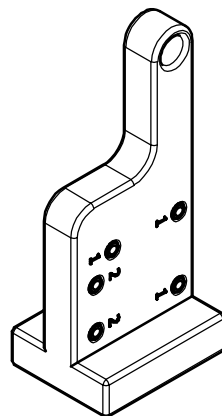
Mechanical Joint Drill Jigs are available from the VEKA UK Group.



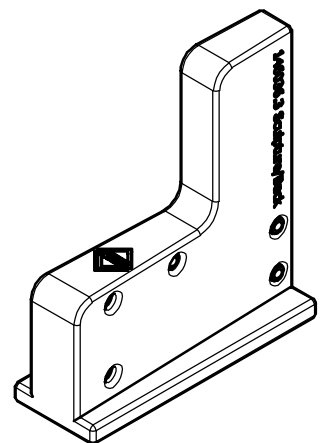
146036.000000
SASH
Mechanical Joint Jig
with 109102 horns



146036.100000
SASH
Mechanical Joint Jig
with 109991 horns



146036.200000
OUTER FRAME
Mechanical Joint Jig



146036.300000
CILL
Mechanical Joint Jig

DRAINAGE

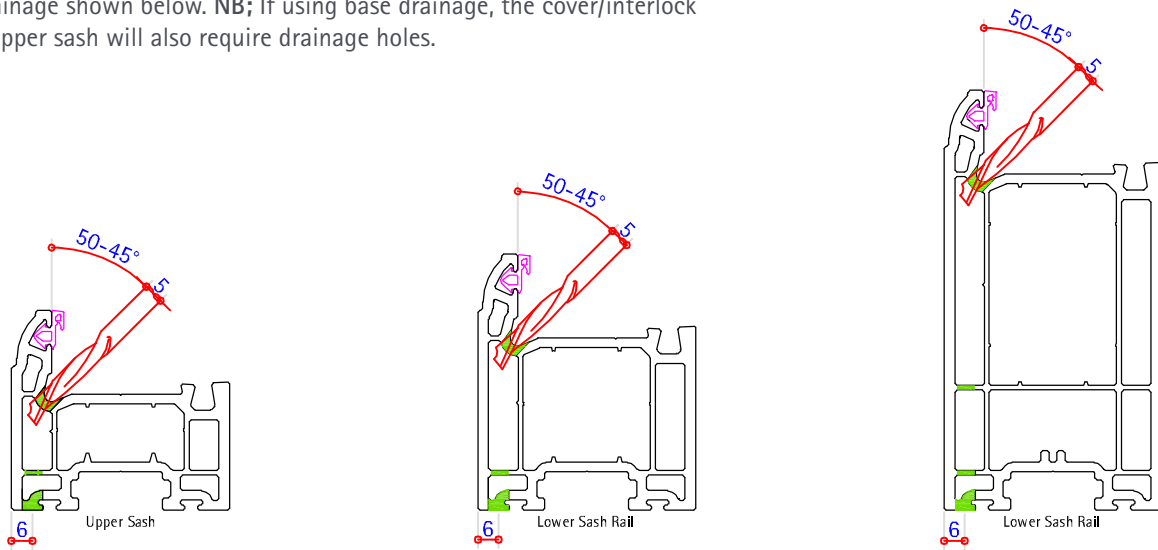
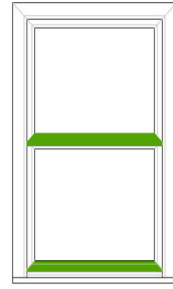
Sashes smaller than 600mm need 2 entry and 1 exit slot.
 Sashes exceeding 600mm need 2 entry and 2 exit slots.
 Sashes exceeding 1100mm need 3 entry and 3 exit slots.

To prevent air flow restricting the passage of water through the drain slots, the entry and exit slots should be offset by approx. 100mm.

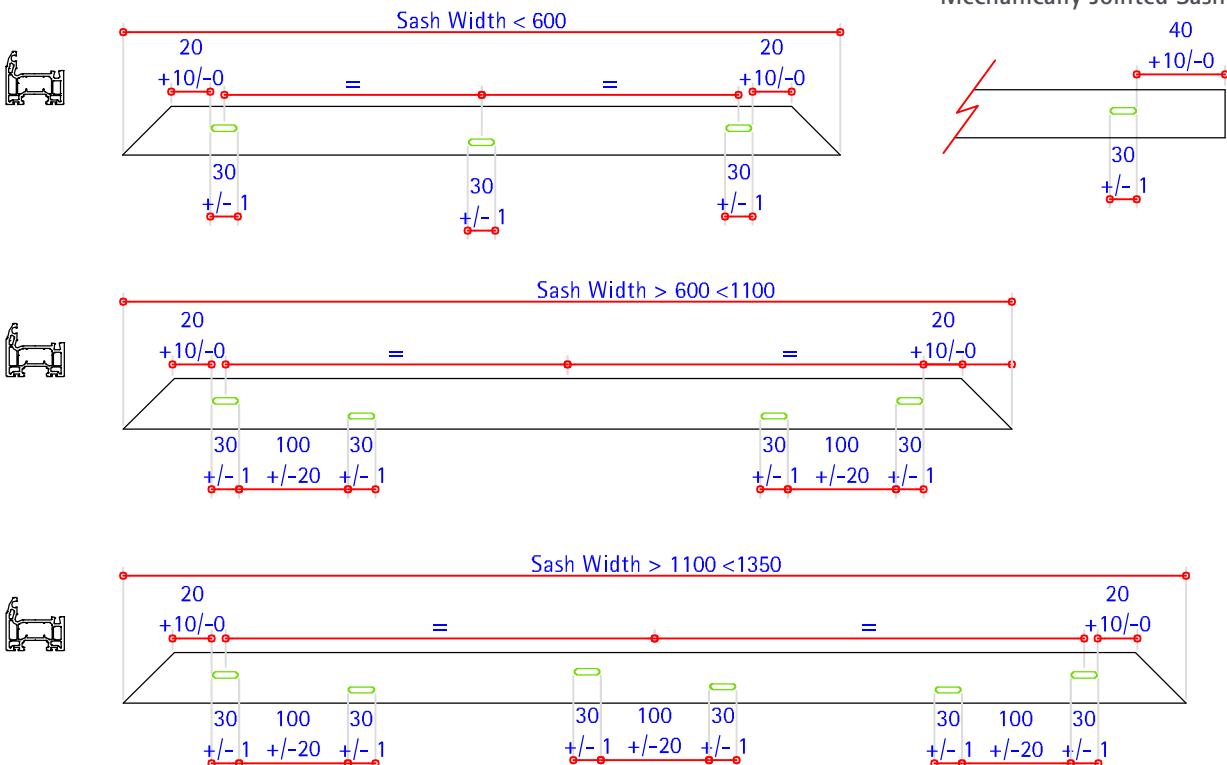
Fit the face drain slot cover 109267 to each of the visible slots in the face of the sashes.
 Drain the lower rails of both the upper and lower sashes.

The standard size for the drain slot is 30 x 5mm.

Base drainage shown below. **NB;** If using base drainage, the cover/interlock on the upper sash will also require drainage holes.

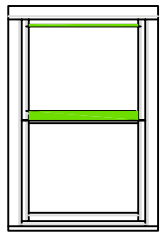


Mechanically Jointed Sashes

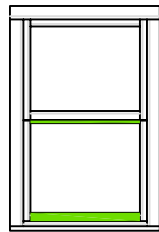


MECHANICAL JOINT PREPARATION – SASHES

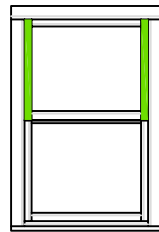
When mechanically jointing sashes, end preparation is required to the jambs along with the the top & bottom rails.



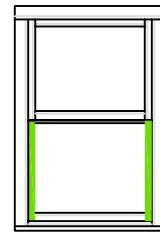
105032
50mm Upper Sash
Top & Bottom Rails



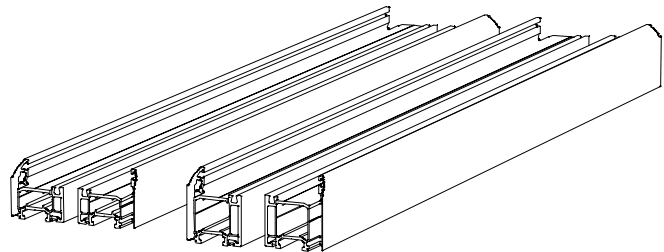
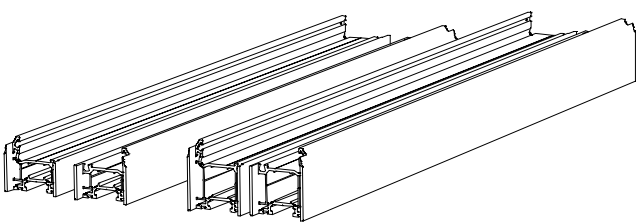
105033
64mm Lower Sash
Top & Bottom Rails



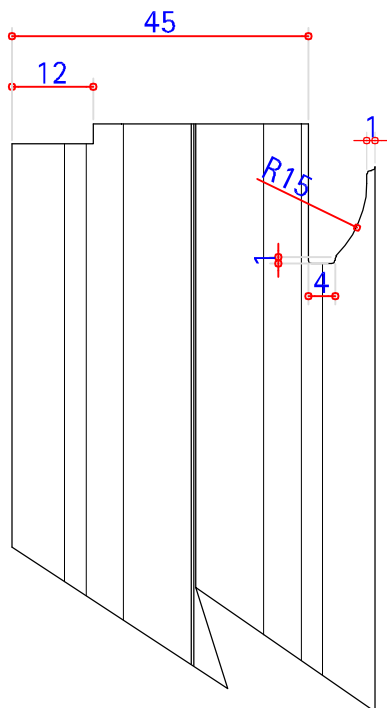
105032
50mm Upper
Sash Jamb



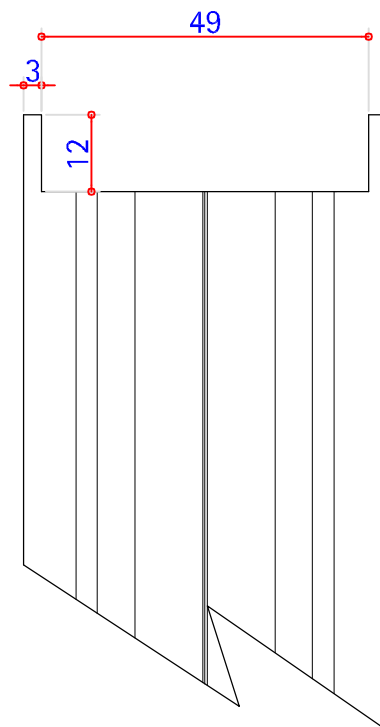
105033
64mm Lower
Sash Jamb



Upper and lower sash top and bottom rail end preparation



Upper and lower sash jamb end preparation

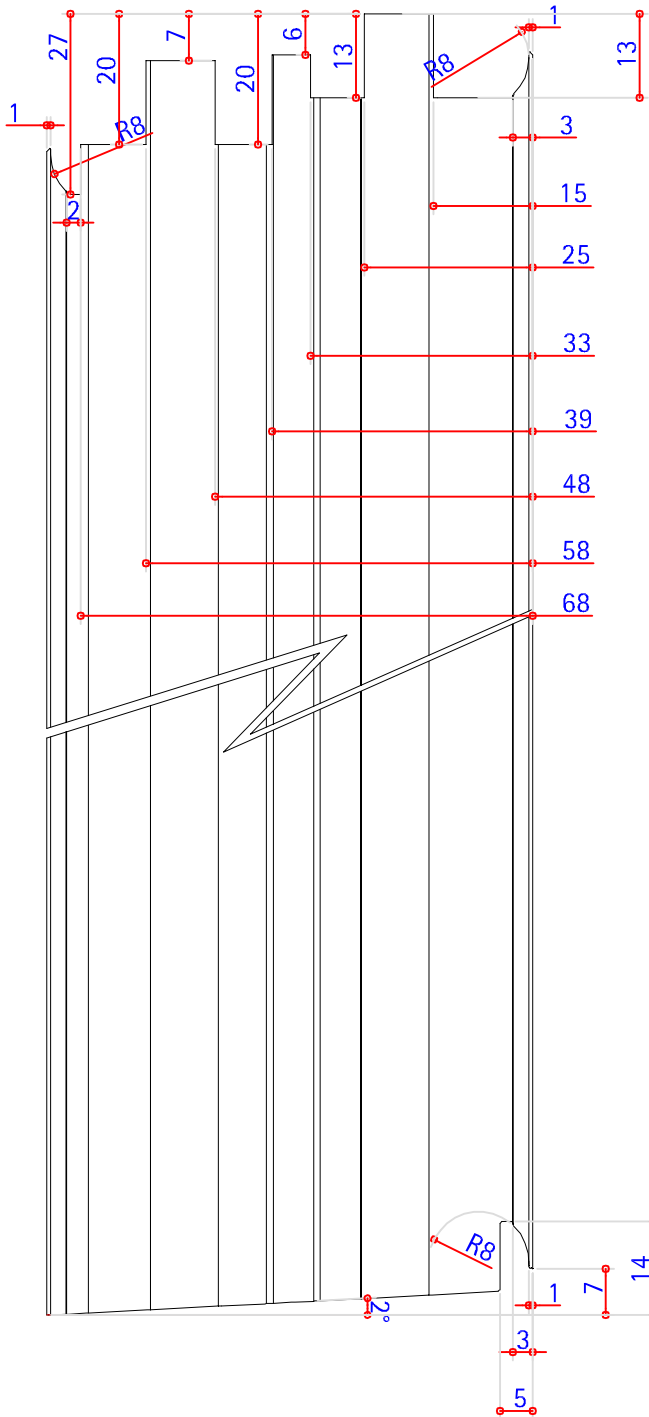


105034 105mm deep bottom rail uses the same preparation when required.

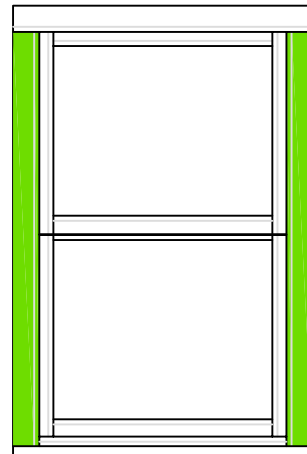
MECHANICAL JOINT PREPARATION – OUTER FRAME

When fully mechanically jointing frames, both the top and bottom of the frame jambs require preparation.

Note: Mechanical joint end preparation is also required for the cill when fixed to welded frames.



Outer frame jamb top preparation
(for mechanically jointed frames only)

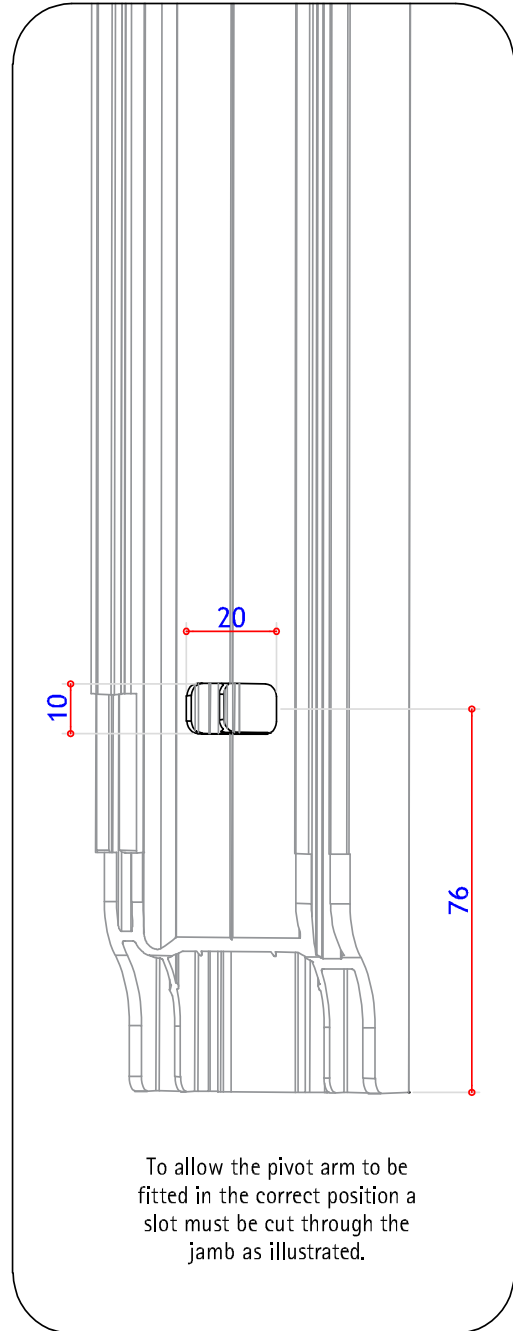
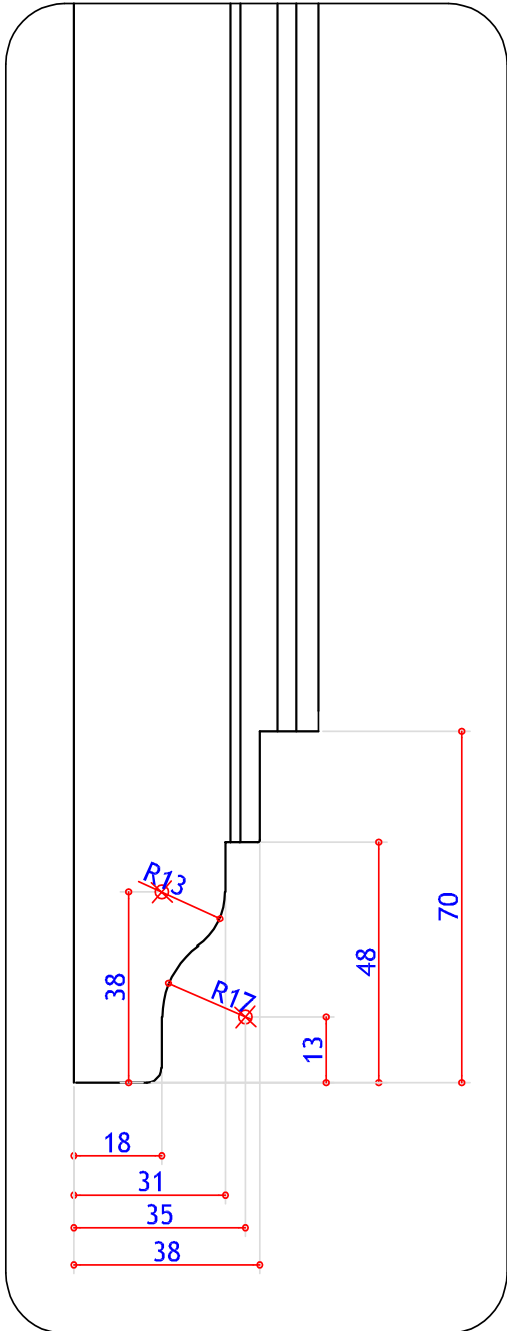
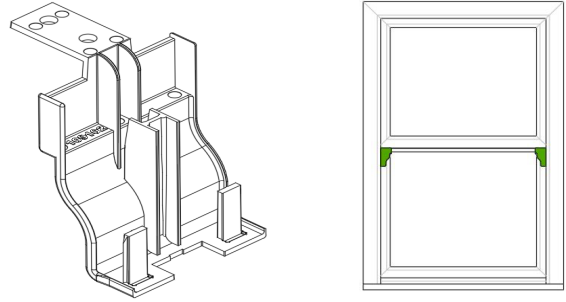


Outer frame jamb bottom preparation
(ALL frames)

MECHANICAL JOINT PREPARATION – SASH HORNS (OPTIONAL)

109102 Lipped Sash Horn

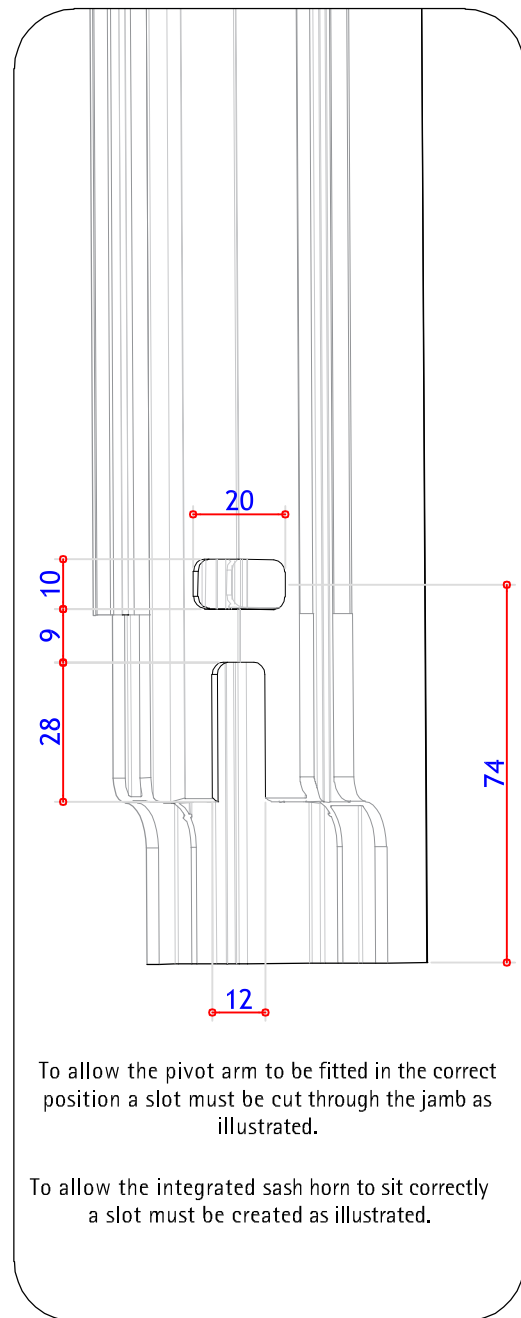
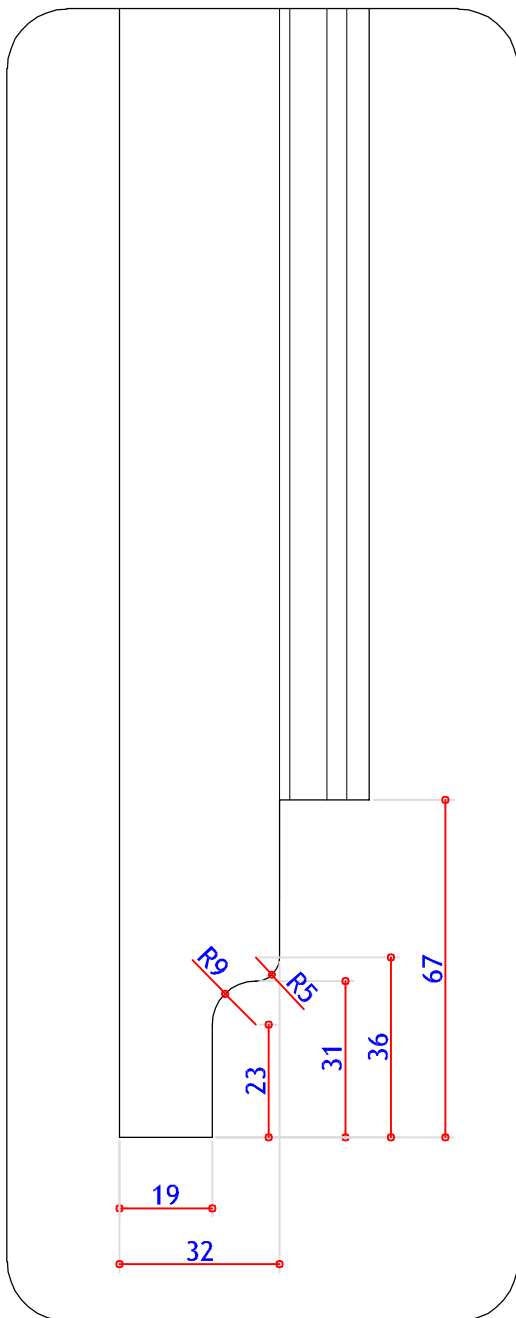
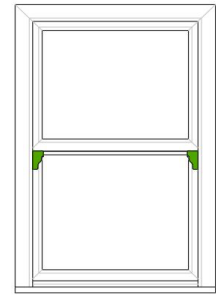
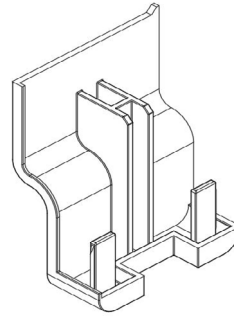
Mechanical joint preparation is required to the bottom rail of the upper sash when sash horns are required.



SASH HORNS (OPTIONAL)

109991 Integrated Sash Horn

Mechanical Joint preparation is required to the bottom rail of the upper sash when sash horns are required.



REINFORCEMENT

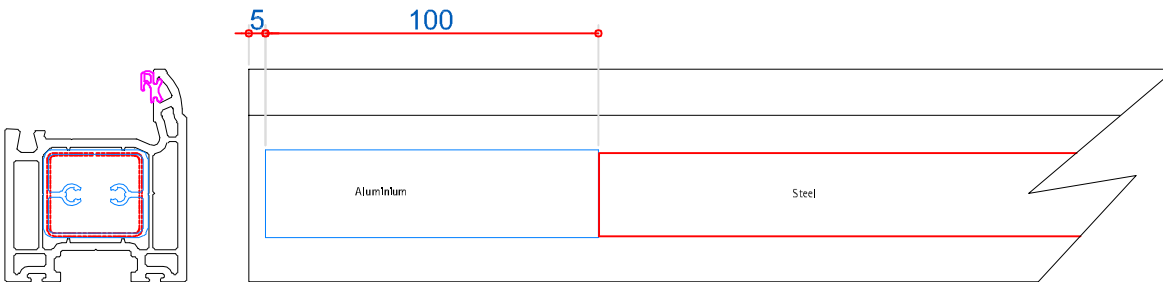
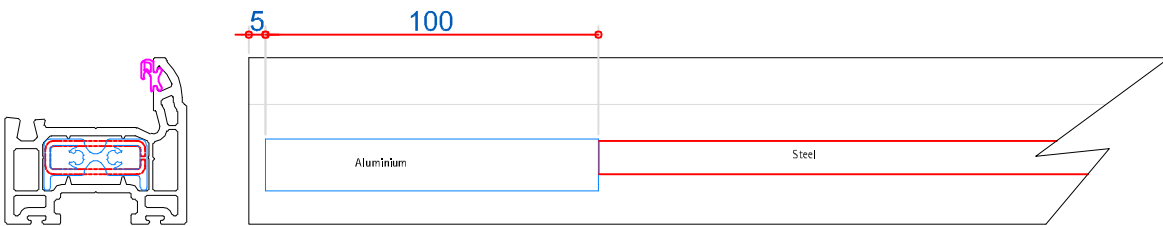
Please refer to the [maximum size section](#) at the start of this manual for the guidance on when reinforcement is required.

Suitable reinforcement must be apparent in 85% of the effective profile in both welded and mechanically jointed frames and or sashes.

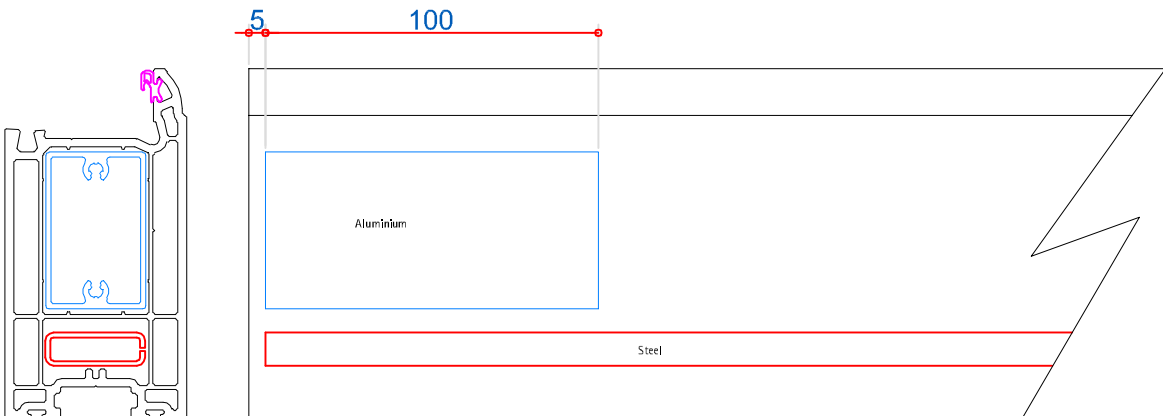
When mechanically jointing frames or sashes the aluminium mechanical joint sections are only required locally in the horizontal sections of the sashes, 100mm pieces are recommended at each end, if steel reinforcement is required reduce the length by 200mm to allow sufficient room at either end of the profile section.

A small gap of around 5mm should be left to avoid the aluminium preventing the mating profile to sit flush.

When travel restrictors are required sufficient allowance should be made in the reinforcing, please refer to the hardware manufacturers instructions.



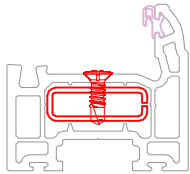
The aluminium mechanical joint section used in 105034 105mm lower sash bottom rail can either be fitted locally using 100mm pieces or in one full length piece.



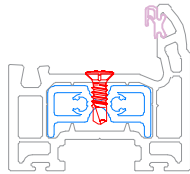
REINFORCEMENT

Secure the required reinforcement or mechanical joint aluminiums as illustrated below using either yellow chromate or bright zinc plated 3.9 x 13mm drill point screws.

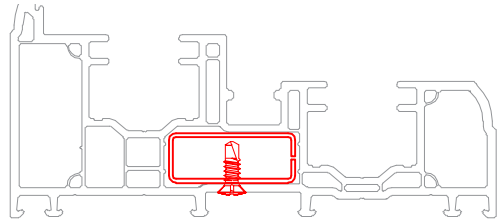
Screw centres should not exceed 400mm on light colour profiles and 300mm on dark colour profiles. A minimum of two screws must be used on short lengths.



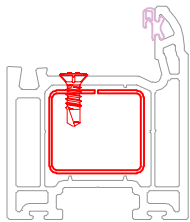
105032
50mm Upper Sash
Steel Box 113020



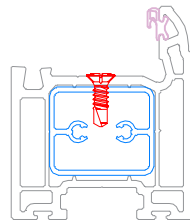
105032
50mm Upper Sash
Aluminium Box 115119
(Mechanically Jointed Only)



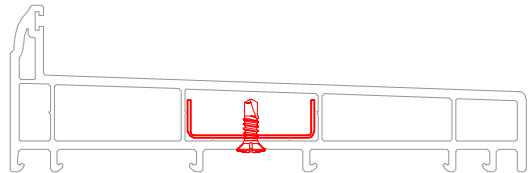
105411
70mm Outer Frame
Steel Box 113073



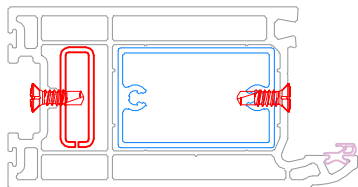
105033
64mm Lower Sash
Steel Box 113314



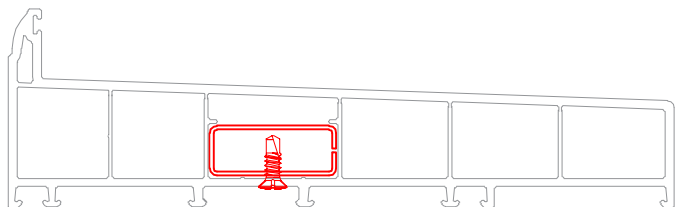
105033
64mm Lower Sash
Aluminium Box 115120
(Mechanically Jointed Only)



105037
155mm Cill Section
Steel U Channel 113321

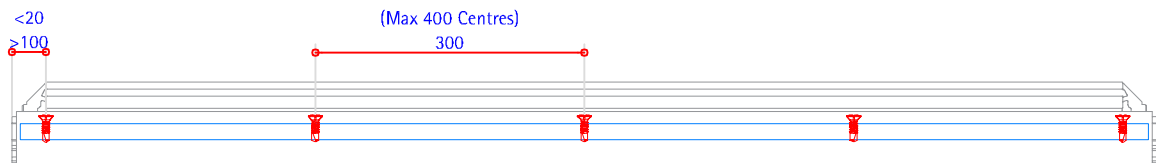


105034
105mm Lower Sash Bottom Rail
Aluminium Box 115287
Steel Box (Heavy Duty Only) 113020



105410
200mm Cill Section
Steel Box 113073

Recommended fixing centres apply to ALL sections

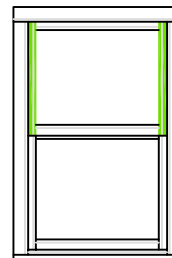
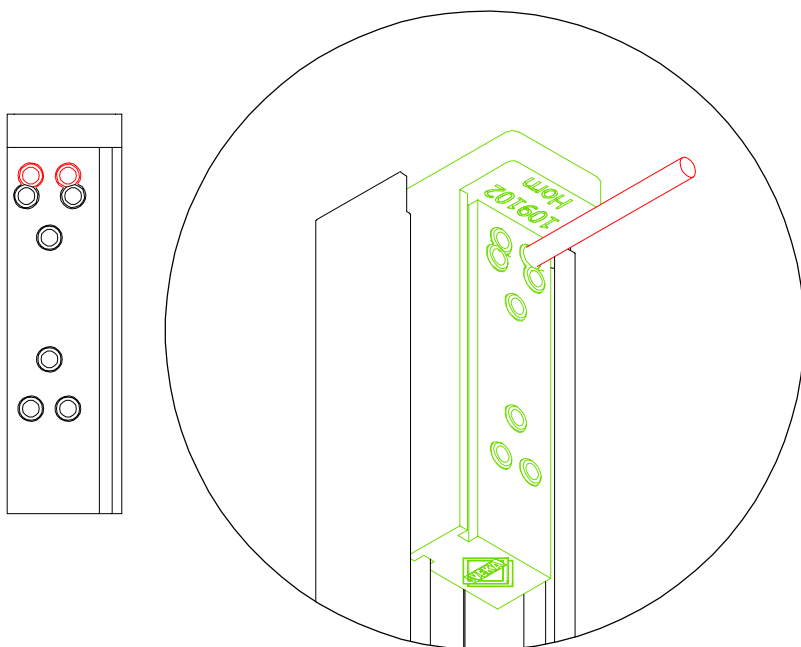


FIXING – MECHANICALLY JOINTED SASHES

For fully mechanically jointed sashes, each sash jamb requires prepping for the mechanical joint fixing.

See [page 15](#) for Mechanical Joint Jig options.

Mechanical Joint – Upper Sash

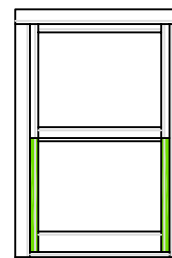
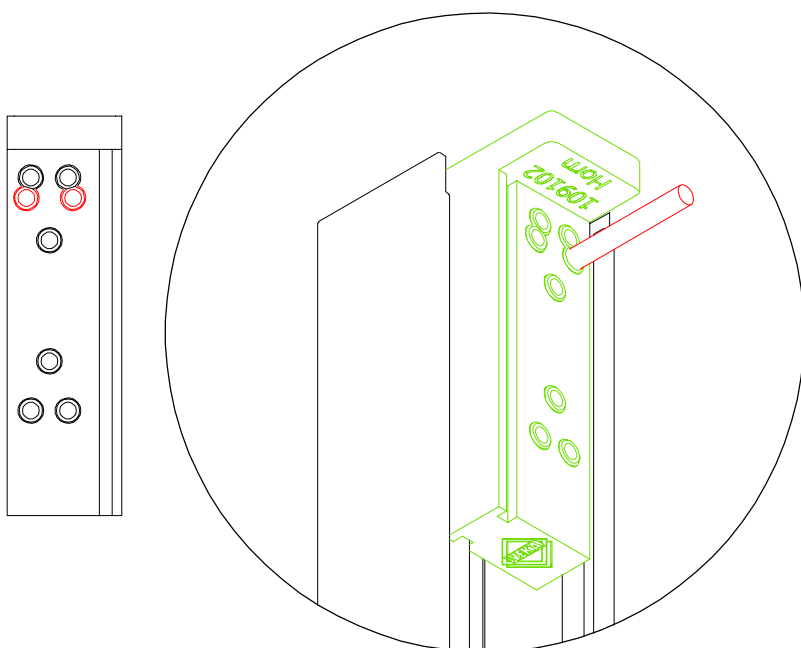


105032 50mm Upper Sash
(Mechanically Jointed)

Using either VEKA Mechanical Joint Jig 146036.0 or 146036.1 drill 2 x 5mm holes through all walls after the end preparation has been milled, ensuring the reinforcement is also drilled.

All mechanically jointed screws need countersinking with an 8mm drill bit. This will ensure the screws pick up on the steel and prevent the profile from crushing.

Mechanical Joint – Lower Sash



105033 64mm Lower Sash
(Mechanically Jointed)

Using either VEKA Mechanical Joint Jig 146036.0 or 146036.1 Drill 2 x 5mm holes through all walls after the end preparation has been milled, ensuring the reinforcement is also drilled.

All mechanically jointed screws need countersinking with an 8mm drill bit. This will ensure the screws pick up on the steel and prevent the profile from crushing.

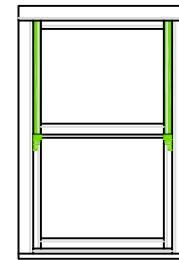
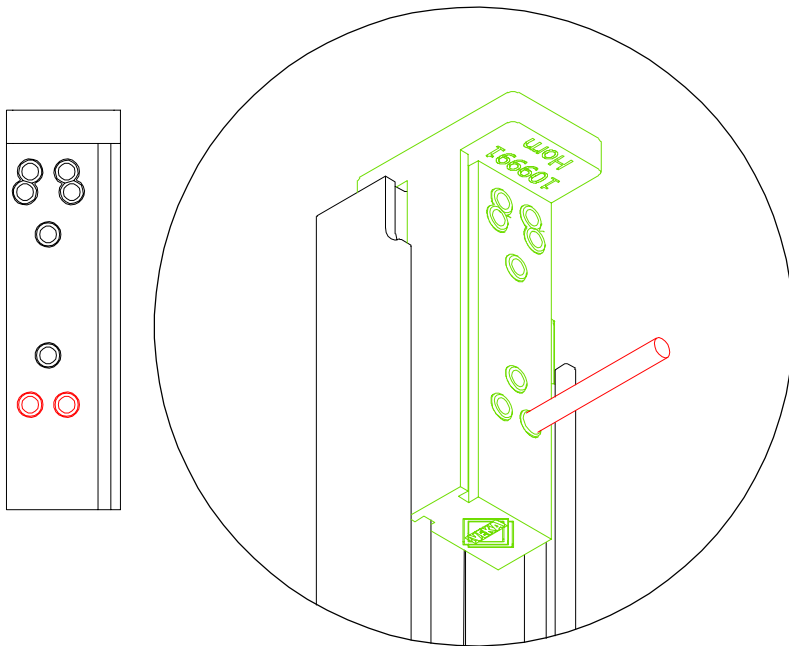
NOTE: If 105034 Deep Bottom Rail is required only drill at the top of each jamb otherwise holes will be required at both.

FIXING – SASH HORNS & DEEP BOTTOM RAIL

Sash horns and deep bottom rails can not be welded and require mechanical joints.

See [page 15](#) for Mechanical Joint Jig options.

Run Through Sash Horns – Upper Sash



105032 50mm Upper Sash

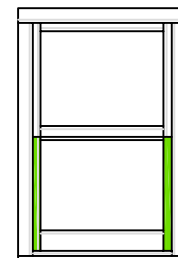
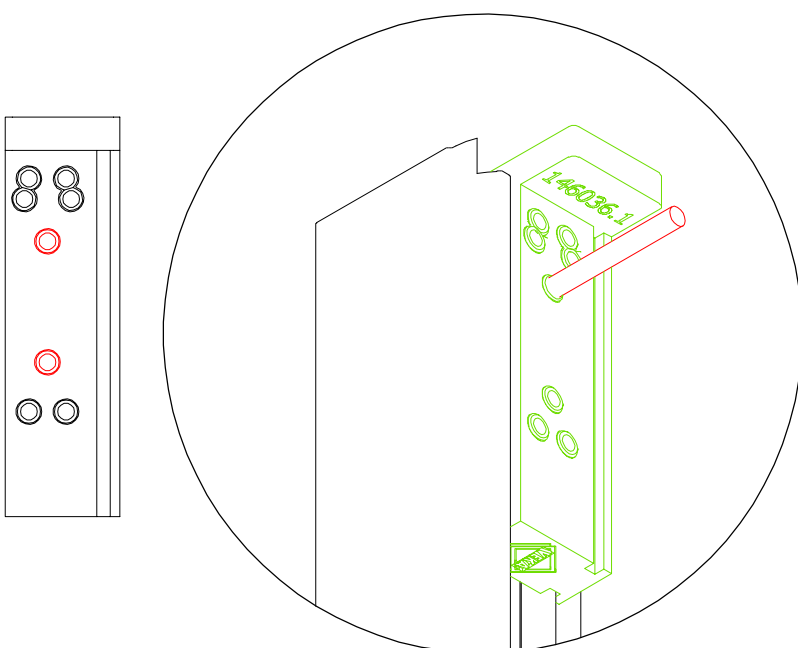
For 109102 Lipped Sash Horn use Mechanical Joint Jig 146036.0

For 109991 Integrated Sash Horn use Mechanical Joint Jig 146036.1

Drill 2 x 5mm holes through all walls after the end preparation has been milled, ensuring the reinforcement is also drilled.

All mechanically jointed screws need countersinking with an 8mm drill bit. This will ensure the screws pick up on the steel and prevent the profile from crushing.

Deep Bottom Rail – Lower Sash



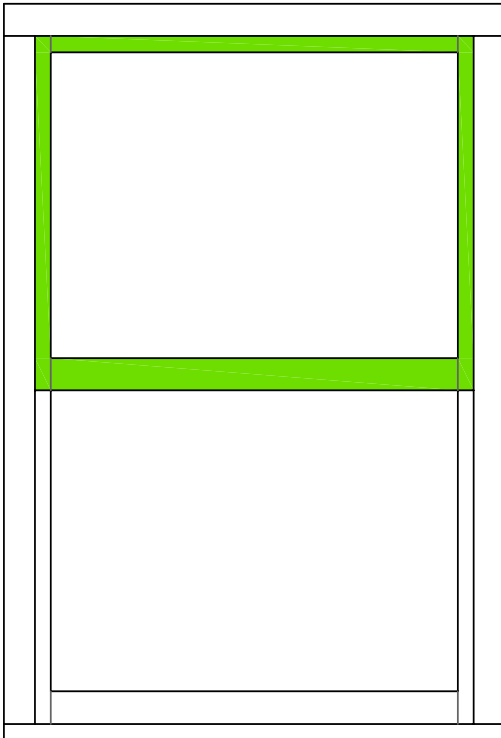
105033 64mm Lower Sash
105034 Deep Bottom Rail

Using either VEKA Mechanical Joint Jig 146036.0 or 146036.1 drill 2 x 5mm holes through all walls after the end preparation has been milled, ensuring the reinforcement is also drilled.

All mechanically jointed screws need countersinking with an 8mm drill bit. This will ensure the screws pick up on the steel and prevent the profile from crushing.

FIXING – MECHANICAL JOINT – TOP SASH

Not applicable to welded sashes



Peel back any protective tape edges on mating faces.

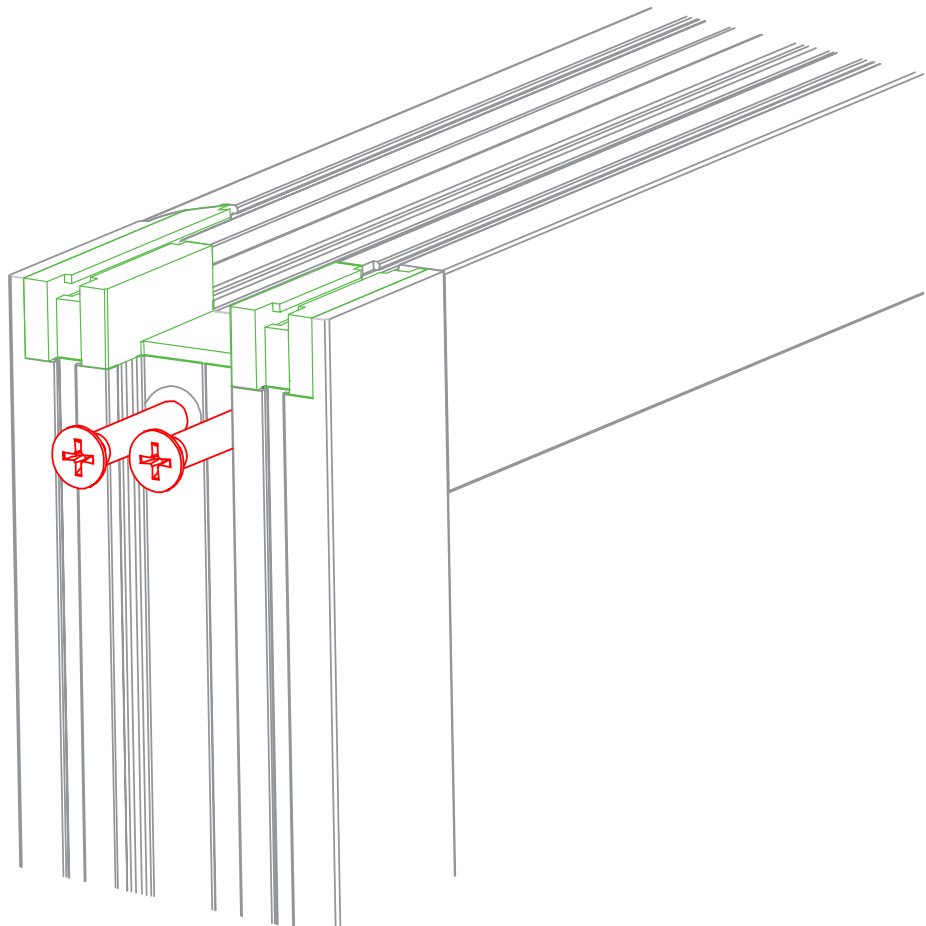
Seal all mating faces using a good quality low modulus silicone.

Insert the 109092 End Cap and secure with a good quality adhesive.

Attach the vertical jambs to the horizontal jambs using 4,8 x 55mm MJS AB Thread screws ensuring all gaps are closed, faces & edges are flush and the corner remains square.

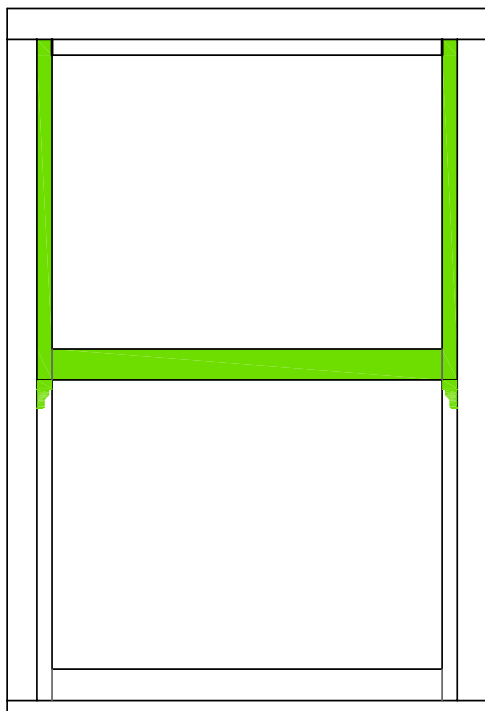
All mechanically jointed screws need countersinking with an 8mm drill bit. This will ensure the screws pick up on the steel and prevent the profile from crushing.

Repeat for all 4 corners unless run through sash horns are required – see next page.



FIXING - MECHANICAL JOINT - WITH RUN THROUGH HORNS

Not applicable to welded sashes



Top Sash - Mechanical Joint with run through horns

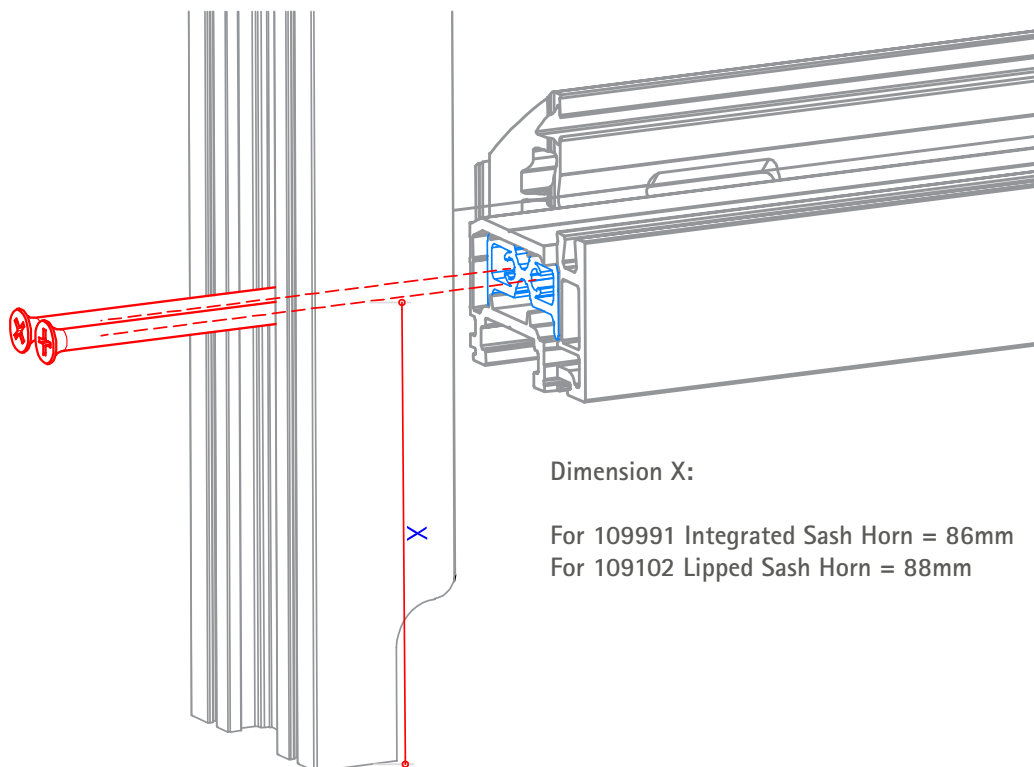
Peel back any protective tape edges on mating faces.

Seal all mating faces using a good quality sealant.

Seal the ends of the drainage chambers to prevent moisture seeping through the joint.

Attach the vertical jambs to the horizontal jambs using 4.8 x 55mm MJS AB Thread ensuring all gaps are closed, faces & edges are flush and the corner remains square.

All mechanically jointed screws need countersinking with an 8mm drill bit. This will ensure the screws pick up on the steel and prevent the profile from crushing.



Dimension X:

For 109991 Integrated Sash Horn = 86mm

For 109102 Lipped Sash Horn = 88mm

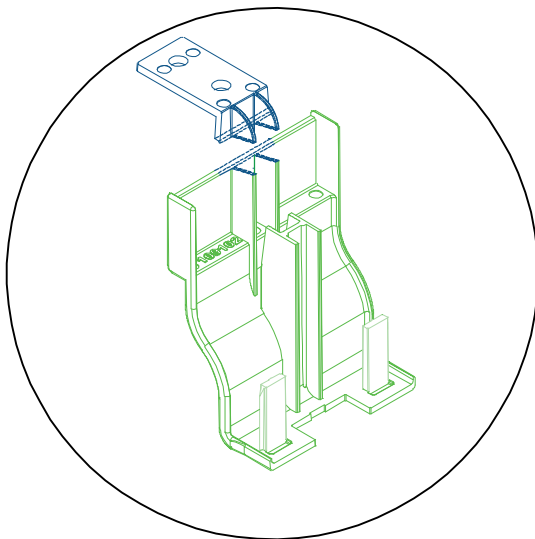
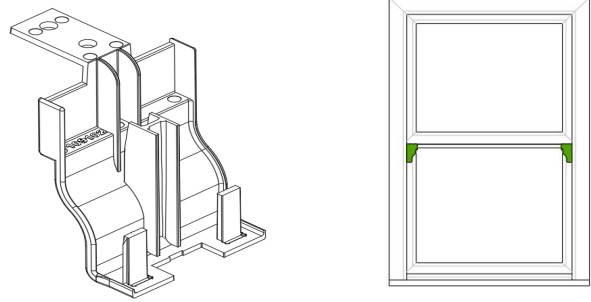
FIXING – LIPPED SASH HORNS (OPTIONAL)

109102 Lipped Sash Horn

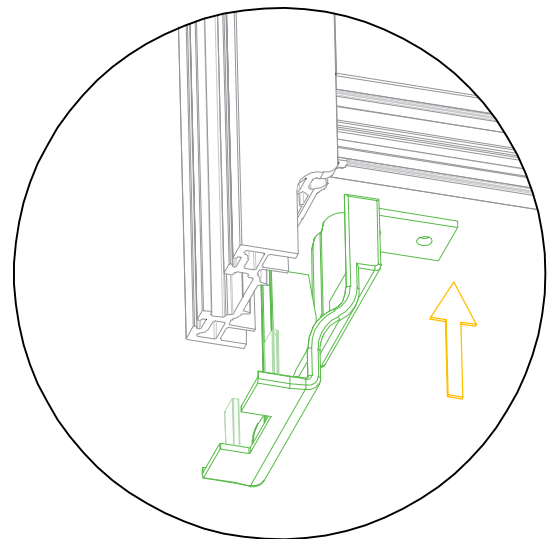
Sash horn end cap fitting.

Please check cutting sizes when sash horns are required.

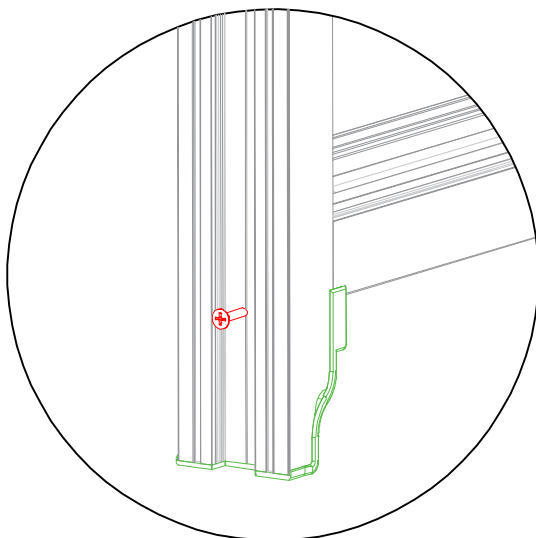
Appropriate pivot arms should be used, please refer to your hardware manufacturers recommendations.



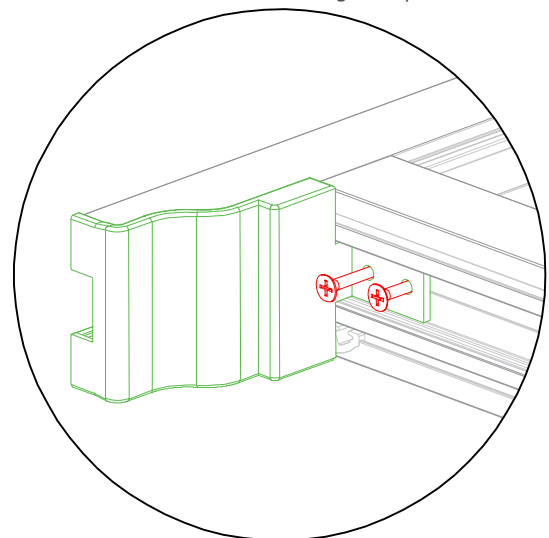
When 90° pivot arms are used, the fixing lip will need to be removed.



Adhesive may be applied to the locating legs to assist in correctly positioning the horn moulding. Slide the horn moulding into place.



The horn moulding can be fixed in place using 4.8 x 55mm MJS AB Thread screws in the hardware channel.



Alternatively, underneath the interlocks using 3.9 x 16mm Drill Point screws.

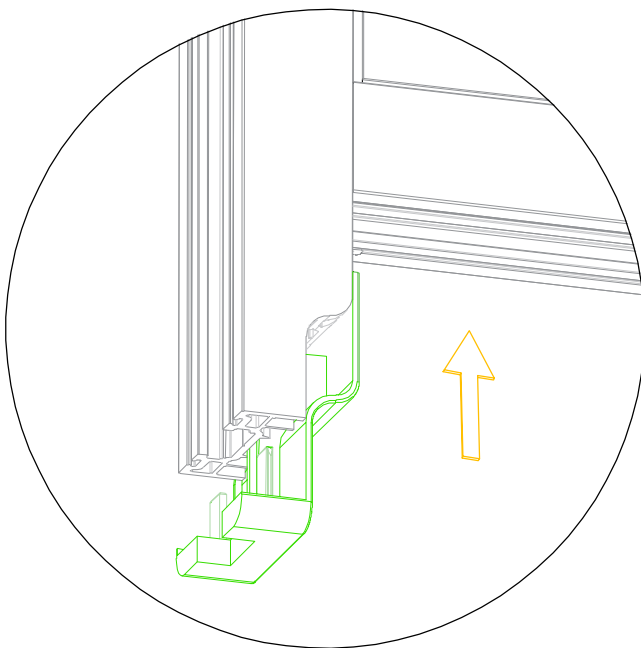
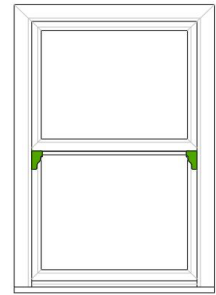
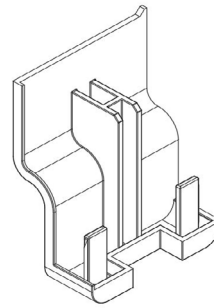
FIXING – INTEGRATED SASH HORNS (OPTIONAL)

109991 Integrated Sash Horns

Sash horn end cap fitting.

Please check cutting sizes when sash horns are required.

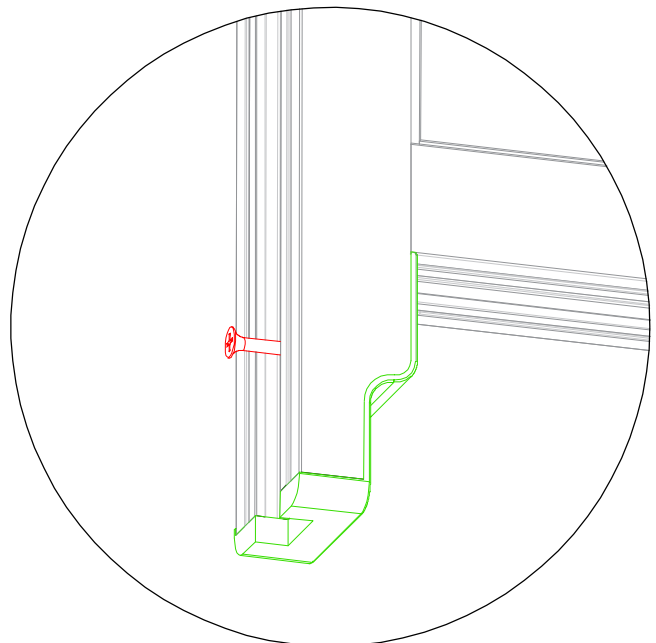
Appropriate pivot arms should be used when sash horns are required, please refer to your hardware manufacturers recommendations.



Adhesive may be applied to the locating legs to assist in correctly positioning the horn moulding.

Slide the horn moulding into place.

The horn moulding can be fixed in place using 4.3 x 16mm Gimlet Point Screws in the hardware channel



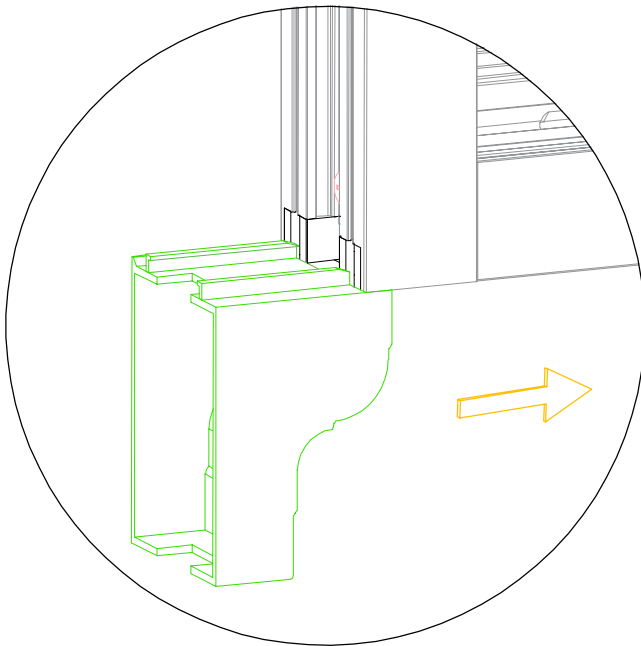
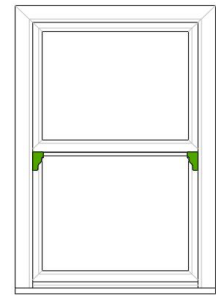
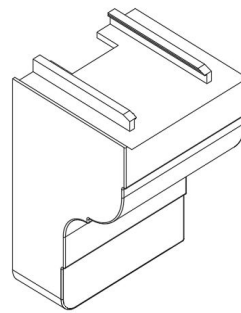
FIXING – SASH HORN MOULDING (OPTIONAL)

109990 Sash Horn Moulding

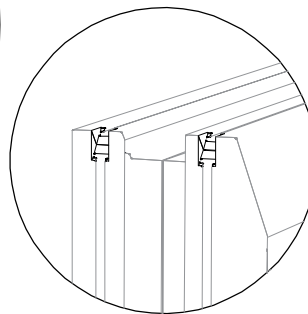
Sash horn moulding fitting.

Please check cutting sizes when sash horns are required.

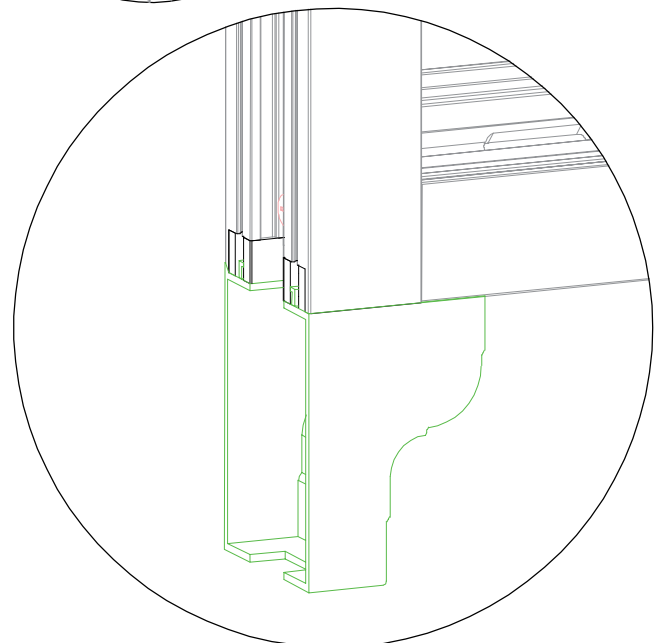
Appropriate pivot arms should be used, please refer to your hardware manufacturers recommendations.



109990 can fitted to either welded or mechanically jointed sashes. When used on mechanically jointed sashes, slide the horn molding in into the end cap.



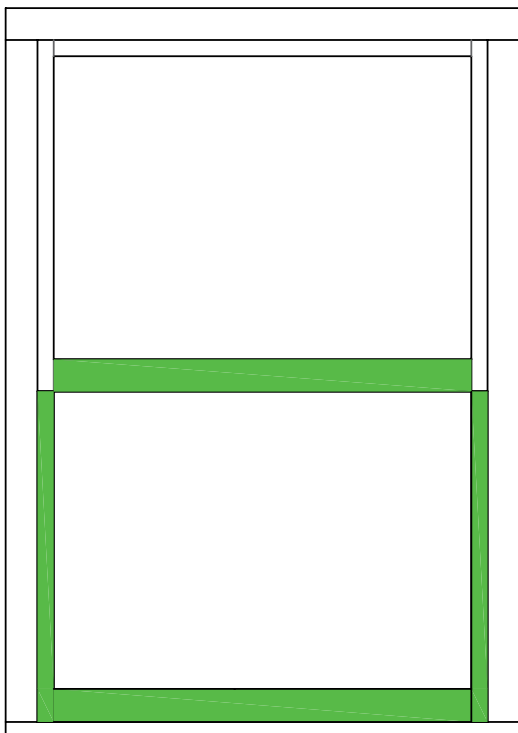
When used on welded sashes, additional corner cleaning and preparation will be required.



Adhesive will be required to retain the horn moulding in position.

FIXING - MECHANICAL JOINT - BOTTOM SASH

Not applicable to welded sashes



Peel back any protective tape edges on mating faces.

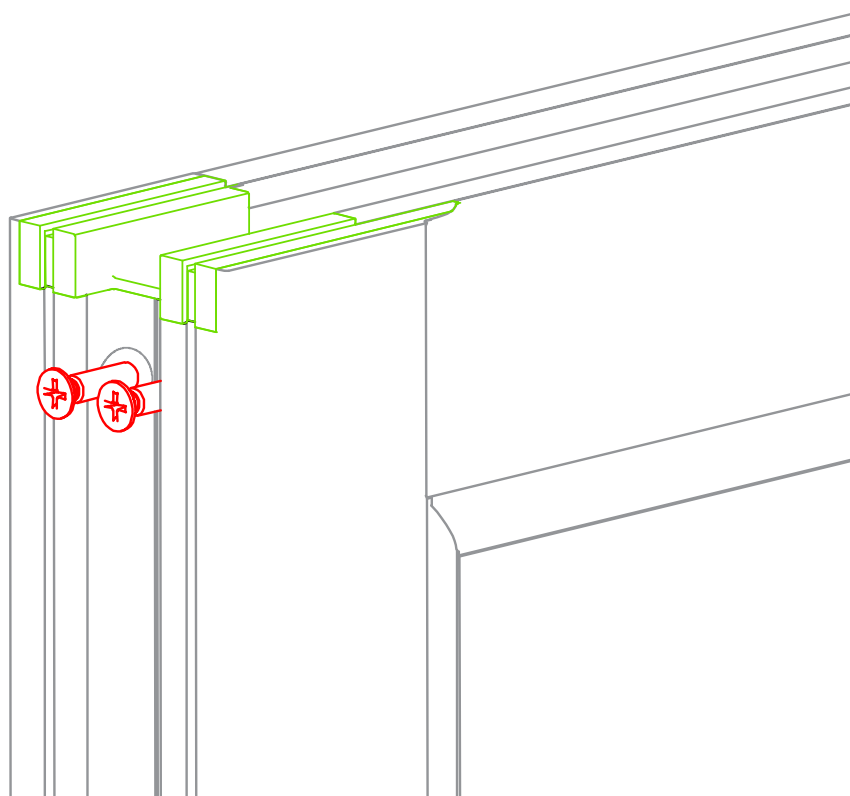
Seal all mating faces using a good quality sealant.

Insert the 109092 end cap, securing it with a good quality adhesive.

Attach the vertical jambs to the horizontal jambs using 4.8 x 65mm self tapping screws ensuring all gaps are closed, faces & edges are flush and the corner remains square.

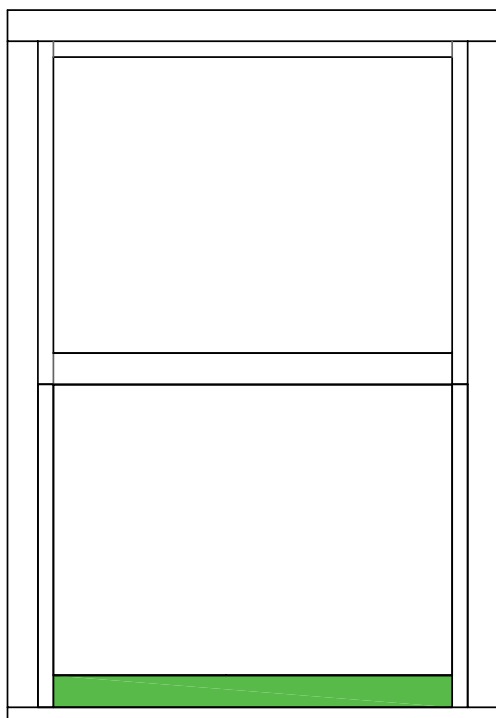
All mechanically jointed screws need countersinking with an 8mm drill bit. This will ensure the screws pick up on the steel and prevent the profile from crushing.

Repeat for all 4 corners unless a deep bottom rail is required - see next page.



FIXING - MECHANICAL JOINT - DEEP BOTTOM RAIL

Not applicable to welded sashes



Mechanical Joint Deep Bottom rail where required.

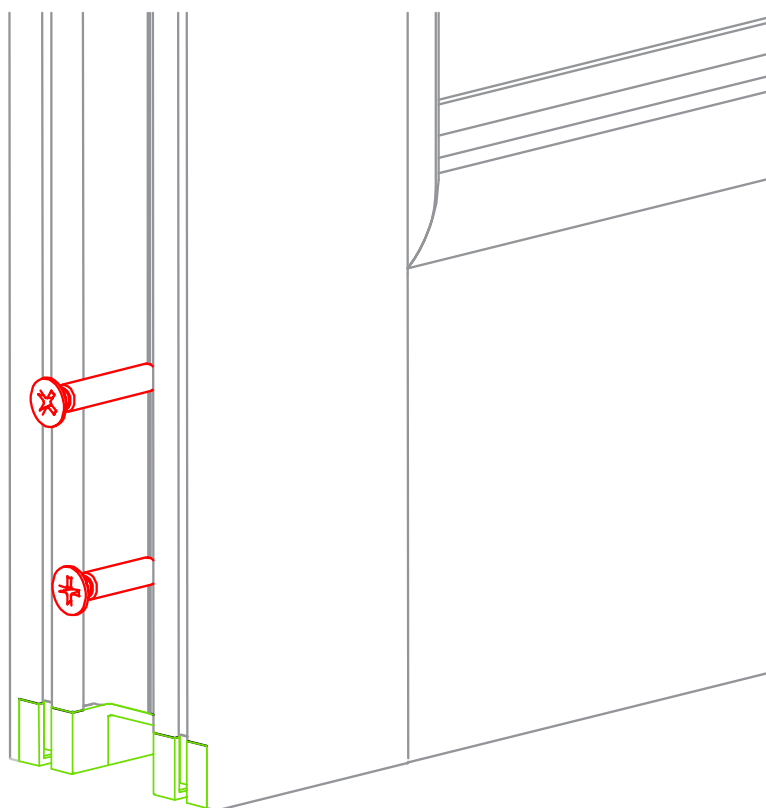
Peel back any protective tape edges on mating faces.

Seal all mating faces using a good quality sealant.

Insert the 109996 End Cap and secure with a good quality adhesive.

Seal the ends of the drainage chambers to prevent moisture seeping through the joint.

Attach the vertical jambs to the horizontal jambs using 4.8 x 65mm self tapping screws ensuring all gaps are closed, faces & edges are flush and the corner remains square.



WEATHER SEALS

Applicable to both welded and mechanically jointed sashes. The brush pile specification applies to all sash types. It may be necessary to loosen the fixing screws slightly to be able to maneuver the brush seal into the end caps and sash.



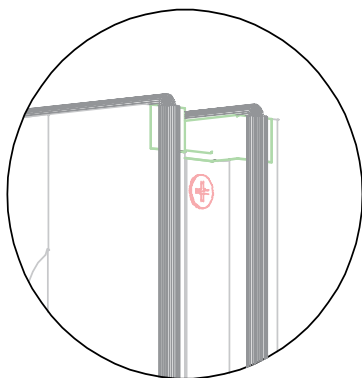
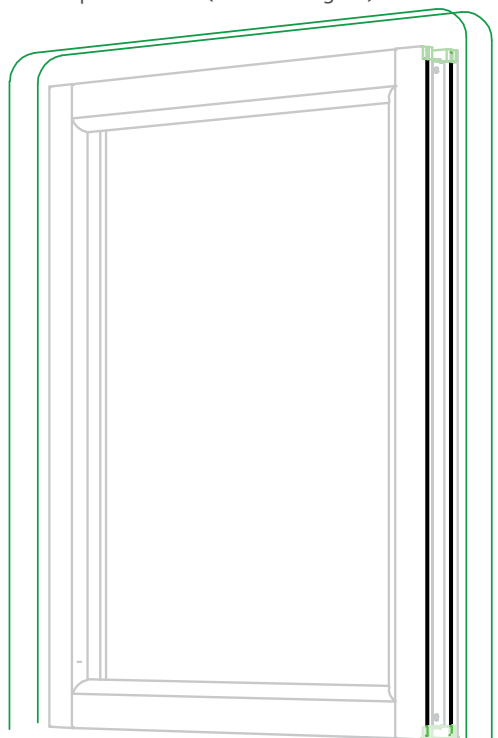
112365
8.5mm
Brushpile Seal



112361
8mm Brushpile
(40mm Lengths)

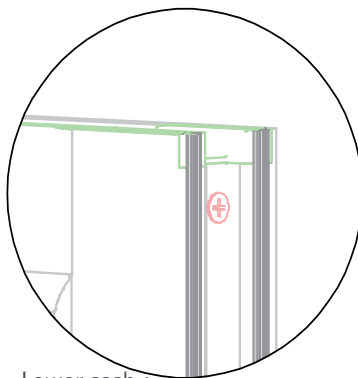
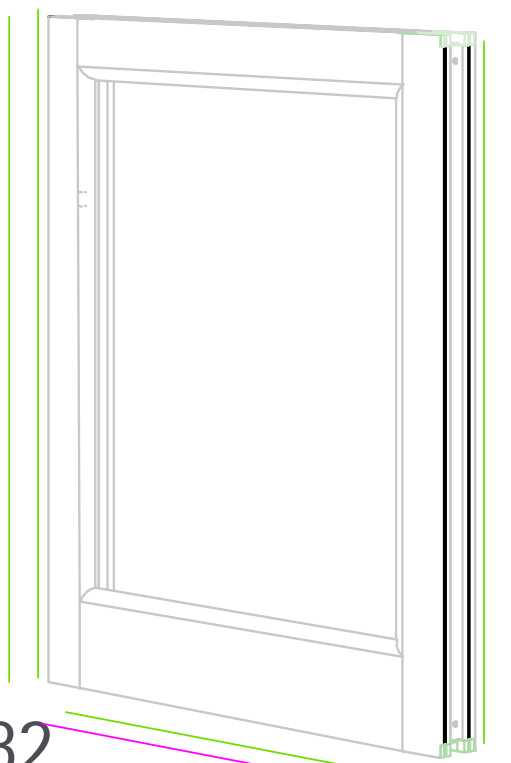
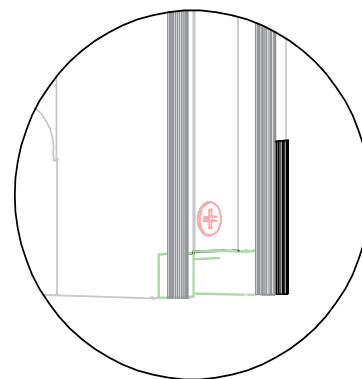


112369
Bottom Rail
Sealing Gasket



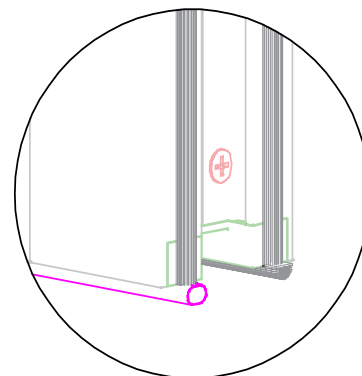
Upper sash
Insert continuous lengths of 112365 8.5mm Brushpile Seal in both the inner and outer seal channels of the jambs and head.

Upper sash;
Attach 1 piece of 112361 8.5mm brush pile (40mm lengths) at the bottom inside corner at each side.



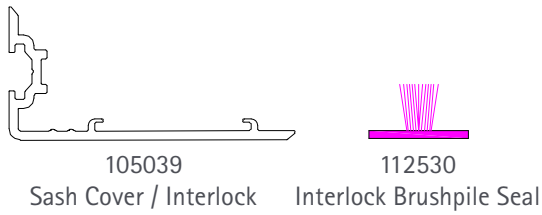
Lower sash;
Insert lengths of 112365 8.5mm Brushpile Seal in both the inner and outer seal channels of the jambs.

Lower sash ;
Insert lengths of 112365 8.5mm Brushpile Seal to the inner seal channel of the bottom rail and 1 length of 112369 Bottom Rail Sealing Gasket in the outer seal channel. Both these seals should be 10mm wider than the sash (5mm either side). Cyanoacrylate glue should be used to fix the ends of the bubble gasket 112369 with the ends of the brush pile.

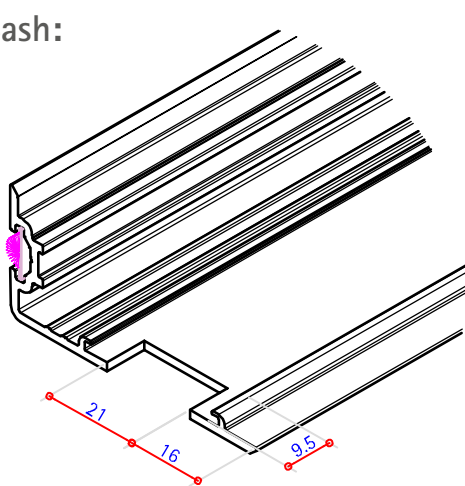


INTERLOCK

Applicable to both welded and mechanically jointed sashes. The 105039 interlock requires end preparation prior to being fixed to the sash.

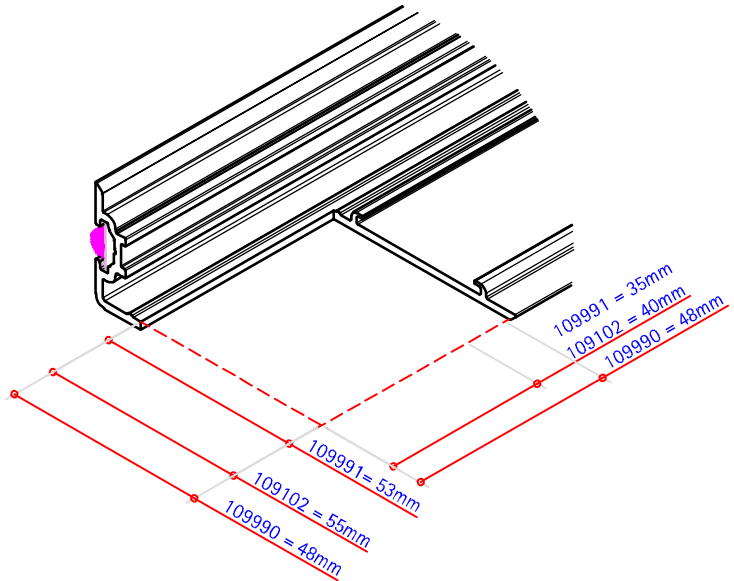


Top Sash:



This preparation is only necessary with *some* tilt arms. Preparation when run through horns are not required.

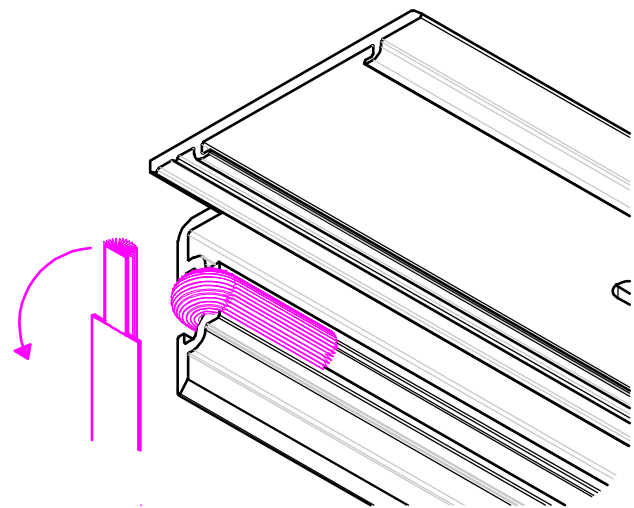
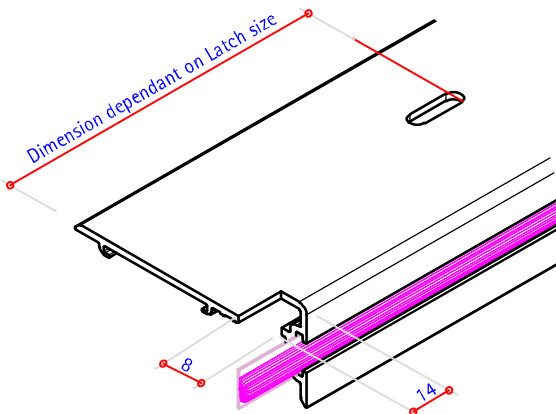
Cut the 112530 Brush Pile 50mm longer than the interlock.



Preparation when optional horns are required.

Cut the 112530 Brush Pile 50mm longer than the interlock.

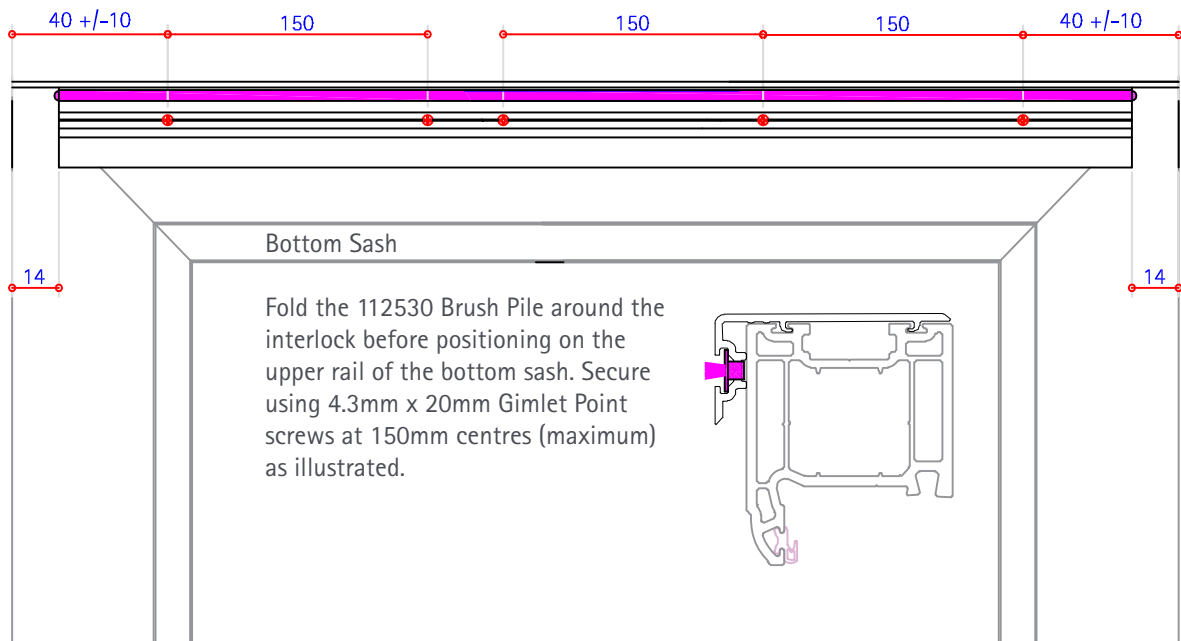
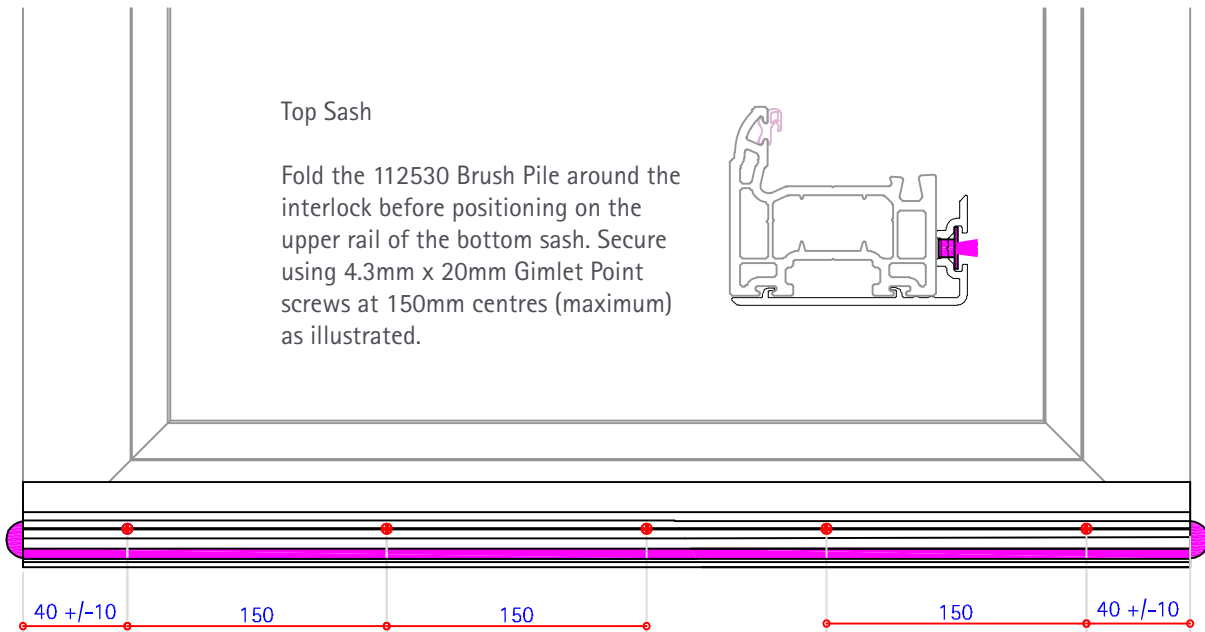
Bottom Sash:



Fold the 112530 Brush Pile around the interlock. A section of the the base will need to be cut away at either side to prevent lifting the interlock

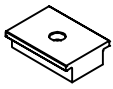
INTERLOCK (CONTINUED)

Applicable to both welded and mechanically jointed sashes. The 105039 interlock requires to be securely attached to the sash.

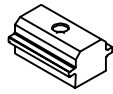


GUIDE BLOCKS

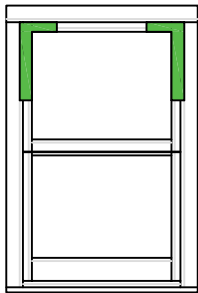
Guide blocks are required to assist in the smooth operation and correct location of the sashes. Please note: for Pas 24 specifications alternative Upper sash packing blocks are required, please refer to the chosen hardware manufacturers recommendations.



109603
VS Anti Racking Block



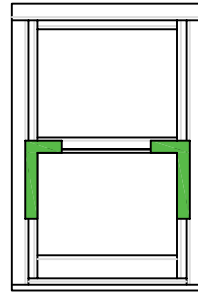
109992
Upper Sash Packing Block



Attach the slide latches (Non VEKA part) to each upper corner ensuring the flat side of the latch faces the internal side of the sash.

Attach 2 109992 packing blocks to the top rail (upper sash only).

Alternative packing blocks are required for PAS 24 specification see pages 23-25



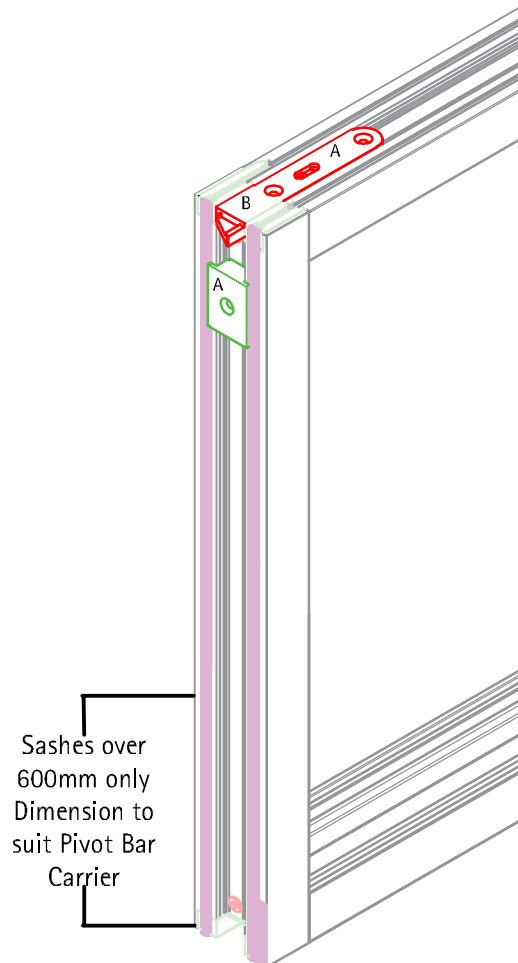
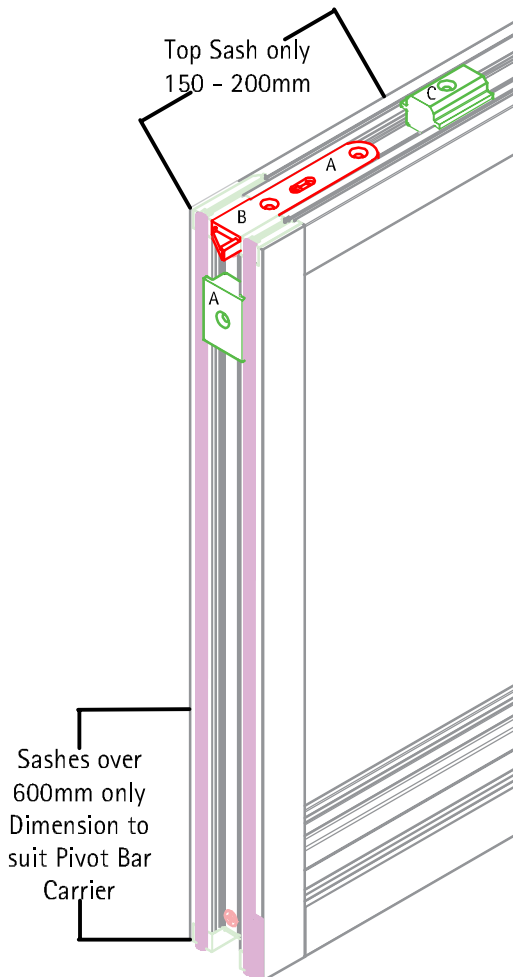
Attach 109603 anti-racking blocks to each jamb as illustrated. For sashes above 600mm a second block will be required as illustrated.

Screws

A = 3.9 x 25mm Drill Point

B = 4.3 x 20mm Gimlet Point

C = 4.3 x 35mm Gimlet Point



SPRING BALANCE – WELDED OUTER FRAME

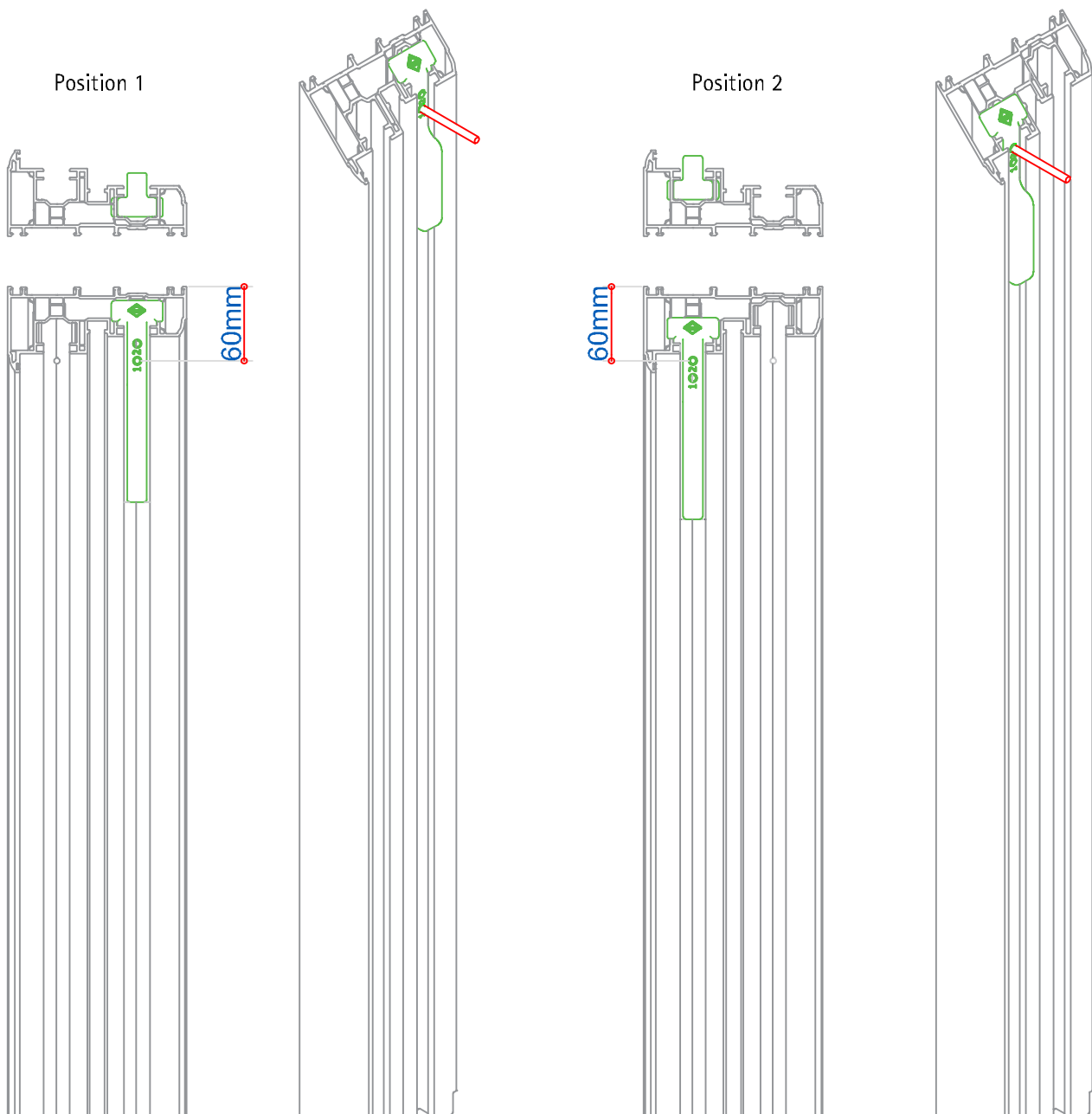
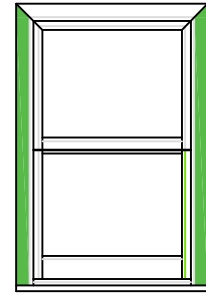
Not applicable to mechanically jointed outer frames. See page 15 for mechanical joint jig options.

Use xxxxxx.x Riv Nut Jig for mitred joint.

Slide the jig into the balance chamber until the end stop reaches the mitred profile.

Use a 7mm drill, for the inner balance chamber use the hole marked 1, for the outer balance chamber use the hole marked 2 as illustrated.

Repeat the steps for both the left and right jambs.



SPRING BALANCE – MECHANICALLY JOINTED OUTER FRAME

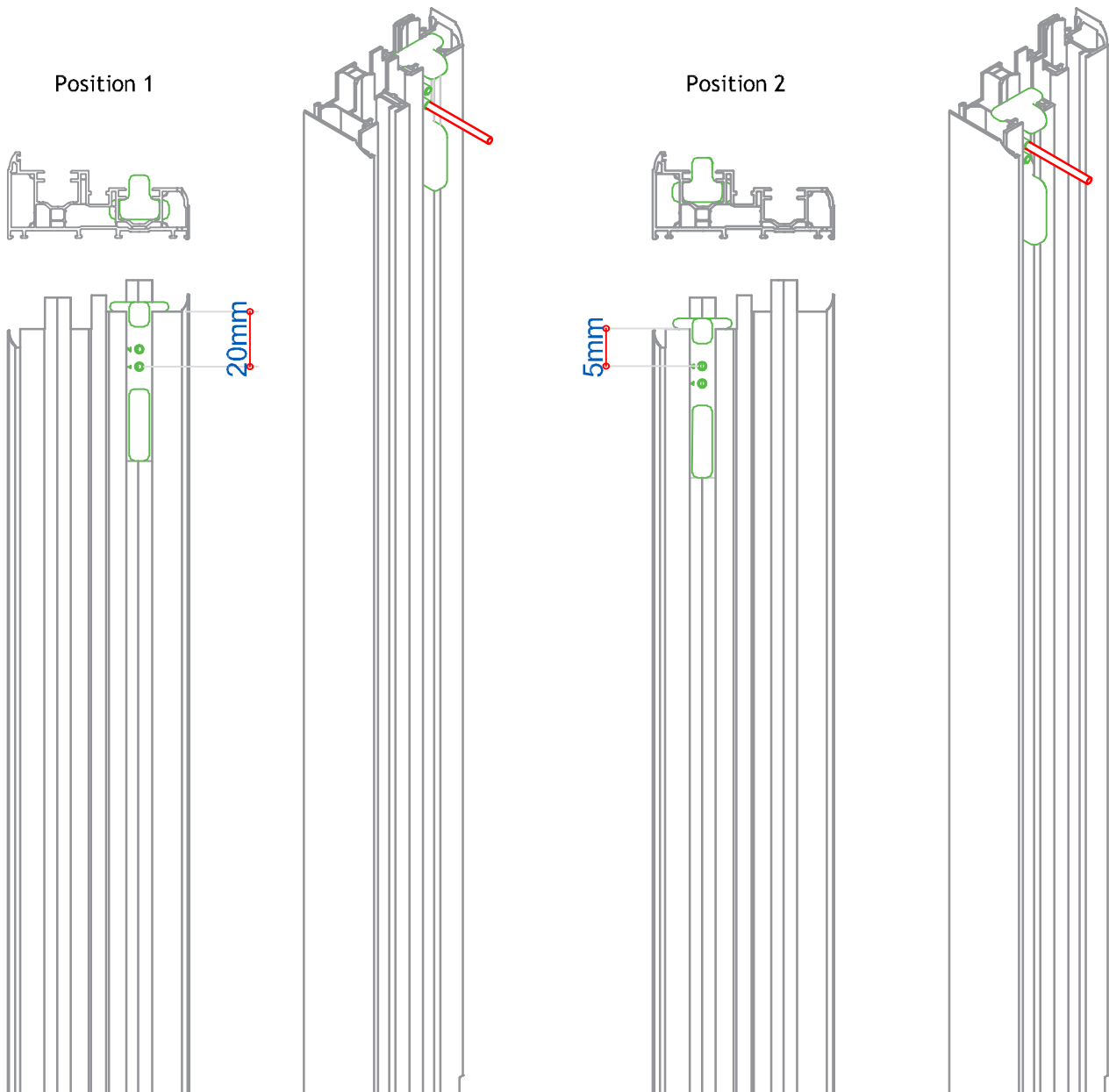
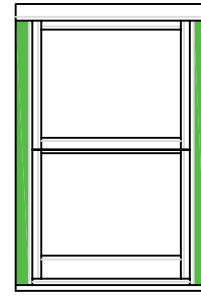
Not applicable to welded outer frames. See page 15 for mechanical joint jig options.

Use xxxxxx.x Riv Nut Jig for mechanical joint

Slide the jig into the balance chamber until the end stop reaches the milled profile.

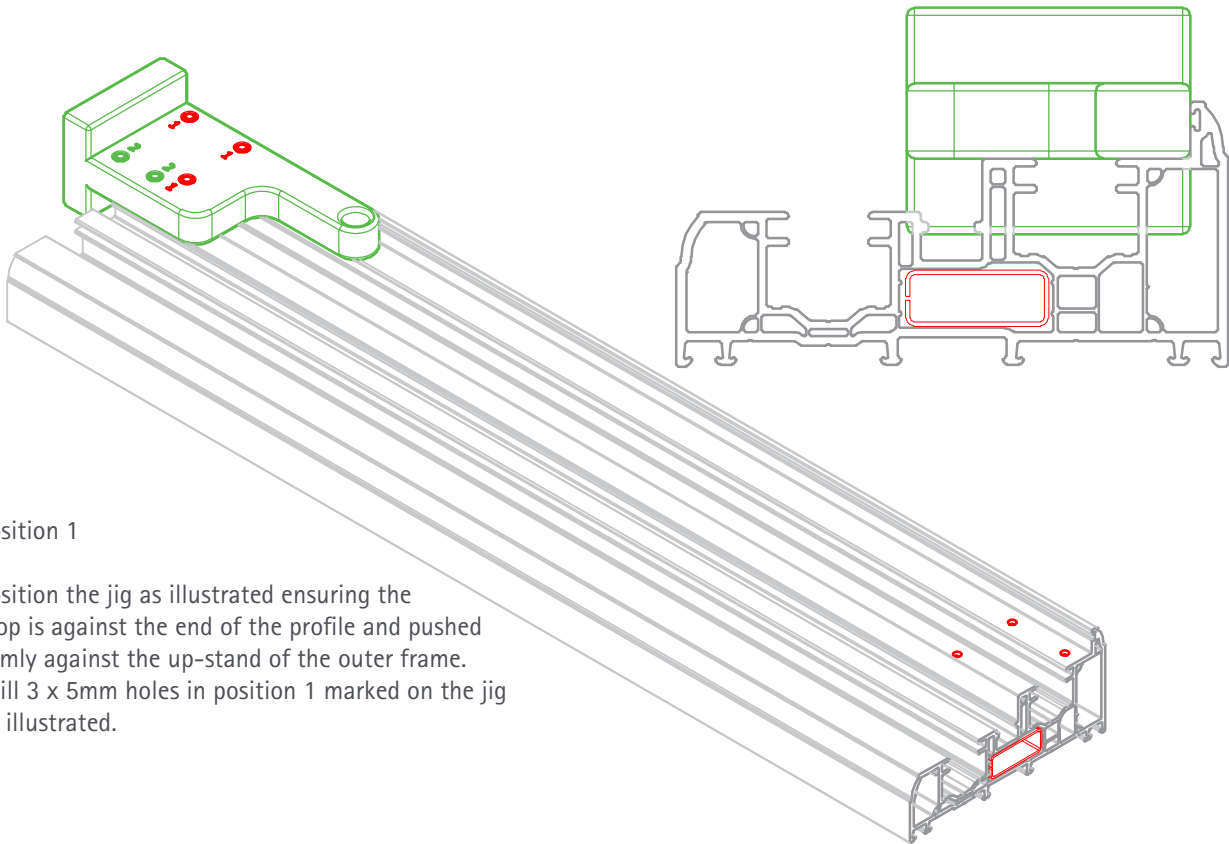
Use a 7mm drill, for the inner balance chamber use the hole marked 1, for the outer balance chamber use the hole marked 2 as illustrated.

Repeat the steps for both the left and right jambs.



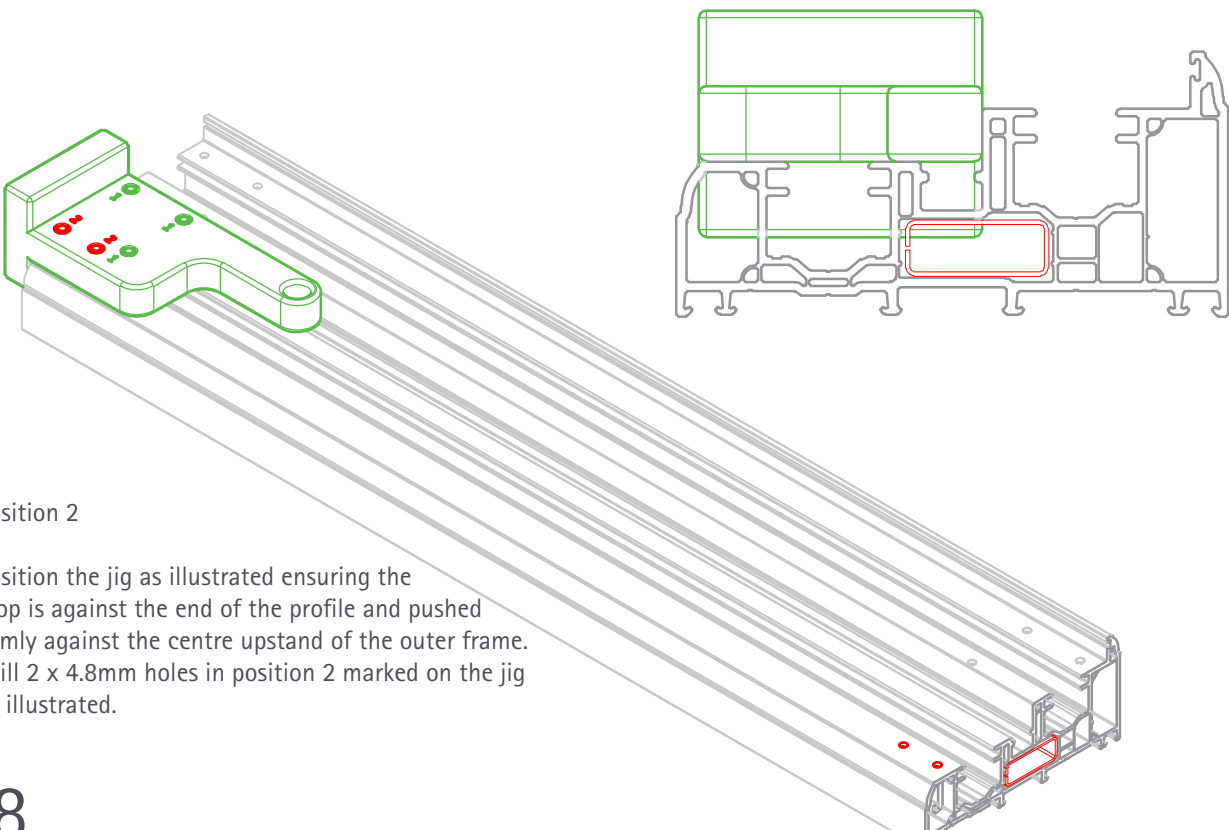
MECHANICAL JOINTS – JOINT JIG

Not applicable to welded outer frames. See page 15 for Mechanical Joint Jig options.
Use 146036.2 Outer Frame Mechanical Joint Jig.



Position 1

Position the jig as illustrated ensuring the stop is against the end of the profile and pushed firmly against the up-stand of the outer frame. Drill 3 x 5mm holes in position 1 marked on the jig as illustrated.



Position 2

Position the jig as illustrated ensuring the stop is against the end of the profile and pushed firmly against the centre upstand of the outer frame. Drill 2 x 4.8mm holes in position 2 marked on the jig as illustrated.

MECHANICAL JOINT FIXING

Peel back to protective tape to avoid the tape becoming trapped in the joint.

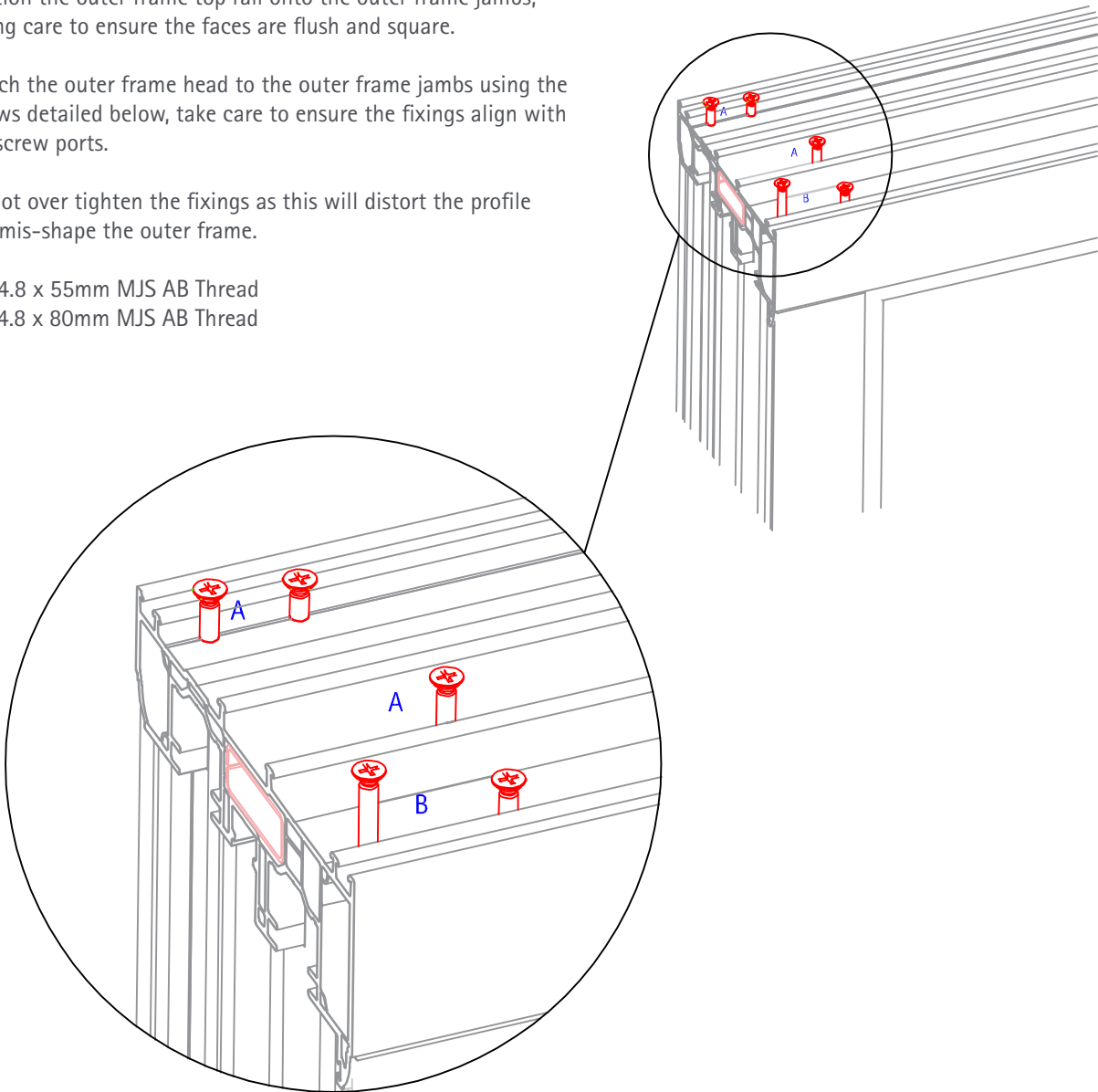
ENSURE THE END PREPARATION IS FREE FROM SWARF.

Seal all mating faces with a good quality low modulus sealant. Position the outer frame top rail onto the outer frame jambs, taking care to ensure the faces are flush and square.

Attach the outer frame head to the outer frame jambs using the screws detailed below, take care to ensure the fixings align with the screw ports.

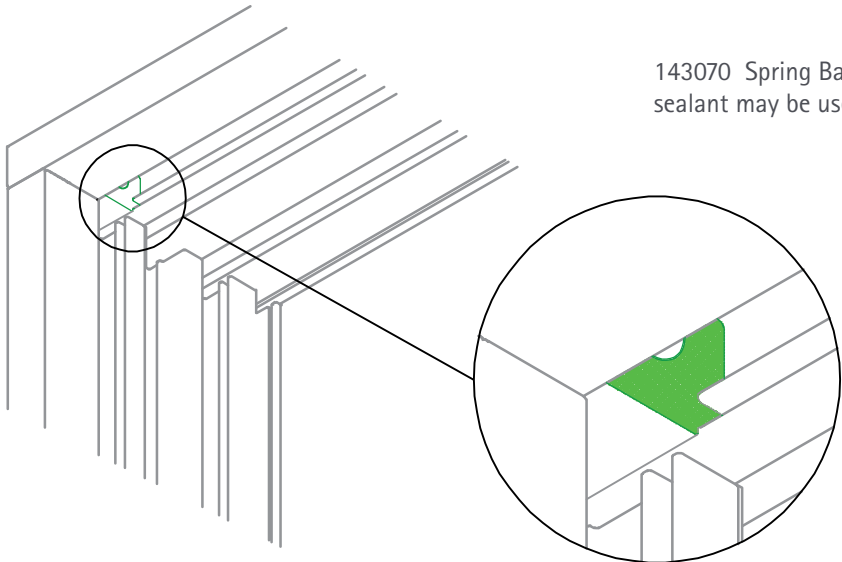
Do not over tighten the fixings as this will distort the profile and mis-shape the outer frame.

A = 4.8 x 55mm MJS AB Thread
B = 4.8 x 80mm MJS AB Thread

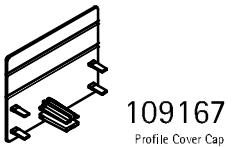
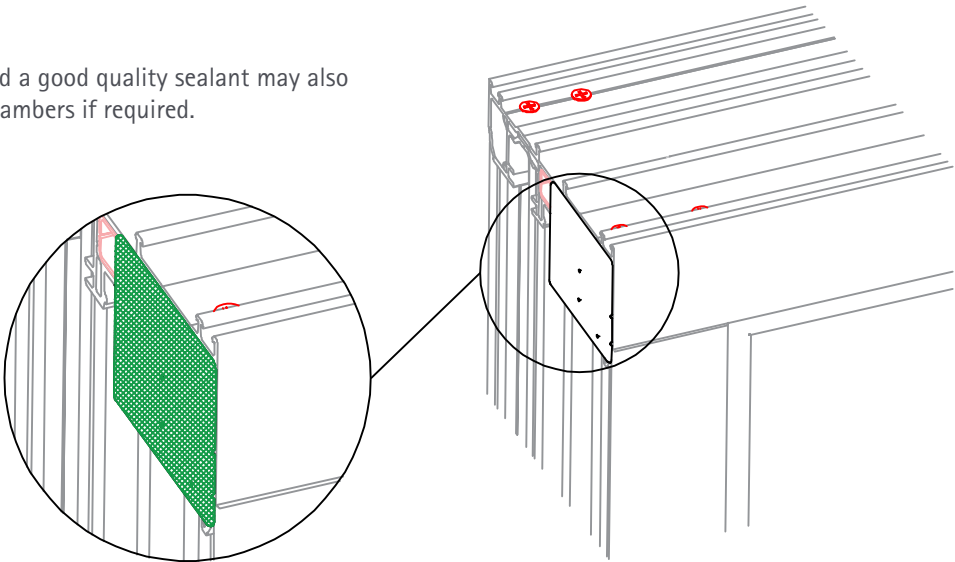


DRAUGHT STOP & COVER CAP

143070 Spring Balance Draught Stop and a good quality sealant may be used to cover any open chambers if required.



109167 Profile Cover Cap and a good quality sealant may also be used to cover any open chambers if required.

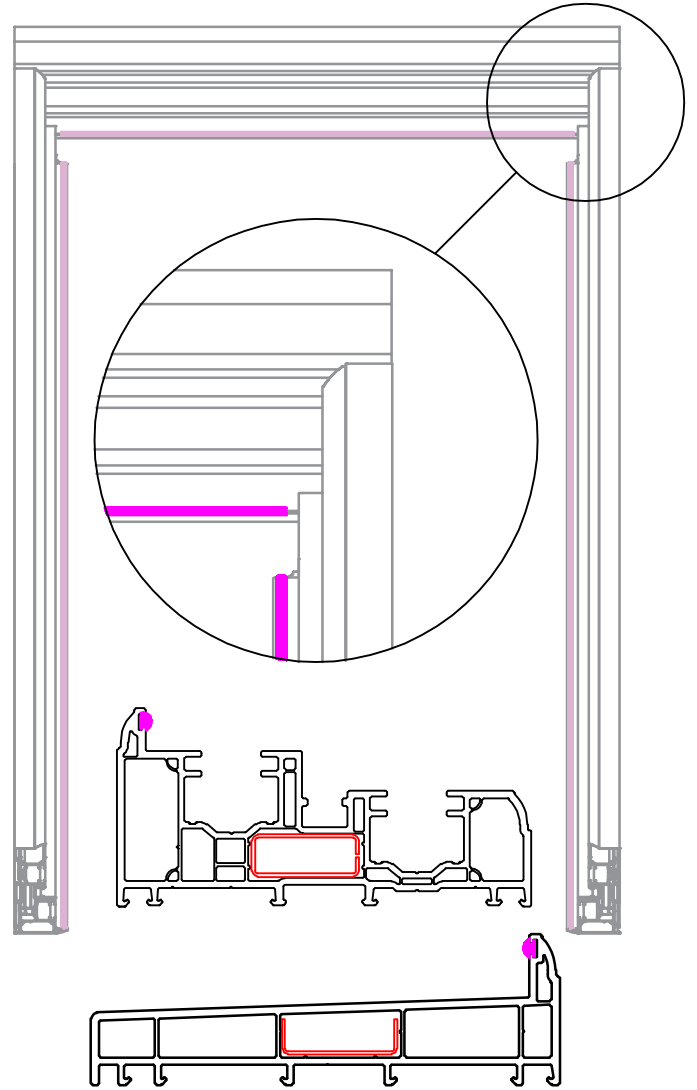
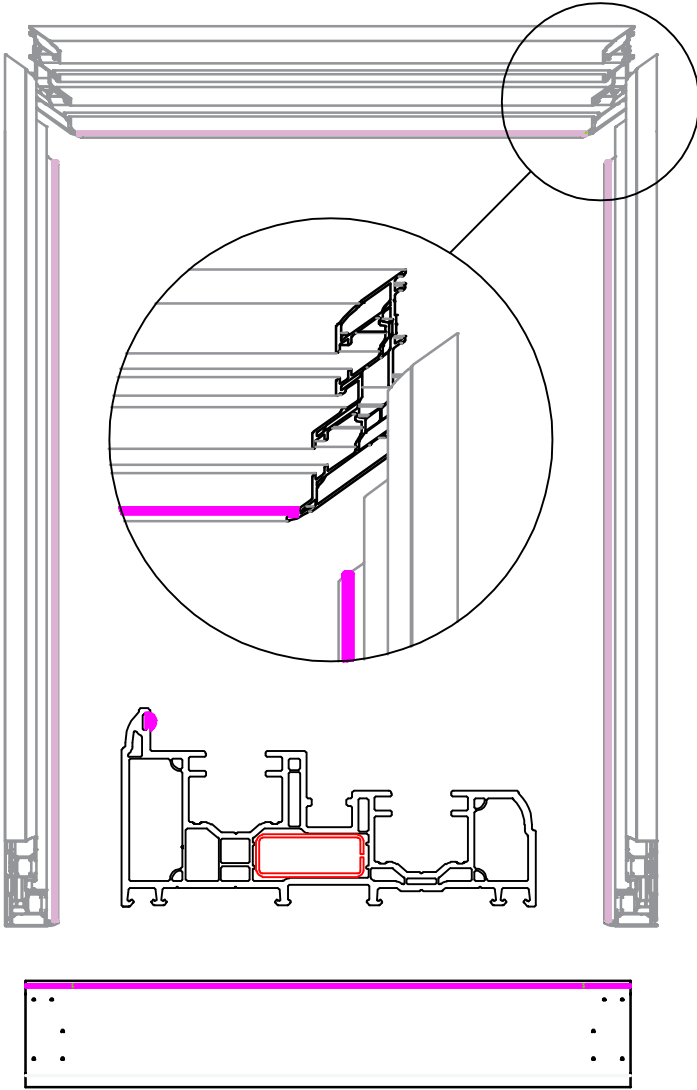


BRUSH SEALS

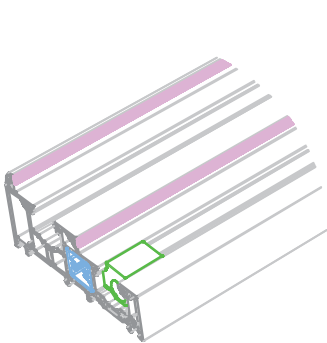
The 112365 Brush Pile should be inserted into the frame prior to welding or mechanically jointing the top rail and cill to the jambs.

Welded Frame - Mechanically Jointed Cill

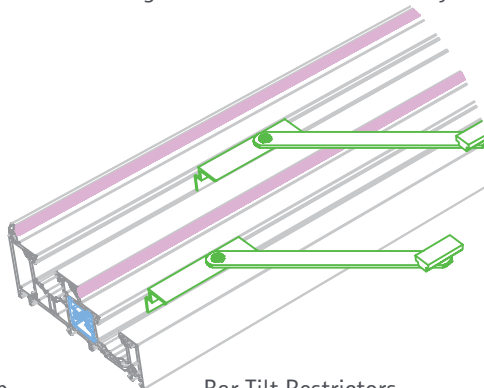
Fully Mechanically Jointed Frame & Cill



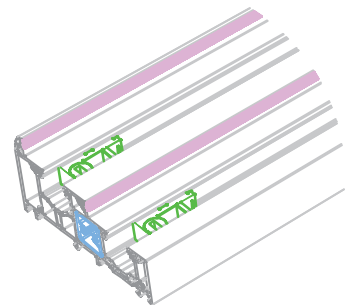
Refer to the hardware suppliers recommendations. It may be necessary to insert hardware such as tilt restrictors and balance shoes before attaching the cill to the outer frame jambs.



143070 Spring Balance Stop.
To the inner channels ONLY



Bar Tilt Restrictors
(Non-VEKA Part)
1 per channel

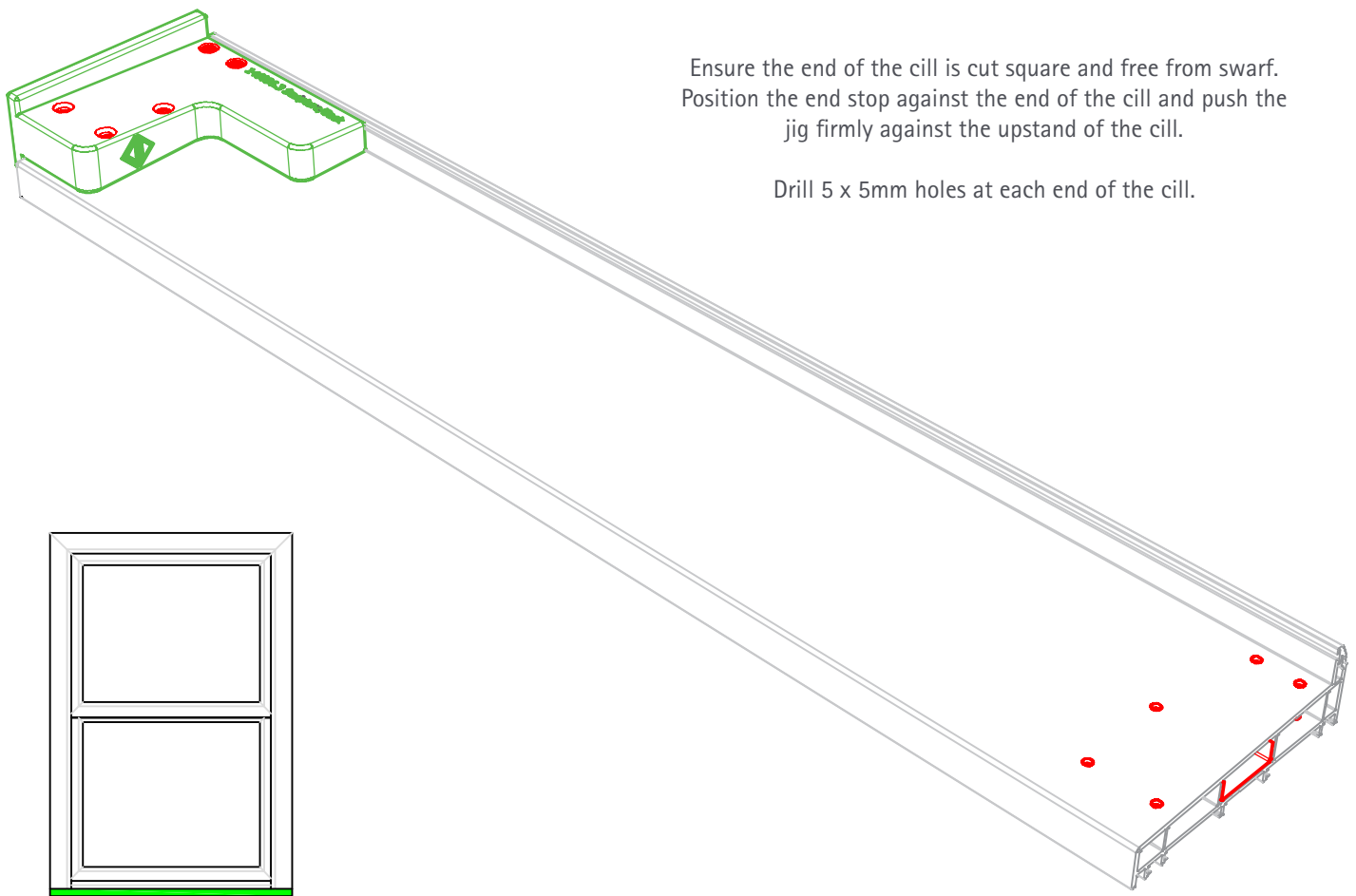
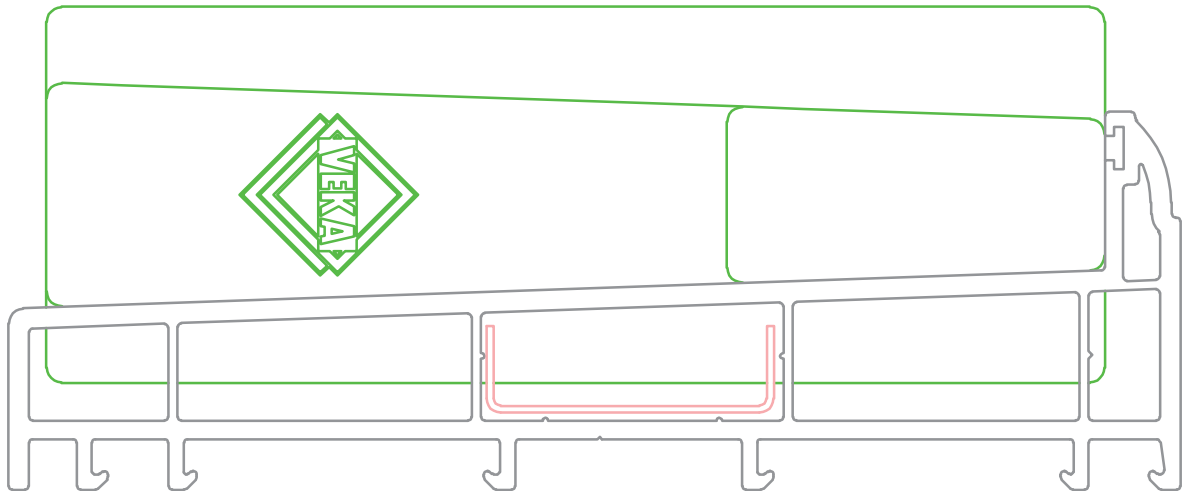


Pivot Shoe
(Non-VEKA Part)
1 per channel

OUTER FRAME INTEGRAL CILL

The integrated outer frame cill can not be welded and requires mechanical joints. See page ____ for mechanical joint jig options.

Using 146036.3 Cill Mechanical Joint Jig:



Ensure the end of the cill is cut square and free from swarf. Position the end stop against the end of the cill and push the jig firmly against the upstand of the cill.

Drill 5 x 5mm holes at each end of the cill.

FIXING – MECHANICAL JOINT – CILL

Fixing instructions apply to 105410 200mm Cill also.

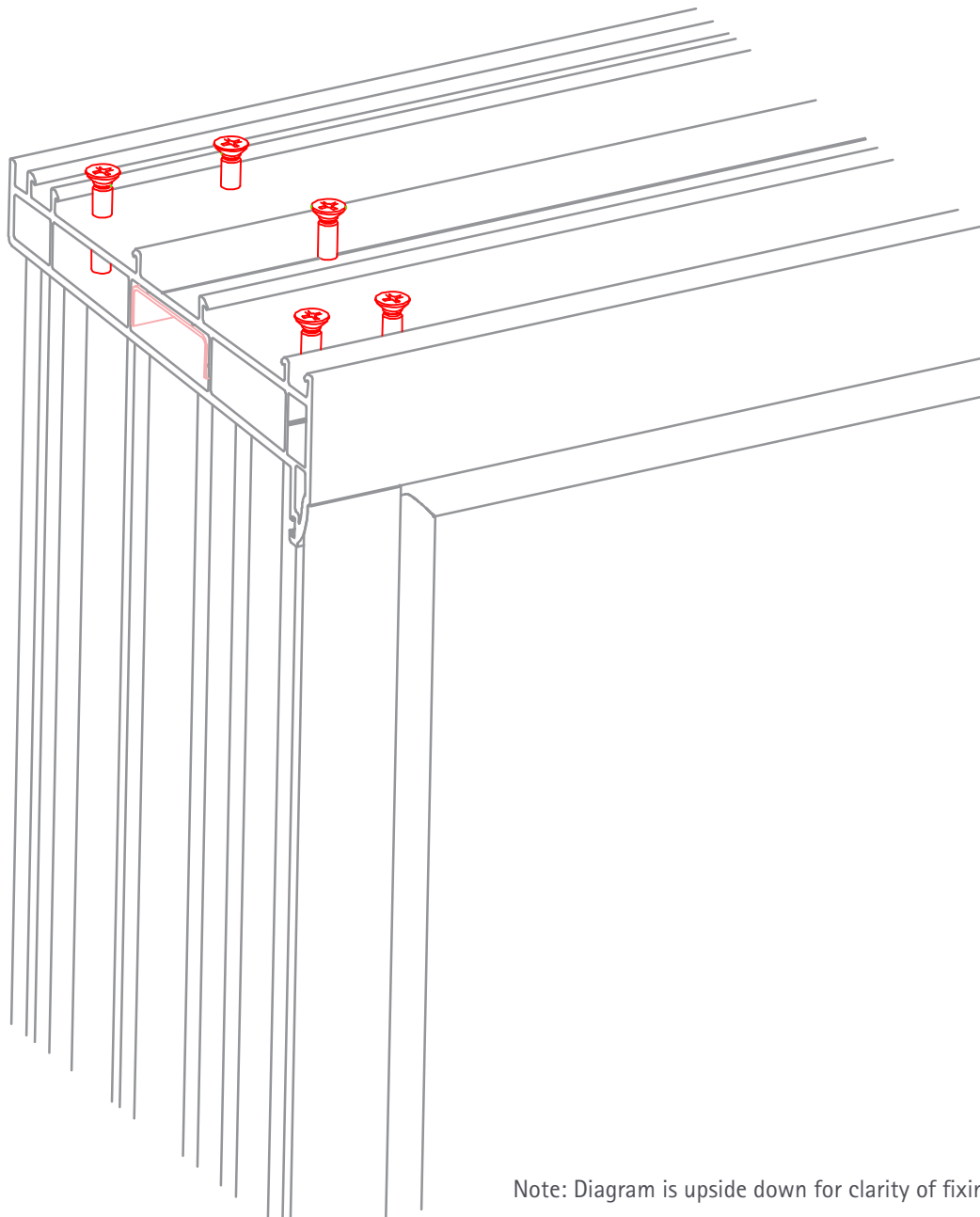
Peel back to protective tape to avoid the tape becoming trapped in the joint.

ENSURE THE END PREPARATION IS FREE FROM SWARF.

Seal all mating faces with a good quality low modulus silicone. Position the cill onto the outer frame jambs, taking care to ensure the faces are flush and square.

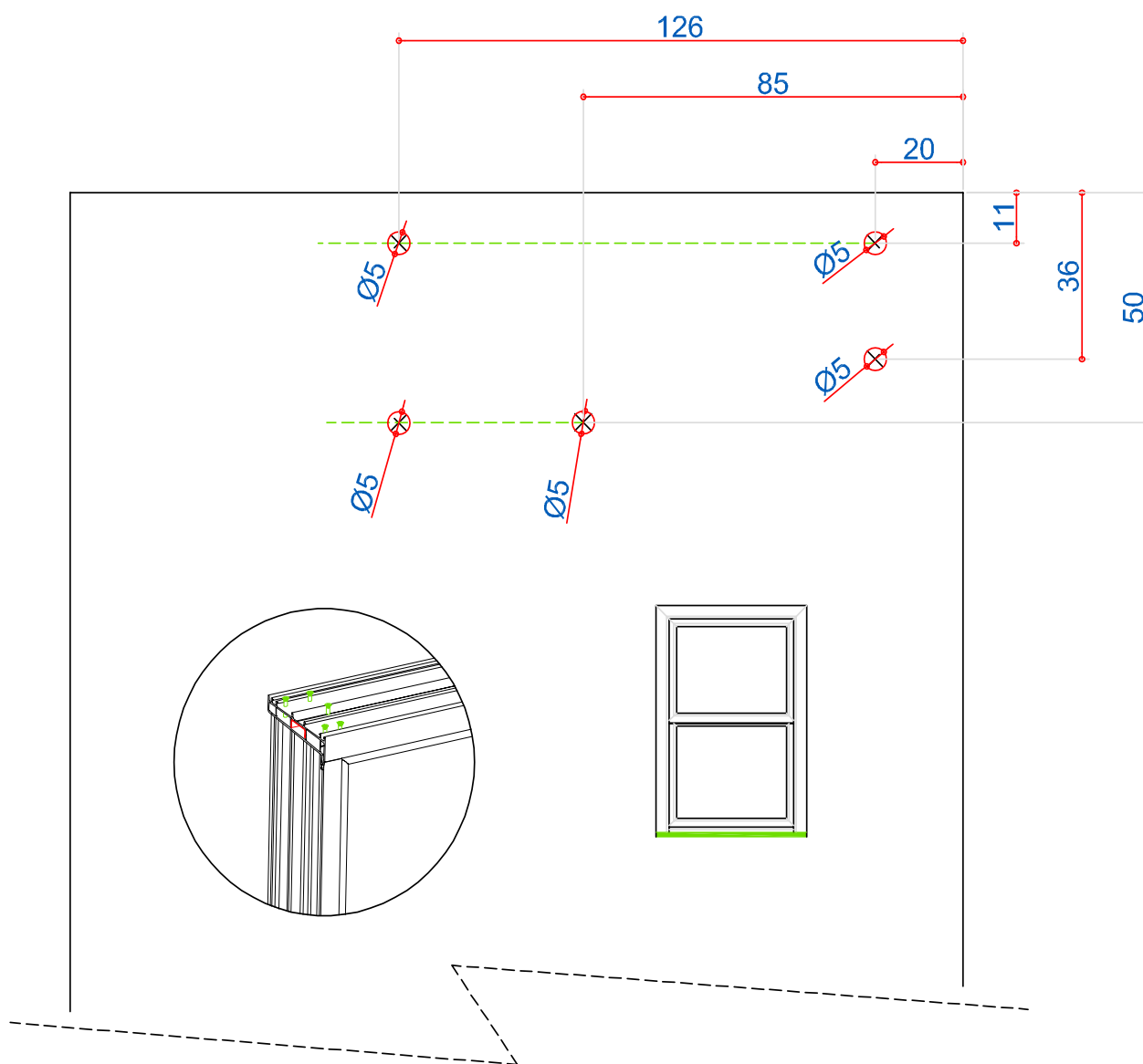
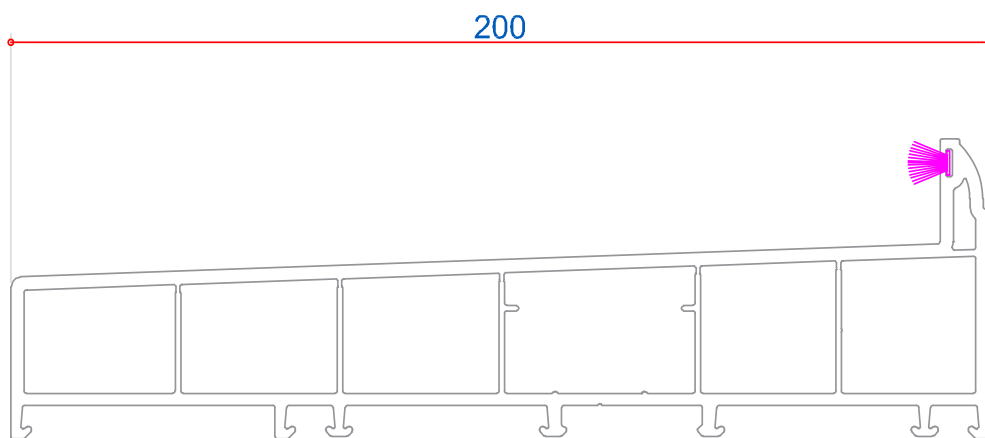
Attach the cill to the outer frame jambs using 4.8 x 55mm MJS AB Thread screws, take care to ensure the fixings align with the screw ports.

Do not over tighten the fixings as this will distort the profile and mis-shape the outer frame.

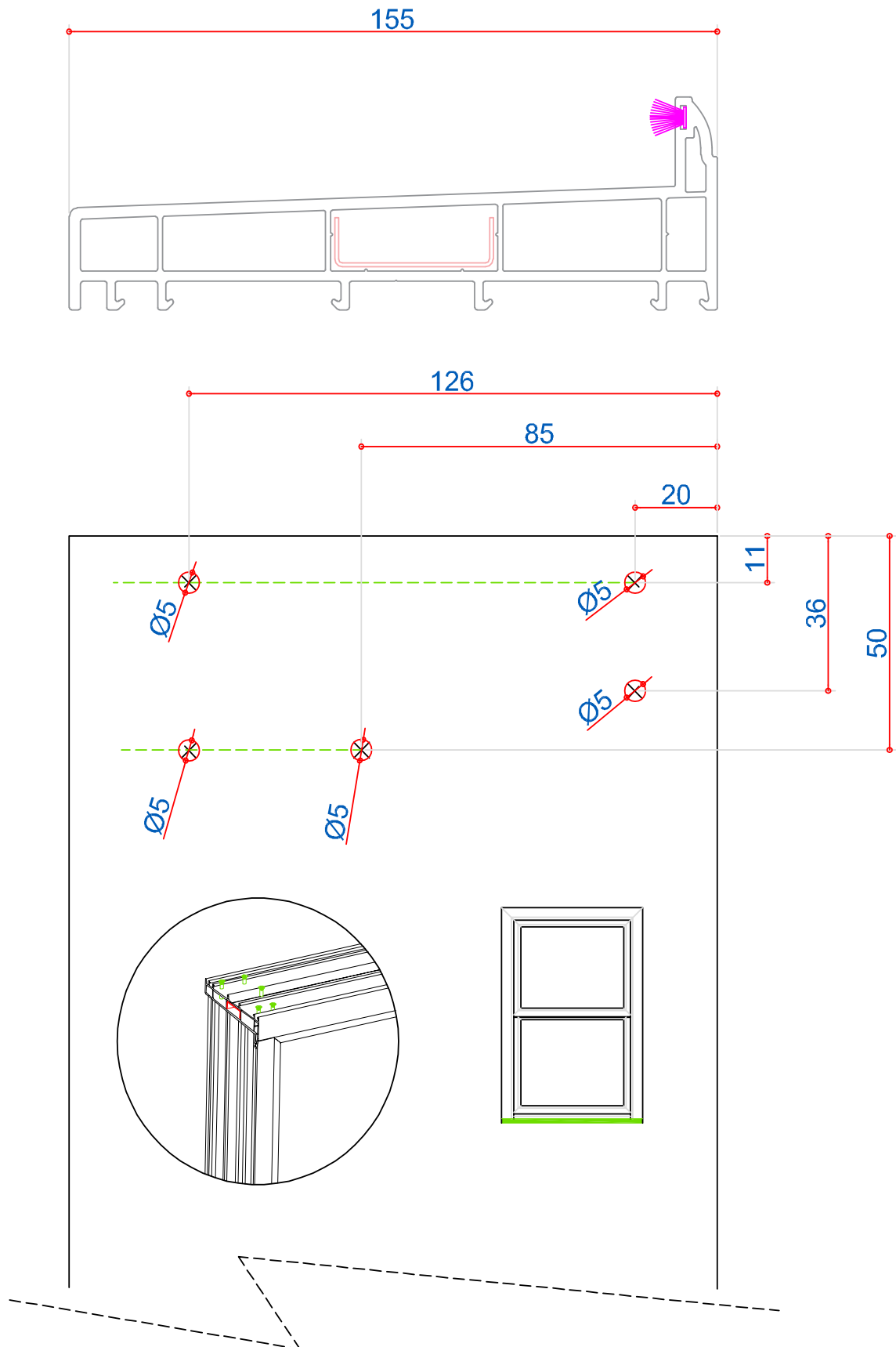


Note: Diagram is upside down for clarity of fixing positions.

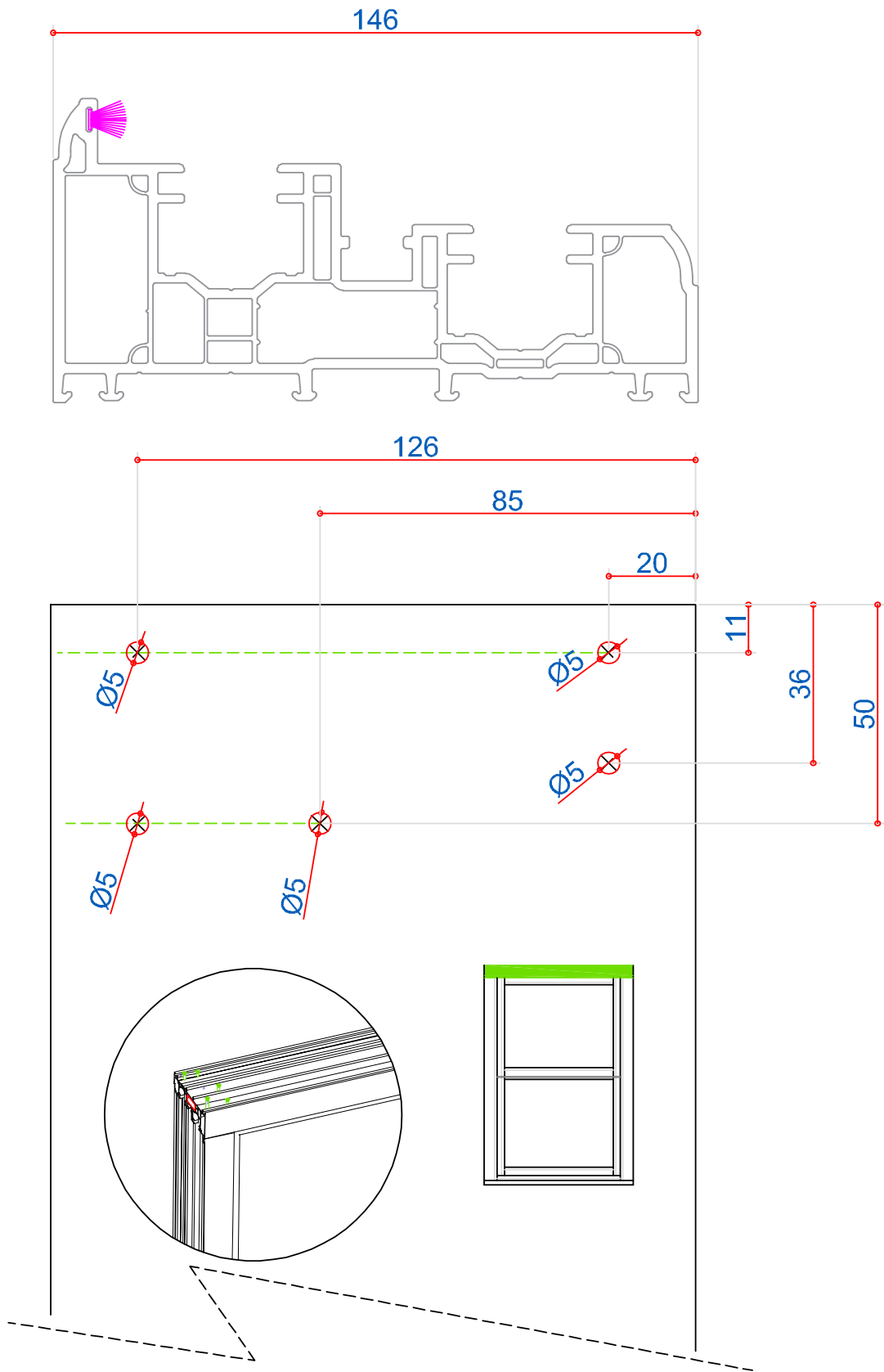
FIXING - MECHANICAL JOINT - 105410 CILL



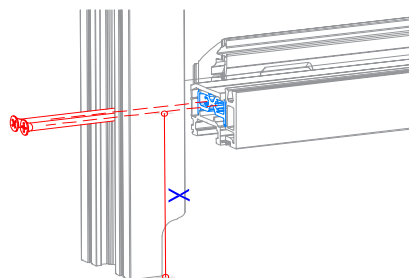
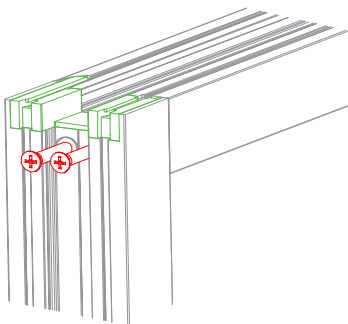
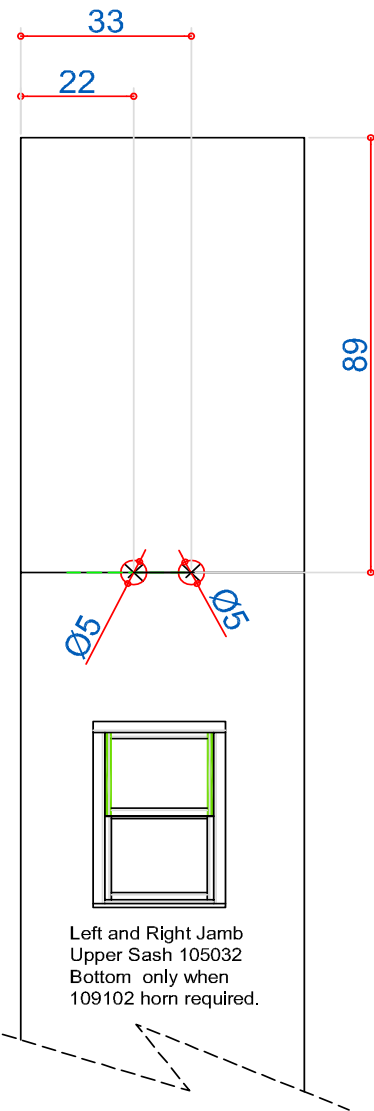
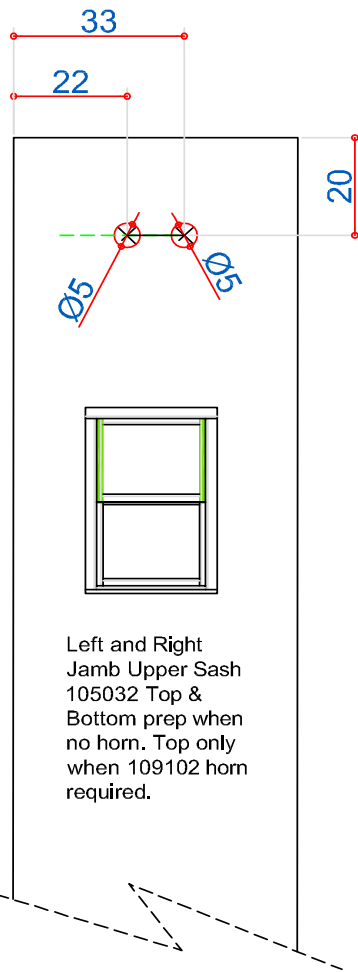
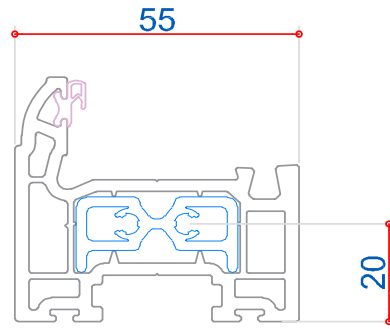
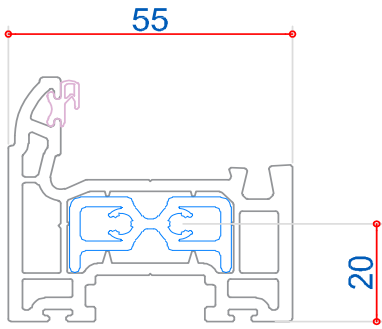
FIXING - MECHANICAL JOINT - 105037 CILL



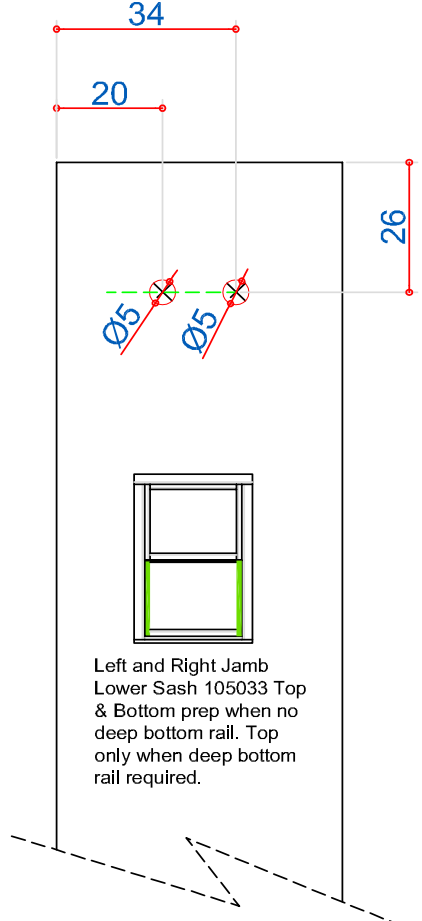
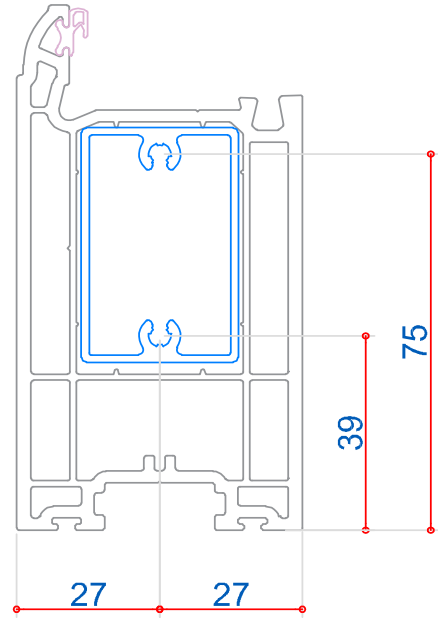
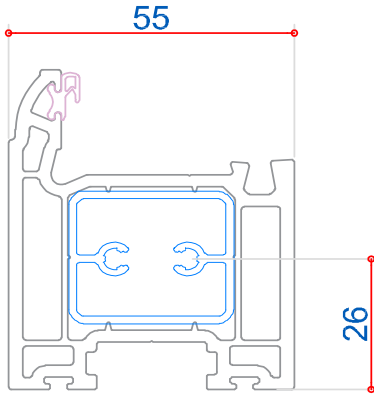
FIXING - MECHANICAL JOINT - 105411 OUTER FRAME



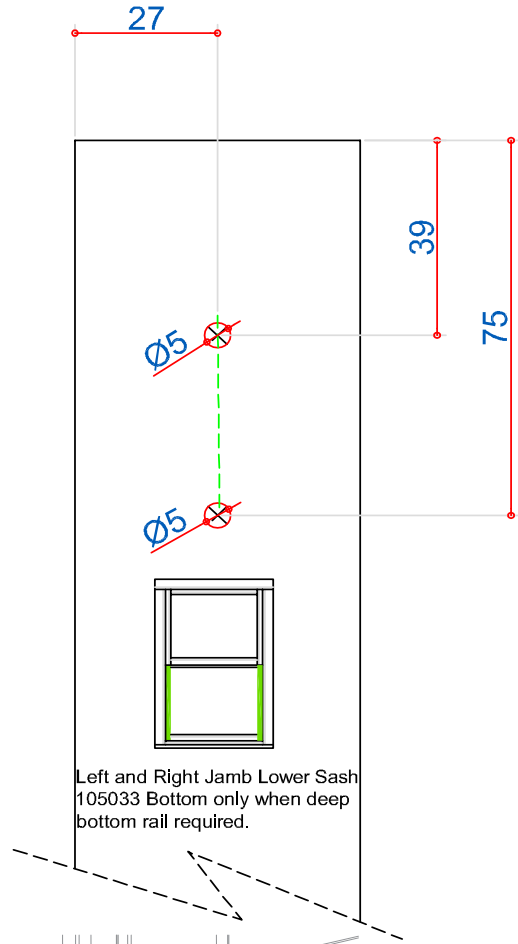
FIXING - MECHANICAL JOINT - UPPER SASH



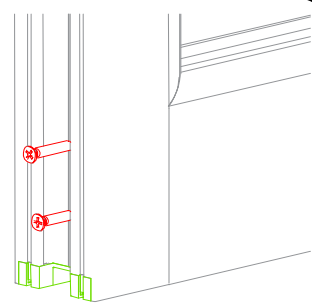
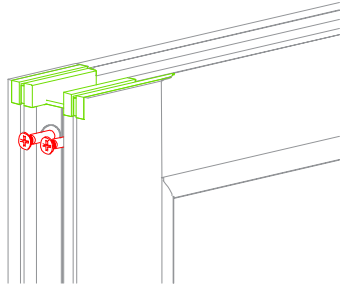
FIXING - MECHANICAL JOINT - LOWER SASH



Left and Right Jamb
Lower Sash 105033 Top
& Bottom prep when no
deep bottom rail.
Top only when deep bottom
rail required.



Left and Right Jamb Lower Sash
105033 Bottom only when deep
bottom rail required.



FRAME INFILL

The frame infills are designed to create a rebate, either with or without a brush pile, where required. The infills should be fitted during manufacture for sizing but can be removed during installation to allow fixings to be concealed. An appropriate colour trim should be used at the top and bottom; the top trims with no brush seal channel should match the inner frame colour, the bottom trims with the brush seal should match the external frame colour. Each vertical infill will be approximately half the frame rebate size.



105413
Frame Infill
With Brush



105414
Frame Infill
Without Brush

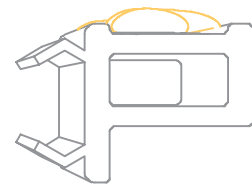
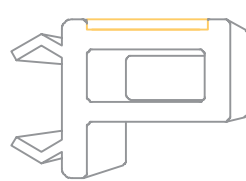
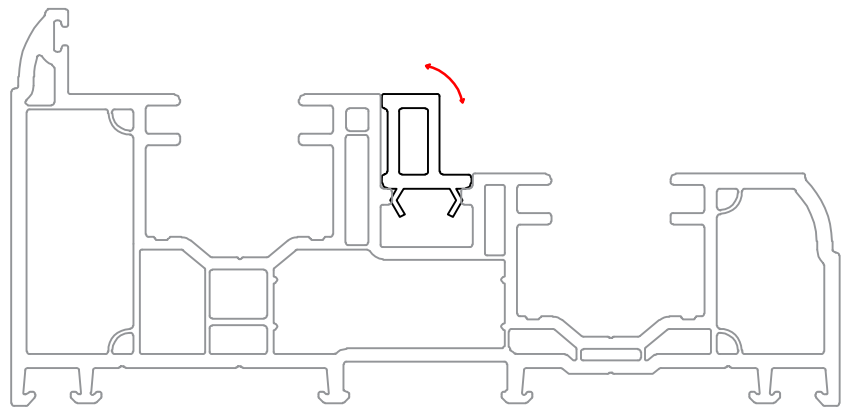


112365
8.5mm
Brushpile Seal

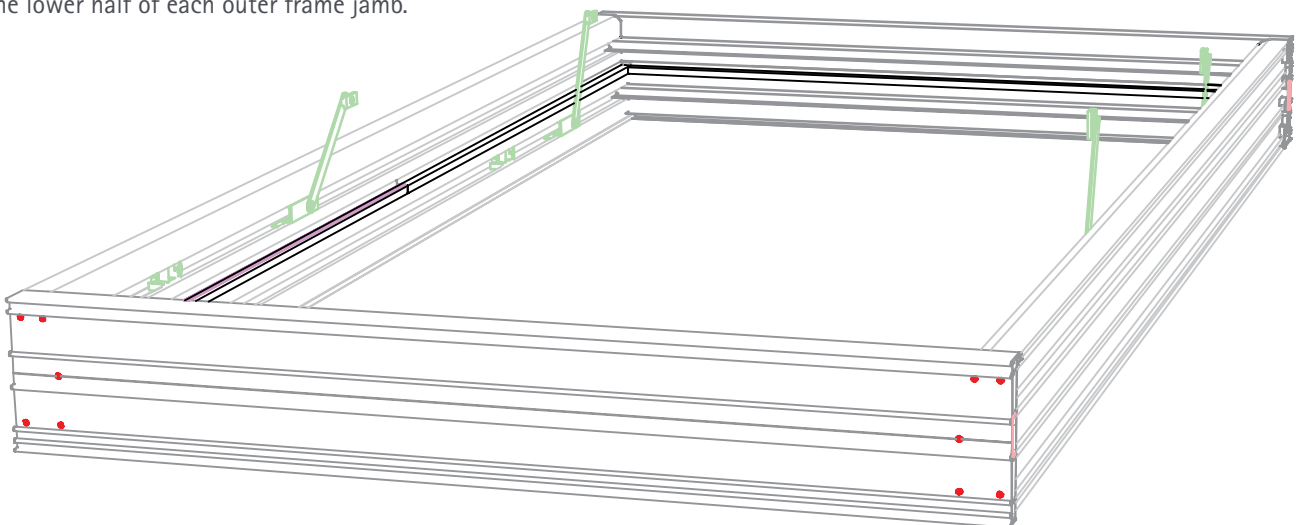
For welded frames, ensure the weld sprue has been cleaned away in each corner.

The clip detail on 105413 & 105414 is designed to allow a degree of movement when inserted. This allows gaps between the trim and frame profile to be closed and also takes into consideration the extra thickness created with foiled profiles.

The frame infills can be secured in place by use of a 1mm x 10mm double sided tape (non-VEKA product), or using a good quality sealant, although this is recommended post installation to allow fixings to be concealed by the trims where required.



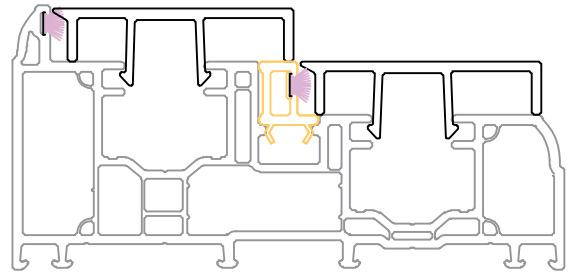
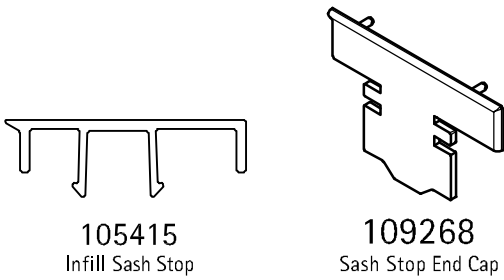
105413 Frame Infill with 112365 Brushpile is inserted into the lower half of each outer frame jamb.



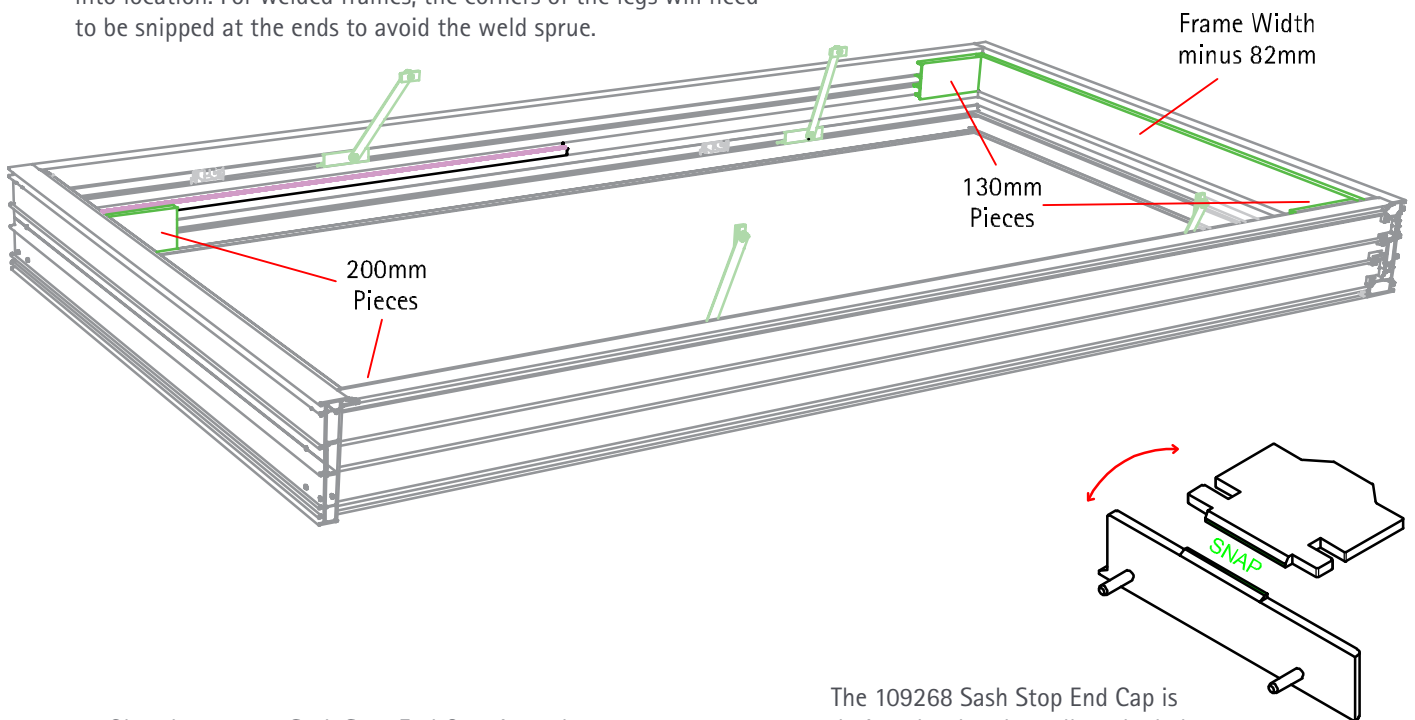
105414 Frame infill without brush is inserted into the upper half of the outer frame jambs and runs to the head of the frame, so in the event of the trim being cut short, no gaps will be visible. A length of 105414 is also inserted into the head of the frame, this should be cut precisely to length to avoid gaps at either end.

INFILL SASH STOPS

Infill Sash Stops must be fitted to prevent over extension of the balances and the clashing of sashes when opened. Increasing the size of the sash stops will restrict the opening size or can be used to prevent one half opening completely.

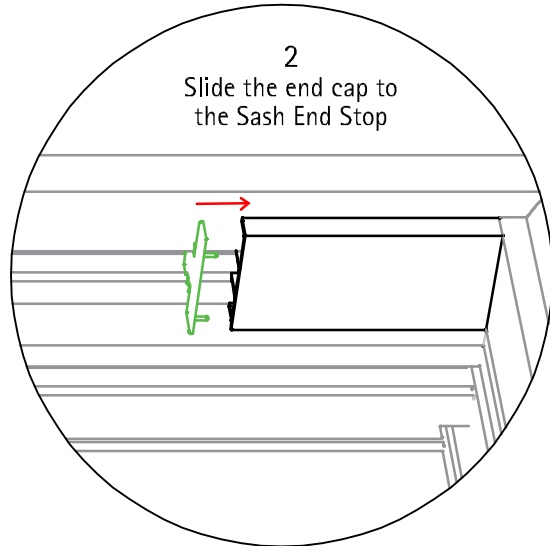
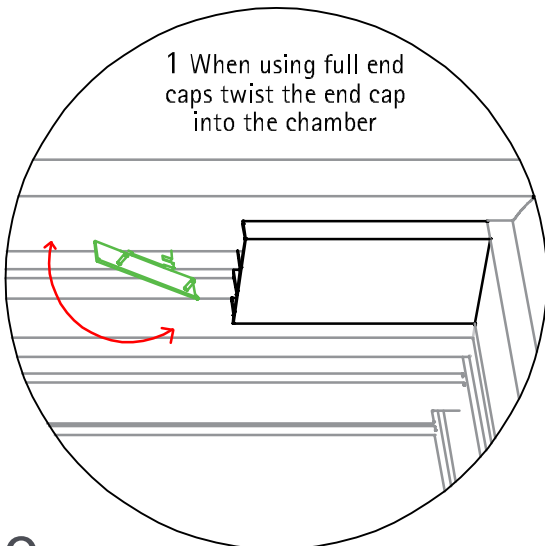


When using spring balances these should be fitted before fitting the Sash Stops. Insert the 105415 Infill Sash Stops into the frame as illustrated. A glazing mallet may be required to force the stops into location. For welded frames, the corners of the legs will need to be snipped at the ends to avoid the weld spure.



Glue the 109268 Sash Stop End Caps into place.

The 109268 Sash Stop End Cap is designed to break to allow the balance chamber section to be removed where required.



FIXING – INFILL SASH STOPS

There are a number of options to allow the frame in-fills to be removed at installation:

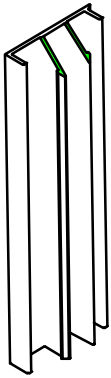
1. The method below allows the sash stops and end caps to be fitted during manufacture and provides a method of easily removing them without causing damage.
2. Alternatively, the sash stops and end caps can be supplied loose with the window allowing easy access to the frame in-fills for the installer.
3. The frame in-fills can be pieced allowing removal of sections of the infill without the need to remove the sash stops & end caps.

Double sided tape or a low modulus sealant can be used to secure the frame in-fills in place, although this is not recommended until after the window has been installed.

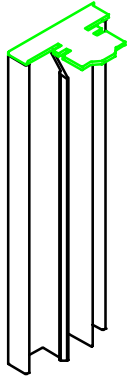
Option 1 – Removable Sash Stops & End Caps

This method allows the window to be supplied with the Sash Stops & End Caps fitted - Instructions for the installer to remove the Sash Stops when using this method can be found in the installation section of this manual and should be supplied to the installer.

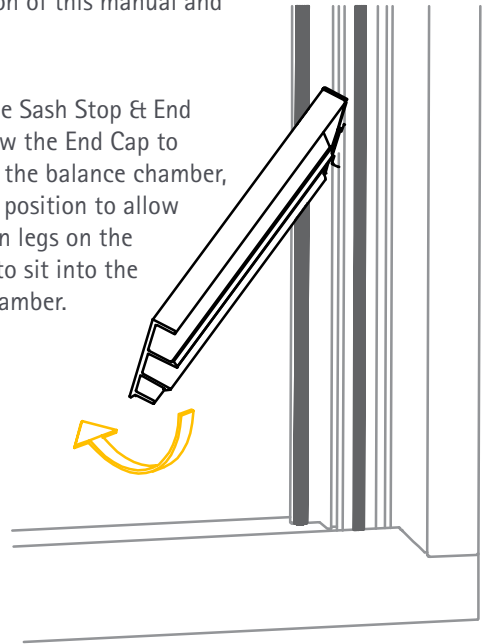
A. Using snips, cut a section away at the end cap end of the sash stop at approximately 45°



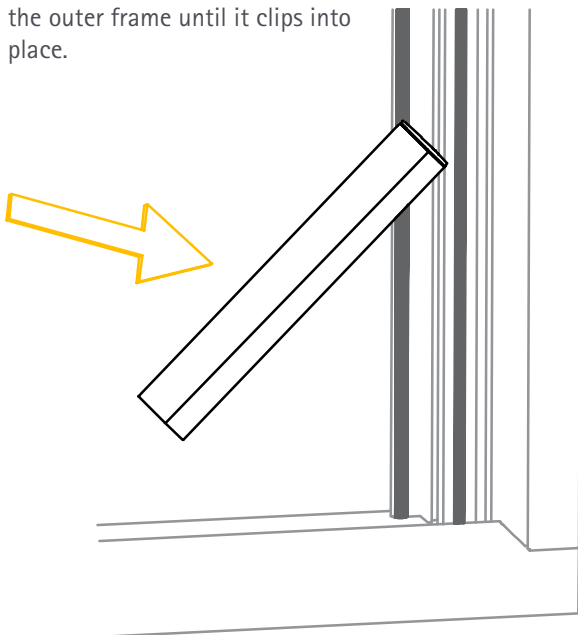
B. The end cap can then be attached to the Sash Stop using a good quality adhesive and activator if required.



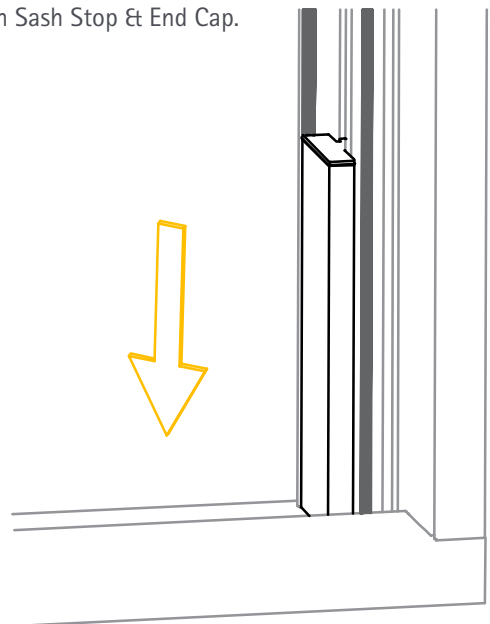
C. Angle the Sash Stop & End Cap to allow the End Cap to locate into the balance chamber, rotate into position to allow the location legs on the Sash Stop to sit into the balance chamber.



D. Firmly push the Sash Stop & End Cap into the balance chamber on the outer frame until it clips into place.



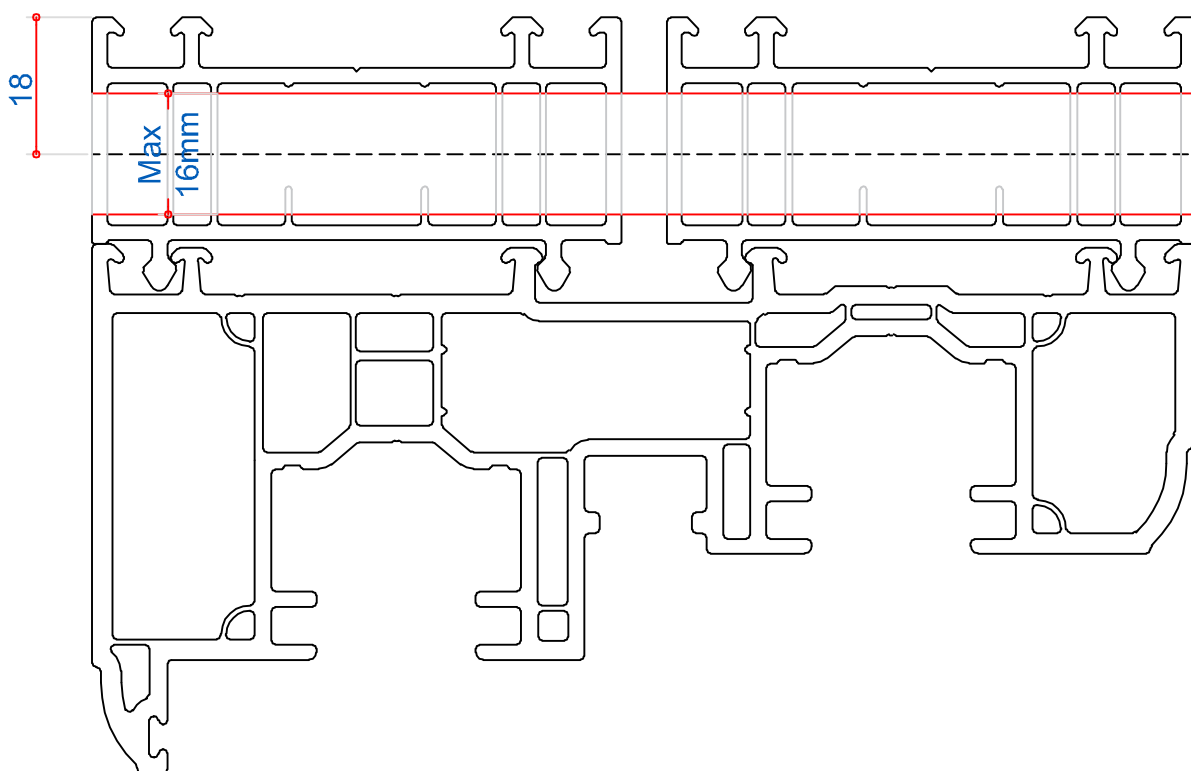
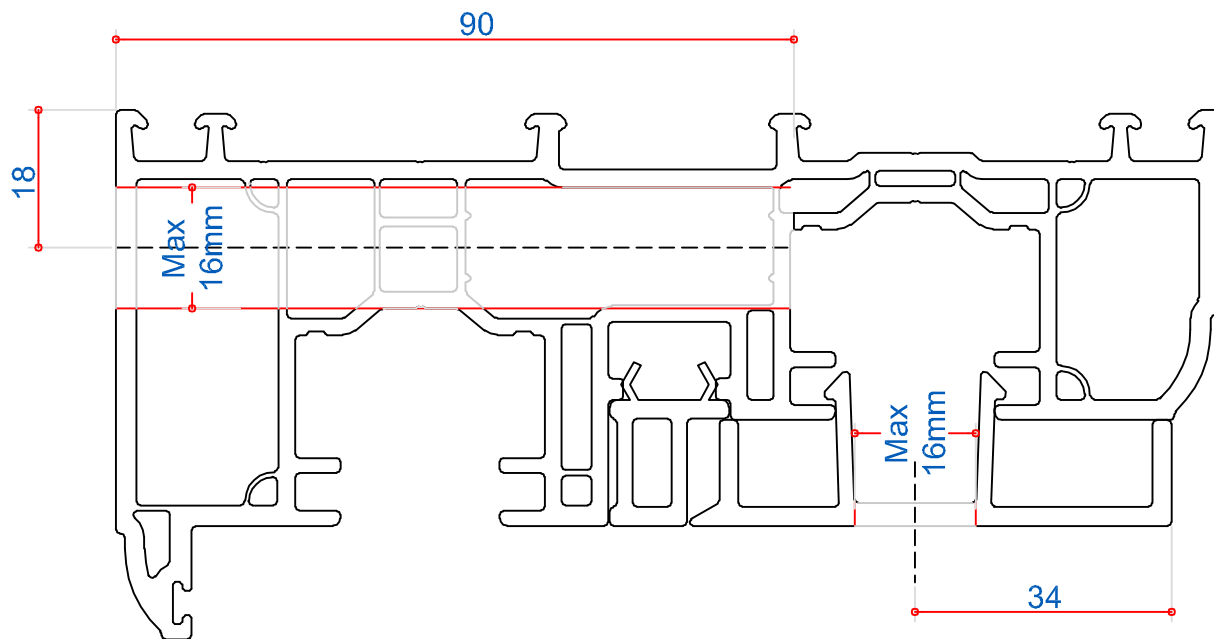
E. Finally, slide the Sash Stop & End Cap into position. Repeat steps A to E for each Sash Stop & End Cap.



VENTILATION

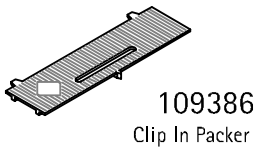
Background ventilation is achievable through the head of the frame or through frame extensions.

Through-head Ventilation. When ventilating through the head of the frame it is necessary to insert a sleeve.



GLAZING PACKERS

Use the Clip In Packer 109386 as a bridge packer and as a platform for the glass packers to seat upon.

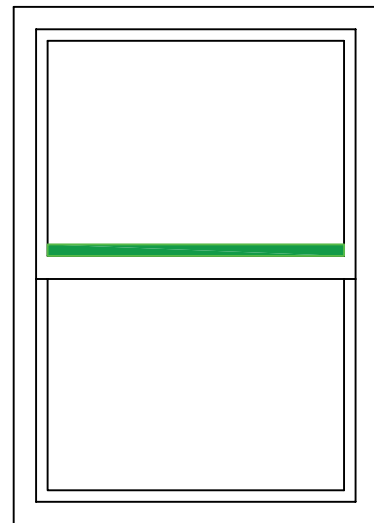
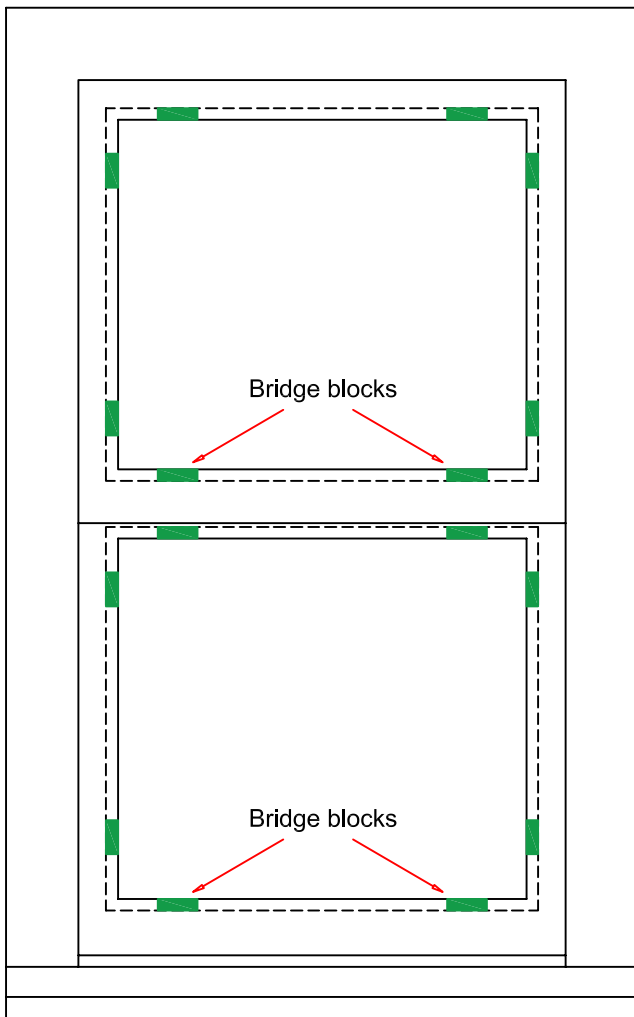


Use the Clip In Packer 109386 as a bridge packer and as a platform for the glass packers to seat upon.

Bridge packers should always be used at the bottom rails of the sashes to allow for the drainage of any water that may enter the glazing rebates.

Fit the glass into the aperture and then pack the glass as shown below to prevent any movement during operation. Packers should be positioned to align with Anti-Racking Blocks, Sash Stops and Sash Horns.

Finally fit the beads.

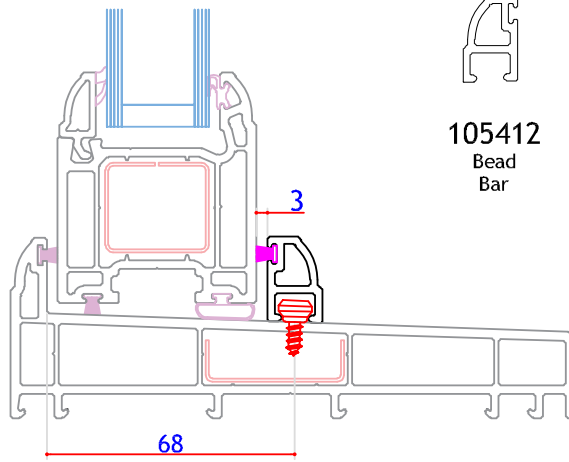


107118 Square Glazing Bead to the bottom of the top sash only to accommodate the latch.

107169 Sculptured Glazing bead to all other stiles.

BEAD BAR

Positioning of the bead bar



105412
Bead
Bar

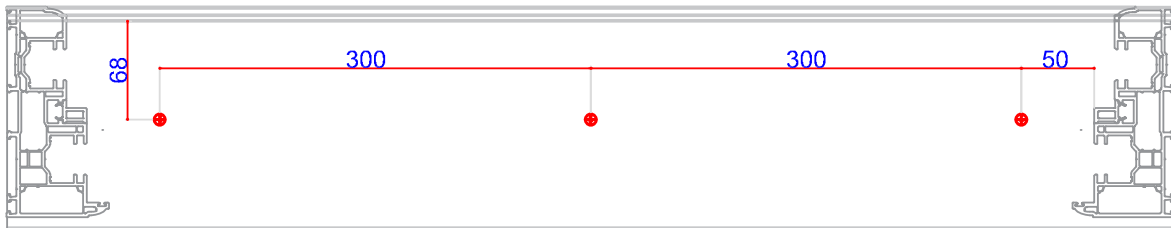
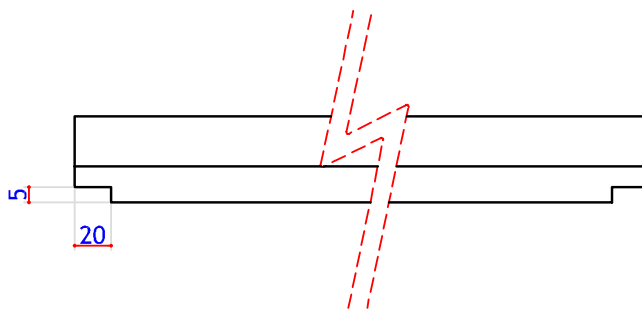


744163
Fixing
nipple

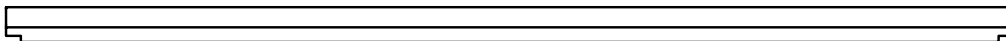


112365
8.5mm
Brushpile Seal

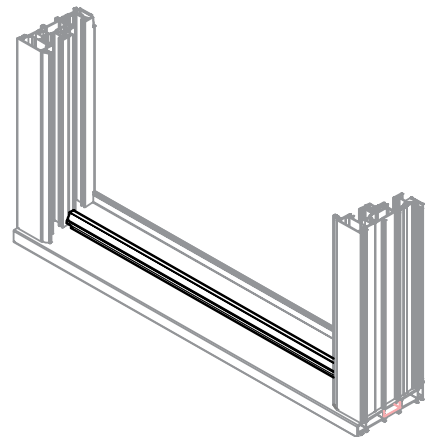
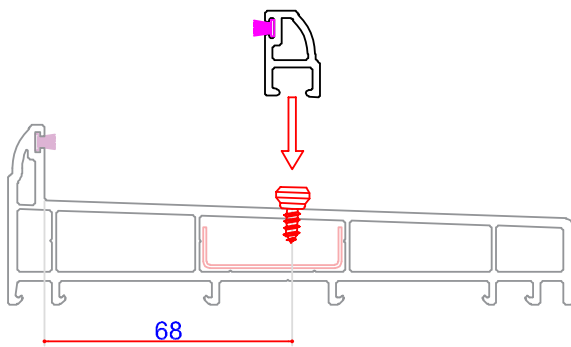
Drainage slots
at each jamb
5 x 20mm



Nipple Screw 744163 to be placed 68mm from internal cill upstand, then 50mm from either jamb, with centres no more than 300mm.



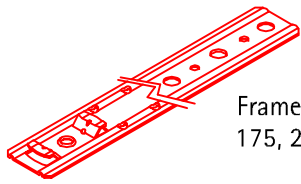
To fix the bead bar to the cill:



Once the nipple screws have been placed, knock the bead bar on with a glazing hammer, starting from the jamb and working across the cill.

INSTALLATION – FRAME FIXING BRACKETS

Fit the fixing brackets to each stile, head and cill at 150 to 250mm from each corner. Dependent on the size, more brackets may be necessary on larger windows. The fixing points should not exceed 600mm centres.



Frame Fixing Bracket 141428 available sizes 175, 200, 250 & 300mm

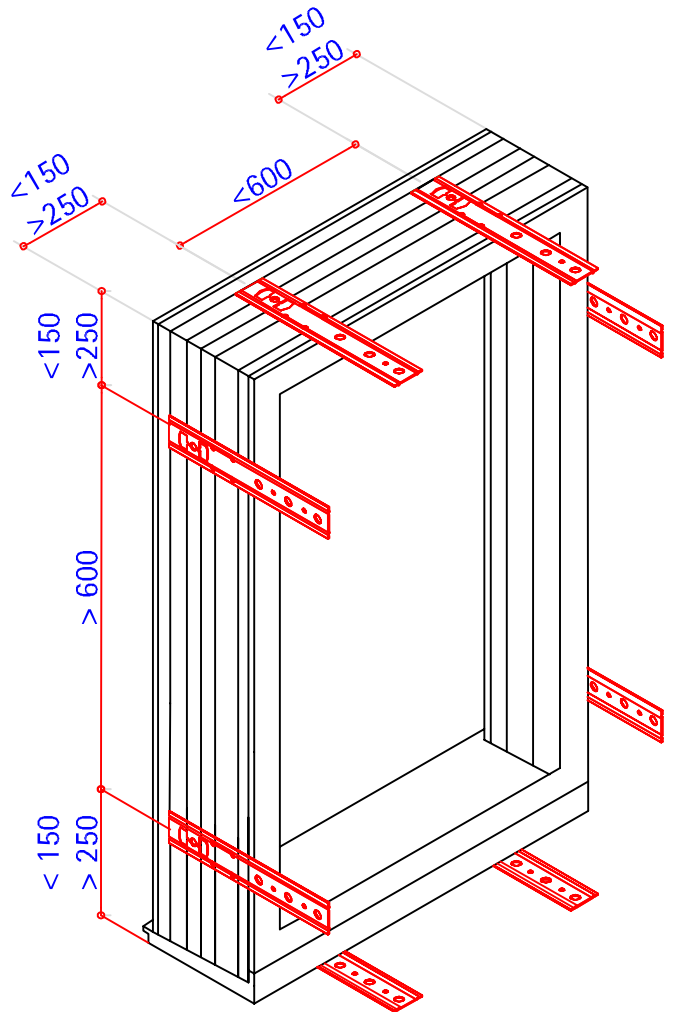
Place the frame into the window opening. Level and plumb the frame, then secure the vertical corner brackets. Followed by the remaining brackets once the sashes have been fitted and tested for operation.

Refit the upper sash and check that there is a constant 3mm clearance at the sides and head between the sash edge and frame.

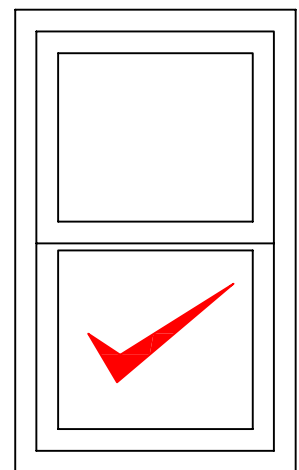
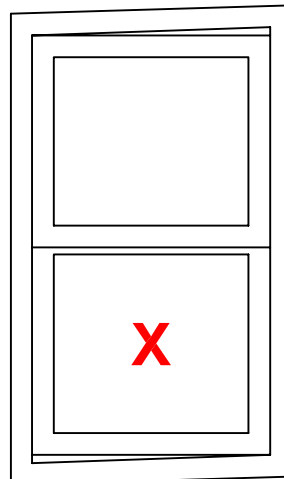
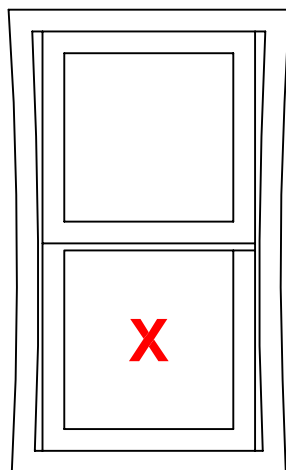
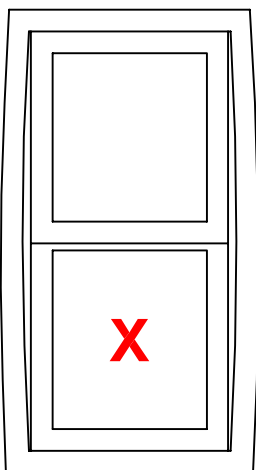
With the sash fitted, take care not to allow the stiles to bow outward allowing the pivot bars disengage prior to packing and securing the frame properly.

Once checked, wedge behind each bracket so that the window does not move out of position.

Drill through the previously prepared hole below the balance and fix at this point. Check for straightness of the stile by using a straight-edge and make a permanent fixing at each bracket.



Re-engage the lower balance and pivot shoe, then refit the lower sash. Prior to closing the lower sash, refit the tilt restrictors. Close the sash, and repeat the clearance checks at the sides adjusting the fixings and packing as necessary. Ensure the gap between the sash and the frame is nominally 3mm, but the gap should not exceed 4mm at either side or a minimum of 2mm at each side. Finally clean down the window and seal outer joint with silicone.



INSTALLATION – REMOVAL OF INFILL SASH STOPS

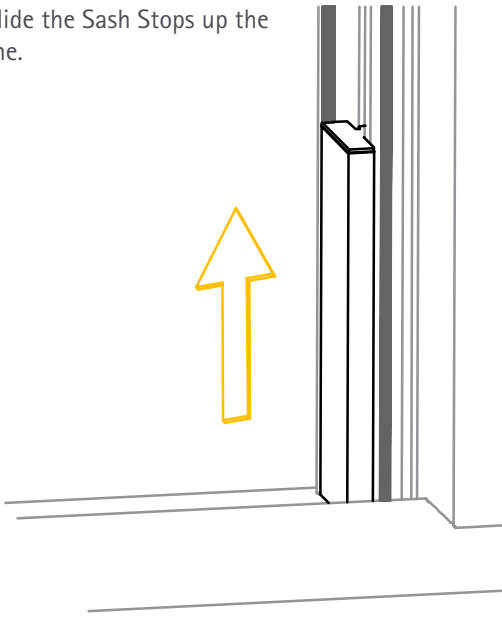
An alternative method of installation is by the use of direct fixings, where the brick work allows, which can be concealed by the frame infill's.

The following information should be supplied to the installer dependant on which method has been used to prepare the Sash Stops.

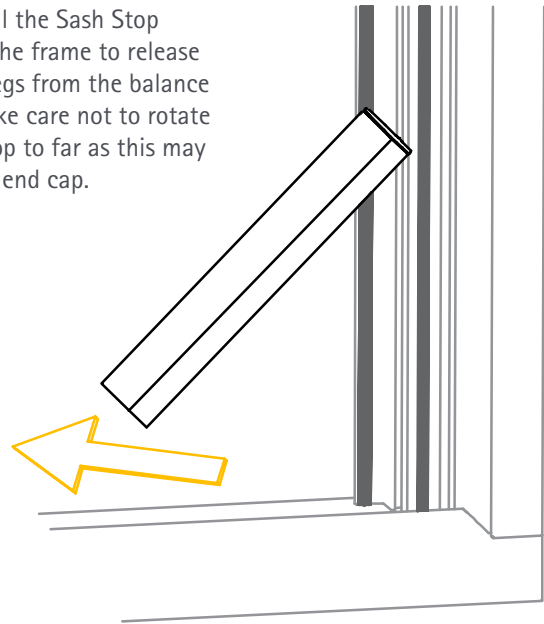
Note To The Installer: If traditional frame fixings are used to secure the frame to the brick work it is possible to conceal these fixings behind the Frame In-Fills. Check with your supplier as to which method has been used to prepare the Sash Stops to prevent damage when removing them.

The Sash Stops are designed to prevent the spring balances from being over extended, when the sash stops have been removed care should be taken to NOT slide the sashes to the beyond their range, a small pencil mark on the frame at the end of the Sash Stop could be used for guidance.

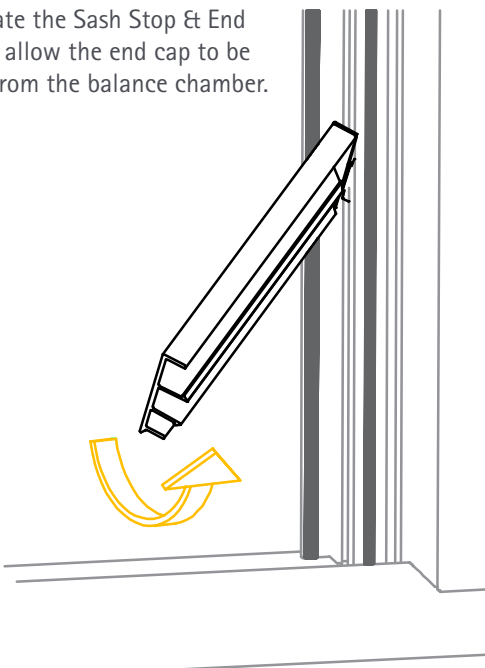
A. Slide the Sash Stops up the frame.



B. Firmly pull the Sash Stop away from the frame to release the clip in legs from the balance chamber. Take care not to rotate the Sash Stop too far as this may damage the end cap.



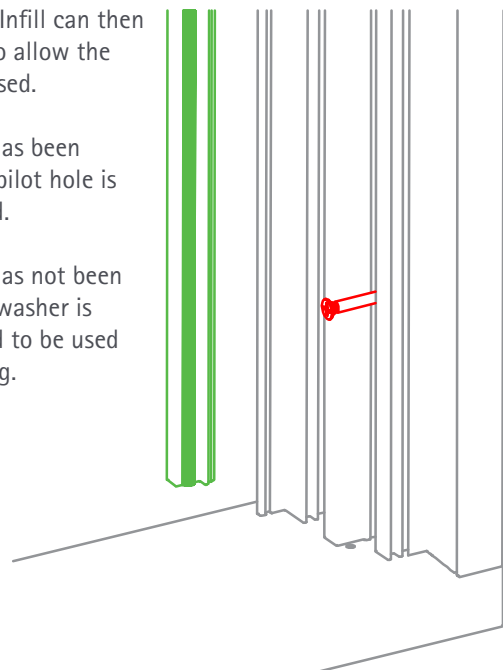
C. Rotate the Sash Stop & End Cap to allow the end cap to be freed from the balance chamber.



D. The Frame Infill can then be removed to allow the fixing to be used.

If the frame has been reinforced, a pilot hole is recommended.

If the frame has not been reinforced, a washer is recommended to be used with the fixing.



AMENDMENTS

Page	Previous Issue	New Issue	Details	Initial
56 - 57	Feb 19	Feb 20	New page added for fixed/dummy sash rod	PG
10 - 13	Feb 19	Feb 20	105038 removed and 105039 added. 113314 orientation changed	PG
14, 34	Feb 19	Feb 20	113314 orientation changed	PG
16 - 22	Feb 19	Feb 20	105038 removed. 105039 added	PG
45 - 46	Feb 19	Feb 20	105038 removed. 105039 added	PG
50	Feb 19	Feb 20	Dimension scale corrected	PG
34	Feb 19	Feb 20	115010 & 115275 part no's changed to 115119 & 115120	PG
15	Feb 20	Aug 20	Removed bottom anti-rack blocks	TH
37,38, 42	Feb 20	Aug 20	All mechanically jointed screws need countersinking with an 8mm drill bill	TH
44	Feb 20	Aug 20	Glue should be used to fix the ends of the gasket with the brushpile	TH
53	Feb 20	Aug 20	Cut brush pile on cill full length	TH
47	Feb 20	Aug 20	Anti-racking blocks to be fitted directly under the tilt latch, not +/- 70mm	TH
5	Aug 20	Dec 20	Updated wallchart	TH
44	Aug 20	Dec 20	New Interlock Added	TH
Various	Aug 20	Dec 20	Blank pages removed	TH
37	Aug 20	Dec 20	Mentions of deep bottom rail on top sash removed	TH
Various	Aug 20	Dec 20	744697 mentions removed throughout	TH
ALL	Dec 20	April 21	Corporate Branding Updated	KJ
33	Dec 20	April 21	Updated dimensions for horn cut-out sizes	TH
43 - 47		April 21	New pages added showing dims for mech joint fixing	TH
53		April 21	Bead Bar Fixing information added	JS
7	April 21	Aug 21	Rail Reinforcement information clarified	KJ
16	April 21	Aug 21	Removal of face drain from options	KJ
19	April 21	Aug 21	Addition of height dimension	TH
33	April 21	Aug 21	Horn Cut Out Size Clarified	TH
43, 44	April 21	Aug 21	Hole dimensions updated	TH
2	April 21	Aug 21	PAS24 Info Added	KJ
7	Aug 21	Dec 21	Maximum Height removed from diagrams	TH
2	Aug 21	Dec 21	Addition of Spectral Information	KJ

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