

FOLDING DOOR INSTALLATION

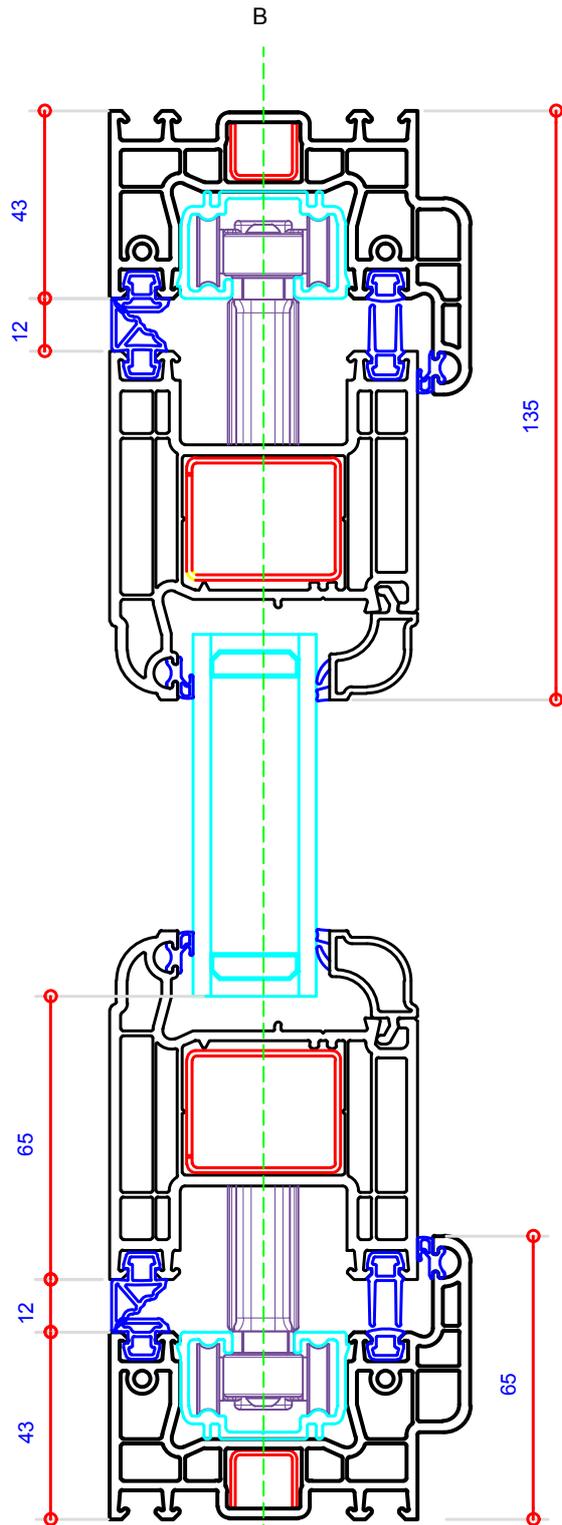
imagine
BI-FOLD DOORS



Issue Date: November 2014

BISON

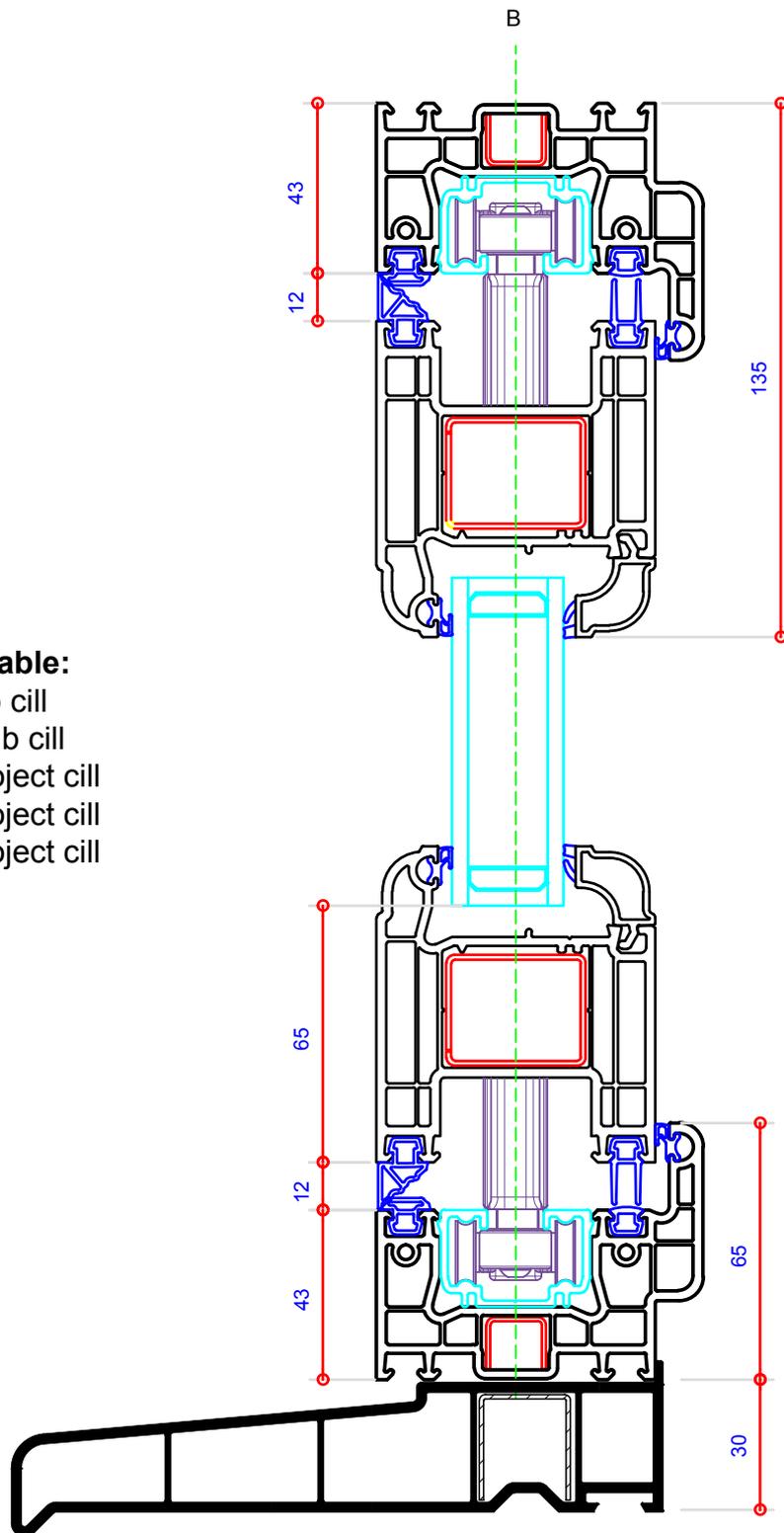




65mm Outer frame 80mm
Feature Sash

105174

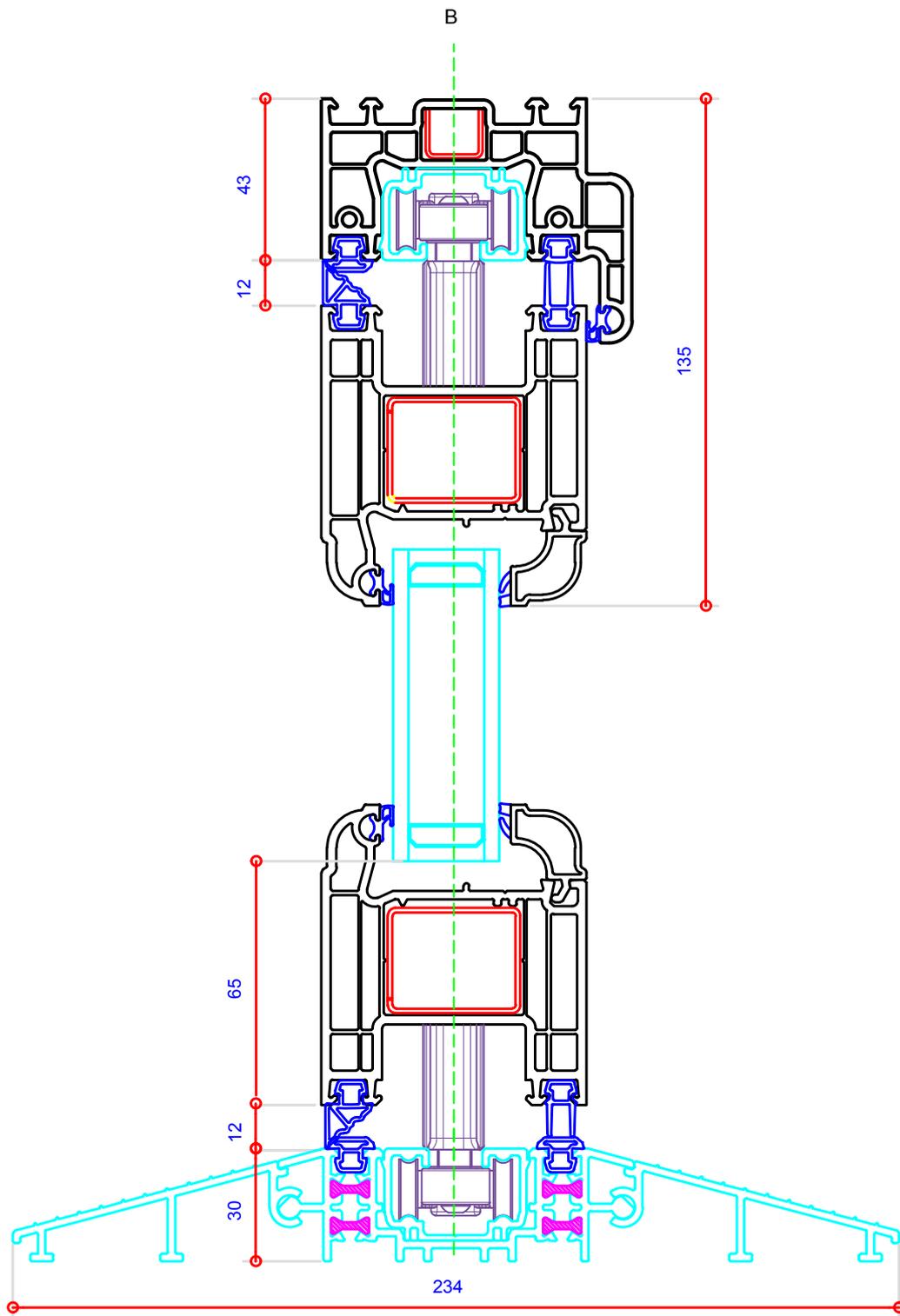
105175



Cills Available:

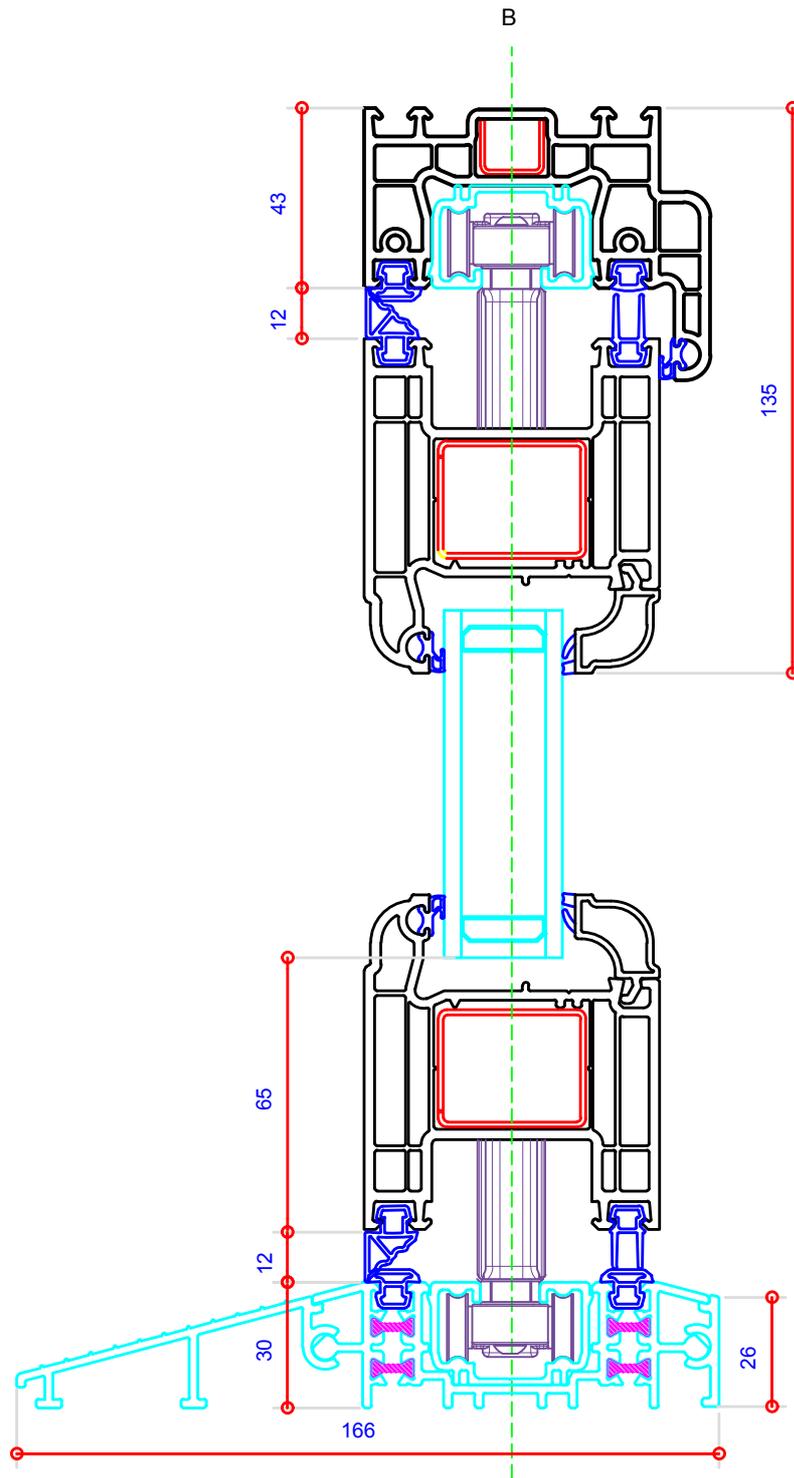
- 85mm stub cill
- 110mm stub cill
- 150mm project cill
- 180mm project cill
- 225mm project cill

65mm Outer frame	105174
80mm Feature Sash	105175
150 Project Cill	



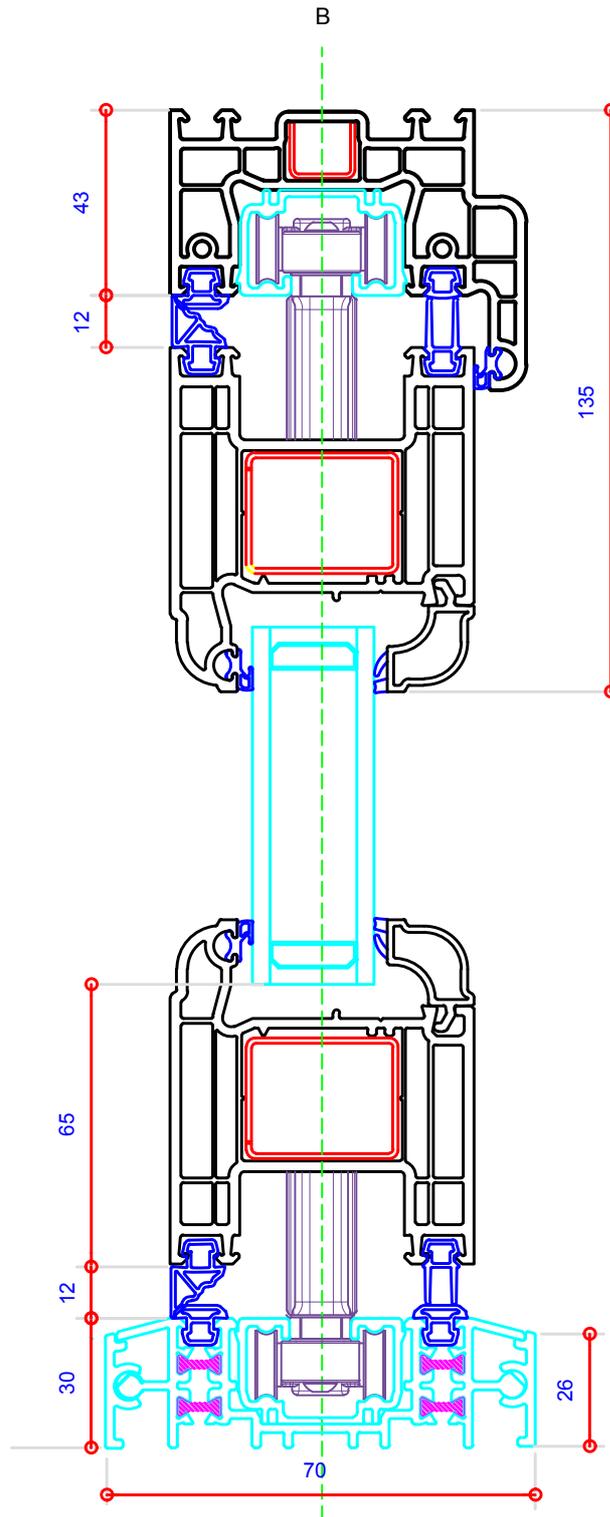
Low Threshold	104392
(2x) Threshold Ramp 80mm	104391
Feature Sash	105175

Low threshold with 1 ramp - Option D



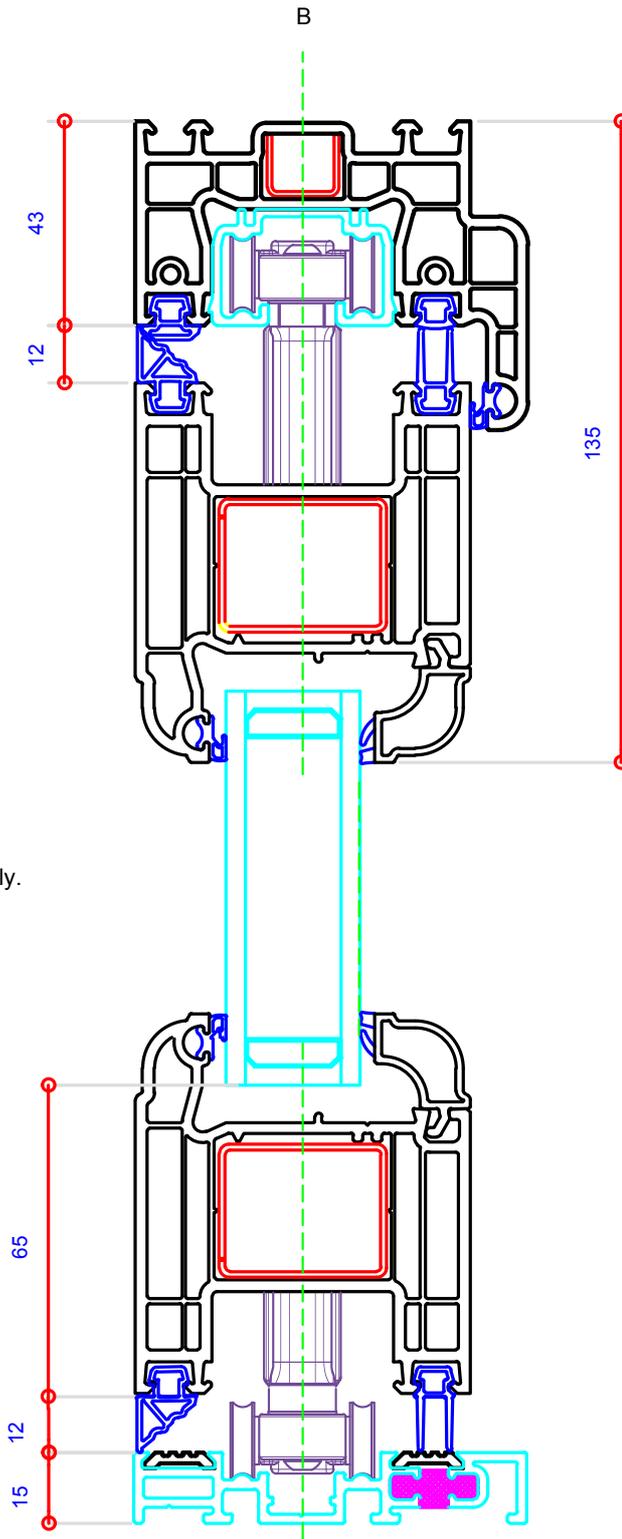
Low Threshold	104392
(1x) Threshold Ramp	104391
(1x) Threshold Blank	104394
80mm Feature Sash	105175

Low threshold with NO ramps - Option E



- | | |
|----------------------|--------|
| Low Threshold | 104392 |
| (2x) Threshold Blank | 104394 |
| 80mm Feature Sash | 105175 |

Room divider threshold - Option F



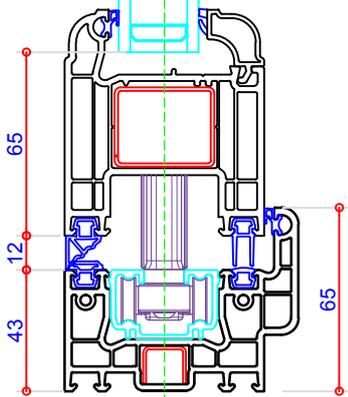
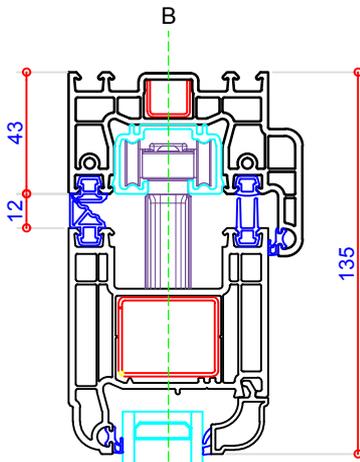
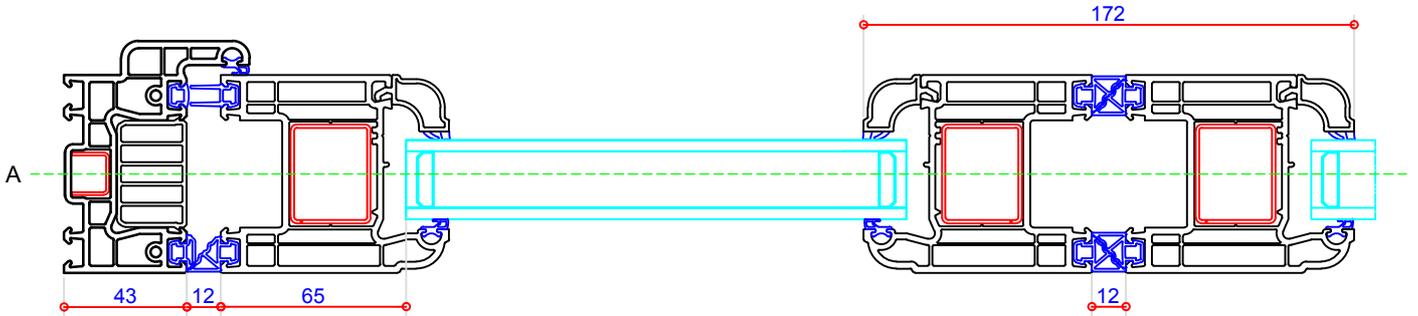
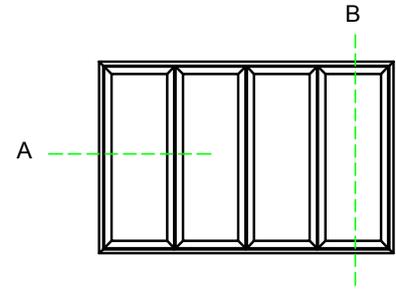
NB: For internal use only.

Room Divider Threshold
80mm Feature Sash

104390
105175

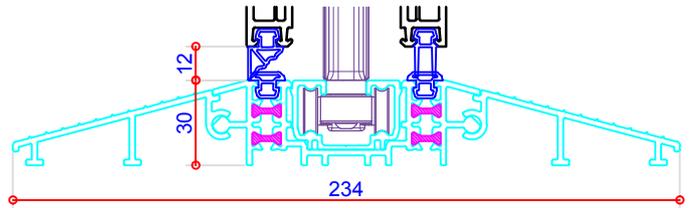
Profile Combinations.

Dimensions apply chamfered sash also.

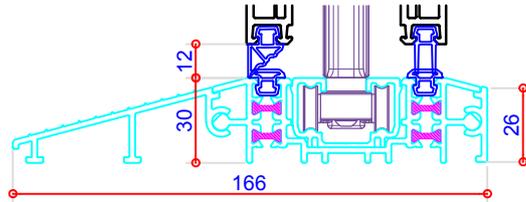


65mm Outer frame 105174
80mm Feature Sash 105175

Alternative Threshold Options

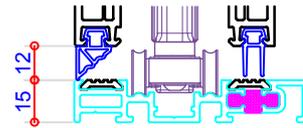


Low Threshold 104392
(2x) Threshold Ramp 104391
80mm Feature Sash 105175

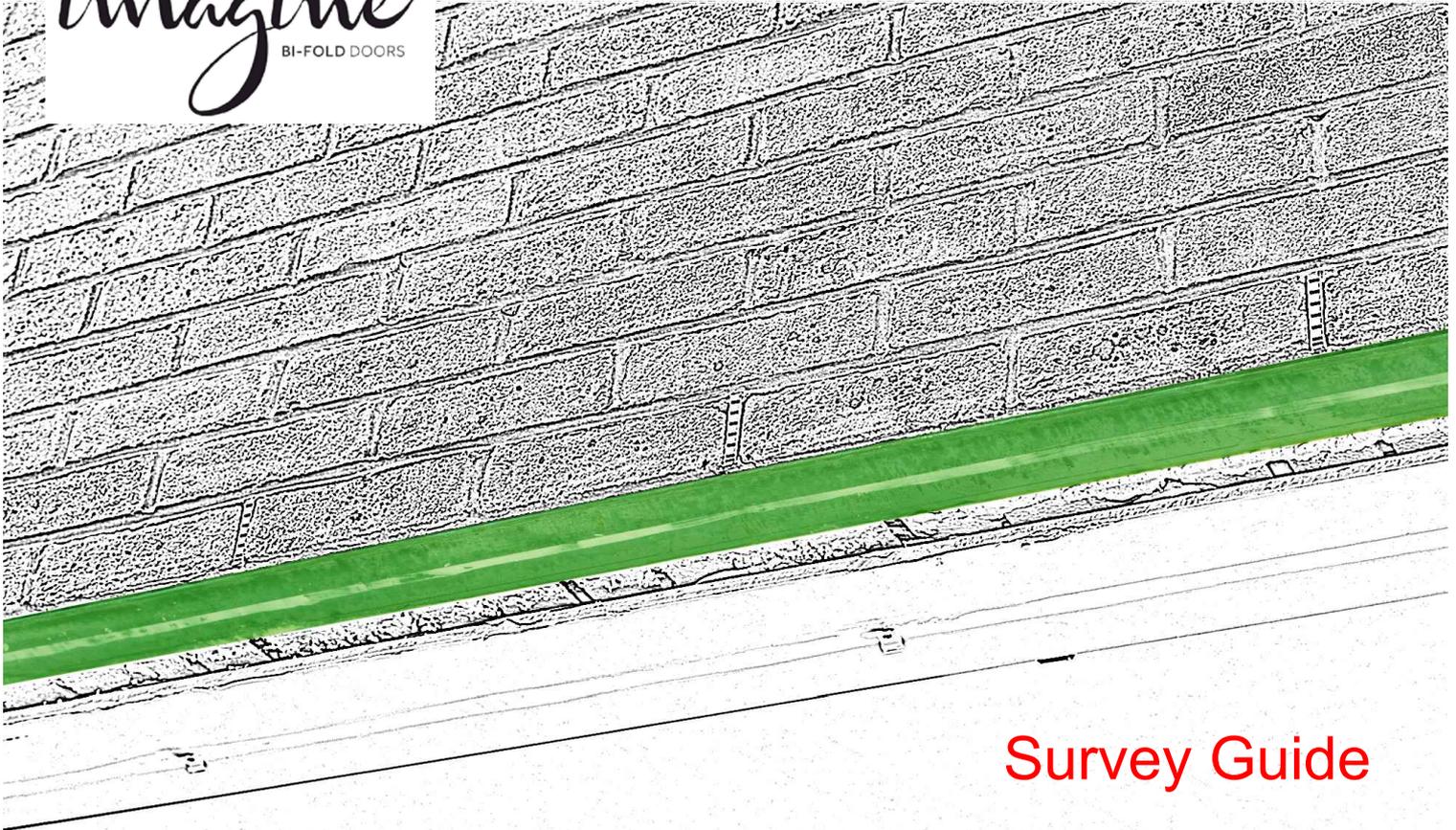


Low Threshold 104392
(1x) Threshold Ramp 104391
(1x) Threshold Blank 104394
80mm Feature Sash 105175

 NB: For internal use only.



Room Divider Threshold 104390
80mm Feature Sash 105175



Survey Guide

The following document should be treated as a guide only, the installation should comply with all elements of BS8213-4 code of practice for the survey and installation of windows and external door sets. Please also observe all relevant health and safety regulations.

Good surveying is the basis of ensuring a quality installation. The opening should provide a solid structure for the frame to be fixed into. PVC Frames are not designed to be structural, no load should be transferred to the frame, and therefore it is essential that sufficient support is provided above the frame by use of a lintel or portal frame, a structural engineer or conservatory roof supplier may need to be consulted for advice on this. A portal frame would be recommended when installing a Bi Fold into a conservatory or where all 4 sides cannot be fixed direct into the building.

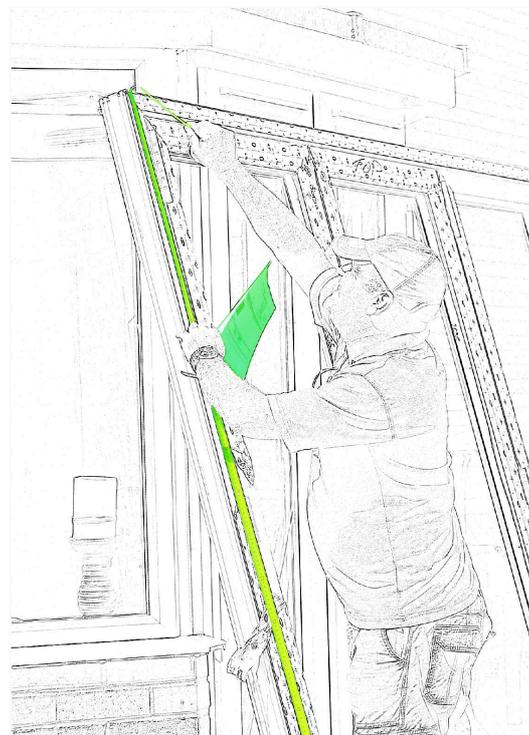
Sufficient expansion allowance should be taken into account, refer to this table for recommended deductions.

	1.5m to 3.0m	3.0m to 4.5m	4.5m +
White PVC	10mm	15mm	20mm
Dark Coloured PVC	15mm	22mm	28mm

Pre Installation Checks

Before removal of the existing frame can commence check the specification of the new frame and glass is correct.

- Measure the existing opening and check the size of new frame to ensure it is correct.
- Check the size of the glazing units to ensure these are the correct size for the frame.
- Check all ancillary items and fittings such as cills or handles are available. If a cill is required check the concealed drainage is present, if no cill has been specified face drain slots and caps will be required.
- Remove any furniture that may cause an obstruction or could be damaged during installation.
- Cover any furniture or flooring that cannot be moved with protective sheets.

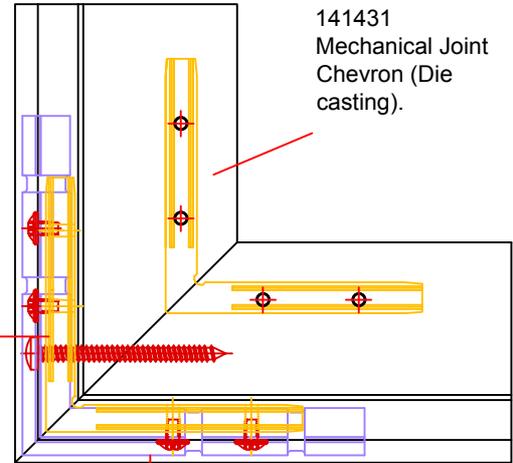
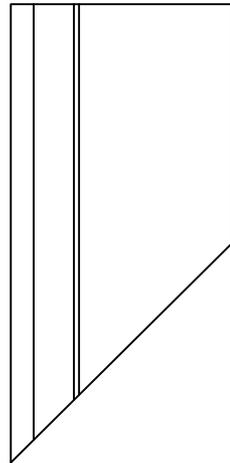


Removal Of The Old Frame

Carefully remove the old frame taking care to avoid any unnecessary damage to the building structure and its finishing's. Ensure the area is clear of debris and loose brickwork, render or plaster is repaired.



Assembling Mechanical Jointed Frame Corners



141431
Mechanical Joint
Chevron (Die
casting).

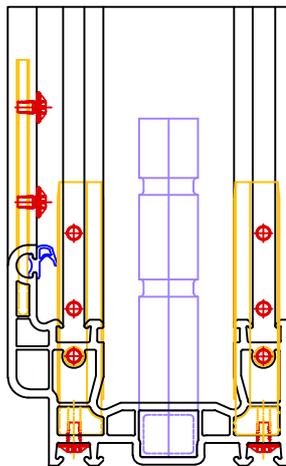
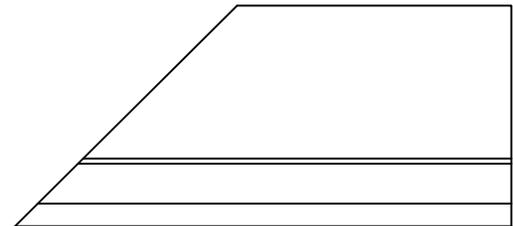
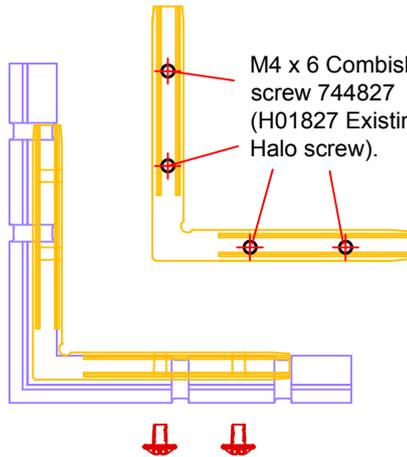
109998
Mechanical
Joint Moulded
Cleat.

141429
Mechanical
Joint Cleat
(Die casting).

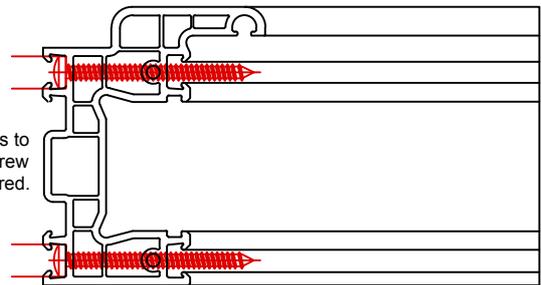
M4 x 12 Combislot
screw 744826
(H01826 Existing
Halo screw).

M4 x 6 Combislot
screw 744827
(H01827 Existing
Halo screw).

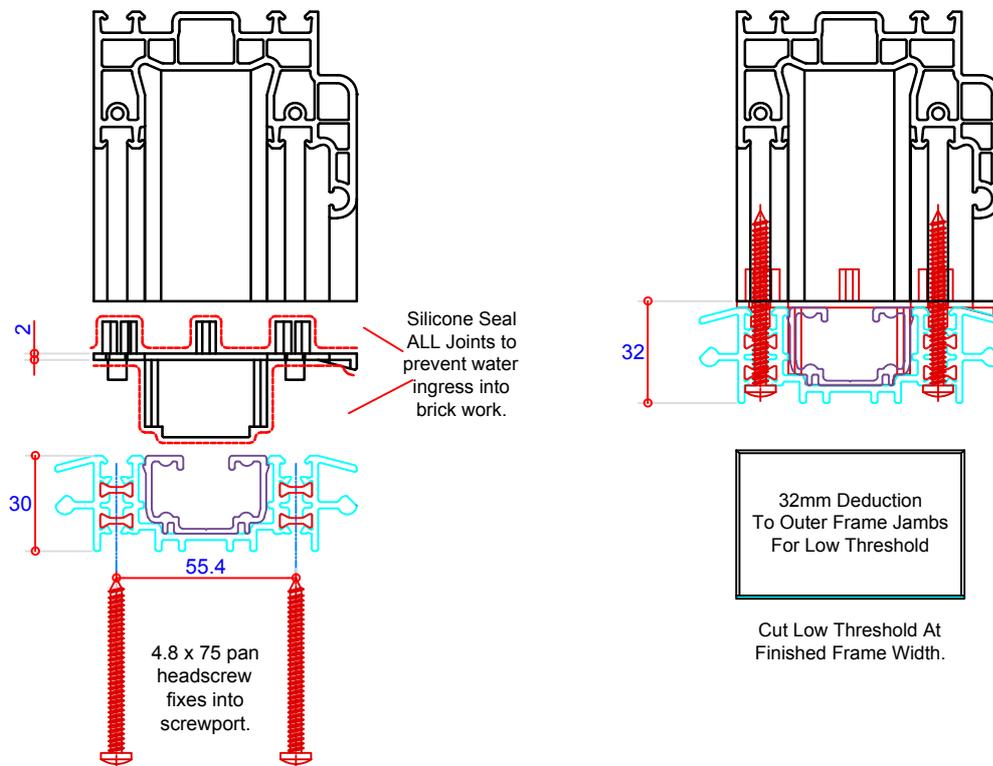
4.8 x 55 pan
headscrew
fixes into
screwport.



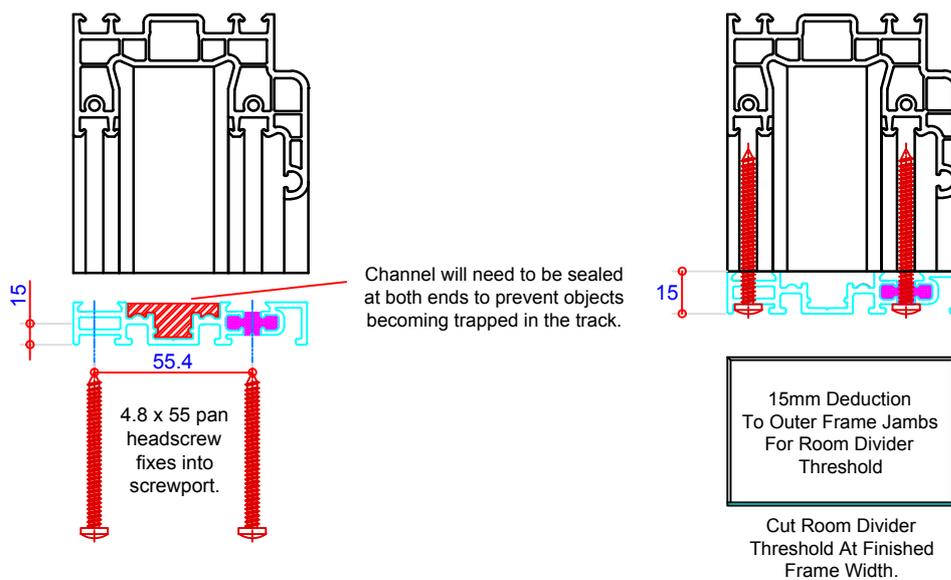
10mm Pilot holes to
counter sink screw
head required.



Low Threshold 104392



Room Divider Threshold 104390



Installation Of The New Frame

Install the cill if one is required. Great care should be taken to ensure the cill or bottom rail of the frame is fully supported along the total length and is completely level without any evidence of twist or distortion. Due to the width of most Bi folding doors being above 2m a laser level or similar would be advantageous to check this. Where an aluminium threshold has been used the threshold ramps or blanks must be fitted prior to securing the bottom rail. Any fixings through the cill or bottom rail must be sealed to prevent water seepage. Suitable fixings should be used to secure the frame.

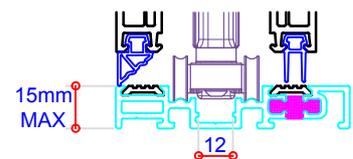
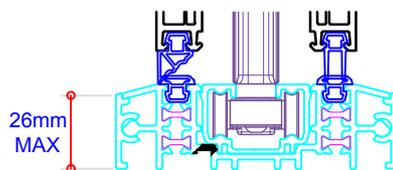
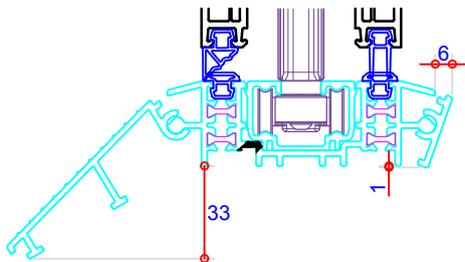


Aluminium Threshold.

OPTIONAL 104391 (Threshold Ramp required to comply with document M).

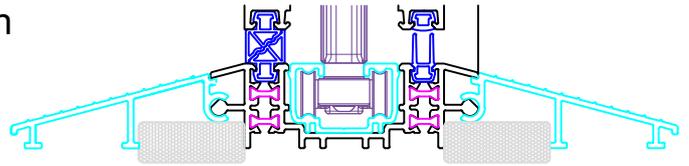
OPTIONAL 104394 (Threshold Blank).

The threshold ramp 104391 & Threshold Blank may not be fitted to prevent damage during transportation and must be fitted before installation unless sufficient access is available.



Burying the low document M & Room Divider Thresholds
(not suitable for weather applications).

The threshold ramps can be held in position during installation by inserting a 38mm packer as illustrated. A soft foam or styrofoam packer is recommended. Take care to avoid any drainage holes if the packer can not be removed after installation.

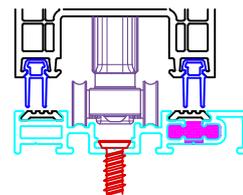
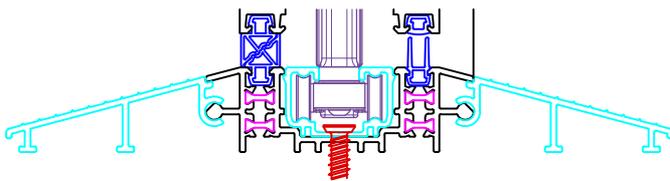


There are two principal methods of fixing available, which may be used separately or in combination. These are through frame fixings and lug fixings. The manufacturer's instructions should always be followed. If lug fixings are used they should be of a suitable material to resist corrosion and, if used externally, they should be secured to the wall using "one-way" or other suitable security screws.

Screws should be sized to penetrate at least 25mm into timber, or 40mm into plugged holes in brick, block, or masonry, unless equivalent demonstrable provision can be made by other means, for example by complying with an appropriate structural code. Connections to steelwork up to 2mm thick such as folded sheet lintels should be made with appropriate thread cutting screws. Connections to steelwork over 2mm thick should be into pre-tapped holes with machine screws of minimum 5mm diameter or alternatively with power-driven hardened self drilling screws.

Other proprietary mechanical fixing methods should be assessed for suitability, preferably by obtaining an appropriate third party assessment. Fixings should be at least as corrosion-resistant as BS EN 1670:1998, Grade 3. The presence of pre-cast concrete or steel lintels may make it impracticable or pose severe difficulties in achieving the specified fixing distances. In these instances the use of polyurethane foam has proved a useful adjunct to mechanical fixings. However, foam fixings should never be used as the sole method of fixing the entire frame into the reveal.

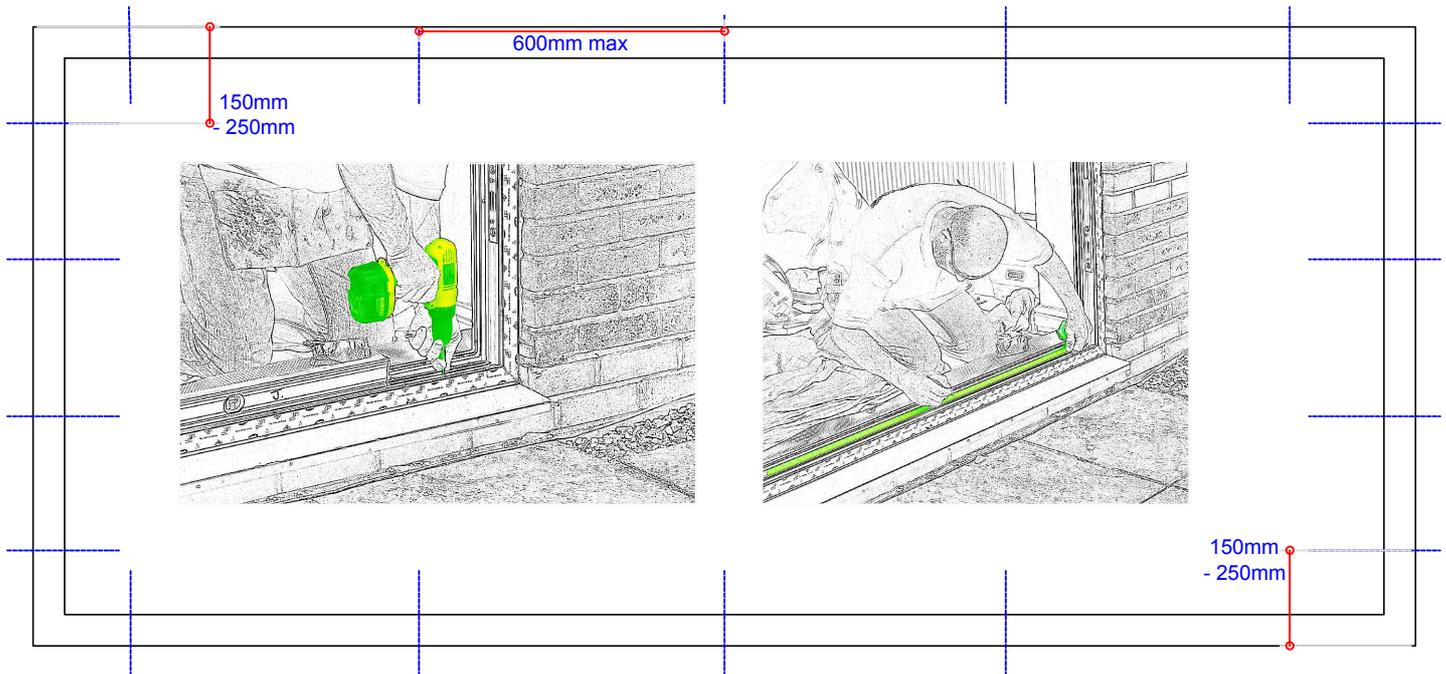
Rap Anchor - Recommended fixing with Low threshold and room divider threshold to prevent fouling the rollers.



Installation Of The New Frame

All four sides of the frame should be secured as follows:-

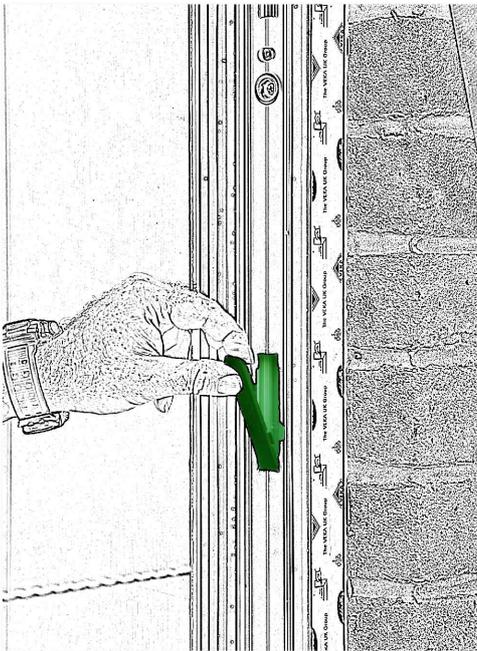
- Corner fixings should be between 150 mm and 250 mm from the external corner.
 - Intermediate fixings should be at centres no greater than 600mm



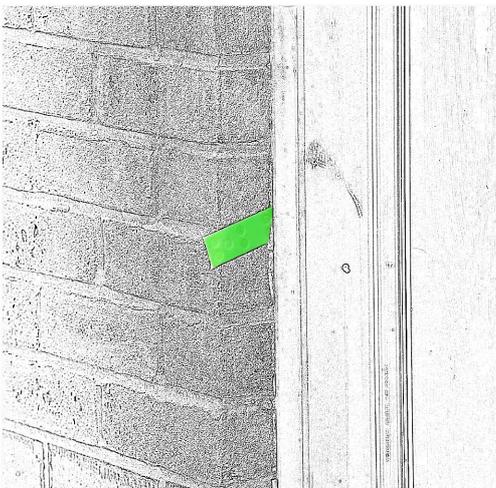
It is imperative the head of the frame is fixed parallel with the bottom rail again ensuring the frame is free from distortion or twist. This can be checked by use of a level along with a length of timber or similar cut to the size of the rebate positioned at fixing points along the frame.



Where a fixing is required on a jamb fitted with a keep, fixings should be placed through the Allen Key adjustment bolts & behind the removable plastic covers.

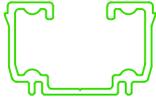


Adequate support by use of glazing packers or similar should be positioned between the frame and brickwork to prevent any twist or distortion of the frame when tightening the fixings.



Assembling Mechanical Jointed Frames

Track 104393.



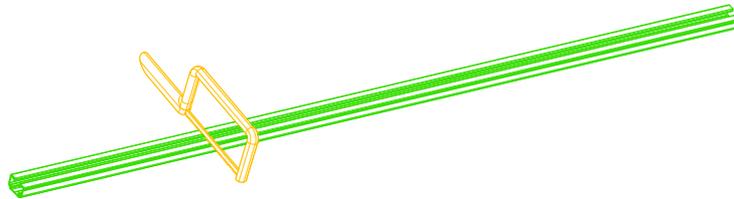
In order to attach the sashes to frame it is necessary to fit the top and bottom track in two pieces

1. Measure the rebate of the frame

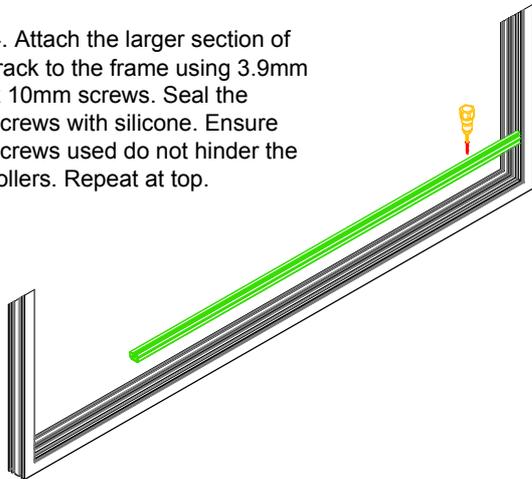


2. Cut two lengths of 107393 Track.

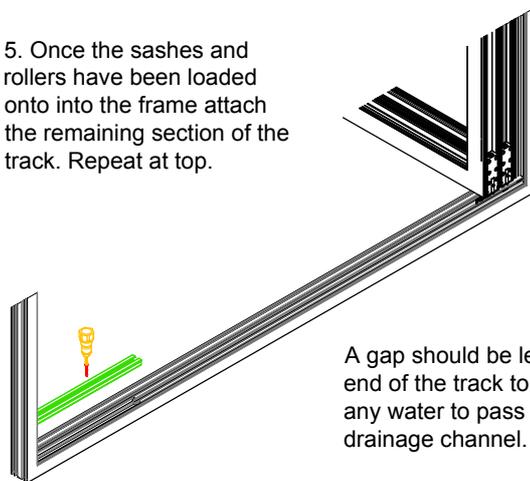
3. Select an appropriate point on the track to make a cut. This must be greater than 400mm to allow the roller to be easily loaded into the track avoiding any point which will affect the smooth operation of the rollers.



4. Attach the larger section of track to the frame using 3.9mm x 10mm screws. Seal the screws with silicone. Ensure screws used do not hinder the rollers. Repeat at top.



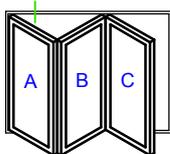
5. Once the sashes and rollers have been loaded onto into the frame attach the remaining section of the track. Repeat at top.



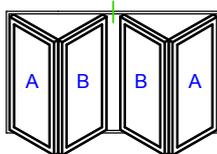
A gap should be left either end of the track to allow any water to pass into the drainage channel.

Suggested positions for breaks in tracks.

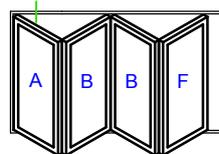
330



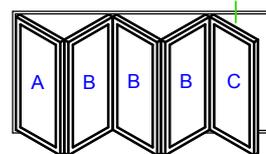
422



440



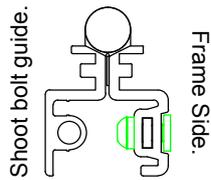
550



Connecting The Sash to frame.

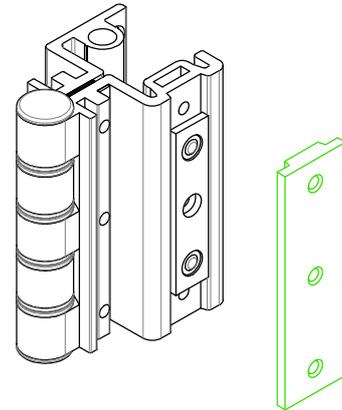
Extended butt hinge 17655 (01 = white, 10 = black)
 Std Butt Hinge 17651 (01 = white, 10 = black)

Hinges are factory set for a 12mm gap between the rebate of the frame and the edge of the sash.

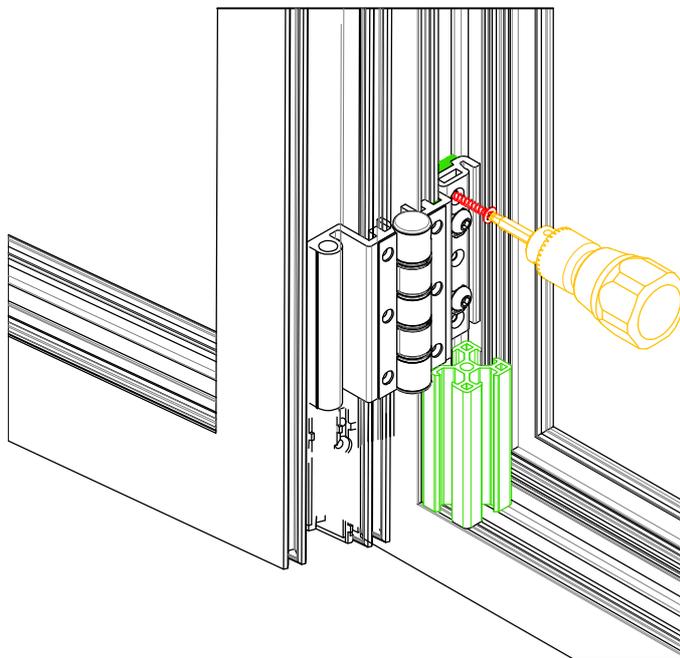


FITTING HINGE FOR SASH TO FRAME

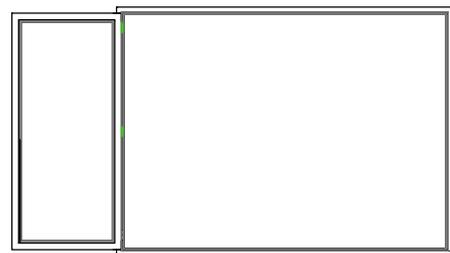
1. Snap on the frame packer supplied to all hinges that re attached to the frame. This packer is not required for sash to sash hinges.



2. Attach the first sash by fixing the screws through the pre drilled holes or by using the short hinge guide against the frame rebate to set the height attach hinges to the frame using 3 x 3.9 x 32mm steel screws & 3 x 3.9 x 45mm PVC Screws. Ensure the packers are on the part of the hinge attached to the frame.



3. Attach the centre and top hinges to the frame using 3 x 3.9 x 32mm steel screws & 3 x 3.9 x 45mm PVC Screws in each hinge.

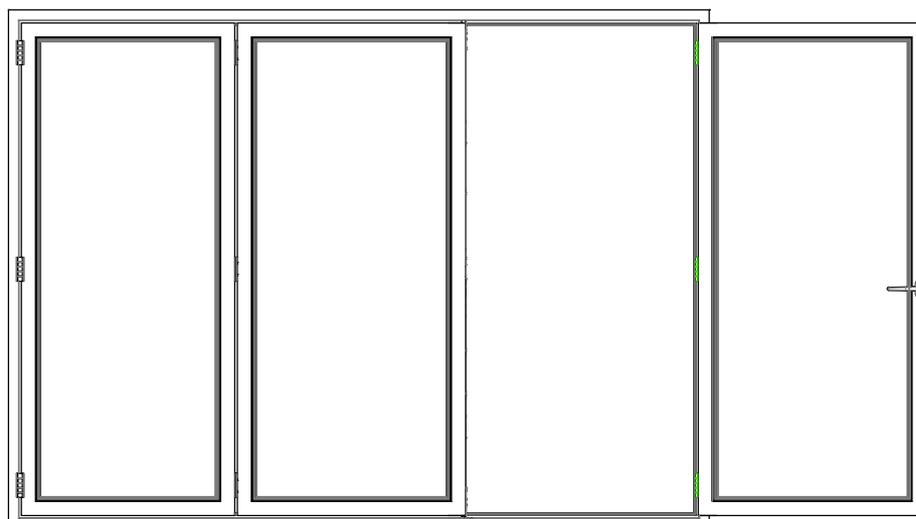


Assembling Mechanical Jointed Frames Connecting sash to sash

Connect the each adjacent pair of sashes using the hinges with 3 x 3.9 x 32mm steel screws & 3 x 3.9 x 45mm PVC Screws to each hinge.



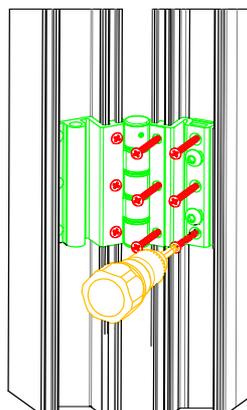
Connect the remaining sash to either the frame or adjacent sash were required..



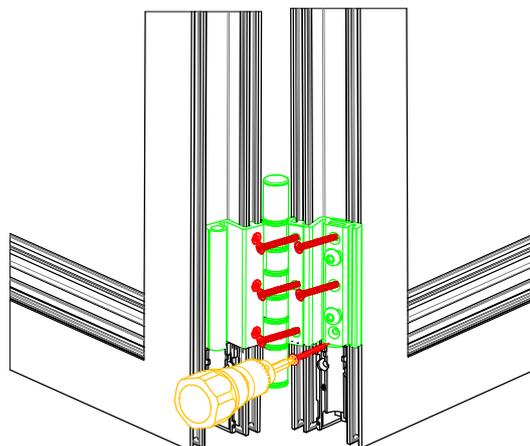
Assembling Mechanical Jointed Frames Connecting sash to sash

For sash to sash hinges are factory set to allow a 12mm gap when closed.

Attach hinges to sash using 3 x 3.9 x 25mm
steel screws & 3 x 3.9 x 45mm PVC Screws.



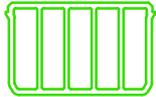
Attach hinges to sash using 3 x 3.9 x 25mm
steel screws & 3 x 3.9 x 45mm PVC Screws.



Repeat at top.

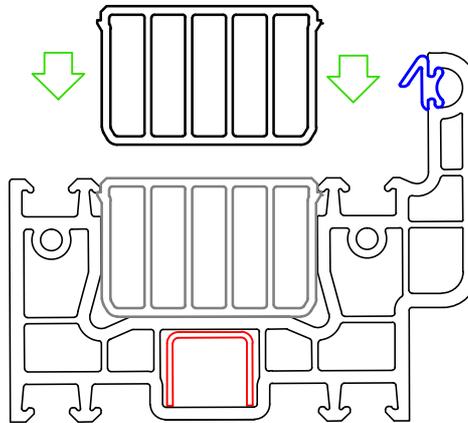
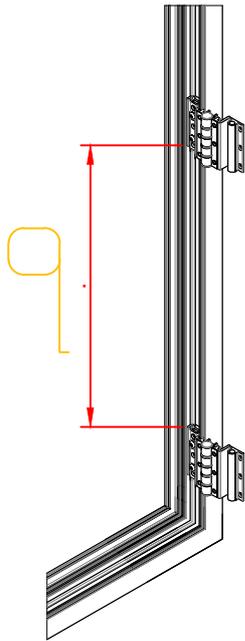
Assembling Mechanical Jointed Frames

105177 Outer Frame Thermal Insert. 105177.100101 - White
105177.180201 - Brown
105177.180701 - Caramel

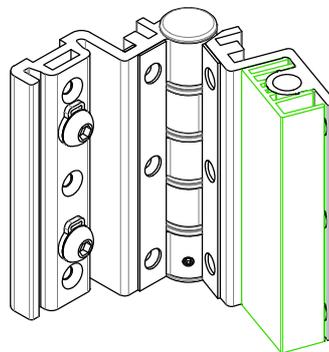
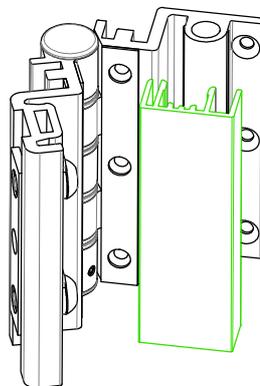


Use the outer frame thermal insert to fill the channel between the hinges.

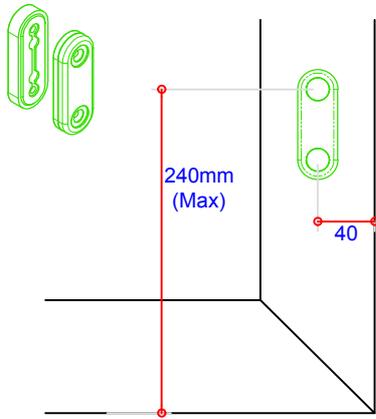
1. X = Measure the distance between hinges on the outer frame.
2. Cut the 105177 to this size.
3. Firmly snap into place between the hinges.



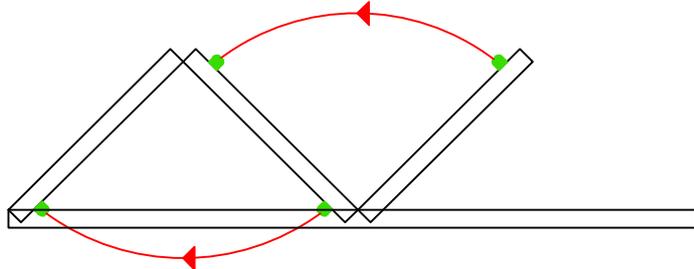
OPTIONAL Snap on Plastic Hinge Covers 17693_{xx} (01 = White, 10 = Black).



OPTIONAL
Magnets 18031_{xx} (01 = White, 10 = Black, 34 = Chrome, 35 = Gold).

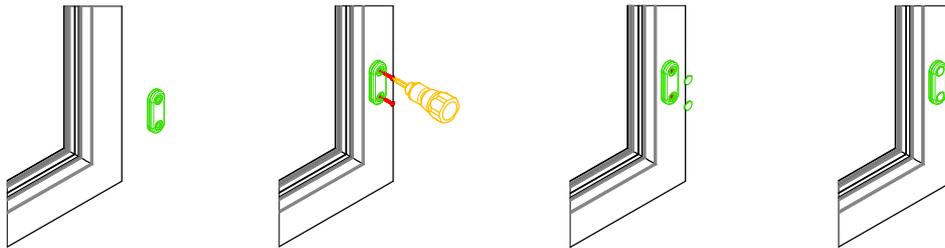


Suggested positions for magnets .



Magnets may be fitted either at the top or bottom of the sash. The magnets are designed to retain the sashes in the open position in normal weather conditions.

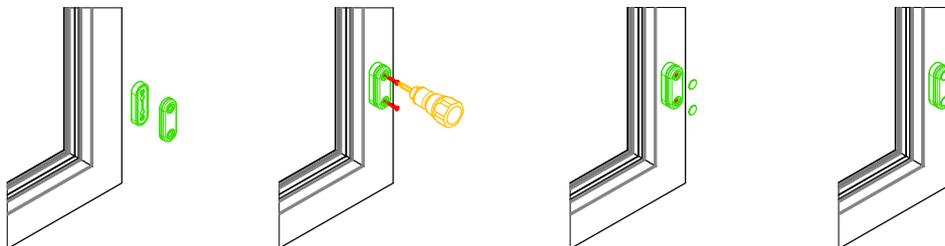
Standard assembly when 17998 Rose handle is used.



1. Attach using 2 x 3.9 x 32mm steel screws.

2. Conceal the fixings using snap on covers provided.

Assembly option when a larger handle is used using packer provided.



1. Attach using 2 x 3.9 x 45mm steel screws.

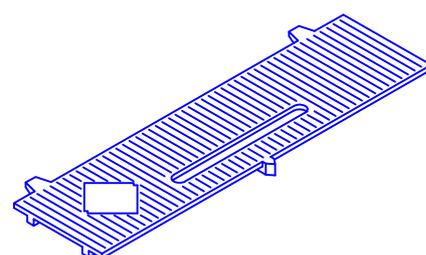
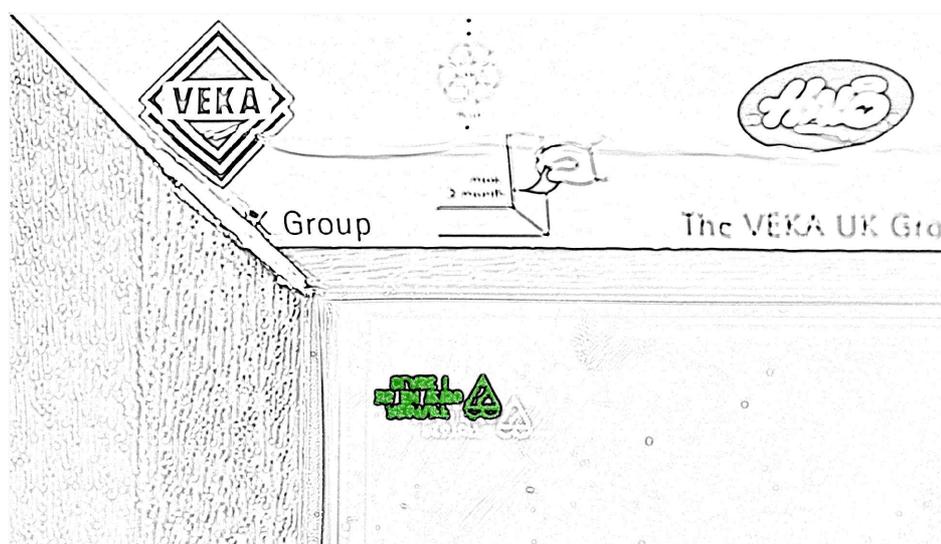
2. Conceal the fixings using snap on covers provided.

Glazing

All glass should be in accordance with BS6262. Prior to installing any glass unit or panel, the Clip In Packer 109377 must be fitted into the glazing rebates of the sashes wherever the glazing unit has to be packed or spaced.

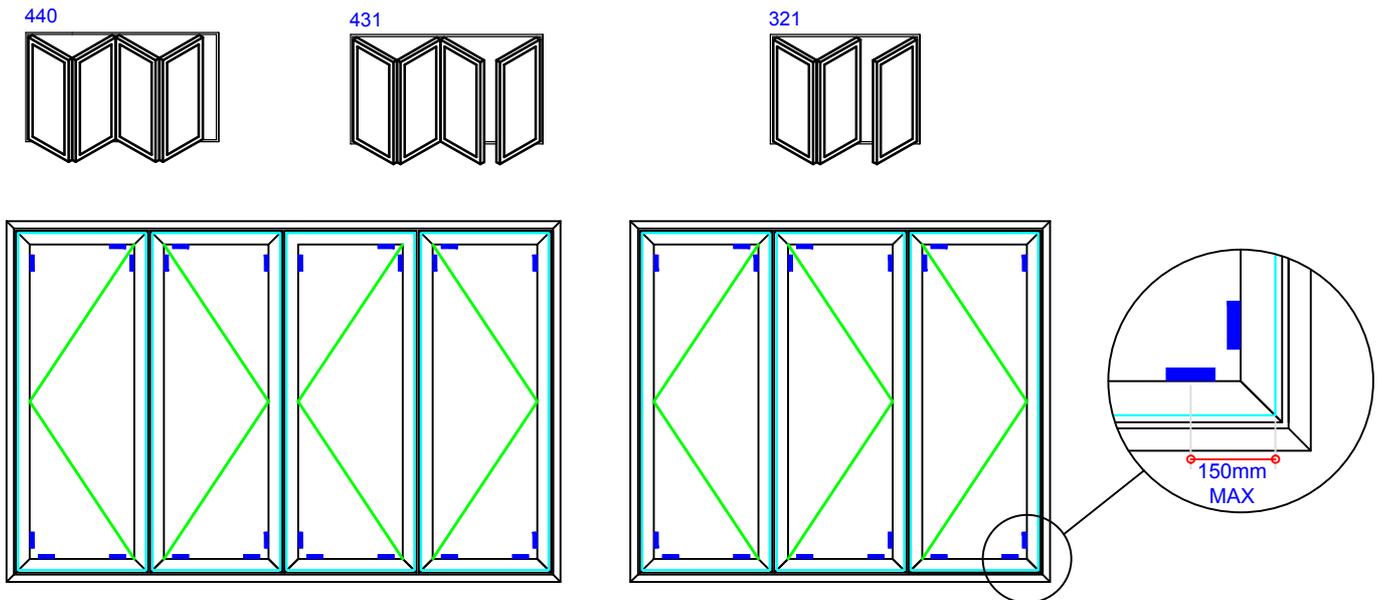
The Clip In Packer:

- Raises the unit above the rebate and level to the bead groove.
- Acts as a Bridge Block when used in the bottom rails to allow drainage of the rebate.
- Provides a flat surface from which to pack or space the glass.
- Prevents the glazing unit standing in water, helping to prolong the integrity of the seals to the glazing unit.



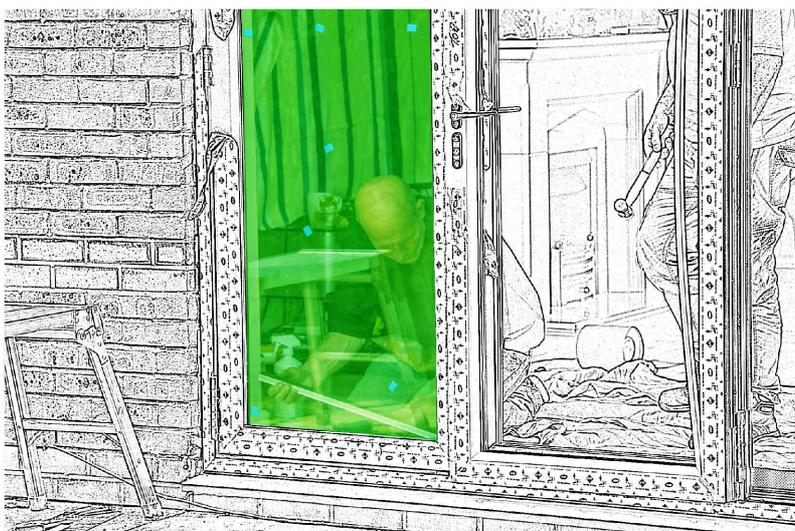
Glazing Packers are used to pack the glass unit into the apertures. These packers are to be position adjacent to locking points; additional glazing packers must be used to support the glass on longer lengths.

Always ensure that the packing blocks are wider than the glass unit or panel, e.g. for a unit 28mm wide, use a packer 30mm wide. The Clip in Packers must be placed in the appropriate packing positions prior to placing the glazing unit into the opening.



GT Security Glazing Clips are necessary to meet PAS 24 requirements.

Place the appropriate size glass unit into each sash in turn. Toe & healing is necessary. Securing in place with the glazing beads.



Final Checks

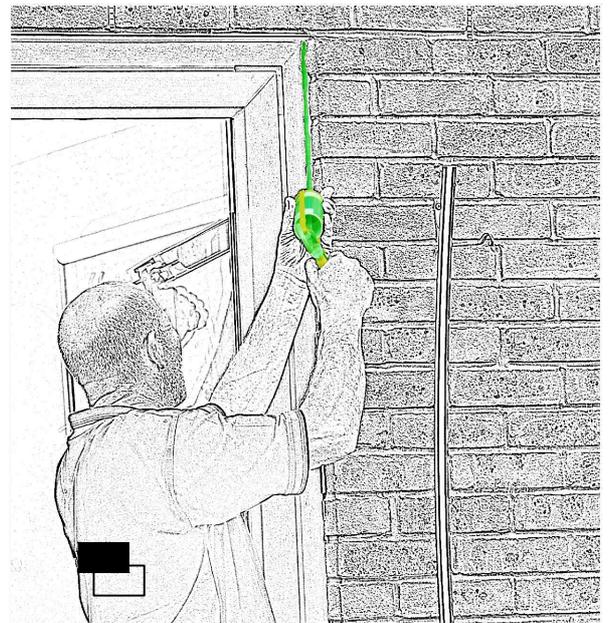
- Debris must be removed from all drainage channels and tracks.
- It is recommended that all security grubs on all hinge types are tightened, It is important that the security grub screw is never loosened after installation.
- Whenever a Pivot Roller is fitted, it is important that the two grub screws that hold the carrier body are fastened tightly so they cannot move. This only applies to the Bottom Pivot Roller.
- Check all operations of the door set ensuring locks can be operated easily, rollers operate smoothly and are free from obstructions.
- The slave door must be fully locked for the main lock mechanism to operate.

Care must be taken to ensure:

- All Bi Fold Doors are fitted squarely.
- There is sufficient support at the head such as a lintel.
- The head of the frame is secured as firmly as possible.
- All glass should be in accordance with BS6262.



Clean the site before trimming and sealing where necessary.



Vertical adjustment +/-2mm

Pivot Rollers - Remove the bolt screw from the top of the hinge. Remove the screw locking block. Adjust using a 8mm Allen key. Re-insert screw locking block. Re-fit screw bolt back into top.

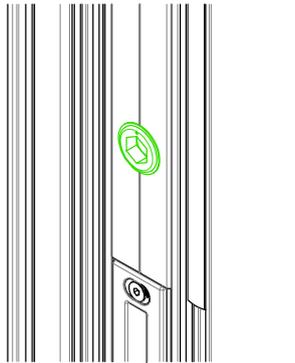
Vertical adjustment of the hinges is not possible.

Horizontal adjustment

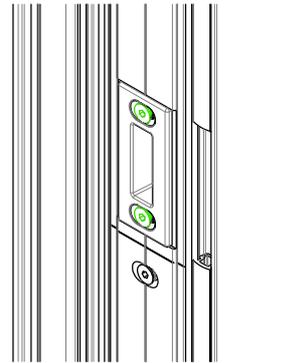
Keep - horizontal + 1 to 4mm: Using a 10mm Allen Key - $\frac{1}{4}$ turn = 1mm, Full turn = 4mm

Keep - compression +/- 2mm: Using a 2mm Allen Key the latch plate can be altered to increase or decrease compression .

Keep - Horizontal adjustment

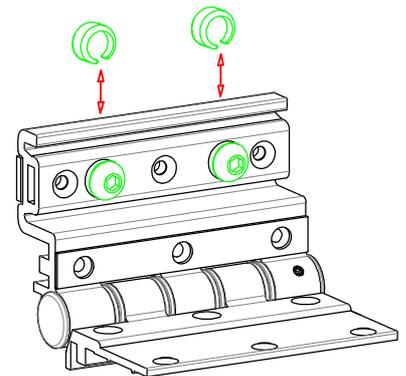


Keep - Compression adjustment



Hinges - sash to sash - horizontal + 1mm: Loosen the 6 fixing screws that is attaching the adjustment flag of the hinge to the sash Loosen adjustment bolts with Allen Key. Remove the 2mm C-clips. Remove the 1mm narrow strip packer from the back of the hinge plate. Continue loosening the adjustment bolts so that the metal adjustment plate sits flush with rest of the hinge. Carefully tighten back up the 6 fixing screws ensuring you do not strip the profile. Recommended to use a screwdriver rather than a torque gun.

Hinge - Horizontal adjustment

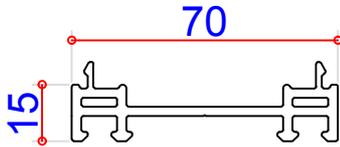


Hinges - sash to frame & sash to sash - horizontal + 1mm to 2mm: Loosen the 6 fixing screws that is attaching the adjustment flag of the hinge to the sash. Loosen adjustment bolts with Allen Key. Replace the 2mm C-clips with the 1mm C-clips supplied separately. Re-tighten the adjustment bolts using an Allen key. Add either a 1mm or 2mm narrow strip packer supplied separately depending on the amount of adjustment required. Place on top of the current 1mm narrow strip packer. Carefully re-tighten the 6 fixing screws ensuring you do not strip the profile. Recommended to use a screwdriver rather than a torque gun.

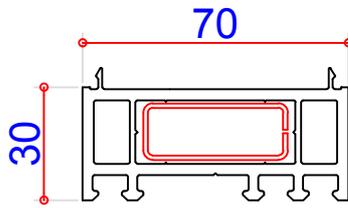
Maintenance

- The stainless steel rollers and bearings require no lubrication.
- Top and bottom tracks should be kept free of debris.
- Locking mechanisms may require a small amount of light machine oil around once a year.
- PVC parts should be cleaned regularly with soapy water.
- Periodically clean the glass with warm soapy water (washing up liquid). Dry with a lint free cloth and remove any excess water.
- **Do not** use any type of harsh cleaning agents such as white spirit, WD40, automotive dashboard wipes, acids, brick wash solutions or alkalis.

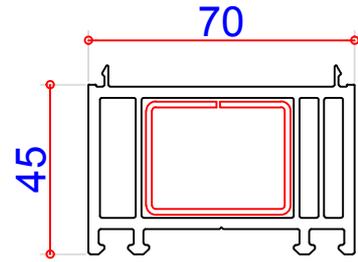
COMPONENTS



15mm Frame Extension 114028



30mm Frame Extension 114014
Steel Box 38 x 15mm 113073



45mm Frame Extension 114202
Steel Box 38 x 30mm 113271



Traffic Door Gasket 112455
Available Black or White



Frame and Sash Seal 112451
Available Black or White



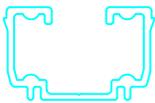
Frame & Sash Flipper Seal 112452
Available Black or White



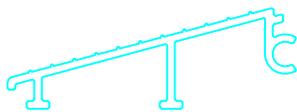
Sash Blanking Gasket 112453
Available Black or White



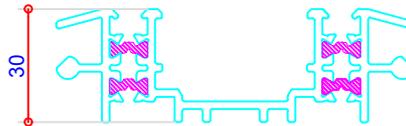
Fold Gasket (For repair) 112003



Track 104393
Champagne Only



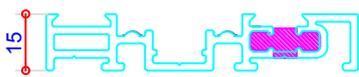
Threshold Ramp 104391
Champagne Only



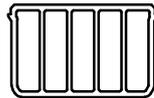
Low Threshold 104392
Champagne Only



Threshold Blanking Piece 104394



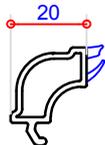
Room Divider Threshold 104390
NB. Internal use only. Champagne Only



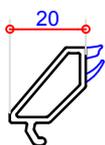
Outer Frame Thermal Insert 105177
available White, Brown and, Caramel



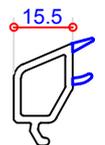
Threshold Strip 105177
Brown Only



28mm Feature Glazing Bead 107153



28mm Chamfered Glazing Bead 107154



32mm Glazing Bead 107217

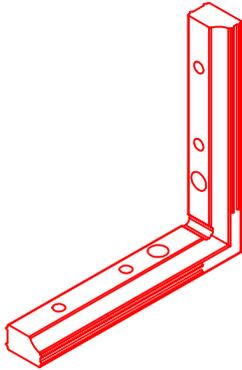


36mm Glazing Bead 107218

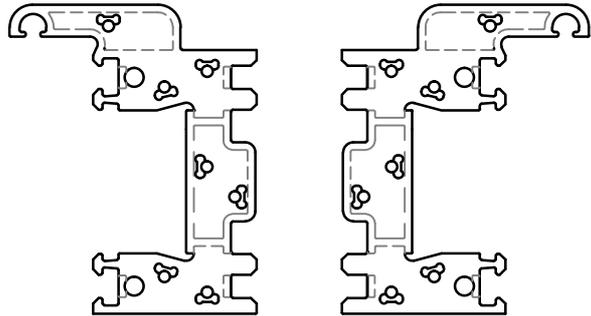


40mm Glazing Bead 107228

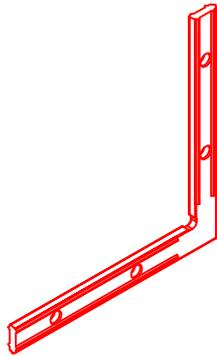
COMPONENTS



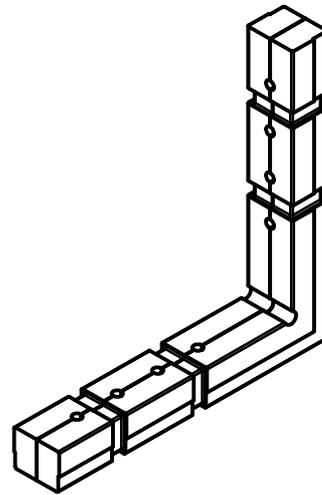
Outer Frame Mechanical Joint Cleat 141429



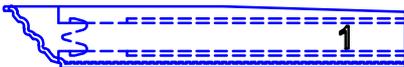
Threshold Mechanical Joint Moulding 109998



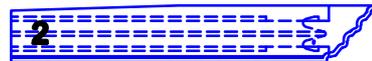
Outer Frame Mechanical Joint Chevron 141431



Outer Frame Mechanical Joint Moulded Cleat 141430



Moulded Gasket Corner 1 112447
Available Black or White



Moulded Gasket Corner 2 112448
Available Black or White



Moulded Gasket Corner 3 112449
Available Black or White



Moulded Gasket Corner 4 112454
Available Black or White

COMPONENTS

Extended But Hinge



But Hinge



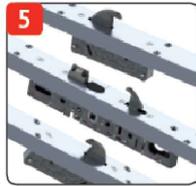
Extended But Hinge



Shoot Bolt



Locks



Handle & Escutcheon



Escutcheon



Shoot Bolt



Locks & Keeps



Corners



Bottom Pivot Roller



COMPONENTS

Extended But Hinge



But Hinge



Extended But Hinge



Espag Shoot Bolts



But Hinge



Escutcheon



Espag Handle



D Handle



Bottom Pivot Roller



Shoot Bolt



But Hinge



Locks



BISON



REVISIONS

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