

Design Features :

Series 730 incorporates Thermal Heart™ technology giving a true wide thermal break between the outside and inside faces. WERS (Window Energy Rating System) data shows that using the same IGU in a Thermal Heart™ awning is 32% more efficient than a standard non-thermally broken window.

A major advantage with Thermal Heart™ in cold climates is the reduction in internal condensation. This saves potential damage to timber reveals and paint finishes. Thermal Heart is also suitable for hot climates.

We offer Thermal Heart™ in a range of stocked colours including dual colour ClearMIST™ contact your local Vantage fabricator for details.

Running bi-fold doors on bottom rollers reduces the problems caused by lintel sag and allows us to offer optional highlights.

This bi-fold door has been tested for compliance with the relevant Australian Standards and achieved a high water resistance of 380Pa, this makes the product suitable for most residential applications.

Low air infiltration, makes the product suitable for air conditioned buildings.

The extra strong door stiles allow over size door panels to be fabricated, refer Pascal rating tables later in these notes.

Sharp square external glazing beads are standard.

100mm frame and transom have a soft 2mm internal radius.

Doors can be fitted with a variety of custom lever and bi-fold activator sets (ICON or Miro) with Lever Compression Lock (LCL) motor as standard. After closing the door panel you can lift the handle to activate the compression feature. This throws bolts into head and sill and deploys the central locking bolt. The individual features of all three furniture sets are shown later in this section.

ICON lever sets are available in 316 Stainless steel finish.

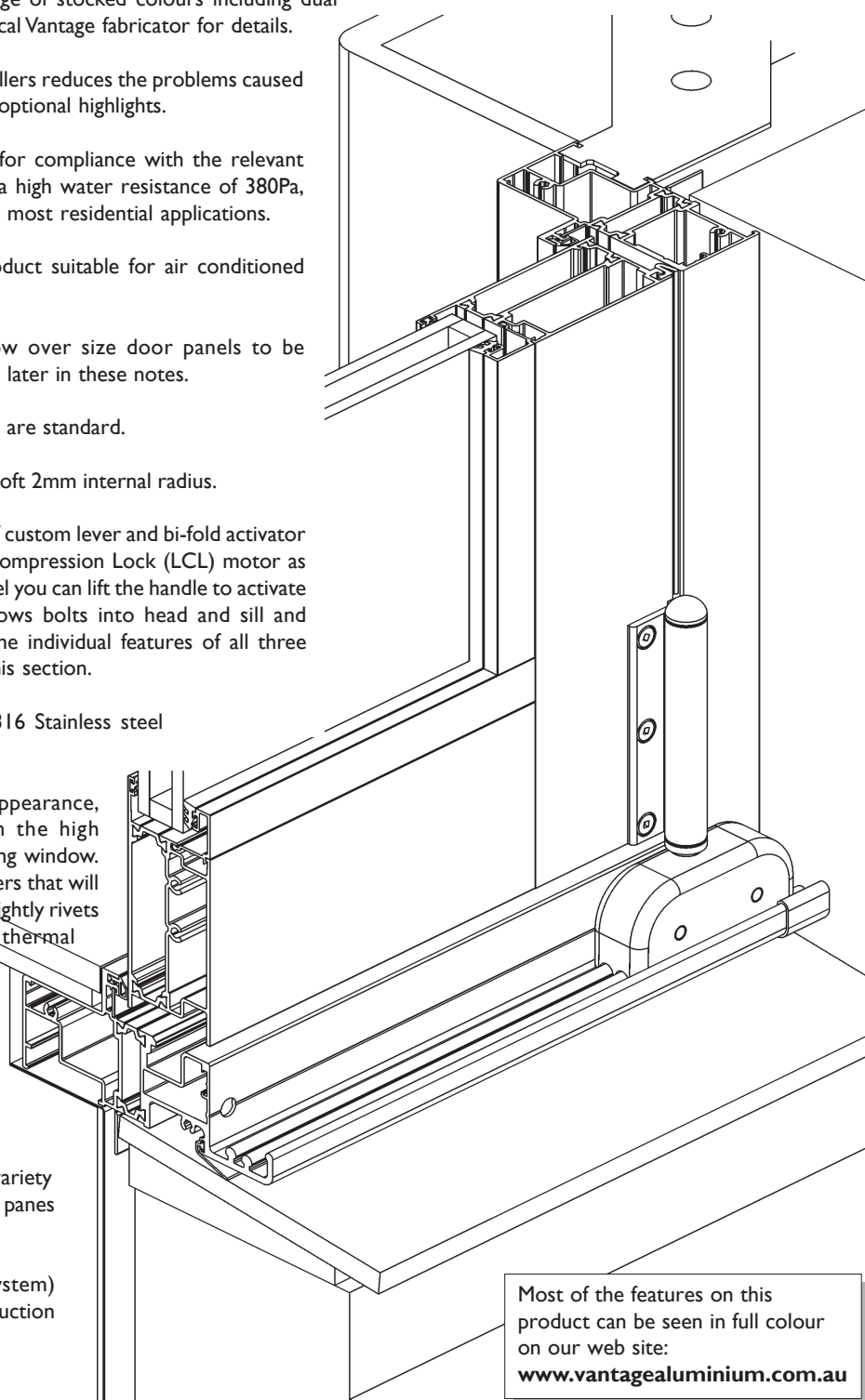
The door frame is compatible (appearance, strength and performance) with the high performance Thermal Heart™ awning window. We have light and heavy 180° couplers that will joint windows to doors without unsightly rivets or screws while maintaining the thermal break.

Panels are hung on heavy duty custom hinges, refer details later in this section.

Panels and sidelights will accept a variety of glass thicknesses from 4mm single panes to 32mm insulating glass units.

WERS (Window Energy Rated System) tables are in section 04. Sound reduction ratings can be found in section 55.

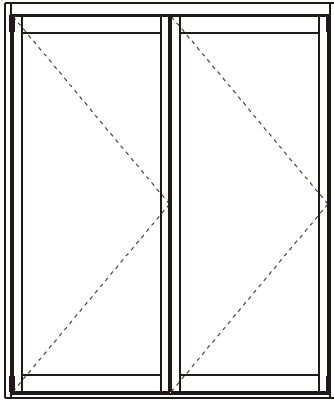
Australian registered design.



Most of the features on this product can be seen in full colour on our web site:
www.vantagealuminium.com.au

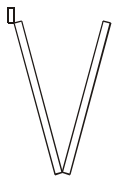


Panel
Width



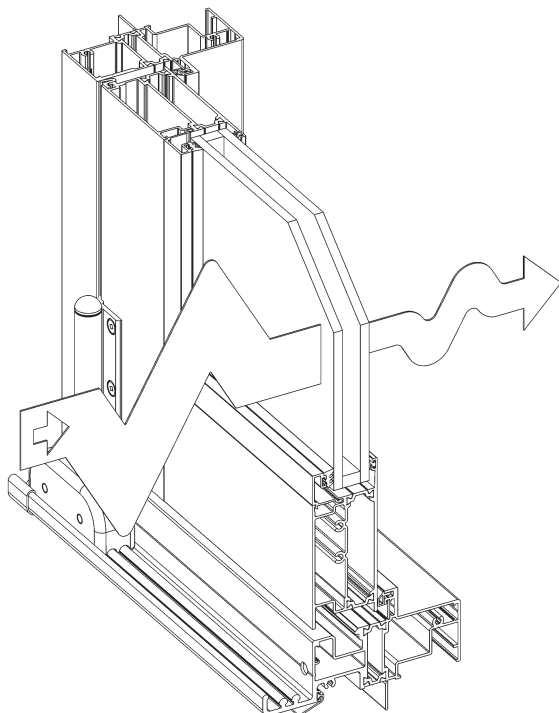
Panel Height

Typical two panel BFD2 illustrated.



Maximum Bi-fold Door Panel Sizes

Maximum panel weight	60 kg per panel (all types except equal to equal e.g BFD2+2 and BFD4+2). 45 kg per panel on type BFD2+2 and BFD4+2 (limited by type 'M' and 'N' rollers).
Maximum panel width	900mm
Maximum frame width	5450mm
Maximum panel height	2600mm (or 2700mm overall frame). Will vary depending on weight, design wind load and allowable metal deflection.
Hinge quantity	3. hinges - height less than or equal to 2200mm. 4. hinges - height greater than to 2200mm.



Sound Reduction

A number of glass combinations have been tested on non-thermally broken bi-fold doors similar to Series 730. Panel stiles were fitted with co-extruded Santoprene bulb seals.

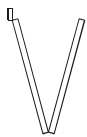
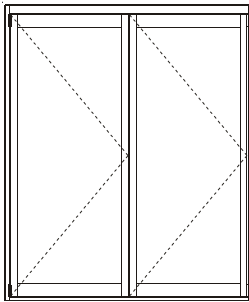
- 6.38mm Laminated glass 31dB(A) RW32
- 19mm Insulating glass unit 32dB(A) RW33

Go to the SoundOUT section 55 for other options.



Thermal Transmission WERS

The bi-fold door has been WERS rated. The star ratings for heating and cooling climates with various glass options can be found in the WERS section 04.



type. **BFD2**
 Both doors fold to the left.

S = Serviceability limit state (deflection = L/150).

U = Ultimate strength limit state (factored yield strength = 104 MPa).

These tables have been calculated using nominal section properties.

A typical assembly has been tested as per the requirements of AS2047,

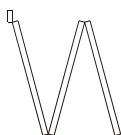
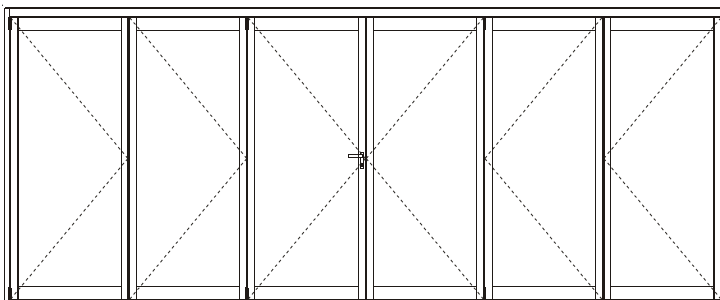
Ultimate strength rating has been limited to 4500 Pa.

2200 Serviceability ratings were restricted by the maximum water resistance (300Pa) achieved on this product.

Blank Denotes rating under 500 Pa.

Door Dimensions		Ratings		
Frame Height mm	Panel Width mm	Serviceability l/150	Serviceability l/180	Ultimate
2100	800	2297 Pa	1915 Pa	4500 Pa
2100	900	2079 Pa	1732 Pa	4500 Pa
2200	800	1973 Pa	1644 Pa	4393 Pa
2200	900	1782 Pa	1485 Pa	3958 Pa
2300	800	1706 Pa	1422 Pa	3985 Pa
2300	900	1539 Pa	1283 Pa	3586 Pa
2400	800	1487 Pa	1239 Pa	3631 Pa
2400	900	1339 Pa	1116 Pa	3264 Pa
2500	800	1303 Pa	1086 Pa	3324 Pa
2500	900	1172 Pa	977 Pa	2985 Pa
2600	800	1149 Pa	957 Pa	3054 Pa
2600	900	1033 Pa	860 Pa	2740 Pa

Table 86.1 Wind Ratings (Pa)
 Meeting stiles.



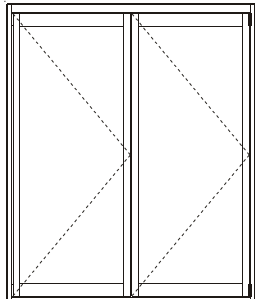
type. **BFD3 + 3**
 Three doors fold to the left and three to the right.





Typical Series 730 bi-folding door configurations

Width > 1123mm <= 1894mm

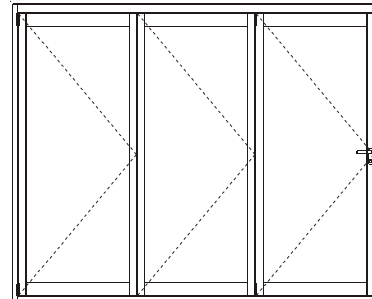


Height
<= 2700mm



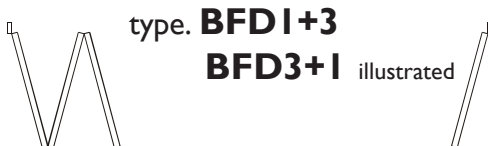
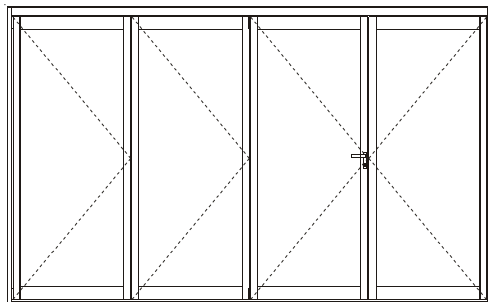
type. **BFD2**

Width > 1615mm <= 2814mm



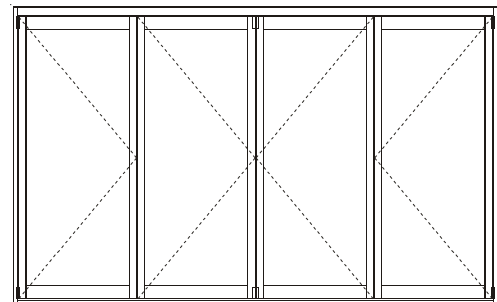
type. **BFD3**

Width > 2121mm <= 3720mm



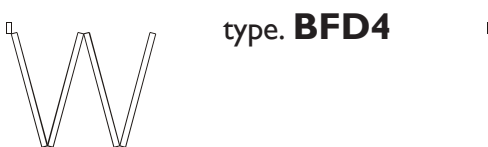
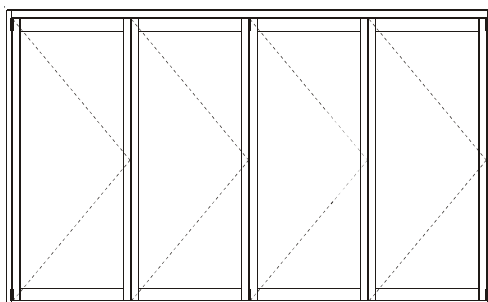
type. **BFD1+3**
BFD3+1 illustrated

Width > 2151mm <= 3692mm



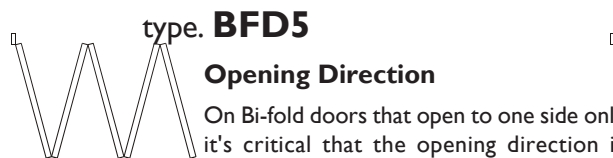
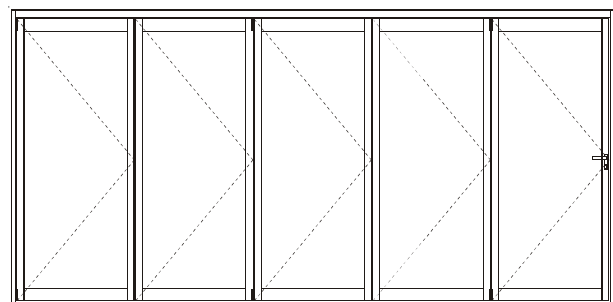
type. **BFD2+2**

Width > 2139mm <= 3677mm



type. **BFD4**

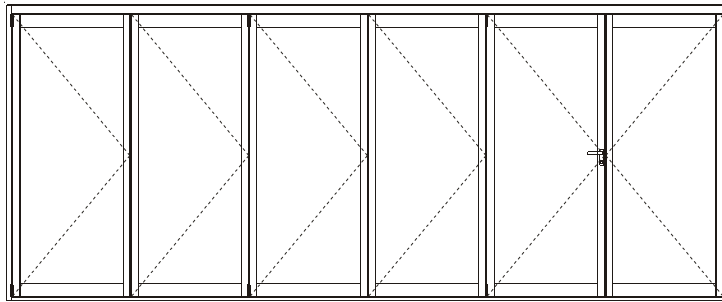
Width > 2631mm <= 4632mm



type. **BFD5**

Opening Direction

On Bi-fold doors that open to one side only it's critical that the opening direction is clearly specified on the drawing.



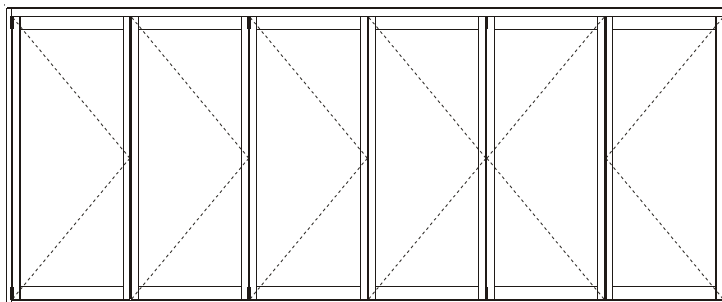
Width > 3140mm <= 5450mm



More Series 730 Bi-fold doors.

type. **BFD1+5**
BFD5+1 illustrated

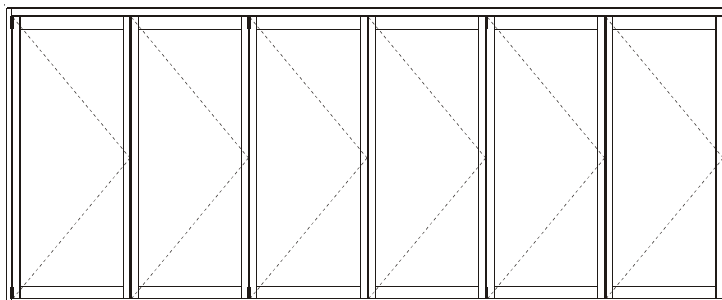
BFD1+5 Indicates that there are a total of six panels, one hinged on the left side and the other five folding to the right. Always viewed from the outside.



Width > 3167mm <= 5450mm



type. **BFD2+4**
BFD4+2 illustrated

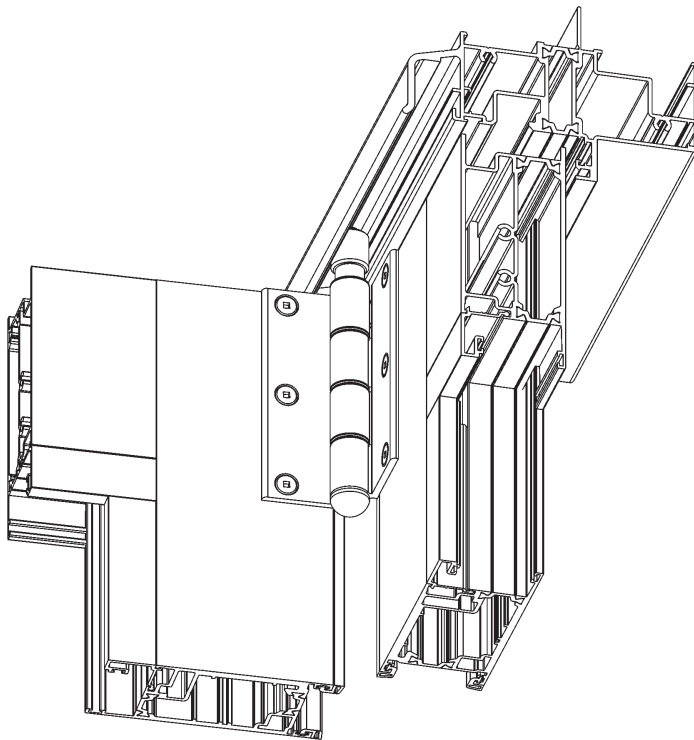


Width > 3155mm <= 5450mm



type. **BFD6**

Chair rails
 All hinged and Bi-folding doors can be fitted with 76mm chair rail. Likewise the adjoining fixed sidelights can have chair rails to match.



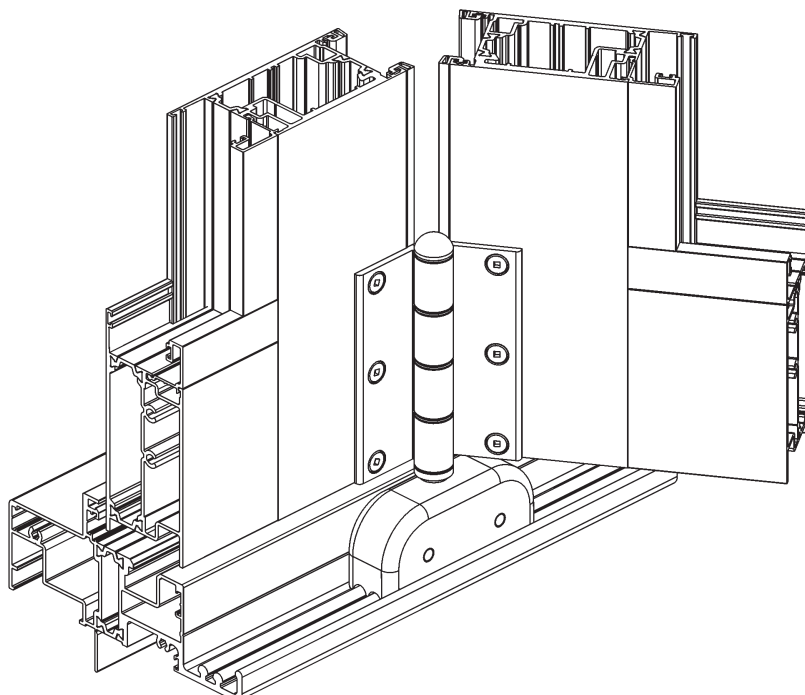
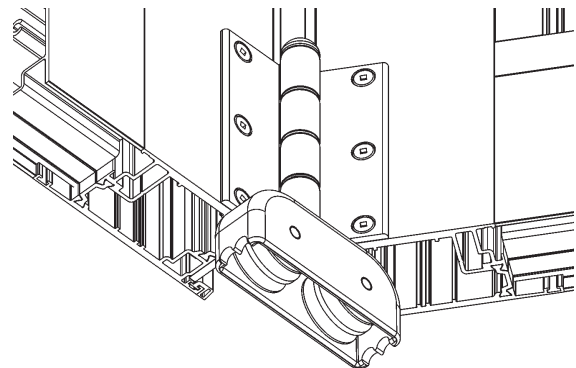
Overhead roller guide

finishes available:

- Black
- Clear anodised
- Pearl white
- AWS Silver
- Special paint

This head guide is retained in the guide channel in the head / transom.

Guide hinge leaves secured to door stile with stainless steel screws.



Quad bogey sill roller

finishes available:

- Black.
- Clear anodised with 316 stainless steel roller cawling.
- Pearl white.
- AVS Silver.
- Special paint with coloured cawling.
- Special paint with 316 stainless steel roller cawling.

The heavy duty sill rollers are designed to support heavy door panels (up to 60Kg). As the bi-fold doors can be double glazed the panels will get heavy.

Fitting the load carrying rollers on the bottom allows us to make the door panels bigger (2600 x 900mm maximum door panel size) depending on the design wind load.

The rollers are running on double sill track. The cover cawling sweeps the sill clean as doors are opened and closed.

Jamb Hinge

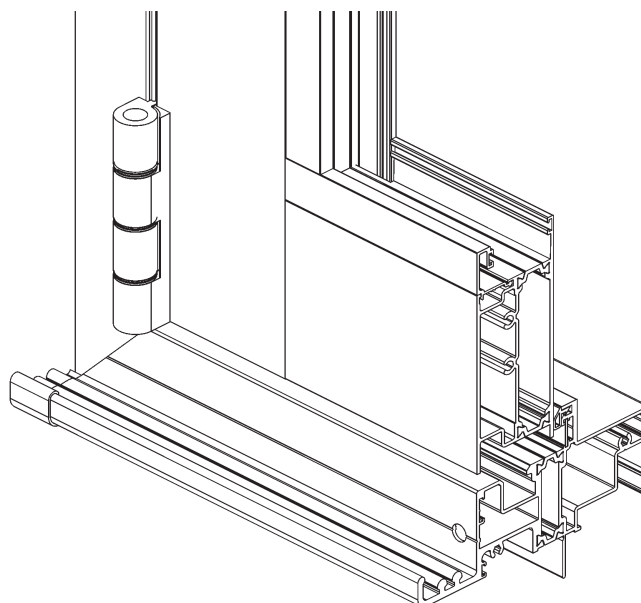
Designed to allow door panels to open 90°.

Hinge frame leaf fixed through reinforced portions of frame with 10# countersunk stainless steel self tapping screws.

The hinge-leaves nest into the frame and stile removing the need for unsightly shims, maximise strength and to ensure that the gap between frame and stile are maintained.

finishes available:

- Black
- Clear anodised
- Pearl white
- AWS Silver
- Special paint

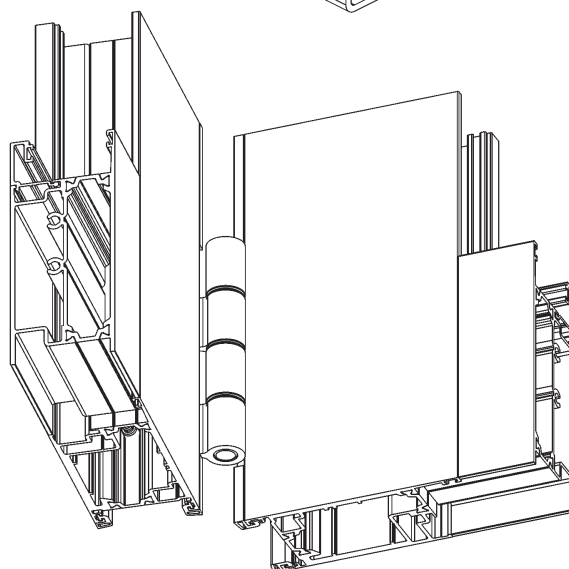


Internal Hinge

The hinge-leaves nest into the stiles removing the need for unsightly shims and to ensure that the gap between frame and stile is maintained.

finishes available:

- Black
- Clear anodised
- Pearl white
- AWS Silver
- Surfmist
- Special paint



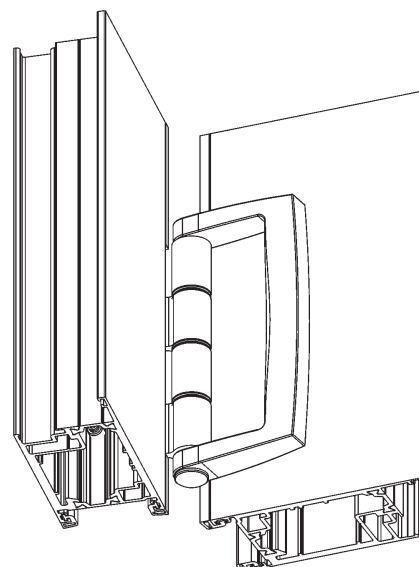
Handle Hinge

This hinge with inbuilt pull handle is located centrally between projecting, folding door stiles to enable these stiles to be pulled back to the frame (closed position).

The pull handle folds back flush with the panels when not in use.

finishes available:

- Black
- Clear anodised
- Pearl white
- AWS Silver
- Surfmist
- Special paint



Standard **ICON** Lever Compression Lock



finishes available:

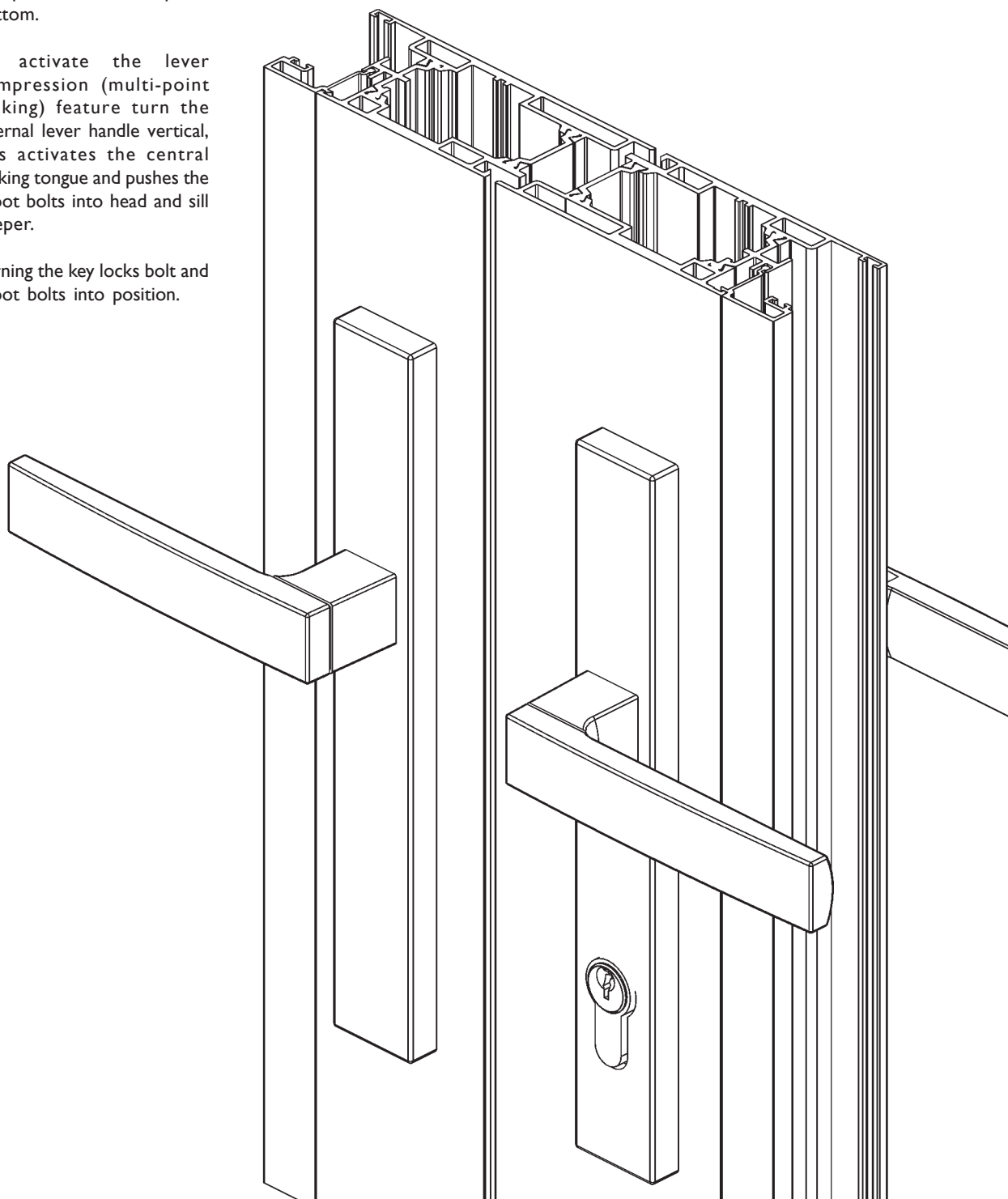
- 316 Stainless steel

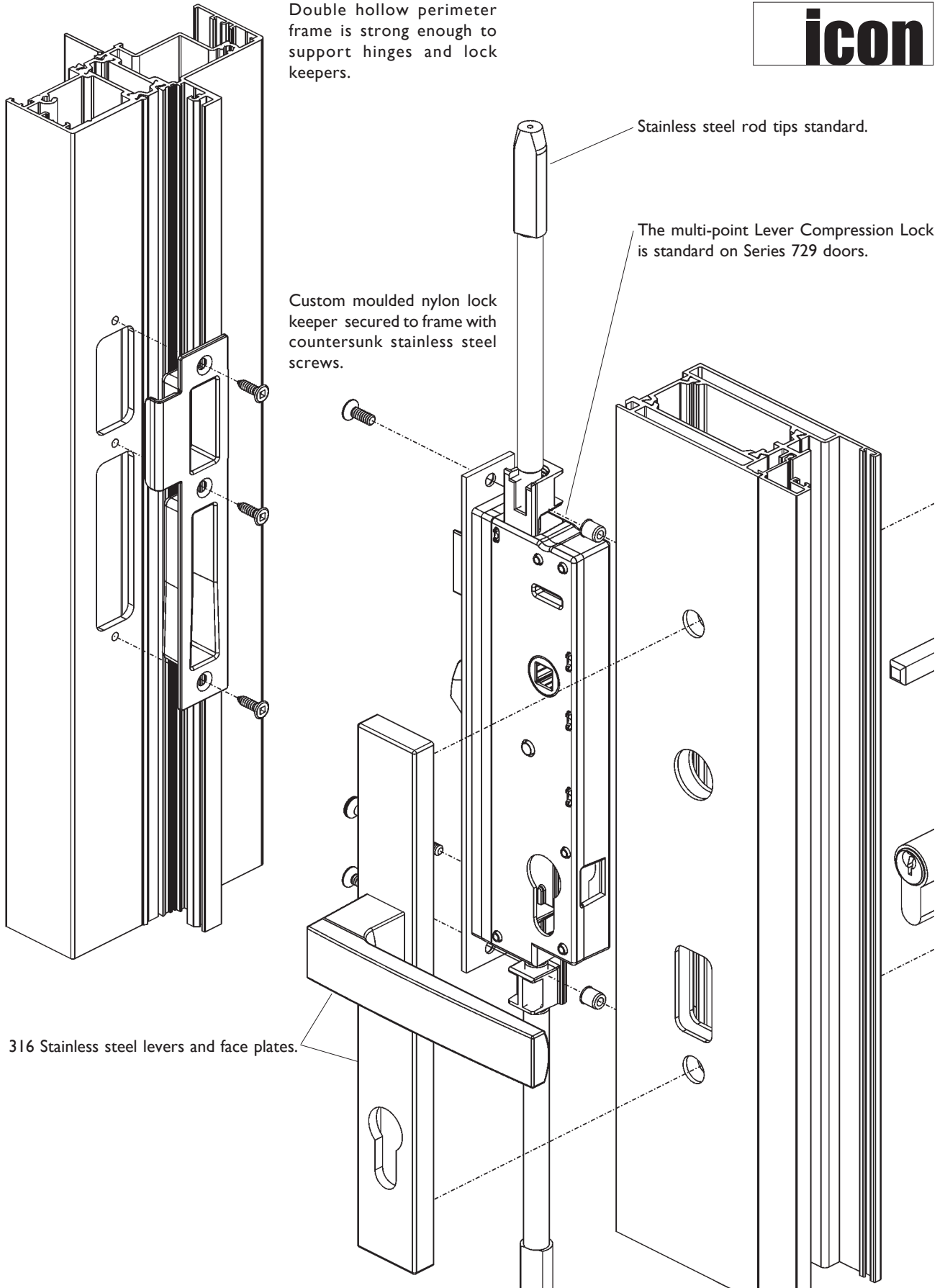
Notes:

Four point locking has the centre latch tongue and throw bolt plus shoot bolts top and bottom.

To activate the lever compression (multi-point locking) feature turn the internal lever handle vertical, this activates the central locking tongue and pushes the shoot bolts into head and sill keeper.

Turning the key locks bolt and shoot bolts into position.







Alternative Miro Lever Compression Lock



finishes available:

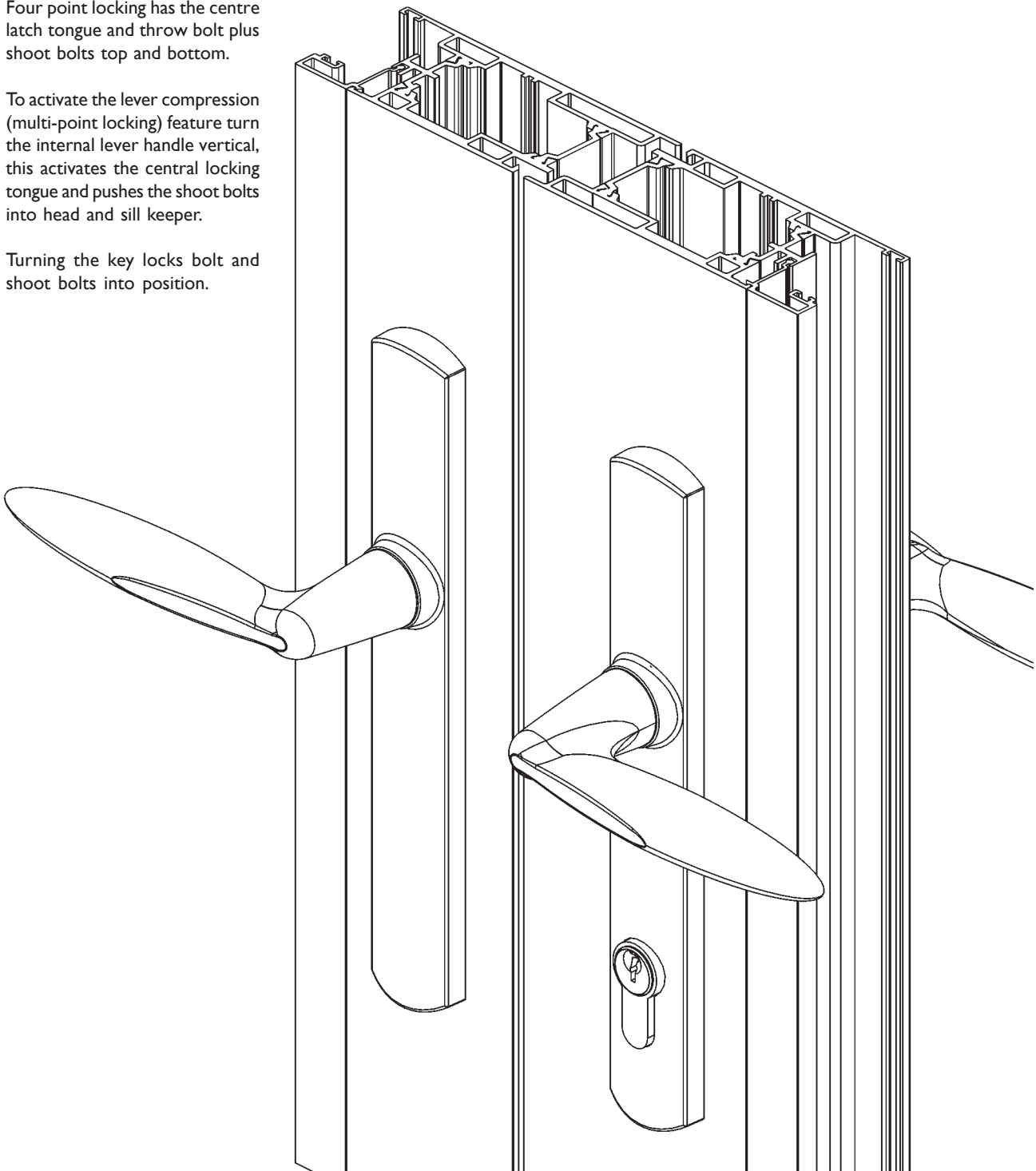
- Black
- Pearl white
- AVS Silver
- Surfmist
- Special paint

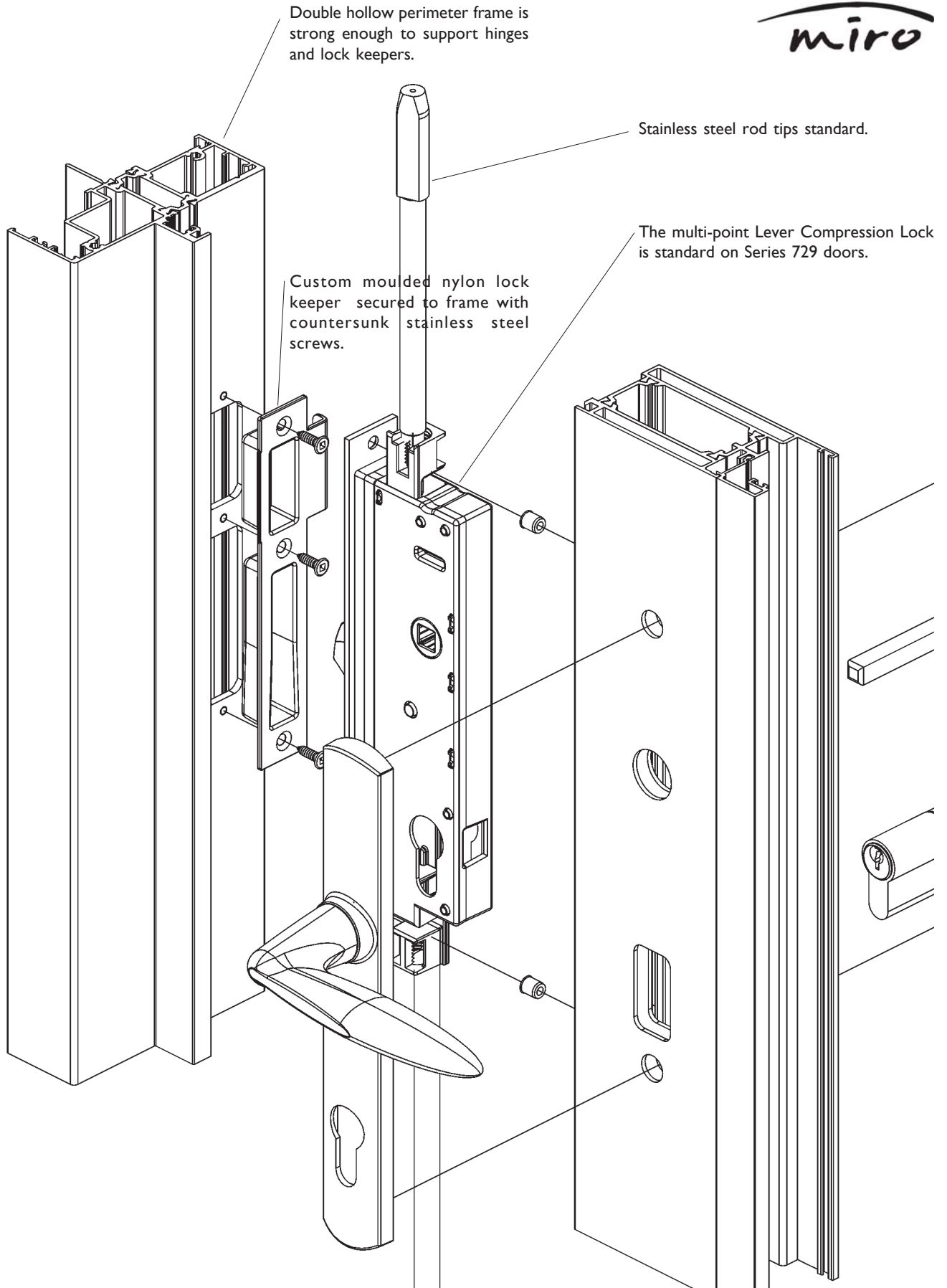
Notes:

Four point locking has the centre latch tongue and throw bolt plus shoot bolts top and bottom.

To activate the lever compression (multi-point locking) feature turn the internal lever handle vertical, this activates the central locking tongue and pushes the shoot bolts into head and sill keeper.

Turning the key locks bolt and shoot bolts into position.







Standard

Lever operated shoot bolt

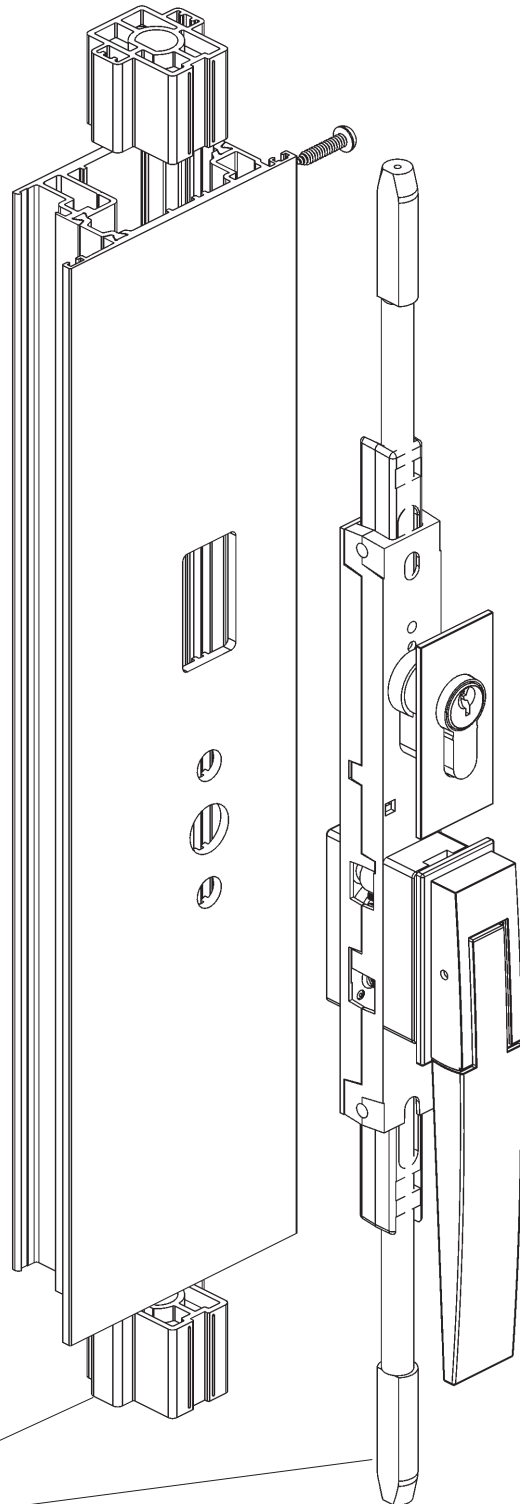
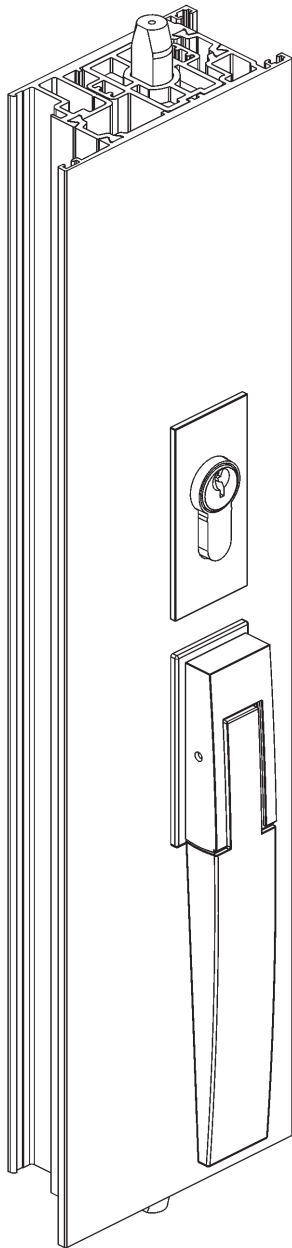
finishes available:

- 316 Stainless steel

This bi-fold activator handle has been designed to match ICON lever set.

The lever operated bolt systems activate both top and bottom bolts by turning the lever handle 90°.

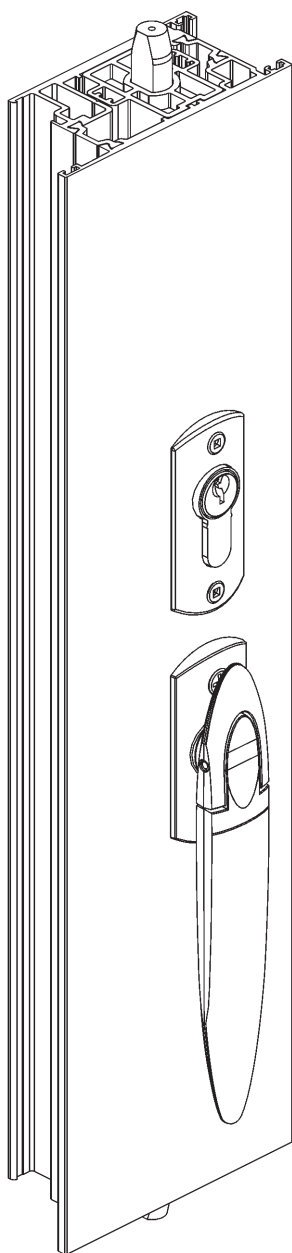
Key locking activator set shown on this page. We also offer a non-key option.



Moulded nylon bolt guide ensures that the shoot bolt sits snugly in the door stile and the flat spot on the bolt locks into the flat spot on the guide. This prevents the bolt from moving (dropping) after installation.

Stainless steel bolt tips.


miro



Alternative

Lever operated shoot bolts

finishes available:

- Black
- Pearl white
- AWS Silver
- Surfmist
- Special paint
- 316 Stainless steel (ANDO™)

We also offer bi-fold activator handles to match ANDO™ and Miro lever sets.

These lever operated bolt systems activate both top and bottom bolts by turning the lever handle 90°.

Key locking activator set shown on this page. We also offer a non-key option.

Miro handle is curved similar to a gum leaf while the ANDO™ handle is clean and rectangular.

See the bi-fold activators
open and close in full colour
on our web site :
www.vantagealuminium.com.au

Architectural Information

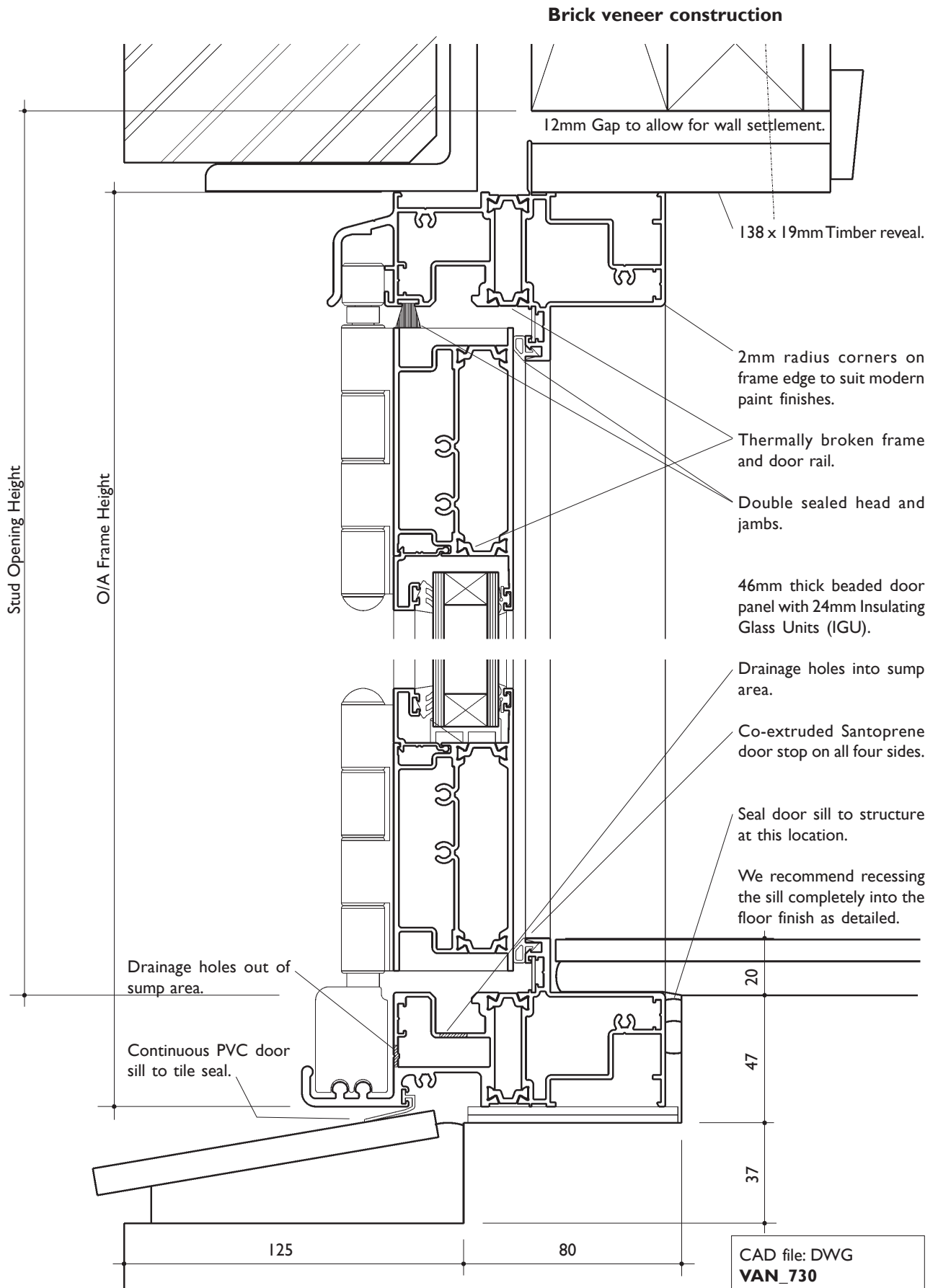
Series 730 Thermal Heart™ Bi-fold Door

Features & Limitations

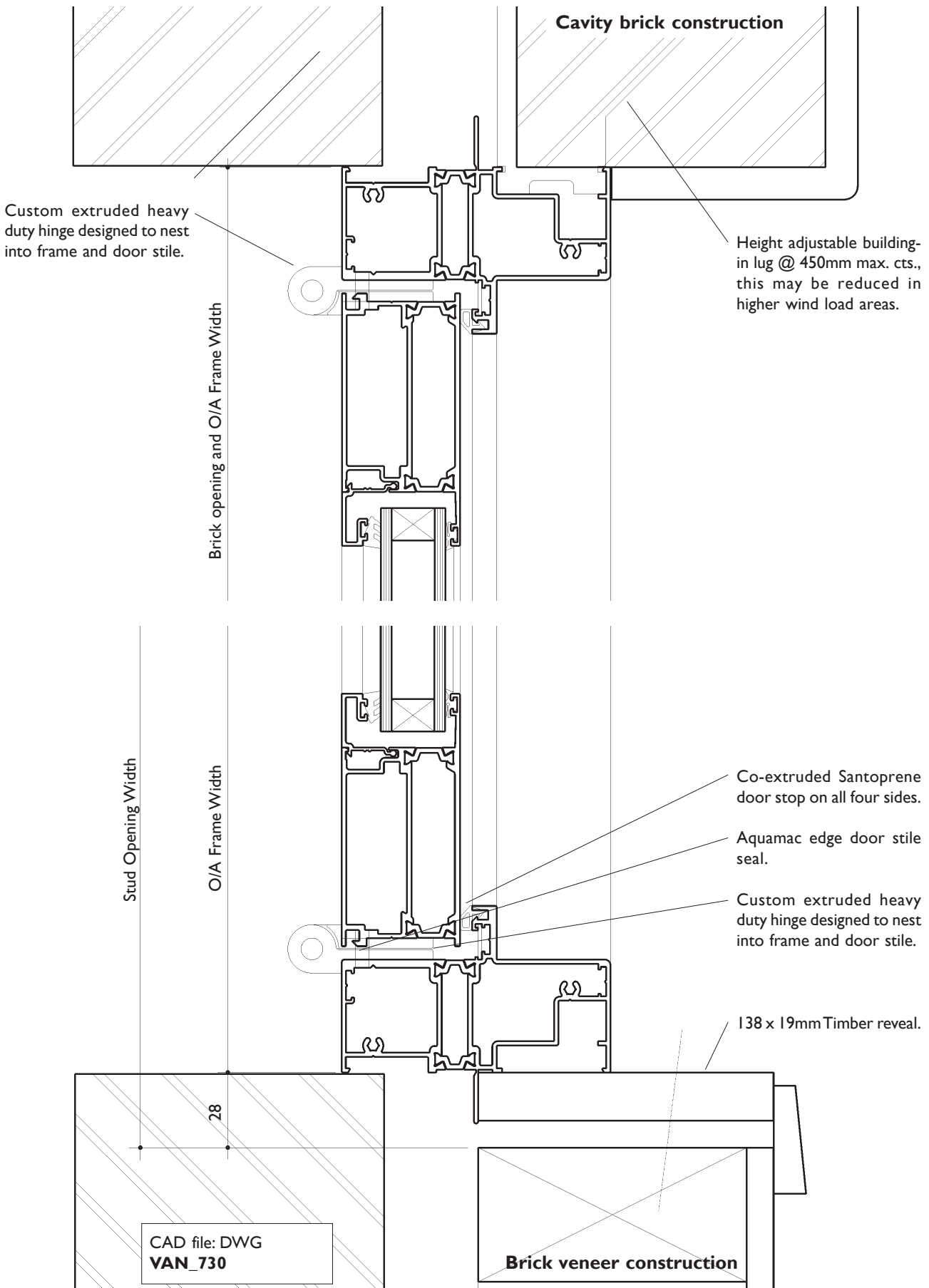


If you have chosen to install an aluminium Bi-fold door you have already decided to fit an upmarket unit, but there are differences that should be considered.

Features	Series 730	Opposition
Is the frame and door panel thermally broken ?	Yes	
<ul style="list-style-type: none"> • Series 730 is 32% more thermally efficient than non-thermally broken bi-fold with the same insulating glass unit. 		
Has Series 730 been WERS rated.	Yes	
Heavy duty perimeter frame.	Yes	
<ul style="list-style-type: none"> • The multi hollow perimeter frame is designed to support the heavy double glazed door panels. 		
Series 730 Can be supplied in dual colour	Yes	
Does the bi-fold door run on bottom rollers ?	Yes	
<ul style="list-style-type: none"> • Series 730 bottom rollers will run smoother longer. • More clearance for lintel sag. • Less chance of problems. 		
Will the Bi-fold door keep the water out - has it been tested ?	Yes	
<ul style="list-style-type: none"> • The Vantage Series 730 Bi-fold door system has been successfully tested to keep water out. • Open out door will resist up to 380Pa of water. • If sliding doors have to comply so should hinged and Bi-fold doors in our opinion. 		
Are the door jambs strong enough to support the door ?	Yes	
<ul style="list-style-type: none"> • The Vantage Series 730 doors are hinged off a heavy duty double tubular jamb with thickened webs where hinges are attached. • If the jamb is not strong enough, nothing you can do in the future will make the door perform. 		
Can the frame have fixed highlights (overlights) ?	Yes	
<ul style="list-style-type: none"> • As the weight is carried at the sill Series 730 has a range of transom details. 		
Can the door panels and fixed sidelights/highlights be double glazed ?	Yes	
<ul style="list-style-type: none"> • The heavy duty door panels are capable of carrying upto 32mm thick insulating glass. 		
Can Series 730 bi-fold doors be fitted with flydoors ?	Yes	
<ul style="list-style-type: none"> • We can fit roller screen/s behind folding door panels. 		
High quality hardware ?	Yes	
<ul style="list-style-type: none"> • Heavy duty custom hinges that are designed to suit the door and frame without having to fit shims etc. • Centre hinge between folding door panels has built-in handle to allow easy panel closing. • Quad bogey wheel carriage designed to carry the load. • 316 Stainless steel roller cowling available for high risk areas near the sea. • Folding panels locked in the closed position with heavy duty custom flush bolts (finger, lever or key operated) • Custom injection moulded lock keepers remove the need for ugly shims and cutouts in the stiles and / or frame. • Specially designed compression blocks at the four corner joints of the door. These take the "sloppiness" out of corner joints and make sure that the door stays rigid and square. Compare our door with others available and you will see what we mean about strength and rigidity. • Co-extruded Santoprene door stop seal. 		



Architectural Information
Series 730 Thermal Heart™ Bi-fold Door
 Horizontal Cross Section

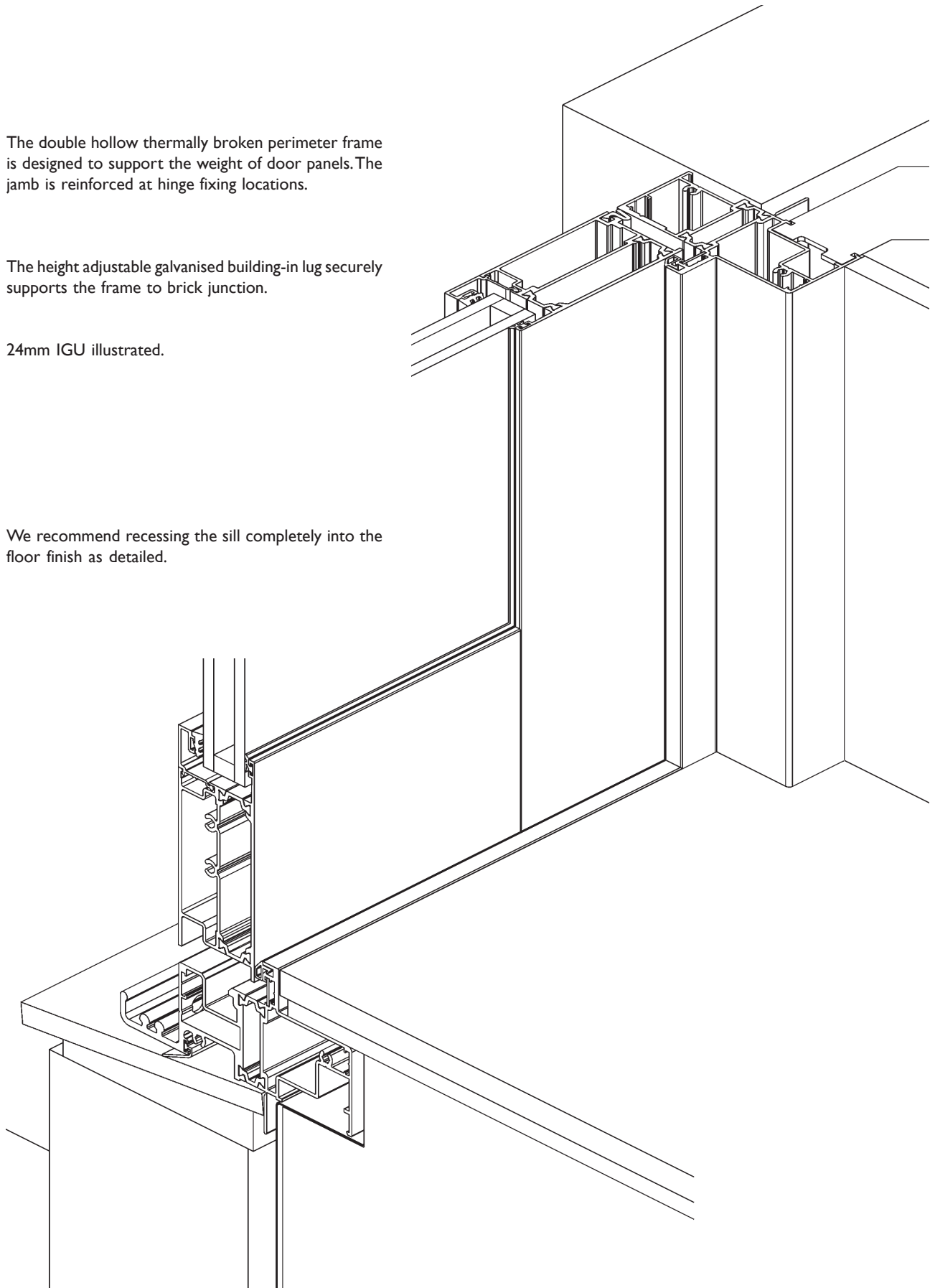


The double hollow thermally broken perimeter frame is designed to support the weight of door panels. The jamb is reinforced at hinge fixing locations.

The height adjustable galvanised building-in lug securely supports the frame to brick junction.

24mm IGU illustrated.

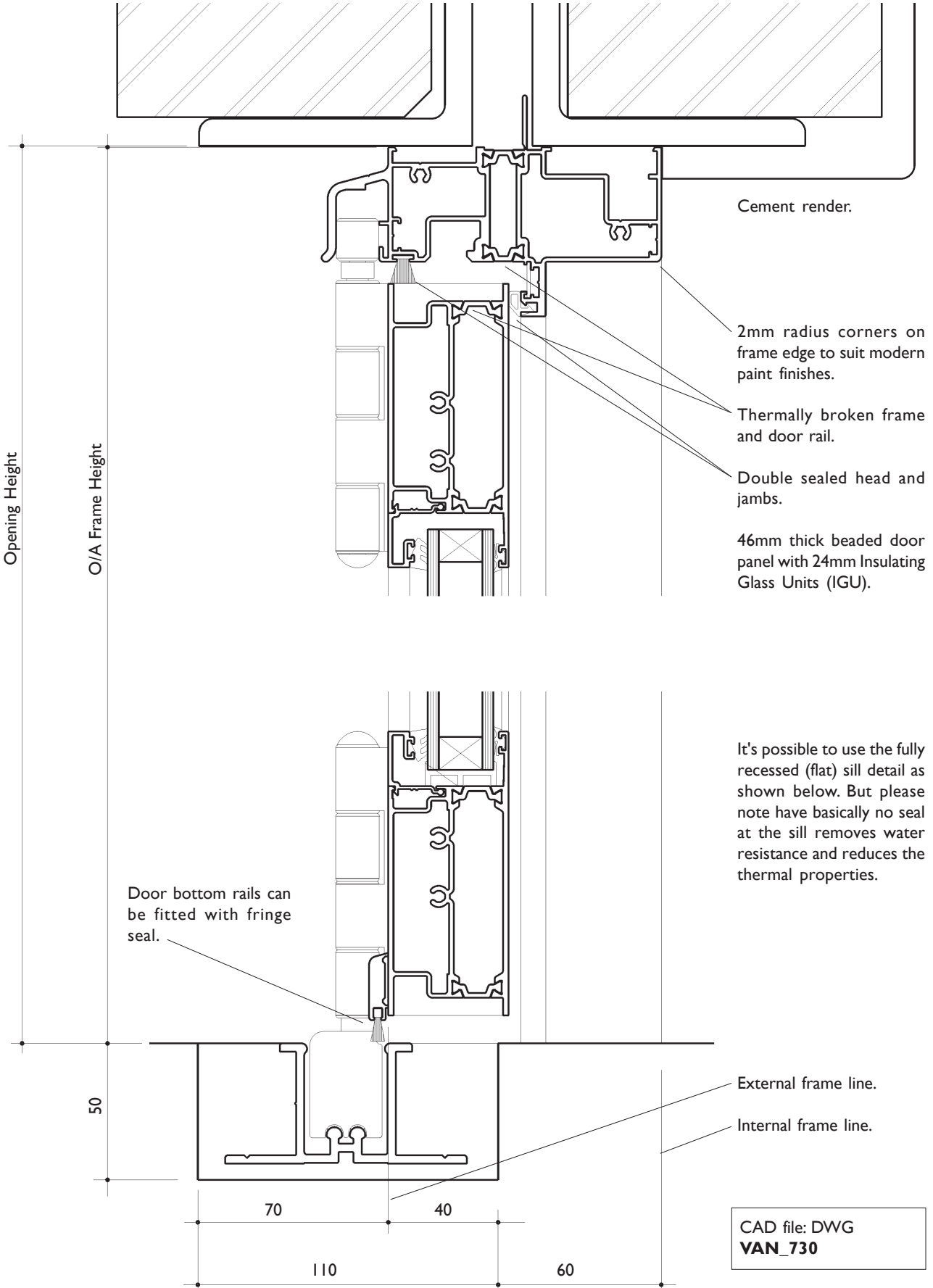
We recommend recessing the sill completely into the floor finish as detailed.



Architectural Information
Series 730 Thermal Heart™ Bi-fold Door
 Vertical Cross Section - Flat Recessed Sill

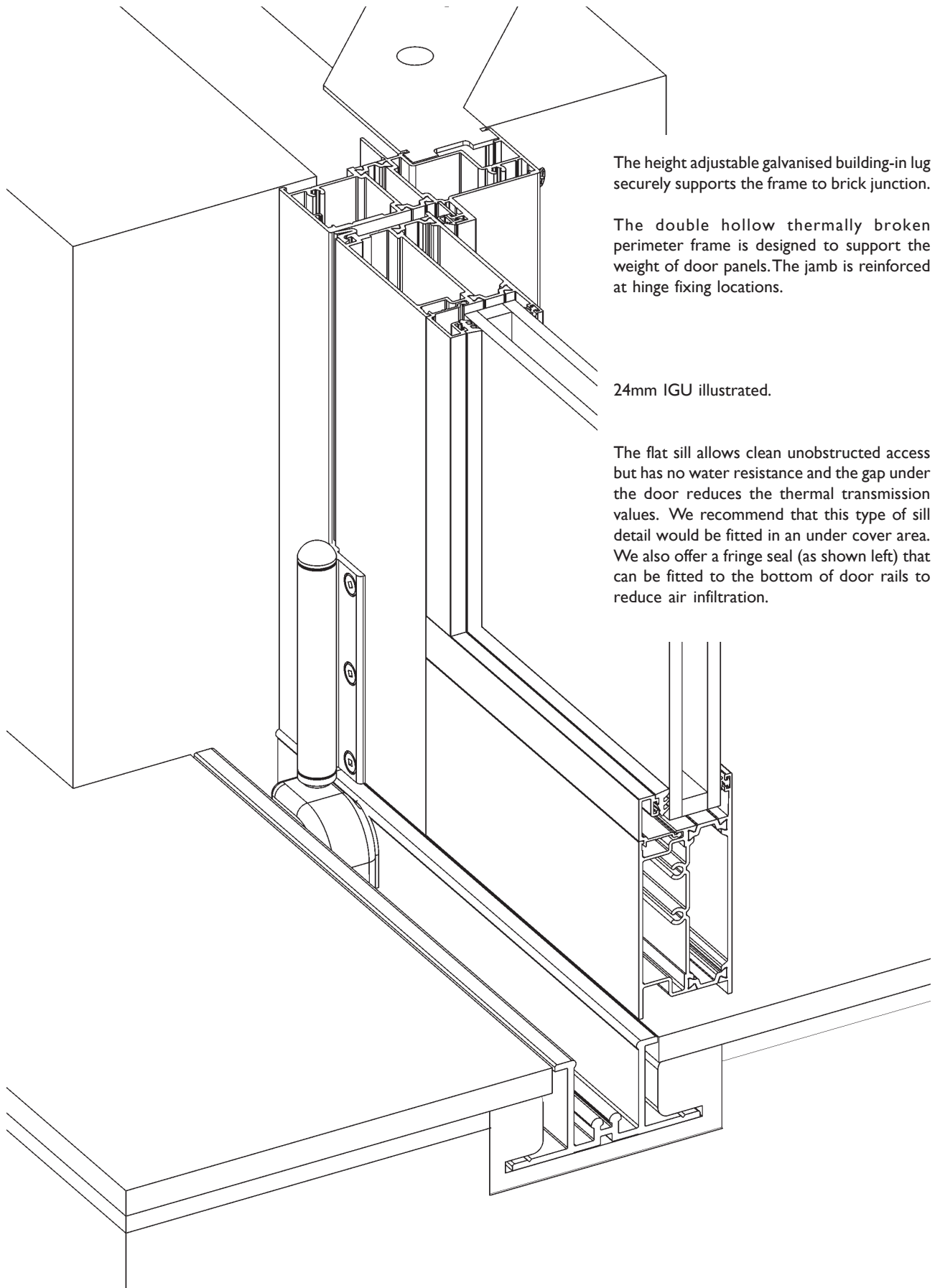


Cavity brick construction



It's possible to use the fully recessed (flat) sill detail as shown below. But please note have basically no seal at the sill removes water resistance and reduces the thermal properties.

CAD file: DWG
VAN_730



The height adjustable galvanised building-in lug securely supports the frame to brick junction.

The double hollow thermally broken perimeter frame is designed to support the weight of door panels. The jamb is reinforced at hinge fixing locations.

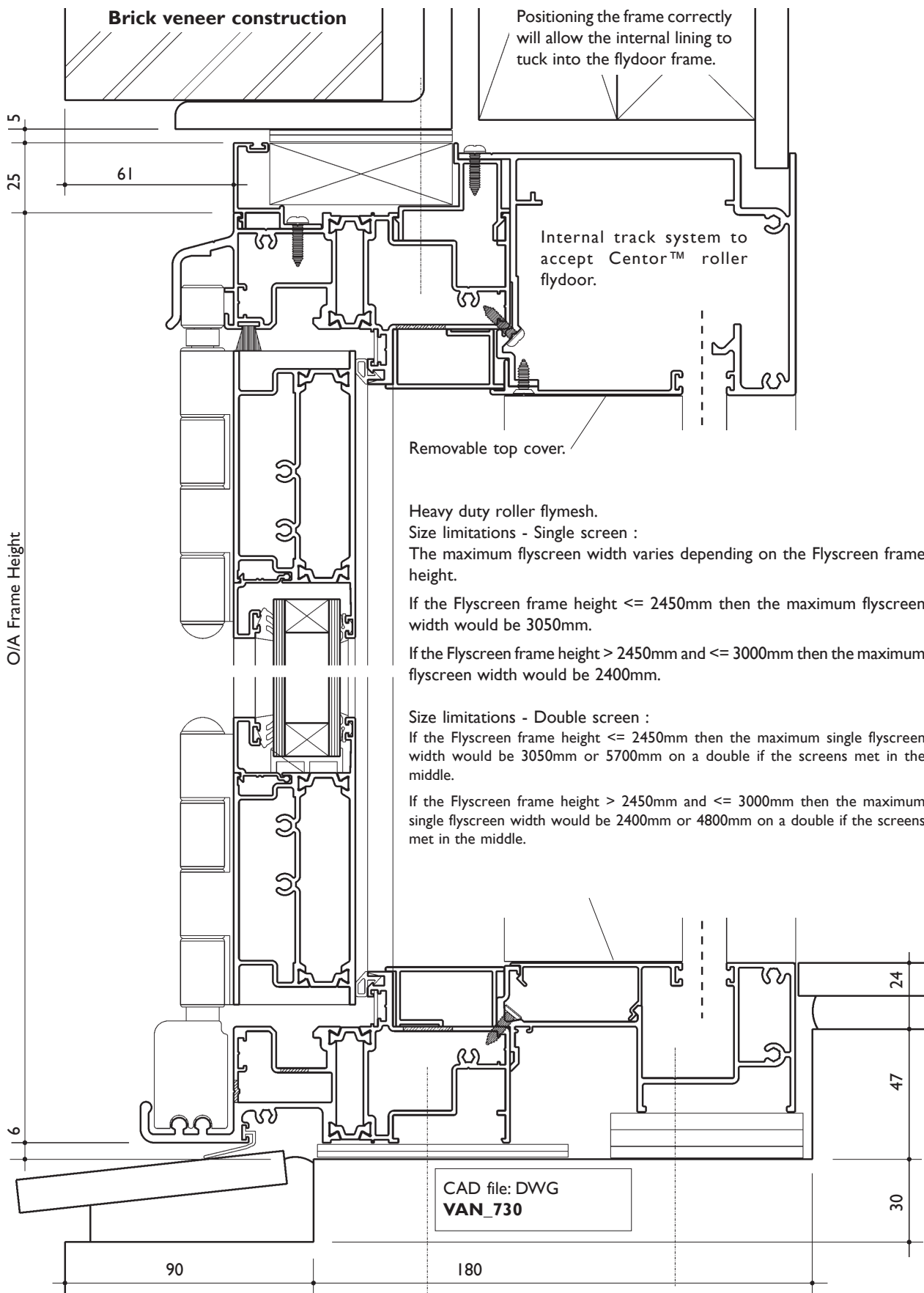
24mm IGU illustrated.

The flat sill allows clean unobstructed access but has no water resistance and the gap under the door reduces the thermal transmission values. We recommend that this type of sill detail would be fitted in an under cover area. We also offer a fringe seal (as shown left) that can be fitted to the bottom of door rails to reduce air infiltration.

Architectural Information

Series 730 Thermal Heart™ Bi-fold Door

Vertical Cross Section - With Optional Flydoor (Standard Sill)



The details on these pages show how we can fit the optional roller flydoor behind Series 730 bi-fold door.

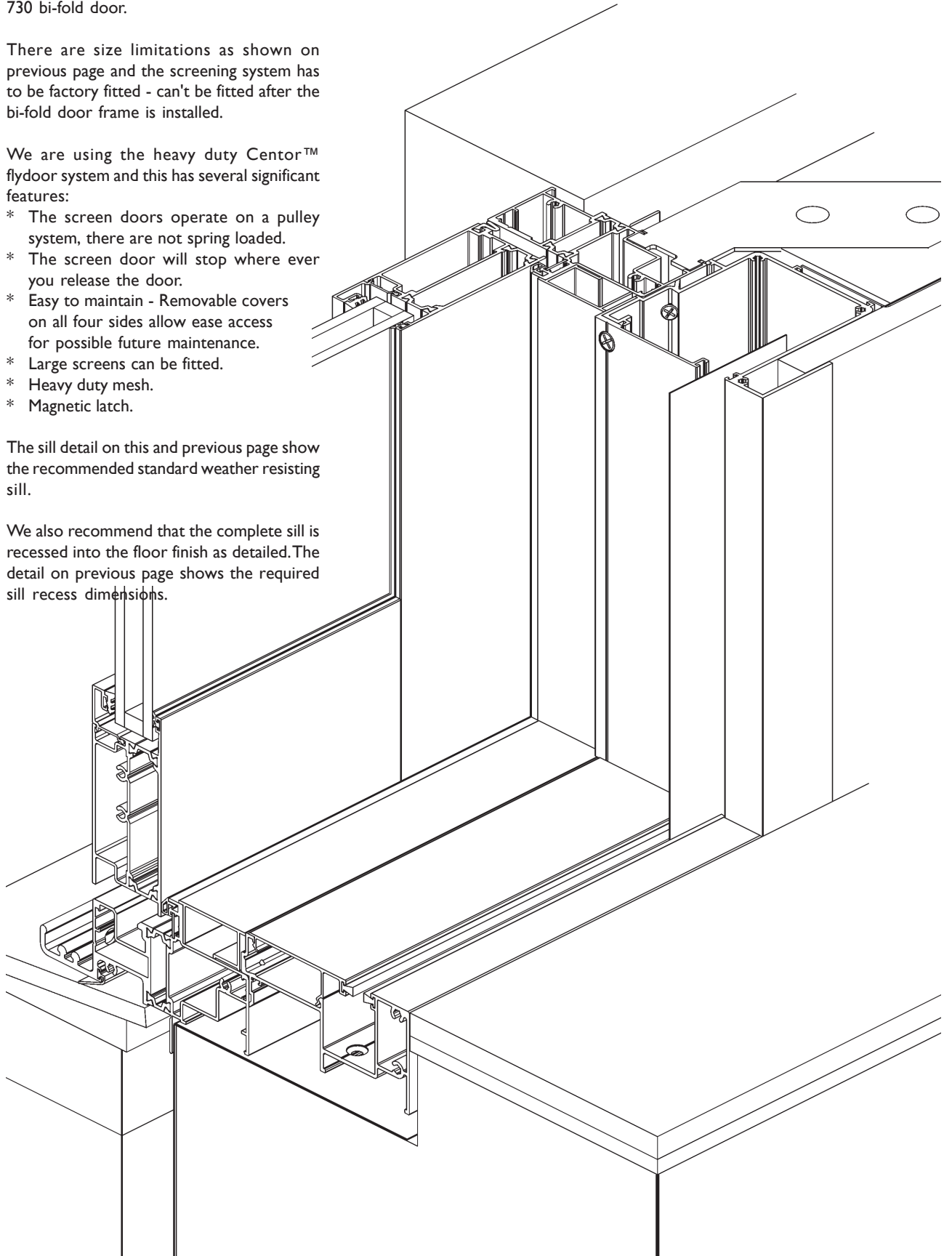
There are size limitations as shown on previous page and the screening system has to be factory fitted - can't be fitted after the bi-fold door frame is installed.

We are using the heavy duty Centor™ flydoor system and this has several significant features:

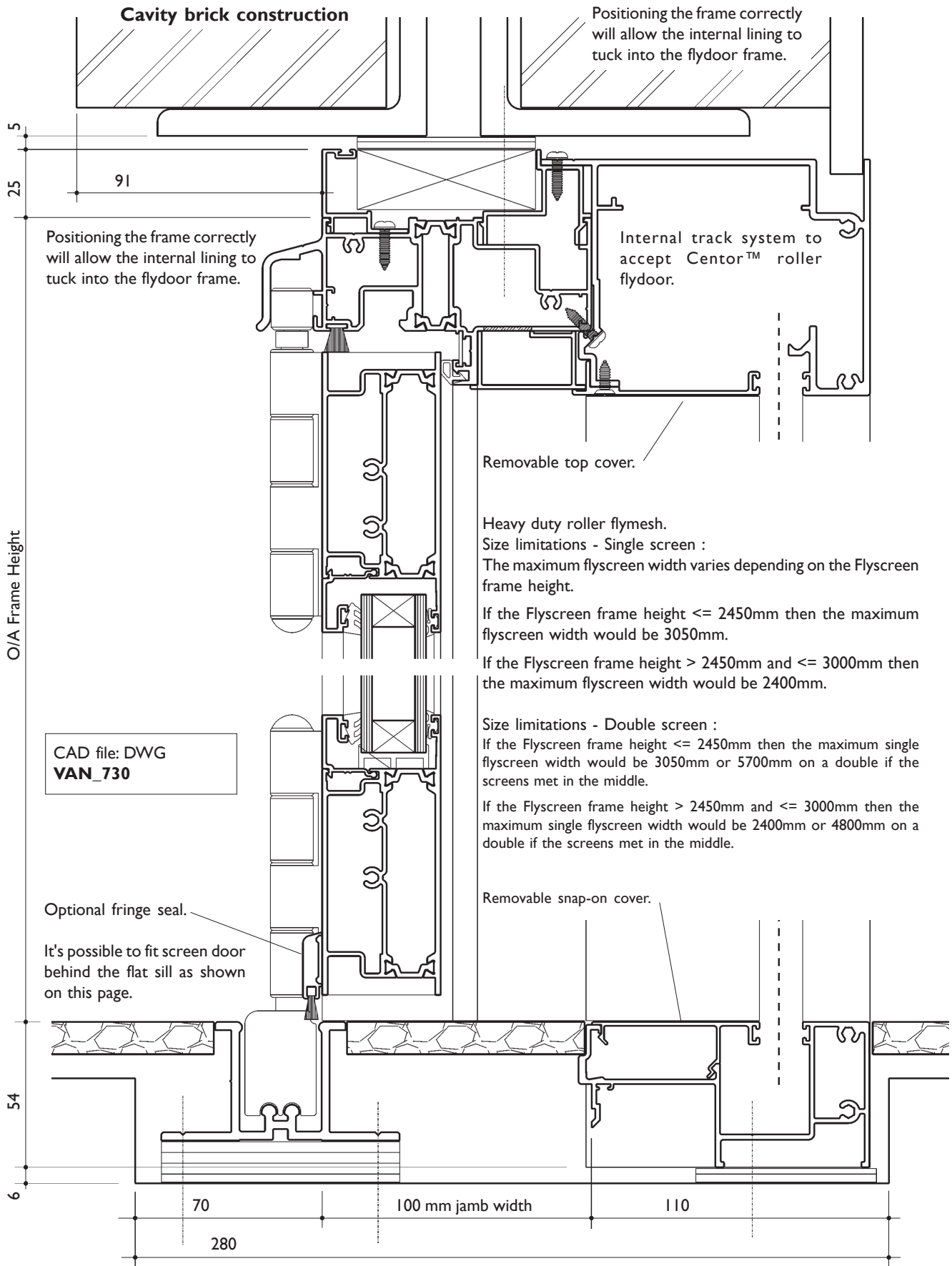
- * The screen doors operate on a pulley system, there are not spring loaded.
- * The screen door will stop where ever you release the door.
- * Easy to maintain - Removable covers on all four sides allow ease access for possible future maintenance.
- * Large screens can be fitted.
- * Heavy duty mesh.
- * Magnetic latch.

The sill detail on this and previous page show the recommended standard weather resisting sill.

We also recommend that the complete sill is recessed into the floor finish as detailed. The detail on previous page shows the required sill recess dimensions.



Architectural Information
Series 730 Thermal Heart™ Bi-fold Door
 Vertical Cross Section - With Optional Flydoor (Flat Sill)

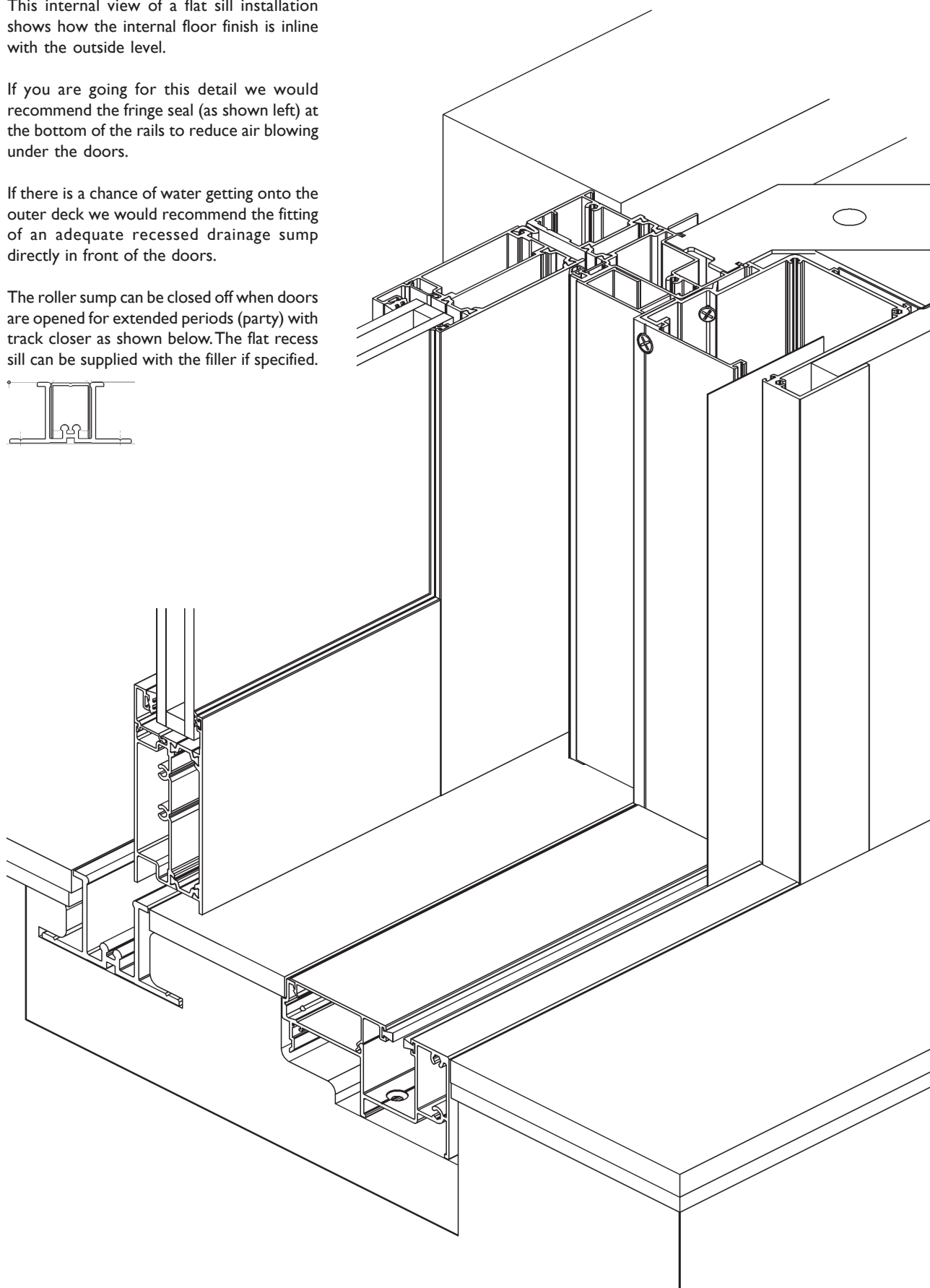
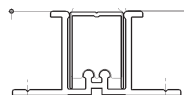


This internal view of a flat sill installation shows how the internal floor finish is in line with the outside level.

If you are going for this detail we would recommend the fringe seal (as shown left) at the bottom of the rails to reduce air blowing under the doors.

If there is a chance of water getting onto the outer deck we would recommend the fitting of an adequate recessed drainage sump directly in front of the doors.

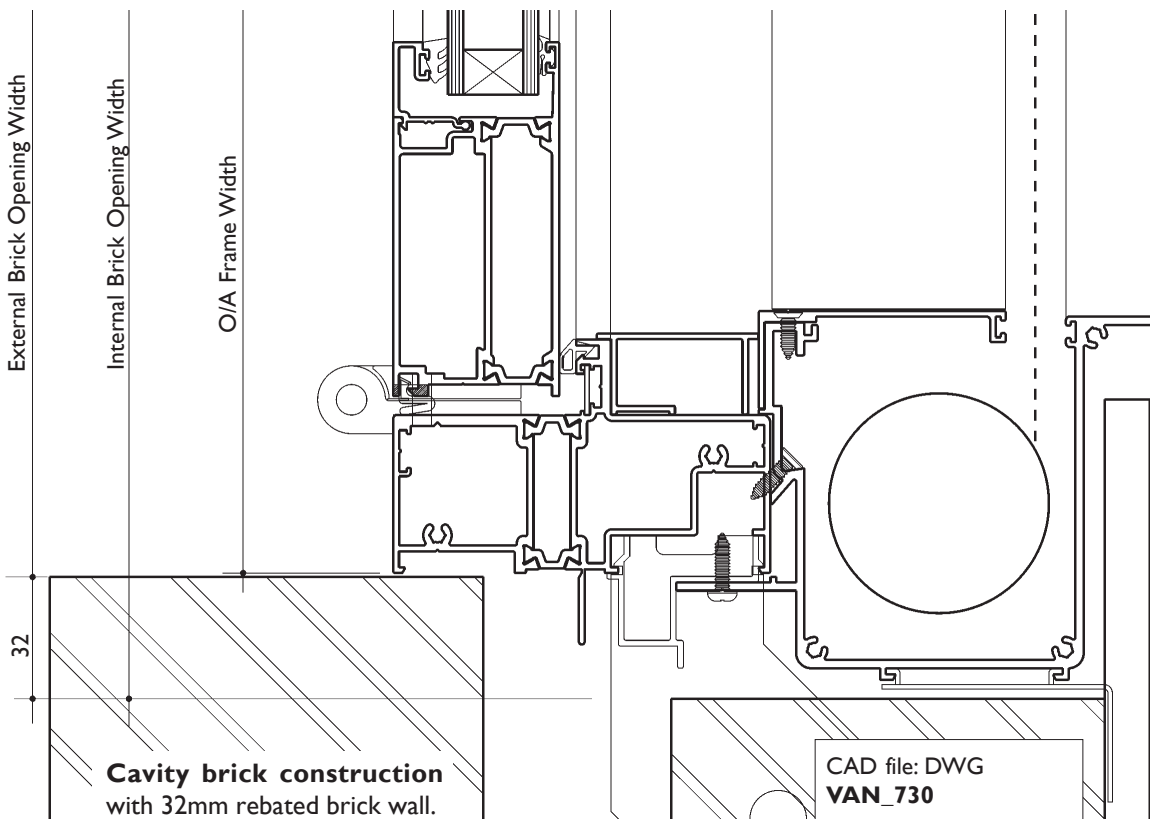
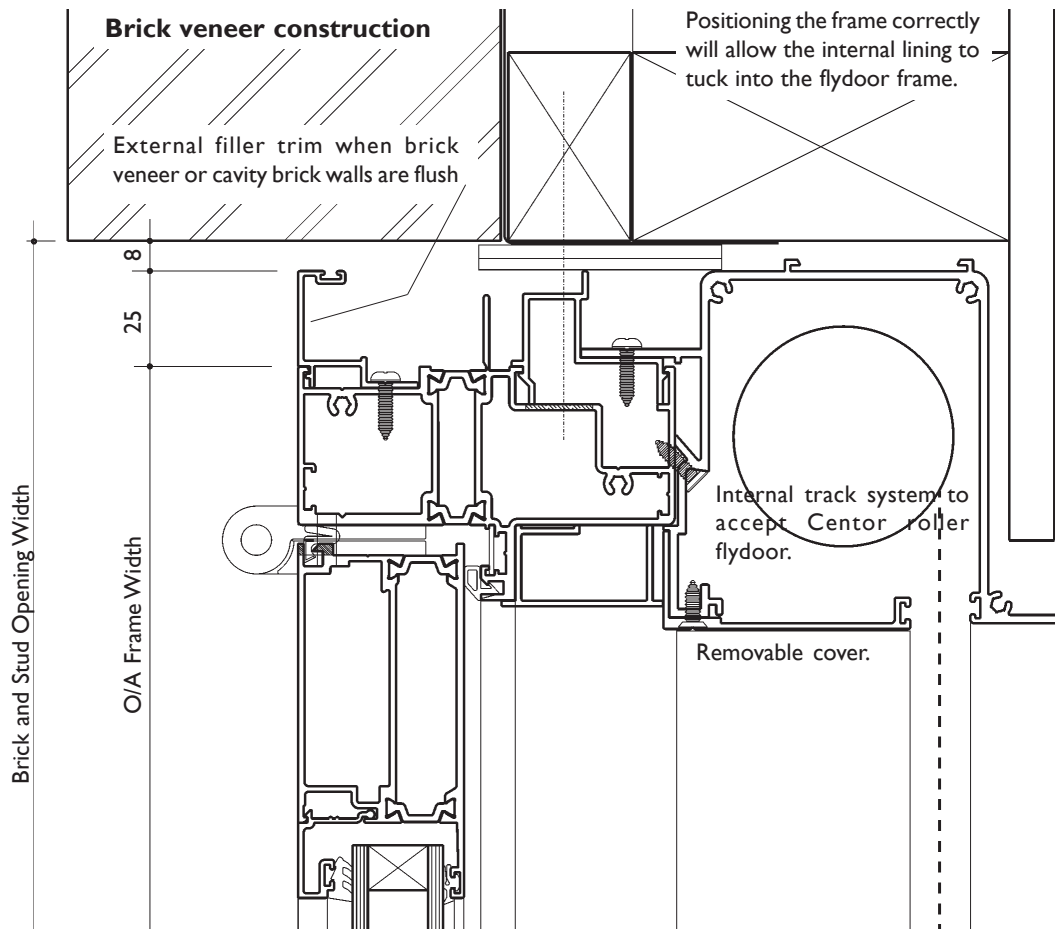
The roller sump can be closed off when doors are opened for extended periods (party) with track closer as shown below. The flat recess sill can be supplied with the filler if specified.

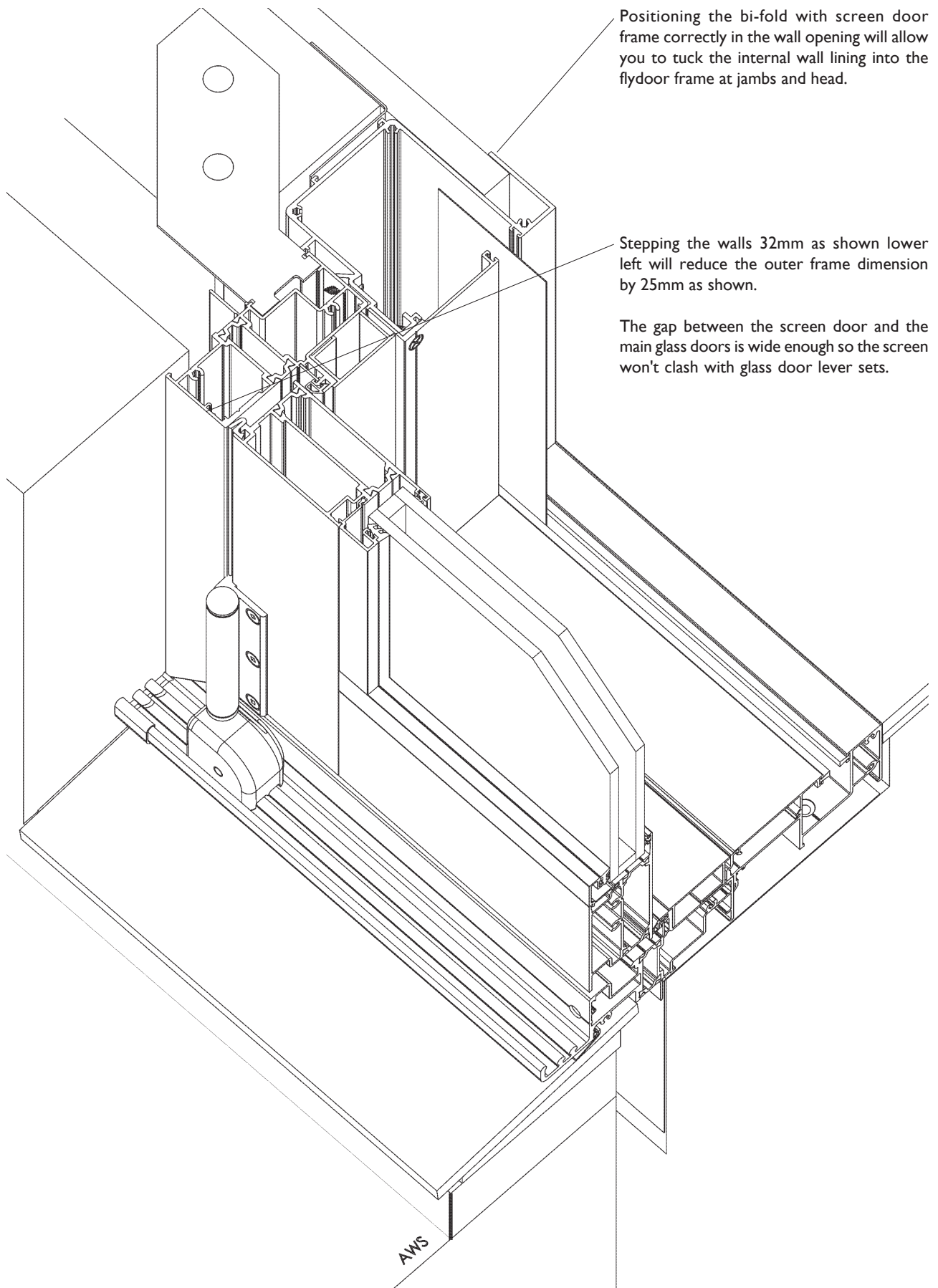


Architectural Information

Series 730 Thermal Heart™ Bi-fold Door

Horizontal Cross Section - With Optional Flydoor





Positioning the bi-fold with screen door frame correctly in the wall opening will allow you to tuck the internal wall lining into the flydoor frame at jambs and head.

Stepping the walls 32mm as shown lower left will reduce the outer frame dimension by 25mm as shown.

The gap between the screen door and the main glass doors is wide enough so the screen won't clash with glass door lever sets.



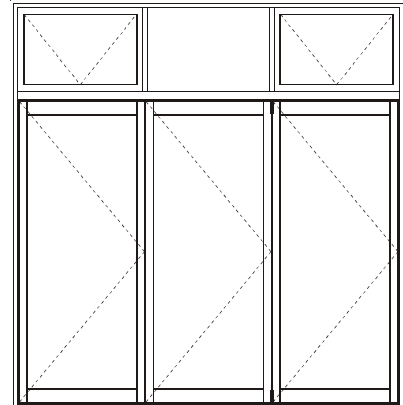
Highlight Couplers

We have thermally broken couplers that will join awning frame to hinged or bi-fold doors as shown below. Couplers can be used vertically or horizontally.

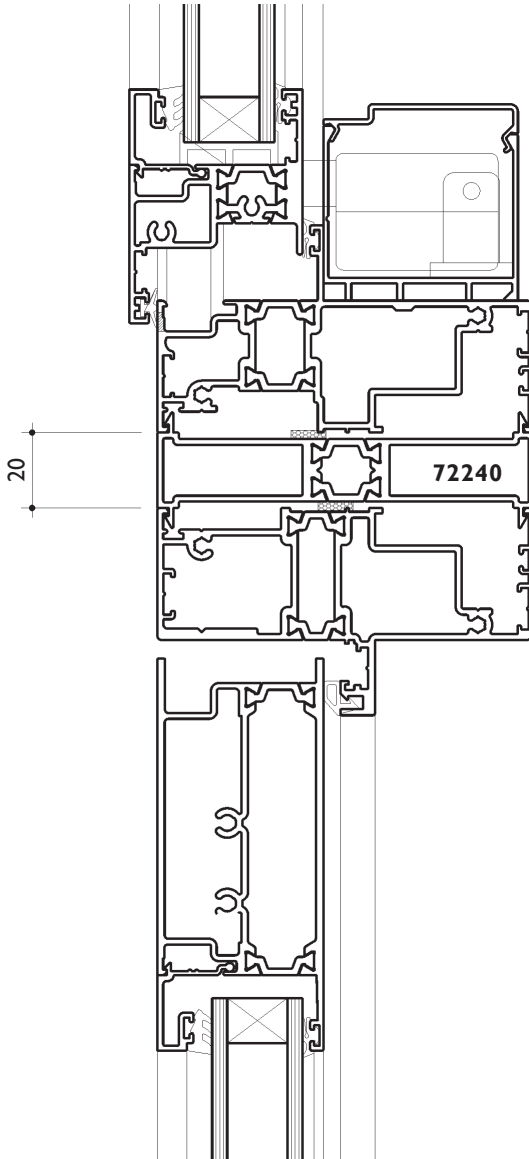
Typical strength examples:

With an awning frame 600mm high over a door 2400mm high by 3600mm wide
Standard coupler 72240 would rate 1756Pa Serviceability (1/150) 2844Pa Ultimate.
Heavy coupler 72241 would rate 2745Pa Serviceability (1/150) 4961Pa Ultimate.

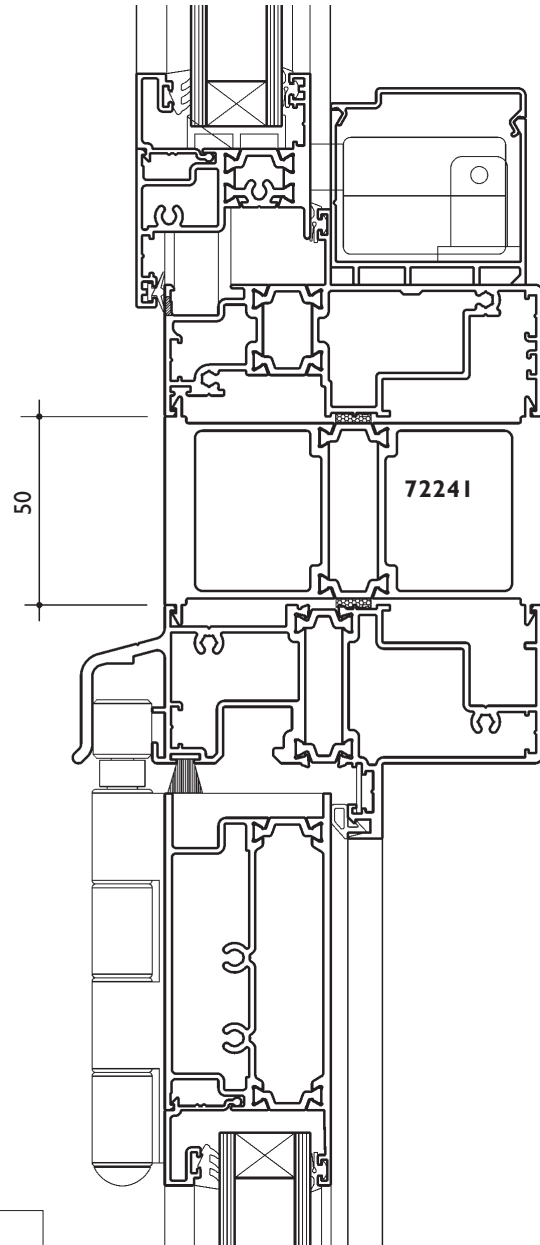
From this you can see that the standard coupler would suit most projects and the heavy coupler would get used on wider bi-fold doors or tall vertical couplers in higher wind load areas.



Awning highlight



Hinged door



Bi-fold door

CAD file: DWG
VAN_730