



Series 410 FoldMASTER™ Bi-Fold Door

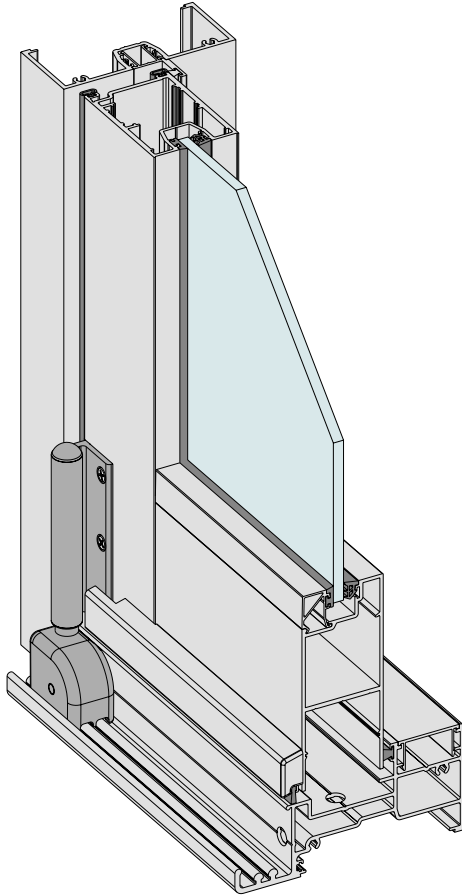


Photo courtesy of AVS Windows & Doors

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

KEY FEATURES/PERFORMANCE CHARACTERISTICS



- The Series 410 Bi-fold door is an exceptionally strong bi-fold system designed to accept the heavy duty Elevate™ Series 50, 51 and 52 doors.
- Can accommodate compliant bi-fold panels up to 3000mm high.
- Rebated door stiles give a flush appearance when the two doors meet and provide superior weather protection.
- A variety of lever and lock options including multi-point and lever compression locking for added security and improved weather performance.
- Successfully tested for water resistance at 450Pa.
- Can be configured to incorporate single or double entry doors.
- Custom door co-extruded Santoprene bulb seal for maximum weather performance.
- Door panels are supported on quad rollers running on heavy duty dual bottom rails.
- As the doors are supported at the sill (sill rollers) we can fit overlights. Overlights can be fixed glass or opening sashes.
- The maximum panel weight is 60kg, on bi-parting doors this would be 45kg.
- Optional Centor™ internal retractable screens available.

Series 410 FoldMASTER™ Bi-fold Door
External view.

Maximum Panel Height*	3000mm
Maximum Panel Width*	1000mm
Maximum Glass Thickness	≤34mm

* Subject to individual site conditions and wind loads. Contact AWS Technical Support for more information, email techsupport@awsaustralia.com.au



2D & 3D CAD FILES AVAILABLE

GO TO: www.specifyaws.com.au
CAD file: DWG and PDF 810.BFLD



MORE INFORMATION

For the latest updates regarding this product visit our website
www.specifyaws.com.au

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SOUND REDUCTION

A number of glass combinations have been tested with this system to achieve sound reduction numbers listed below.

Glass Description	Rating
6.38mm Laminated glass	STC 31 dB (A)
19mm (5mm Glass / 12mm air gap / 5mm Glass)	STC 32 dB (A)

NOTE: The actual tests were carried out on a product very similar to this window (Series 548).



WERS RATINGS

Single Glazed

Window ID	Glass Type	Uw	SHGCw	Tvw	Inf
AWS-029-01	5CLR	6.1	0.59	0.60	0.43
AWS-029-02	5SG	6.1	0.41	0.50	0.43
AWS-029-03	5GY	6.2	0.44	0.34	0.43
AWS-029-04	6.38Sct	4.6	0.48	0.55	0.43
AWS-029-05	6.38VLam	6.0	0.57	0.60	0.43
AWS-029-06	6SnClr	5.0	0.42	0.46	0.43
AWS-029-07	6EVanBG	4.8	0.32	0.38	0.43
AWS-029-08	6EVanClr	4.8	0.44	0.45	0.43
AWS-029-09	6EVanGy	4.8	0.29	0.22	0.43
AWS-029-10	6EVanSpB	4.8	0.26	0.26	0.43
AWS-029-11	6EVanSpGn	4.8	0.26	0.32	0.43
AWS-029-12	6.38LamSpGy	6.1	0.26	0.09	0.43
AWS-029-13	6.38TLam	6.1	0.29	0.23	0.43
AWS-029-14	6.38SnClr	4.9	0.41	0.46	0.43
AWS-029-15	6.38SnGy	5.0	0.31	0.21	0.43
AWS-029-16	6.38CPClr	4.6	0.48	0.56	0.43
AWS-029-17	6.38CPGn	4.6	0.36	0.48	0.43
AWS-029-18	6.38CPGy	4.6	0.35	0.26	0.43
AWS-029-19	10SnClr	4.9	0.41	0.45	0.43
AWS-029-20	10.38TLam	4.5	0.36	0.41	0.43
AWS-029-21	10.38SnClr	4.8	0.39	0.45	0.43
AWS-029-22	10.38ClrLam	5.90	0.45	0.46	0.43
AWS-029-23	10.38GyLam	5.90	0.20	0.08	0.43

HOW TO SPECIFY

SYSTEM NAME

Elevate Aluminium Systems Series 410
FoldMASTER™ Bi-fold Door

FINISH

Powder Coat
Anodised

COLOUR

Select from the AWS range of approved powder coat or anodising colours

GLASS

Specify thickness ≤24mm

Specify thermal performance where applicable (Uv & SHGC)

Specify acoustic performance where applicable (STC)



Specification Assistance

Need help specifying this product? Email techsupport@awsaustralia.com.au and our qualified technical advisors will assist you with product selection and specification for your project.

NOTES

1. Uw is the whole window U-value
2. SHGCw is the whole window solar heat gain coefficient
3. Twv is the whole window visible (light) transmittance
4. Maximum air infiltration is 5.0L/s.m2 at a positive pressure difference of 75 Pa as measured according to AS 2047
5. Static performance (Uw SHGCw Twv Tdw) calculated using Window 6.3 and Therm 6.3 software (LBNL), 1999-2010
6. Results disclosed at Australian Fenestration Rating Council (AFRC) regulations.
7. Ratings for use with Section J of the Building Code of Australia - Class 2-9

For the latest WERS data for this system visit www.wers.net

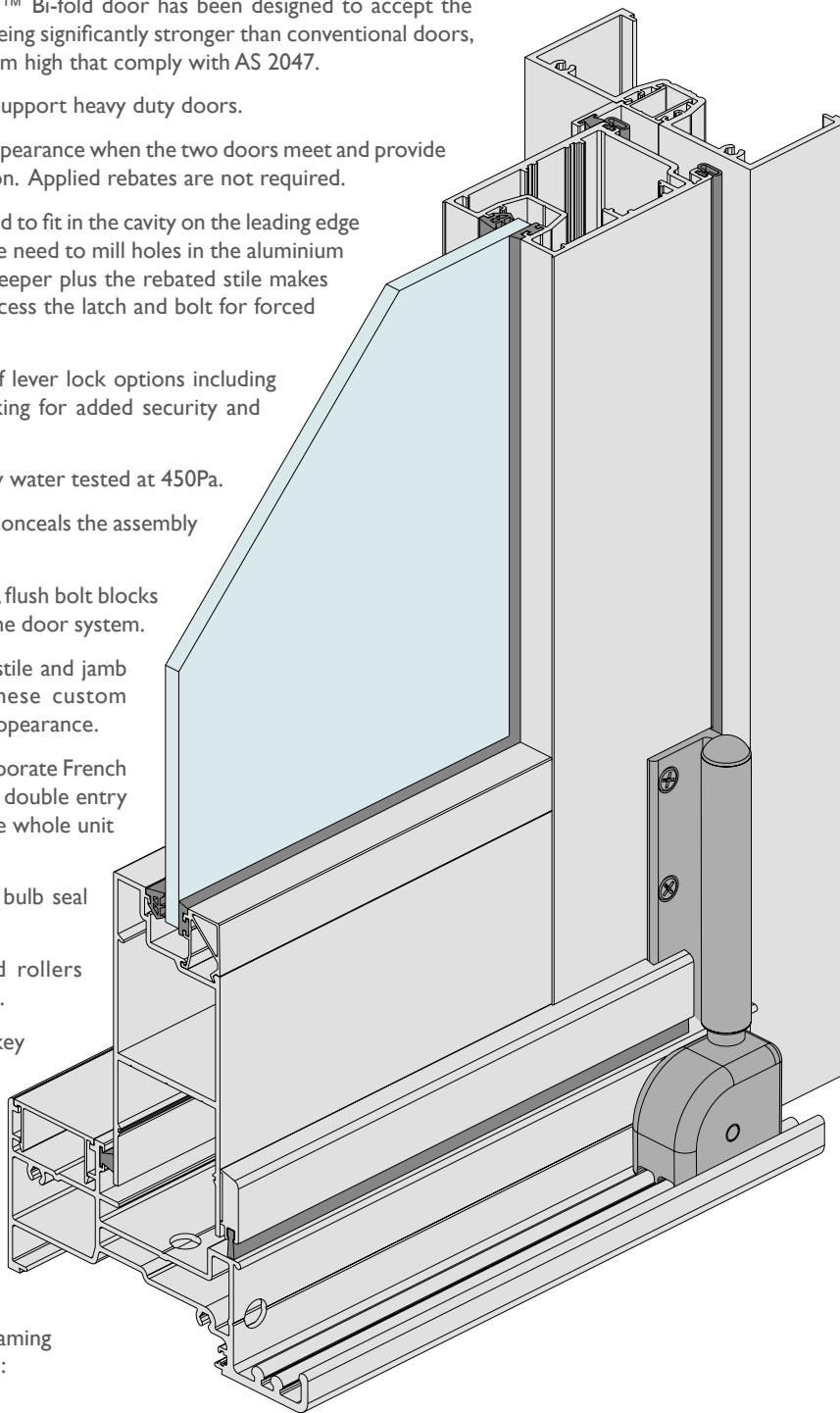


Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
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DESIGN FEATURES

- The Elevate™ Series 410 FoldMASTER™ Bi-fold door has been designed to accept the heavy-duty Series 50, 51 and 52 doors. Being significantly stronger than conventional doors, we can offer bi-fold panels up to 3000mm high that comply with AS 2047.
- Bold square frame is strong enough to support heavy duty doors.
- Rebated French door stiles give a flush appearance when the two doors meet and provide superior security and weather protection. Applied rebates are not required.
- Concealed lock keepers specially designed to fit in the cavity on the leading edge of the "lazy side" door and eliminates the need to mill holes in the aluminium for latch and lock bolt. This recessed keeper plus the rebated stile makes it extremely difficult for intruders to access the latch and bolt for forced entry.
- Doors can be supplied with a variety of lever lock options including multi-point and lever compression locking for added security and improved weather performance.
- The Bi-fold doors have been successfully water tested at 450Pa.
- Seamless type door panel construction conceals the assembly joint.
- Custom injection moulded lock keepers, flush bolt blocks and extruded bolt guides complement the door system.
- Custom hinges wrap around the door stile and jamb removing the need for shimming. These custom components dramatically improve the appearance.
- Bi-fold door can be constructed to incorporate French doors. The unit can be used as single or double entry doors but when the occasion arrives the whole unit can be opened.
- Custom door co-extruded Santoprene bulb seal for maximum weather performance.
- Bi-fold doors are supported on quad rollers running on heavy duty dual bottom rails.
- Bi-fold panels can be secured with key operated twinbolts.
- Highlights (fixed or awning) above the doors can be fitted into very tall openings.
- Optional Centor™ roller flyscreen behind the bi-fold doors available.



Compatibility:

We have designed a number of compatible framing suites that can be coupled or used together:

- Series 400 CentreGLAZE™ framing.
- Series 406 FrontGLAZE™ framing (102mm wide).
- Series 461 to 467 Commercial windows.
- 424 Double glazed CentreGLAZE™ framing.
- 426 Double glazed FrontGLAZE™ framing.

Series 410 FoldMASTER™ BI-FOLD DOOR

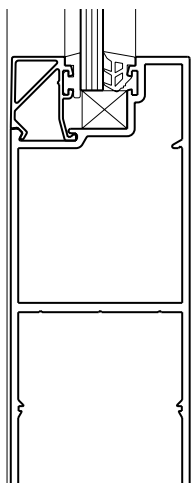
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DOOR OPTIONS

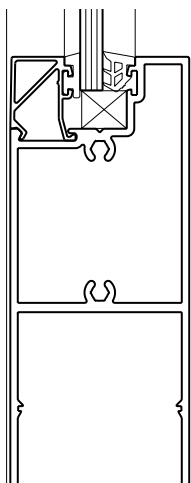
Three door options

Elevate™ offer three different types of doors as shown below.

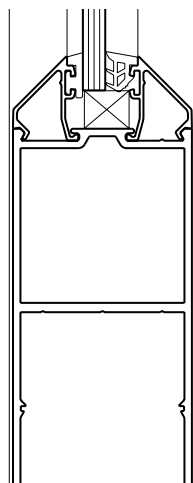
For more information including joinery details, refer Series 400 CentreGLAZE™ framing.



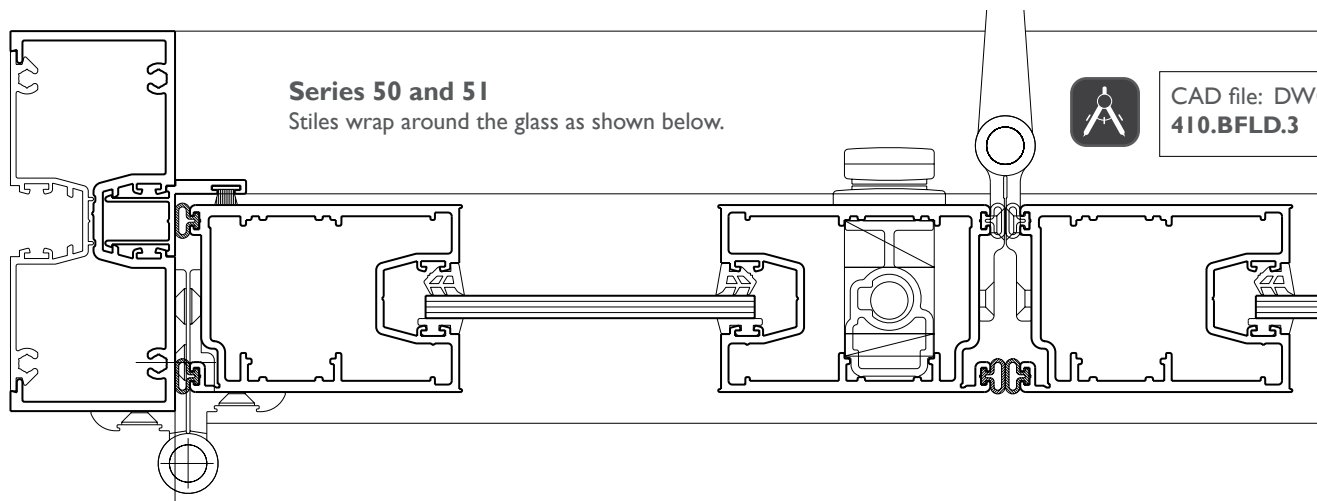
Series 50
Horizontal external beads only with aluminium corner spigot joinery.



Series 51
Horizontal external beads only with screw spline joinery.



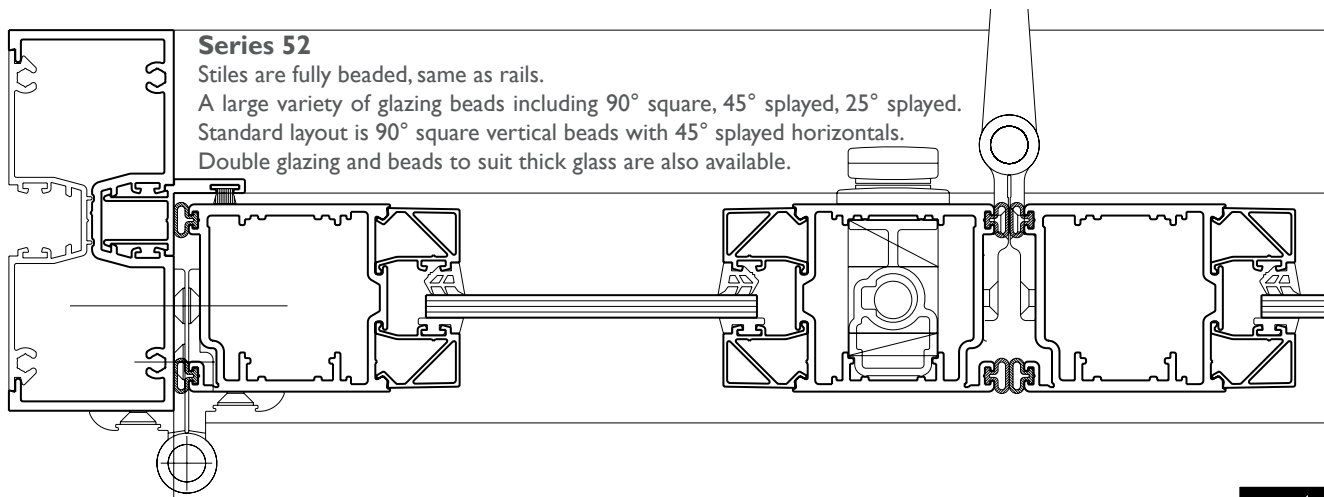
Series 52
Fully beaded (inside and out) with aluminium corner spigot joinery.



Series 50 and 51
Stiles wrap around the glass as shown below.



CAD file: DWG
410.BFLD.3

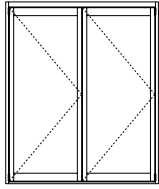


Series 52
Stiles are fully beaded, same as rails.
A large variety of glazing beads including 90° square, 45° splayed, 25° splayed.
Standard layout is 90° square vertical beads with 45° splayed horizontals.
Double glazing and beads to suit thick glass are also available.

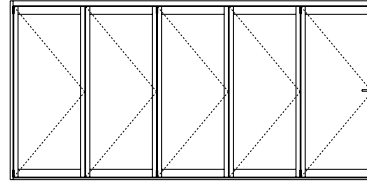
Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
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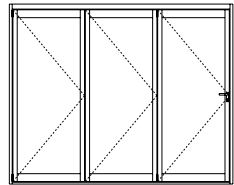
PRODUCT RANGE AND LIMITATIONS



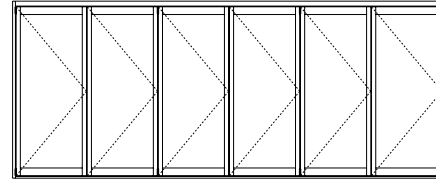
type BFD2
Doors fold to one side with no loose leaves.
Min. width = 1309mm
Max. width = 2109mm



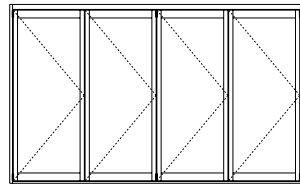
type BFD5
Doors fold to one side with one loose leaf on the end.
Min. width = 3133mm
Max. width = 5133mm



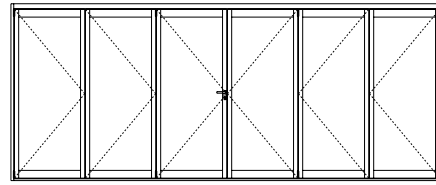
type BFD3
Doors fold to one side with one loose leaf on the end.
Min. width = 1915mm
Max. width = 3115mm



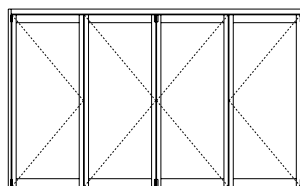
type BFD6
Doors fold to one side with no loose leaves.
Min. width = 3741mm
Max. width = 6141mm



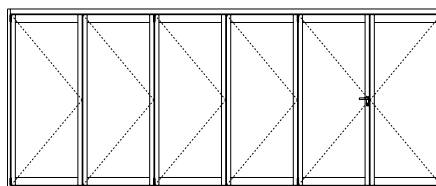
type BFD4
Doors fold to one side with no loose leaves.
Min. width = 2525mm
Max. width = 4125mm



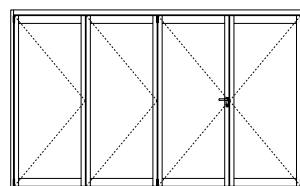
type BFD3+3
Doors fold to both sides with pair of French doors.
Min. width = 3738mm
Max. width = 6138mm



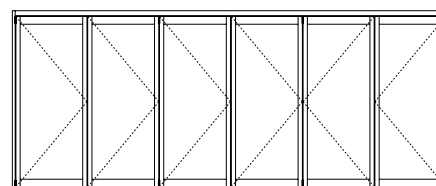
type BFD2+2
Doors fold to both sides with no loose leaves.
Min. width = 2522mm
Max. width = 4122mm



type BFD5+1
Doors fold to one side with pair of French doors at end.
Min. width = 3738mm
Max. width = 6138mm



type BFD3+1
Doors fold to one side with pair of French doors at end.
Min. width = 2522mm
Max. width = 4122mm



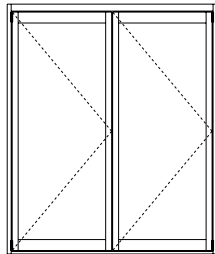
type BFD4+2
Doors fold to both sides with no loose leaves.
Min. width = 3738mm
Max. width = 6138mm



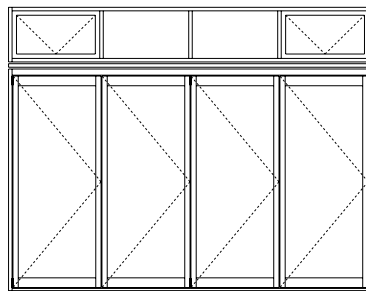
Series 410 FoldMASTER™ BI-FOLD DOOR

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PERFORMANCE LIMITATIONS



Typical example
type. BFD2



Transom

Bi-fold doors with fixed or awning highlights.

Important Notes:

The ratings listed right cover the strength of the transom only.

S = Serviceability limit state (deflection = L/250).

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

These tables have been calculated using section properties.

Serviceability strength rating has been limited to 3333 Pa and Ultimate strength rating has been limited to 5000 Pa.

Maximum Bi-fold Door Panel Sizes

Maximum panel weight 60kg per panel
45kg per panel on type BFD2, BFD4, BFD2+2, BFD6 and BFD4+2 (limited by type 'M' and 'N' rollers).

Maximum panel width 1000mm

Maximum panel height 3000mm

Will vary depending on weight, design wind load and allowable metal deflection.

Double glazed doors may be limited by the availability of large IGU panels

Hinge quantity 3. hinges - height less than or equal to 2200mm

4. hinges - height greater than 2200mm

When using four hinges we recommend that the lower central inner hinge has the pull handle.

Sound Transmission Loss

Door glazed with 6.38mm laminated glass rates 31 dB(A)

Door glazed with 19mm IGU made up of two layers of 5mm toughened glass rates 32 dB(A) Based on tests carried out on a similar product (Series 548).

Panel Height mm	Panel Width mm	Series 50 & 51		Series 52	
		S (pa)	U (Pa)	S (pa)	U (Pa)
2100	700	2025	5000	1546	4952
2100	900	1623	5000	1239	3951
2100	1000	1487	4752	1135	3611
2400	700	1342	4945	1025	3757
2400	900	1068	3921	815	2979
2400	1000	974	3570	744	2712
2700	700	936	3883	714	2951
2700	900	741	3066	566	2330
2700	1000	674	2785	515	2116

Wind Ratings (Pa) Bi-fold door meeting stiles.

Frame Width mm	Door Height mm	Window Height mm	Light		Heavy	
			S (pa)	U (Pa)	S (pa)	U (Pa)
3600	2100	600	710	1477	1632	3007
3600	2400	600	664	1375	1526	2799
3900	2100	600	550	1240	1263	2525
3900	2400	600	511	1148	1173	2337
4200	2100	600	-	-	998	2153
4200	2400	600	-	-	923	1984
4500	2100	600	-	-	803	1858
4500	2400	600	-	-	740	1707
4800	2100	600	-	-	656	1621
4800	2400	600	-	-	603	1485
5100	2100	600	-	-	543	1427
5100	2400	600	-	-	-	-

Wind Ratings (Pa) Bi-fold door transoms.

Transom Configurations:

Light transom made up of head with pocketed filler. Heavy transom made up of head with tubular snap filler. Details of both transoms are shown later in these notes.

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HEAD – SERIES 52 DOOR

Heavy duty tubular head.

The top of the doors are protected by the roller guide channel which acts as a drip mould.

Custom top roller bearing runs in frame channel guide.

Weatherpile head seal keeps water out of the door top rail.

Internal weatherpile fin seal.

Snap-in inner cover plate covers head fixings.

50mm thick doors allow large (tall) door panels, refer Pascal rating tables on previous page.

Series 52 doors can be glazed with 45° splayed beads all round as shown or:

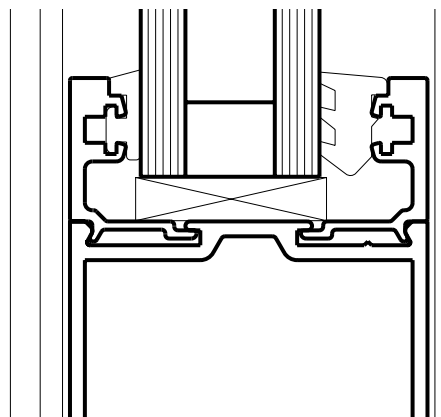
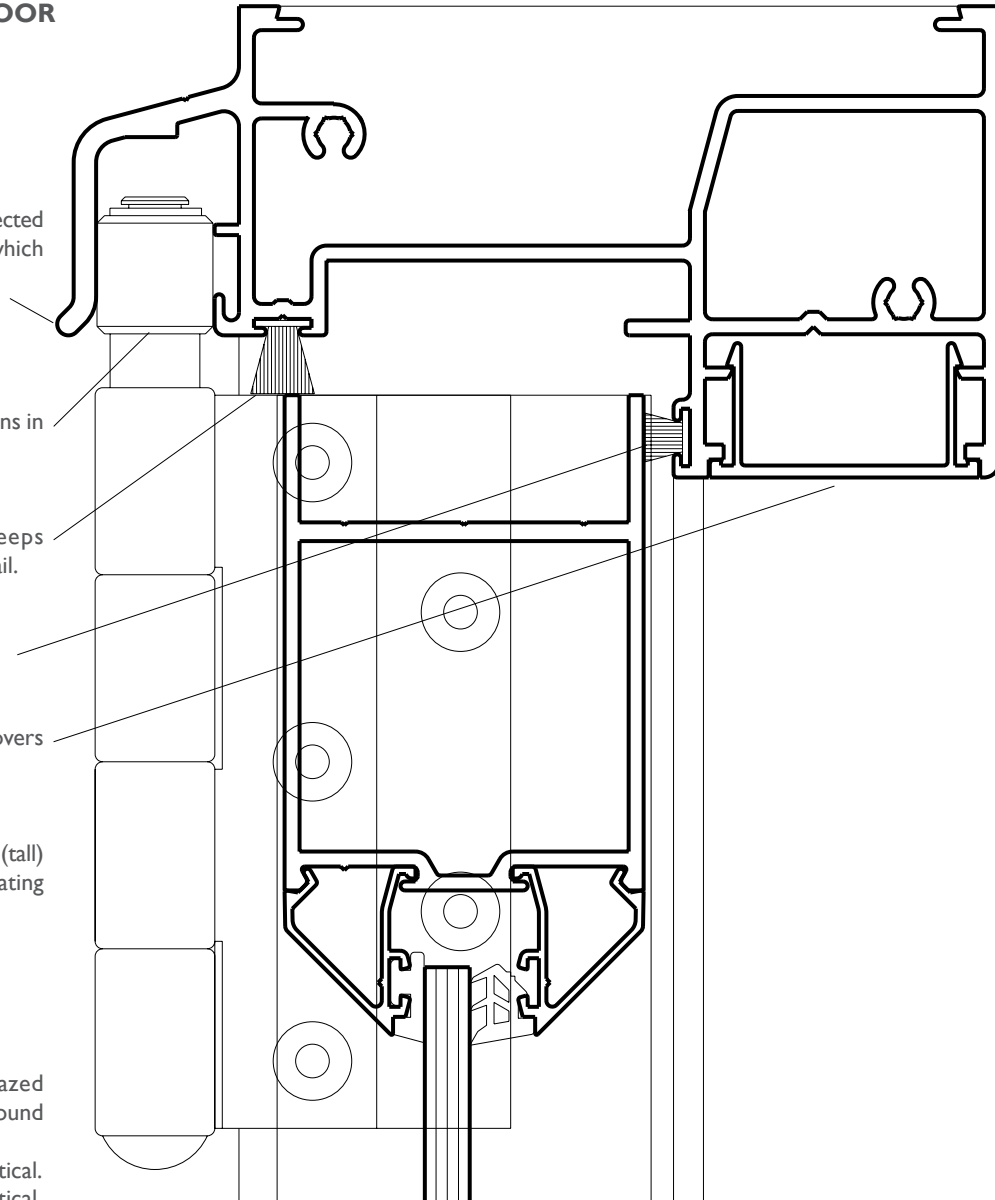
- 45° horizontal and 90° vertical.
- 25° horizontal and 90° vertical.
- or 90° all round.

Safety glass in accordance with AS 1288.

Series 52 doors can also be double glazed with up to 34mm insulating glass units.



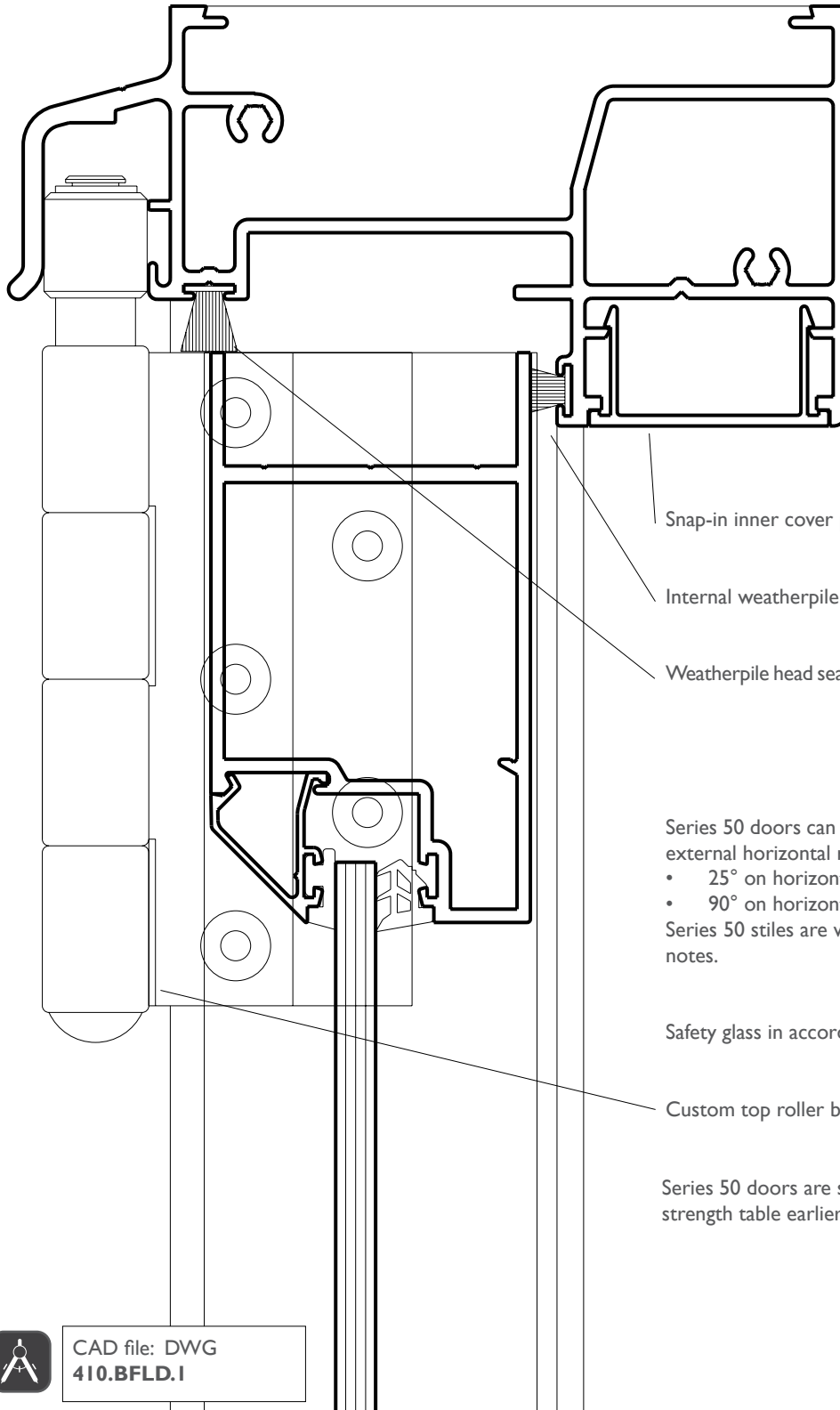
CAD file: DWG
410.BFLD.I



Series 410 FoldMASTER™ BI-FOLD DOOR

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HEAD – SERIES 50 DOOR



Snap-in inner cover plate covers head fixings.

Internal weatherpile fin seal.

Weatherpile head seal keeps water out of the door top rail.

Series 50 doors can be glazed with 45° splayed beads on external horizontal rails as drawn left or:

- 25° on horizontals or.
- 90° on horizontals.

Series 50 stiles are wrap around as shown later in these notes.

Safety glass in accordance with AS 1288.

Custom top roller bearing runs in frame channel guide.

Series 50 doors are stronger than series 52, refer strength table earlier in this section.

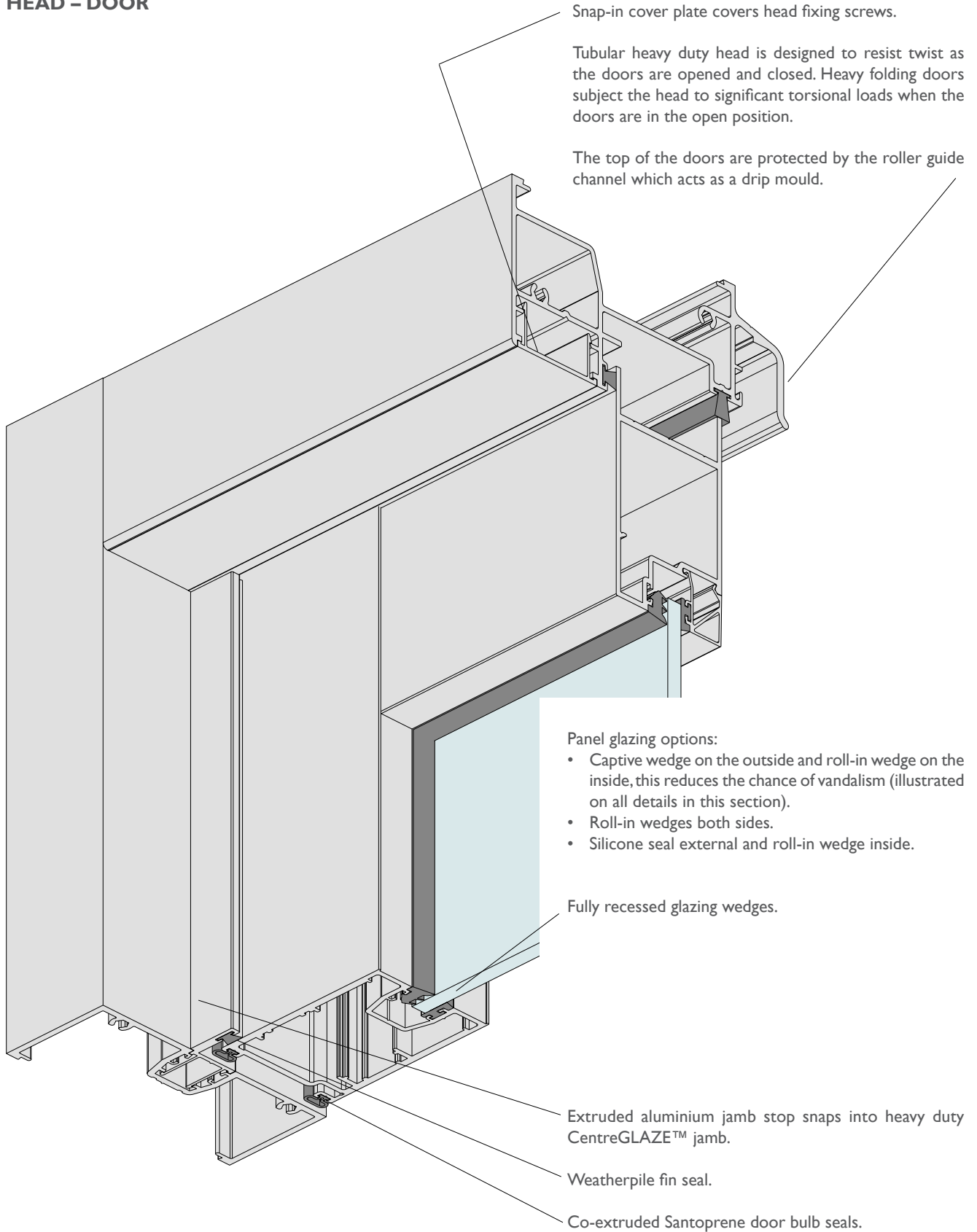


CAD file: DWG
410.BFLD.I

Series 410
FoldMASTER™ BI-FOLD DOOR

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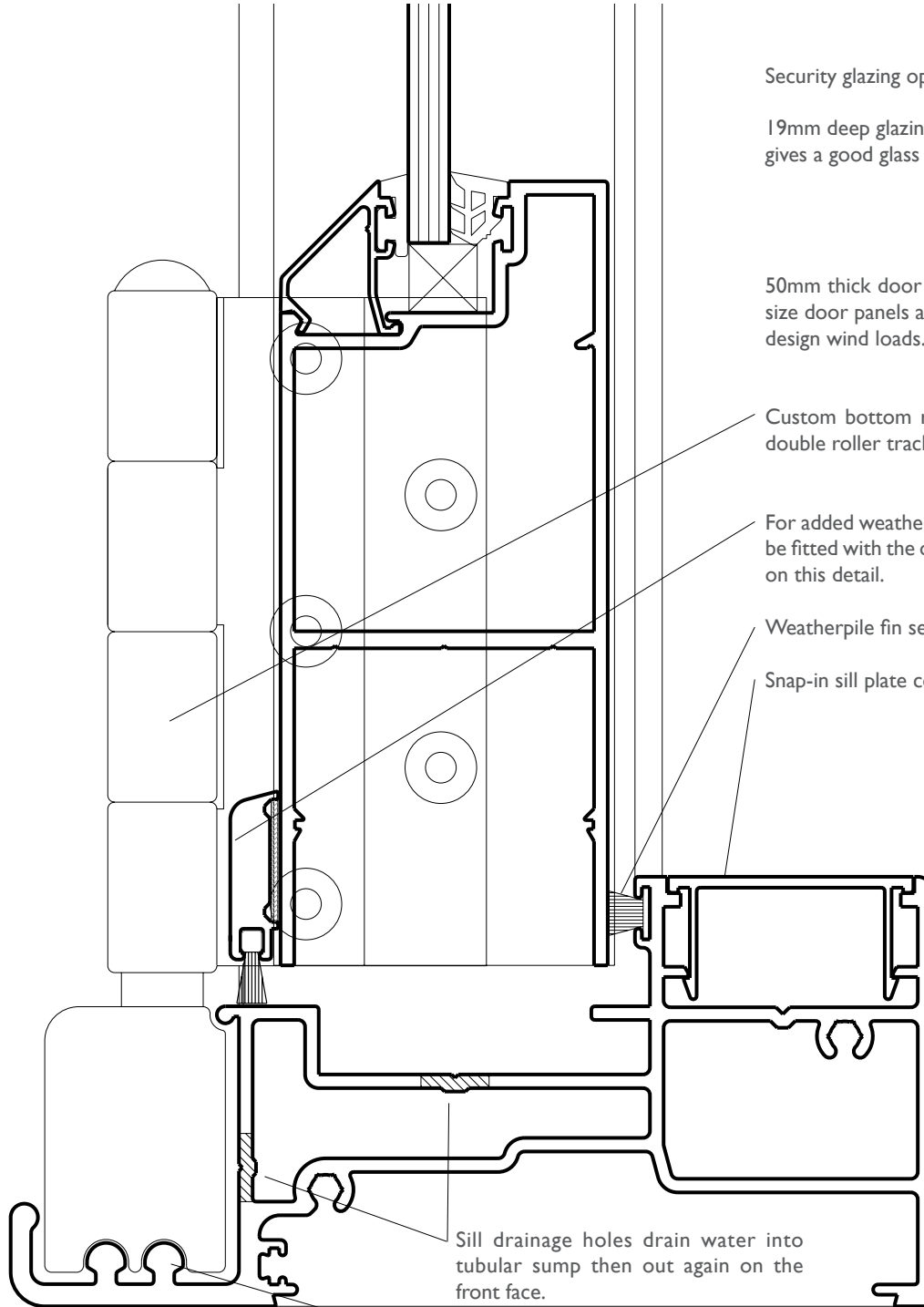
HEAD – DOOR



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SILL - SERIES 50 DOOR



Security glazing option illustrated.

19mm deep glazing pocket on all door sections gives a good glass bite (overlap).

50mm thick door stiles are designed for larger size door panels and doors subjected to higher design wind loads.

Custom bottom roller running on heavy duty double roller track.

For added weather protection this sill detail can be fitted with the optional weatherbar as shown on this detail.

Weatherpile fin seal.

Snap-in sill plate covers sill fixing screws.

Water Resistance:

200Pa
As drawn left with no weatherbar and no sub-sill.

300Pa
As drawn left with the weatherbar and no sub-sill.

Sill drainage holes drain water into tubular sump then out again on the front face.

Double rail heavy duty double tubular sill, designed to carry very heavy door panels as weight is carried by the bottom rollers.



CAD file: DWG
410.BFLD.1

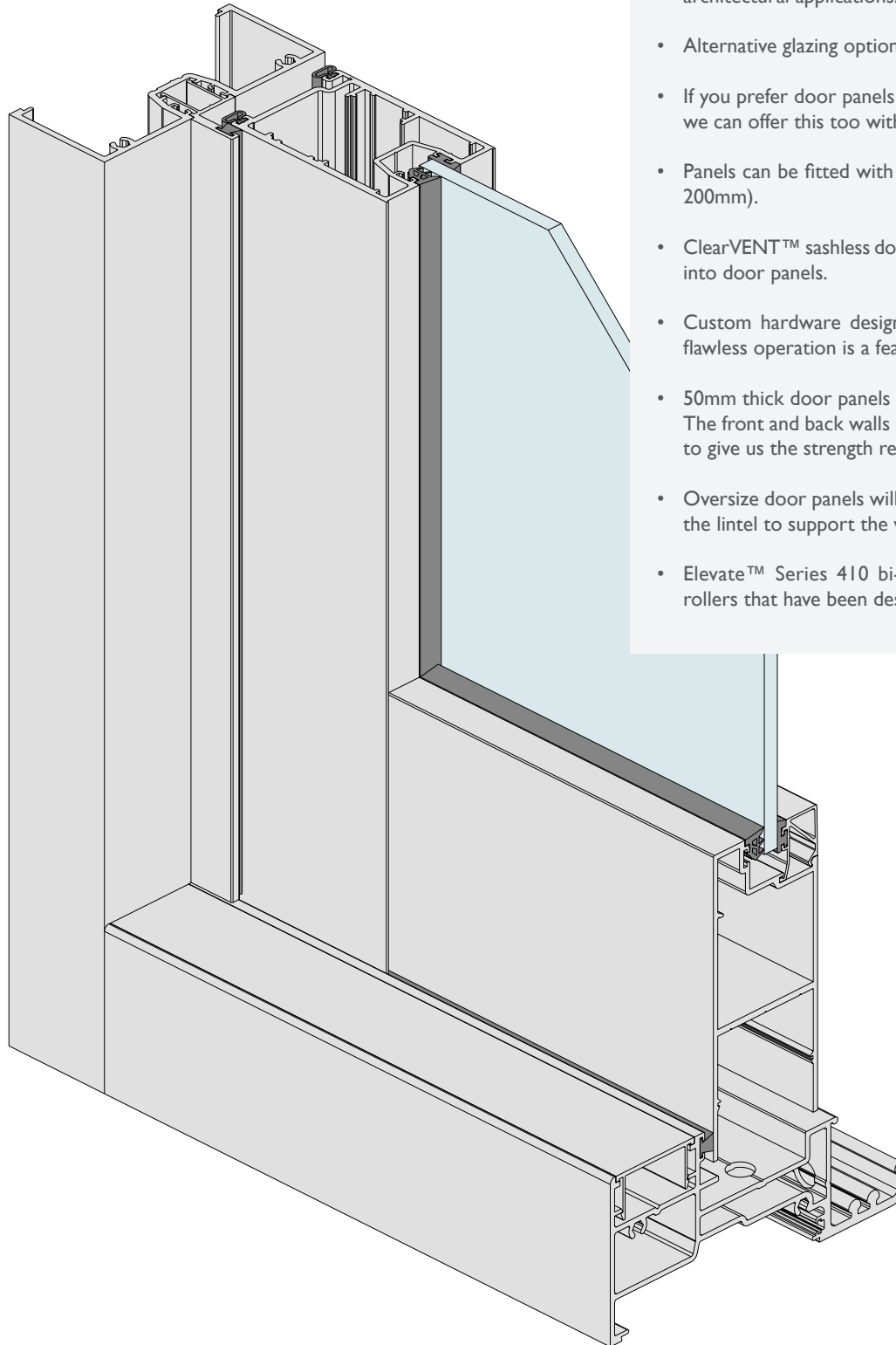
33.50

102mm deep frame

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SILL - DOOR



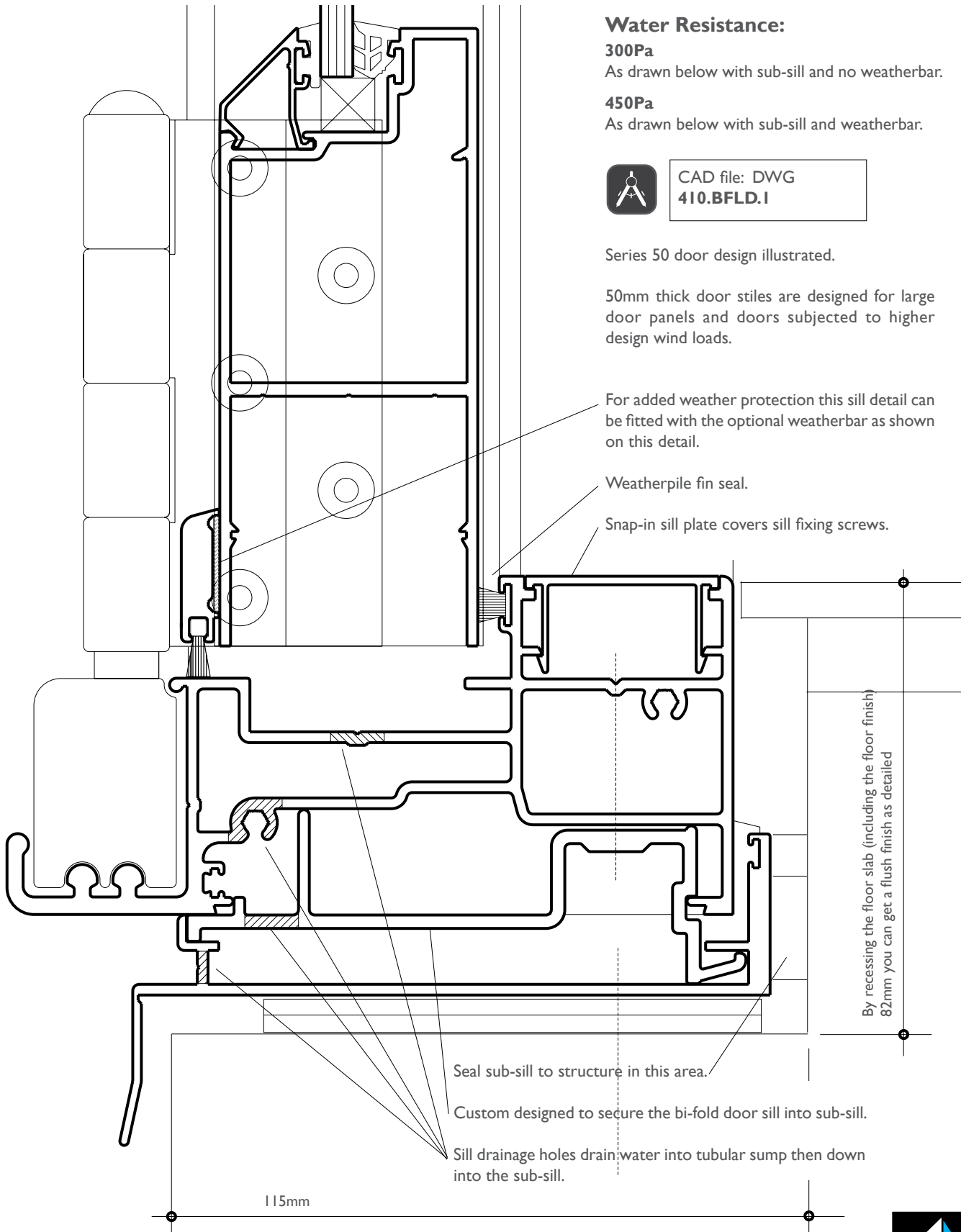
Some of the major features with the Elevate™ FoldMASTER™ door frame are:

- Clean sharp inner faces make the product suitable for architectural applications.
- Alternative glazing options including double glazing.
- If you prefer door panels with splayed beads all round, we can offer this too with the Series 52 door.
- Panels can be fitted with midrails (115mm, 125mm or 200mm).
- ClearVENT™ sashless double-hung inserts can be fitted into door panels.
- Custom hardware designed for easy installation and flawless operation is a feature of the product.
- 50mm thick door panels are designed for large panels. The front and back walls on stiles have been thickened to give us the strength required.
- Oversize door panels will be heavy. We do not rely on the lintel to support the weight.
- Elevate™ Series 410 bi-fold panels run on bottom rollers that have been designed to carry heavy loads.

Series 410 FoldMASTER™ BI-FOLD DOOR

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SILL WITH SUB - SILL

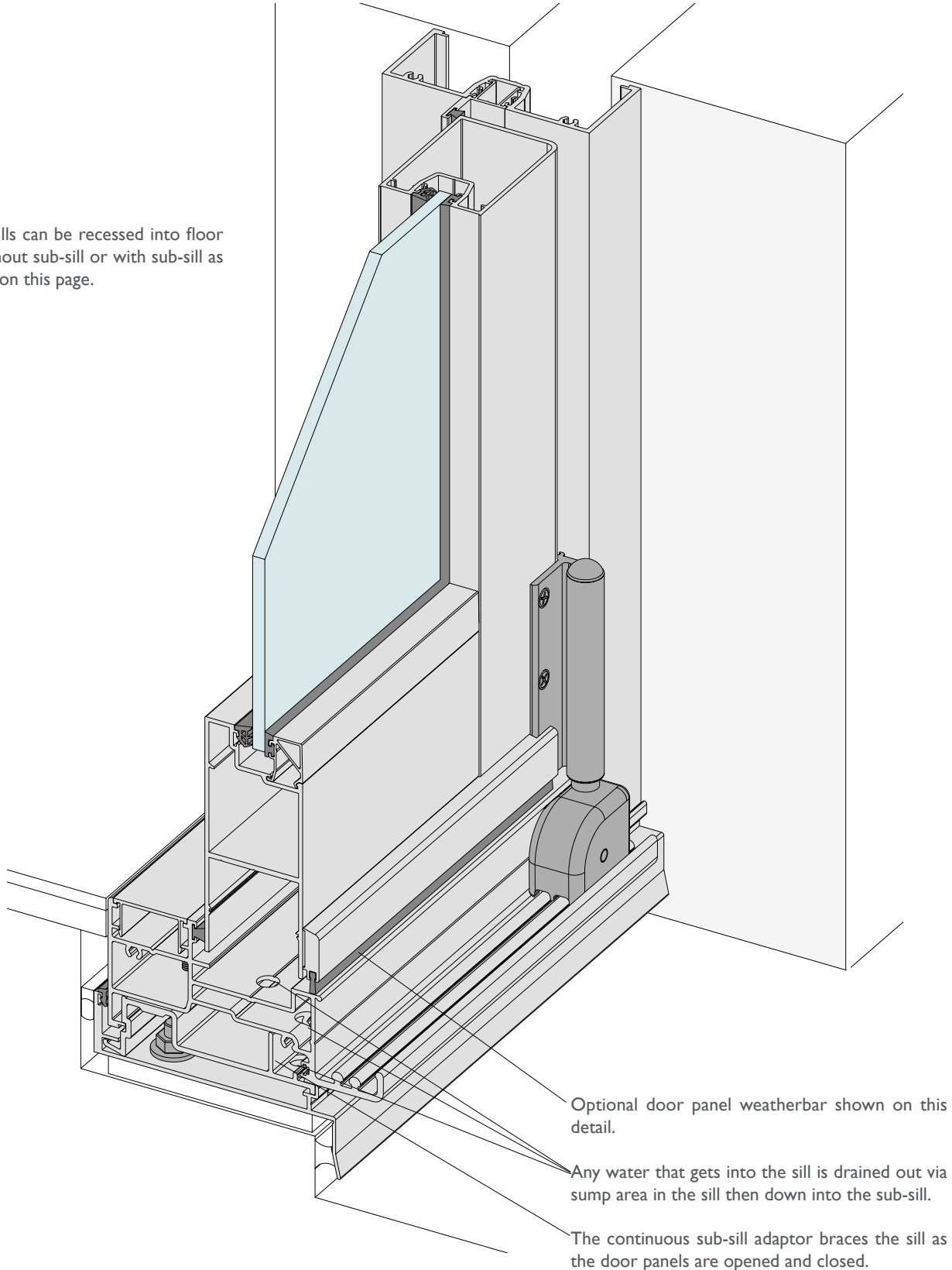


Series 410
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SILL WITH SUB - SILL

Bi-fold sills can be recessed into floor slab without sub-sill or with sub-sill as detailed on this page.



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RECESSED SILL

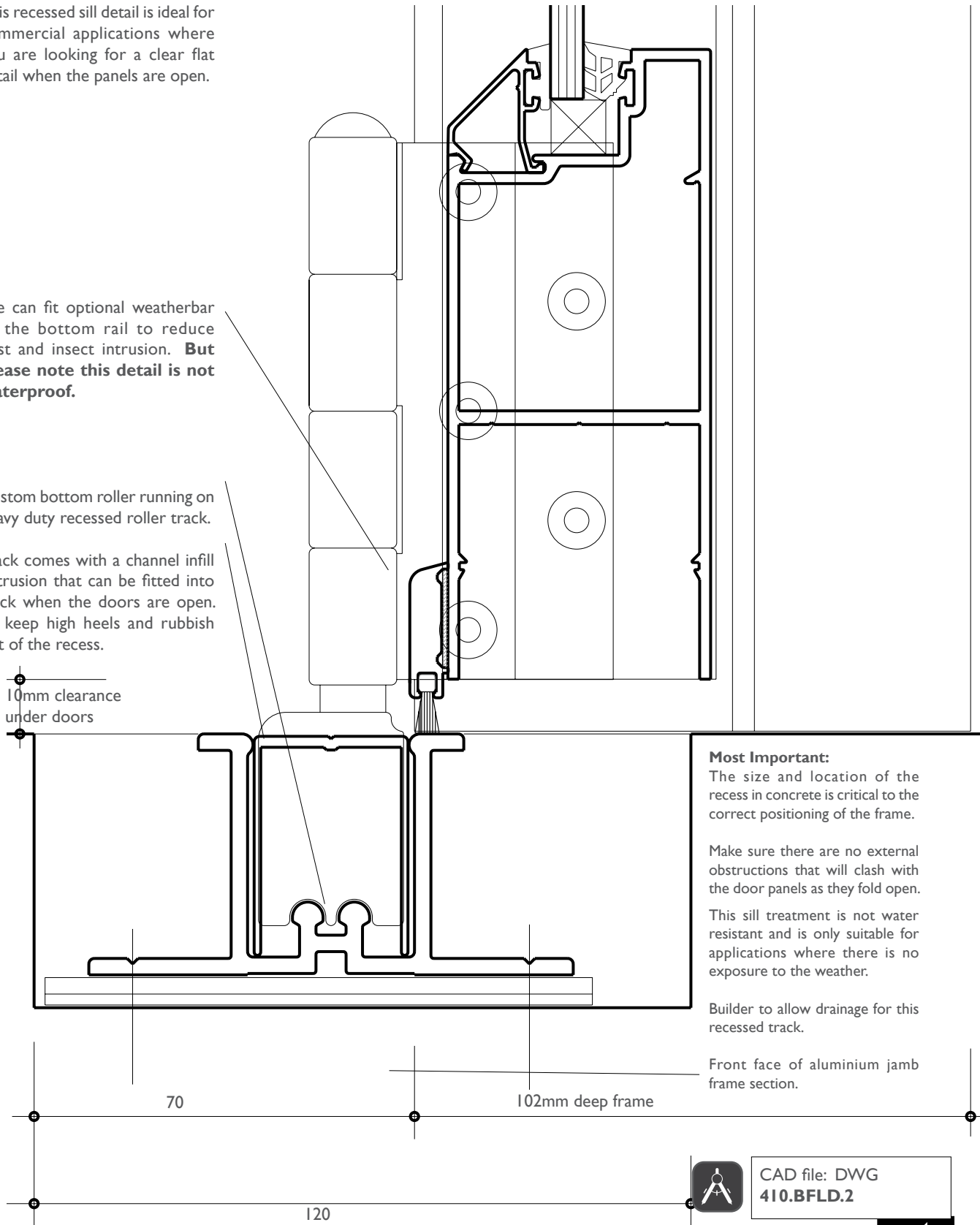
This recessed sill detail is ideal for commercial applications where you are looking for a clear flat detail when the panels are open.

We can fit optional weatherbar to the bottom rail to reduce dust and insect intrusion. **But please note this detail is not waterproof.**

Custom bottom roller running on heavy duty recessed roller track.

Track comes with a channel infill extrusion that can be fitted into track when the doors are open. To keep high heels and rubbish out of the recess.

10mm clearance under doors



Most Important:

The size and location of the recess in concrete is critical to the correct positioning of the frame.

Make sure there are no external obstructions that will clash with the door panels as they fold open.

This sill treatment is not water resistant and is only suitable for applications where there is no exposure to the weather.

Builder to allow drainage for this recessed track.

Front face of aluminium jamb frame section.

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RECESSED SILL

Series 50 door illustrated.
 Series 51 and 52 also available,
 refer Series 400 CentreGLAZE™
 framing for more details on the
 door features.

Clean flat frame and door faces.

115mm high door bottom rail.

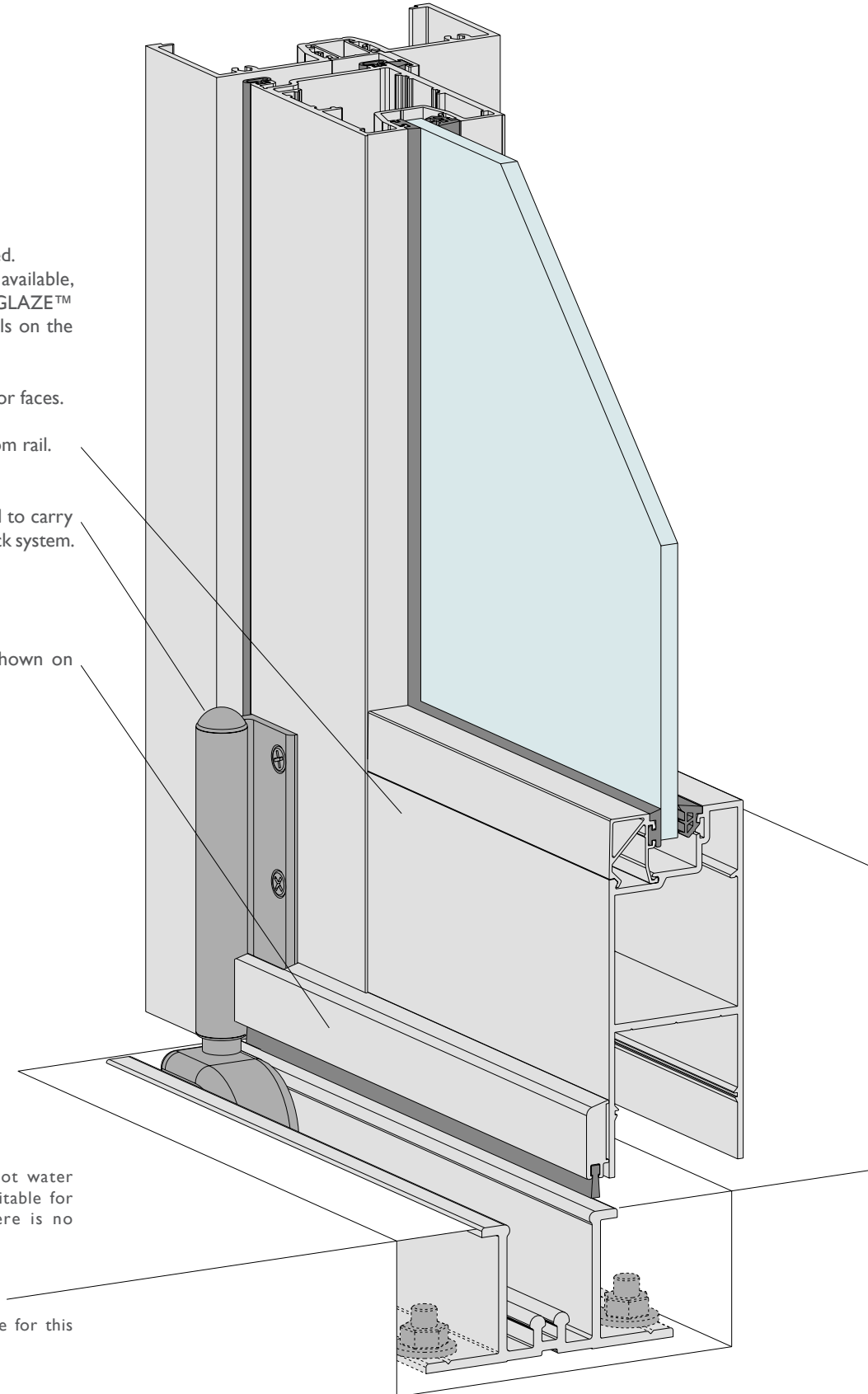
Bottom rollers designed to carry
 the load on a double track system.

Optional weatherbar shown on
 bottom rail.

Flat floor finish.

Important Note:
 This sill treatment is not water
 resistant and is only suitable for
 applications where there is no
 exposure to the weather.

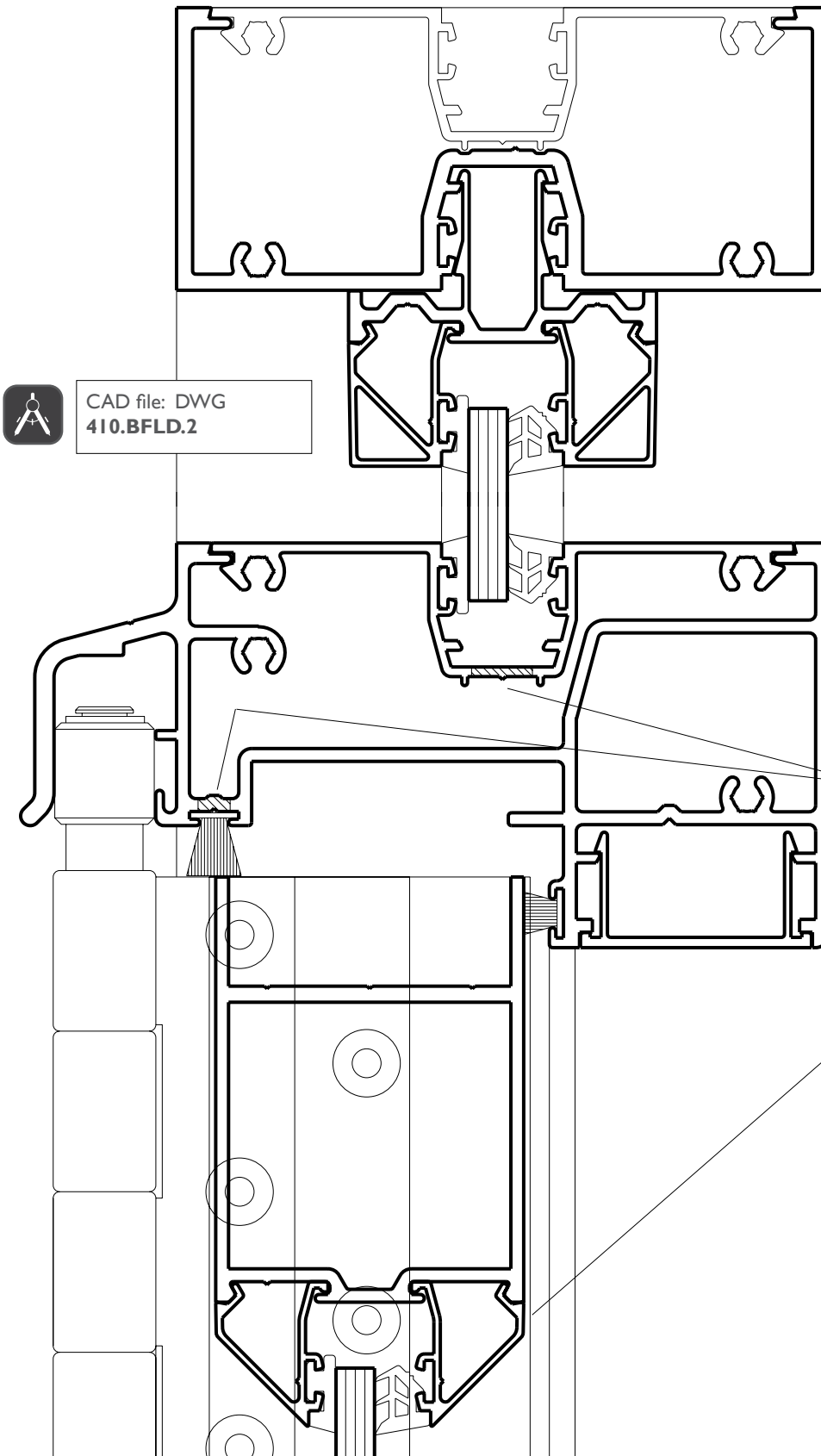
Builder to allow drainage for this
 recessed track.



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HIGHLIGHT TRANSOM - LIGHT



Series 400 CentreGLAZE™ shopfront framing is used to create overlights over FoldMASTER™ doors.

Glazing bead on the inside or glazing adaptor as drawn to allow glazing/reglazing of fixed overlights.

The one piece head with adaptor suits awning sashes can also be used in the overlights in lieu of fixed lights, refer Series 466 or Series 400 for details. If your overlights are fixed only the head could be beaded frame without adaptor; refer CAD drawing 410.BFLD.2.

If you are using awnings over consider using the concealed electric winder option.

Light transom detail, refer earlier page for ratings.

We also offer a heavy transom shown on later page.

Transom drainage holes.

Series 52 Fully beaded door, with standard 45° splayed beads illustrated.

These beads could also be 25° splayed or 90° square or double glazing as shown earlier in these notes.

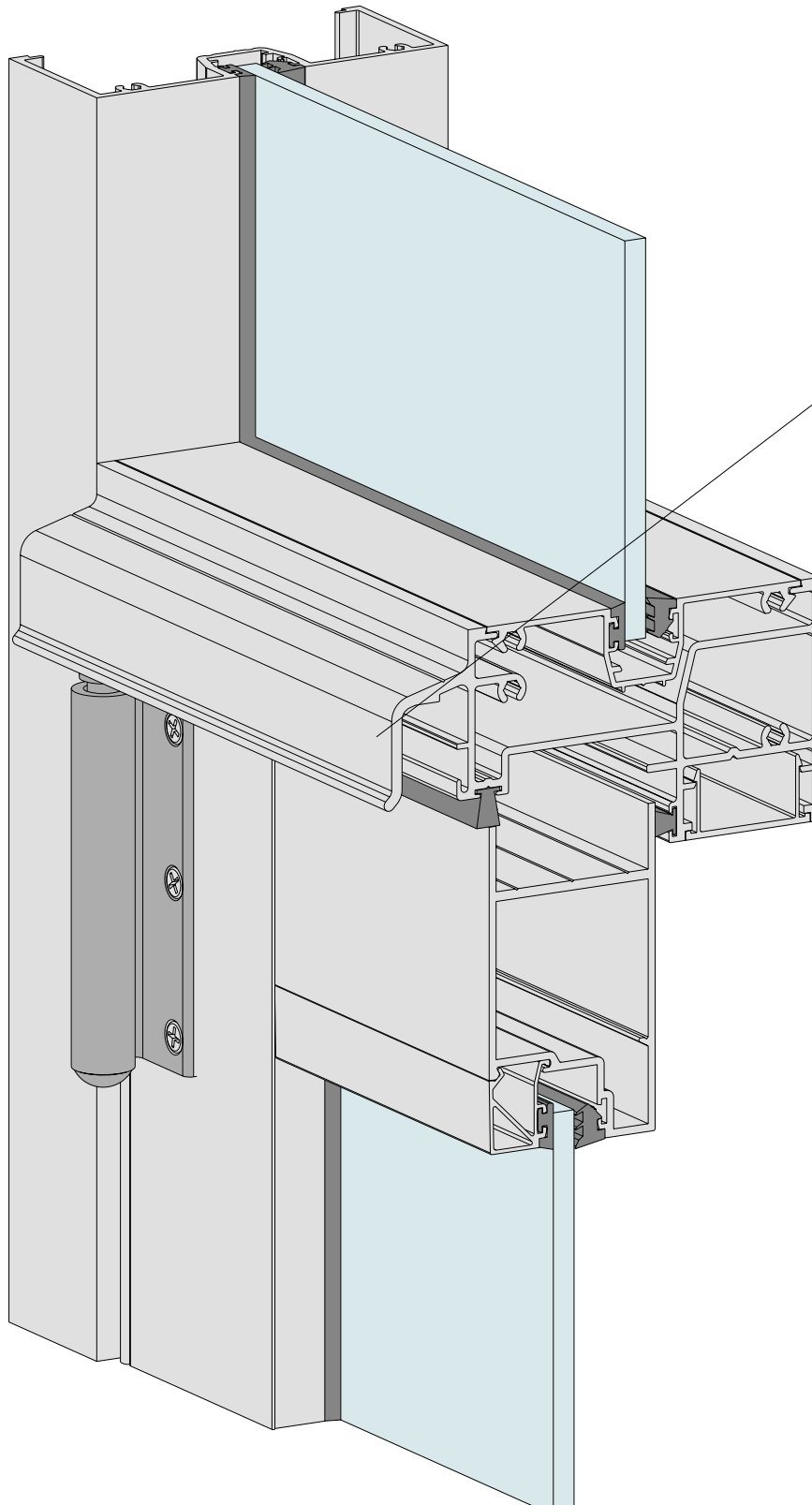
All Elevate™ doors have a 19mm deep pocket to allow plenty of glass bite (overlap).

Wedges are recessed and on this example are security glazed, captive captive co-extruded glazing wedge outside and roll-in wedge inside.

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

HIGHLIGHT TRANSOM - LIGHT



Series 400 CentreGLAZE™ shopfront framing is used to create overlights over FoldMASTER™ doors.

Transom has built-in drip mould to guide water away from the top of doors.

Clean square frame and panel finish suit modern architectural requirements.

Series 50 Door panel illustrated, refer Series 400 CentreGLAZE™ for additional door information.

Panel Strength:

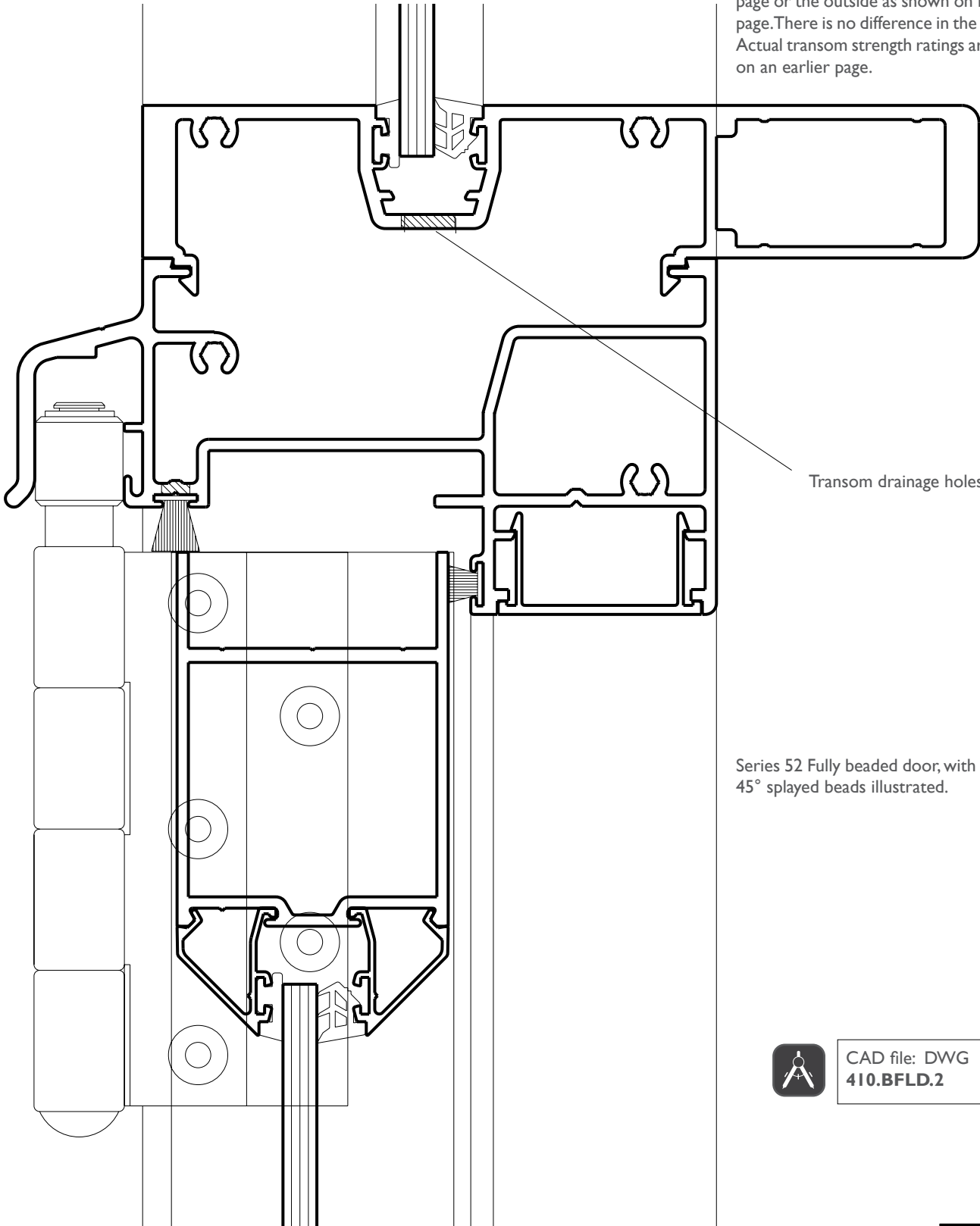
Series 50 doors are stronger than Series 52 as the stiles are bigger and have a higher 'I' value. The ratings for both types of door panel are shown earlier in these notes.

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

HIGHLIGHT TRANSOM - HEAVY

The heavy transom detail can have the stiffening box on the inside as shown on this page or the outside as shown on following page. There is no difference in the strength. Actual transom strength ratings are shown on an earlier page.



Transom drainage holes.

Series 52 Fully beaded door, with standard 45° splayed beads illustrated.

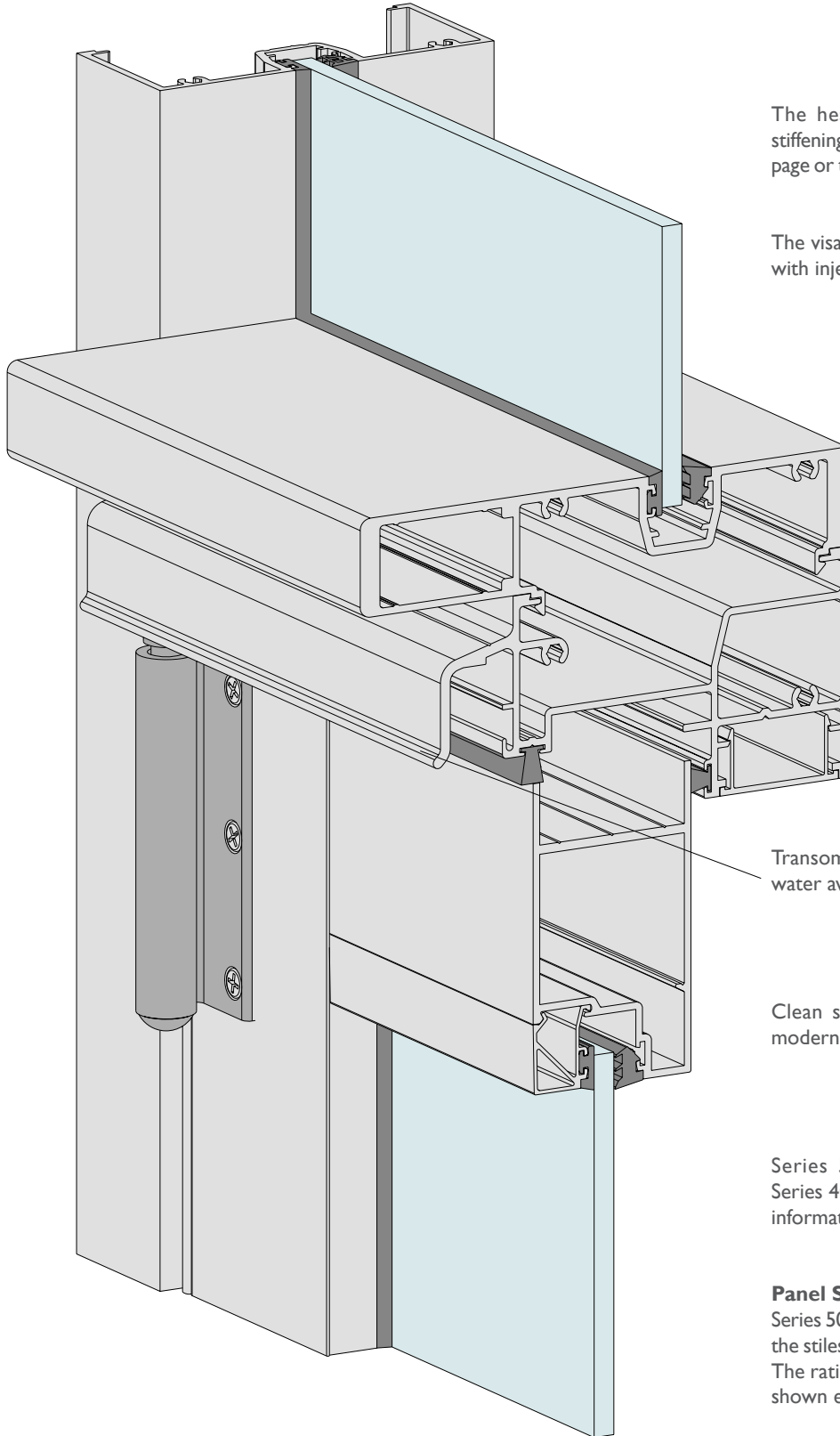


CAD file: DWG
410.BFLD.2

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

HIGHLIGHT TRANSOM - HEAVY



The heavy transom detail can have the stiffening box on the outside as shown on this page or the inside as shown on previous page.

The visible tubular transom ends are closed off with injection moulded nylon caps.

Transom has built-in drip mould to guide water away from the top of doors.

Clean square frame and panel finish suit modern architectural requirements.

Series 50 Door panel illustrated, refer Series 400 CentreGLAZE™ for more door information.

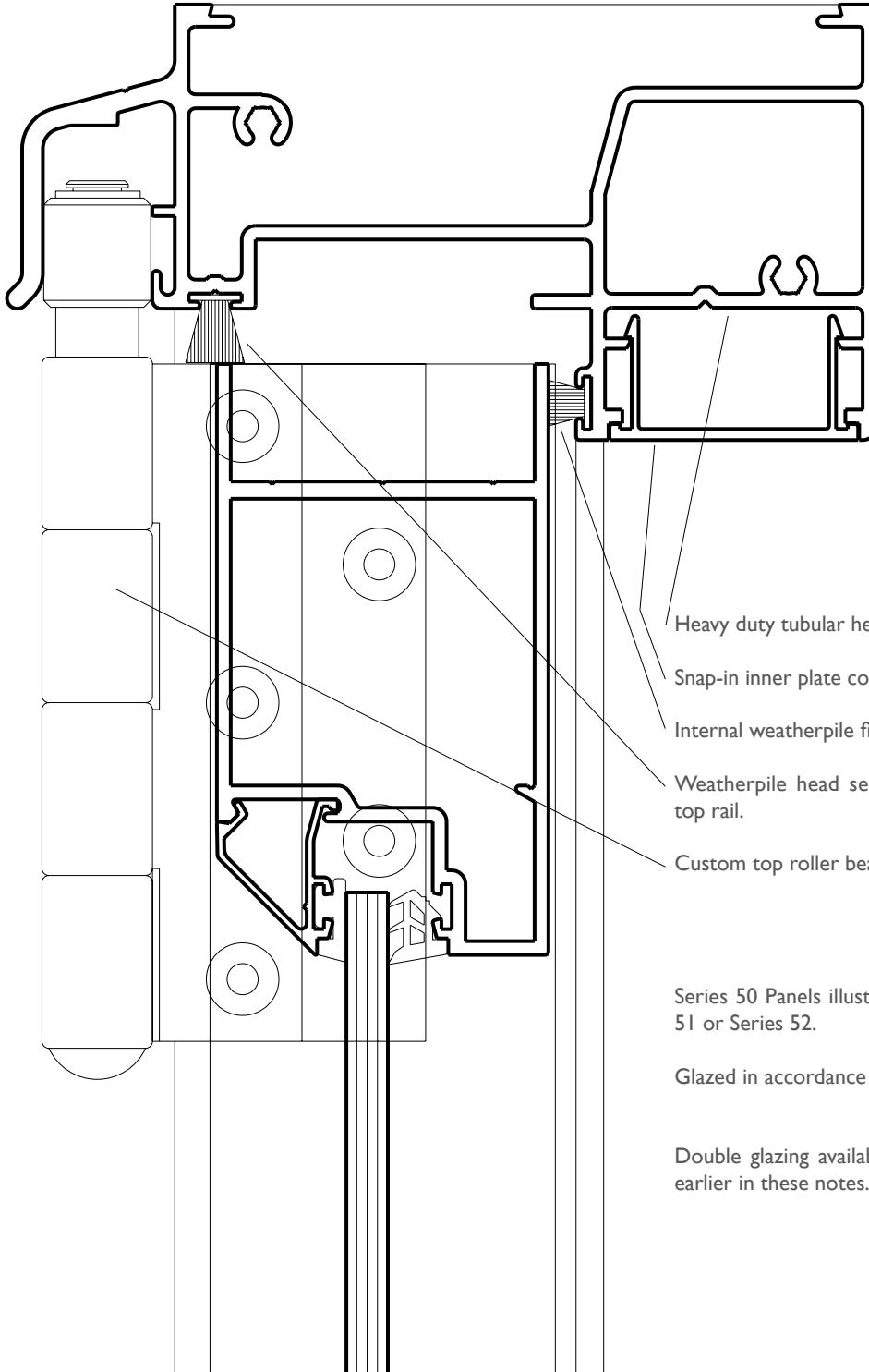
Panel Strength:

Series 50 doors are stronger than Series 52 as the stiles are bigger and have a higher 'I' value. The ratings for both types of door panel are shown earlier in these notes.

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

WINDOW HEAD



- Heavy duty tubular head.
- Snap-in inner plate covers head fixings.
- Internal weatherpile fin seal.
- Weatherpile head seal keeps water out of the window top rail.
- Custom top roller bearing runs in frame channel guide.

Series 50 Panels illustrated, can also be supplied in Series 51 or Series 52.

Glazed in accordance with AS 1288.

Double glazing available with Series 52 panels as shown earlier in these notes.



CAD file: DWG
410.BFLD.12

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
 REPLACES: MAY 13
 SCALE: NOT TO SCALE

WINDOW – SILL

FoldMASTER™ windows use lowline bottom rail to match top rail.

Security glazing option illustrated.

19mm deep glazing pocket on all panel sections gives a good glass bite (overlap).



CAD file: DWG
 410.BFLD.12

Custom bottom roller running on heavy duty double roller track.

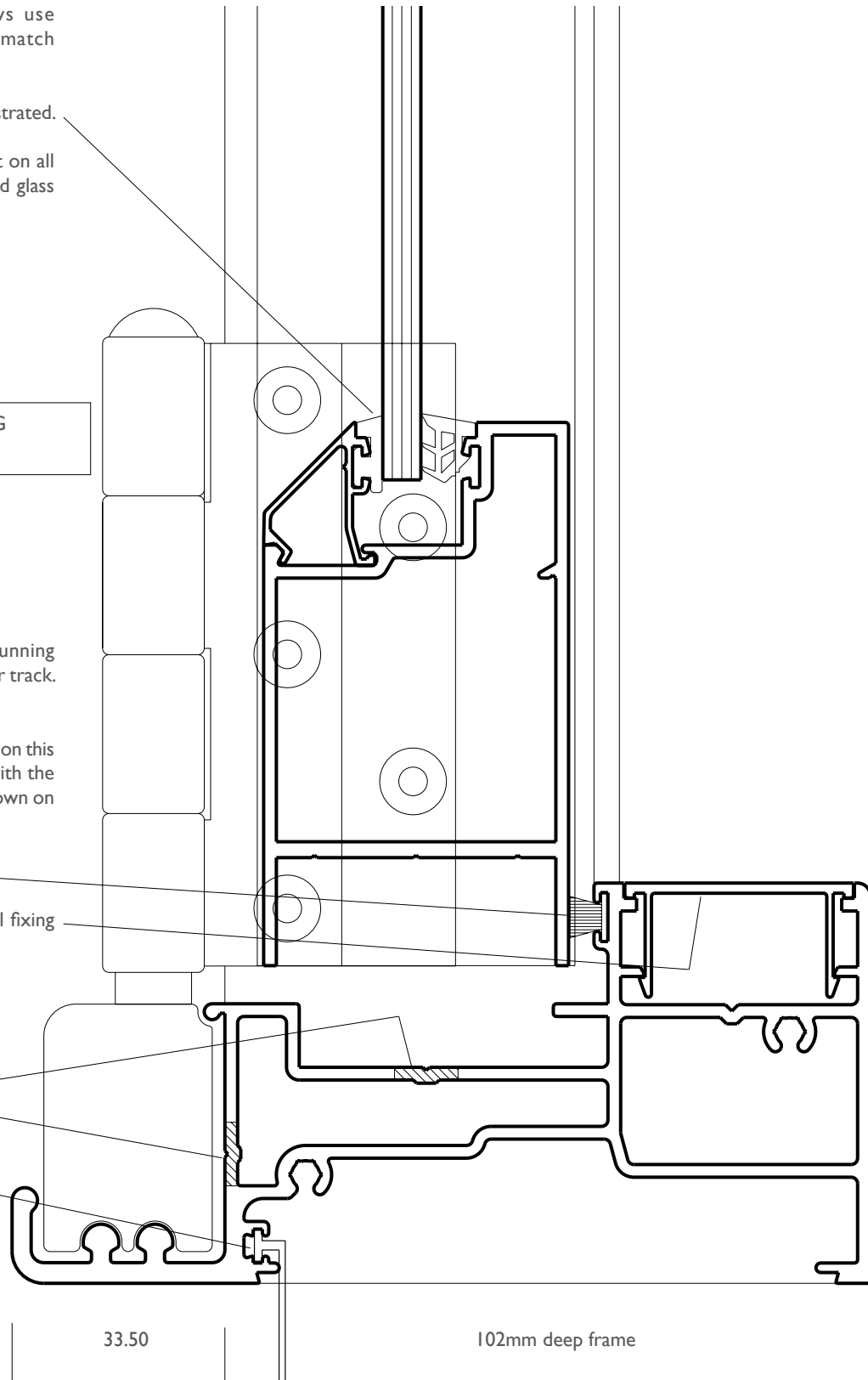
For added weather protection this sill detail could be fitted with the optional weatherbar as shown on earlier detail.

Weatherpile fin seal.

Snap-in sill plate covers sill fixing screws.

Drain holes

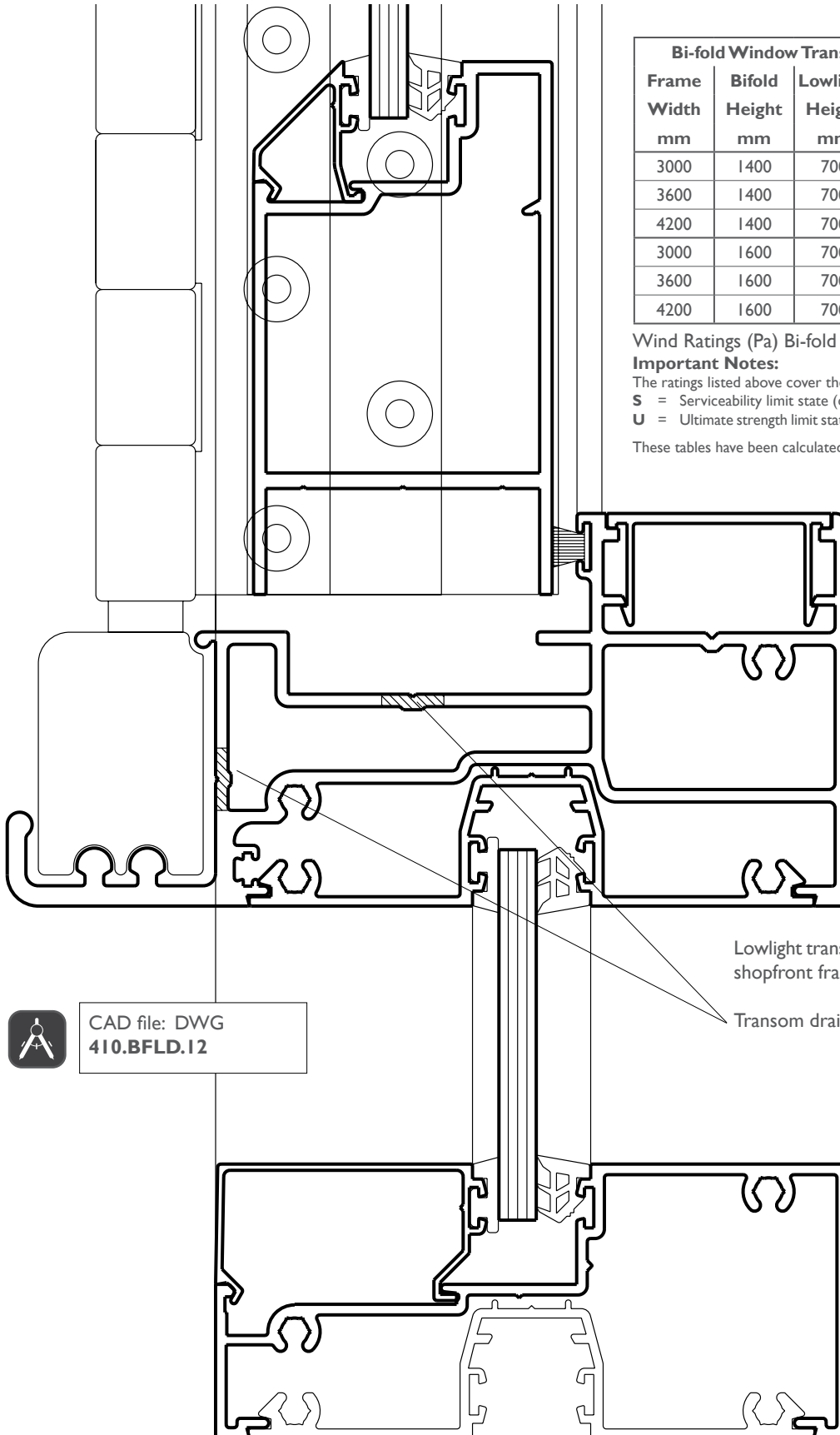
Sill will accept flexible PVC sill flap.



Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

WINDOW - LOWLIGHT TRANSOM



Bi-fold Window Transom Strength Guide				
Frame Width mm	Bifold Height mm	Lowlight Height mm	Transom	
			S (pa)	U (Pa)
3000	1400	700	1687	2842
3600	1400	700	957	1940
4200	1400	700	595	1410
3000	1600	700	1573	2643
3600	1600	700	886	1793
4200	1600	700	549	1299

Wind Ratings (Pa) Bi-fold window transom.

Important Notes:

The ratings listed above cover the strength of the transom only.

S = Serviceability limit state (deflection = L/250).

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

These tables have been calculated using section properties.



CAD file: DWG
410.BFLD.12

Lowlight transom created CentreGLAZE™ shopfront framing.

Transom drainage.

Series 410 FoldMASTER™ BI-FOLD DOOR

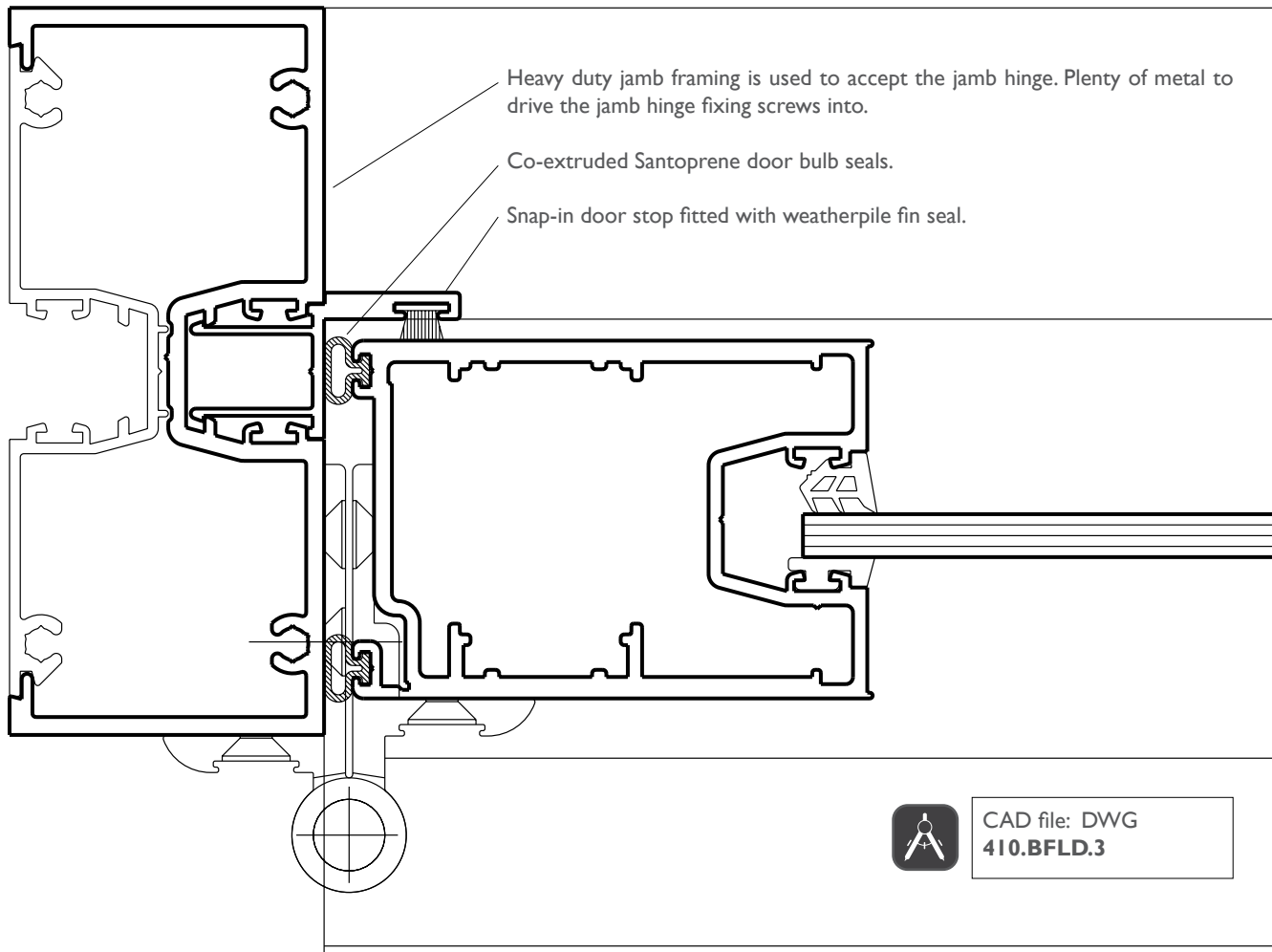
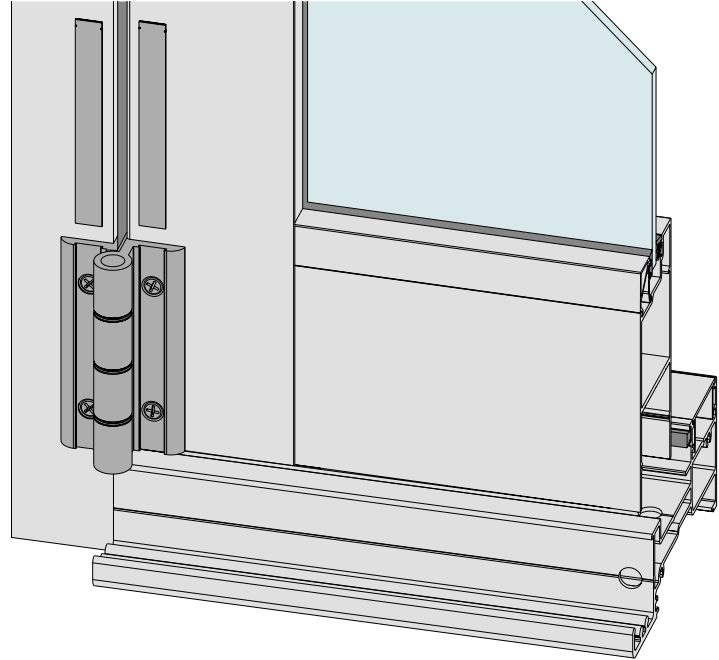
DATE: AUGUST 20
 REPLACES: MAY 13
 SCALE: NOT TO SCALE

JAMB

All of the hinges and rollers used on FoldMASTER™ bi-fold doors have been custom designed by AWS for ease of installation and superior finish and performance in service.

A typical example is the jamb hinge that fixes to both panels and frame on two faces with slide in colour matched cover plate to cover face fixing screws.

All hardware can be seen in full colour on our website: www.elevatealuminium.com.au

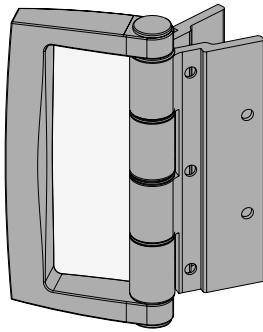


CAD file: DWG
 410.BFLD.3

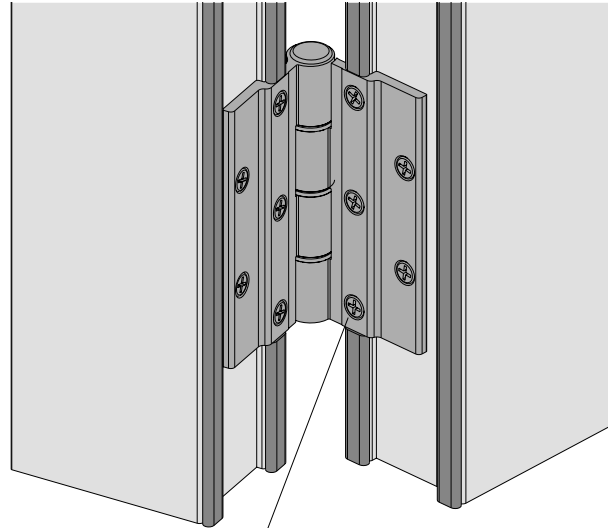
Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

MEETING STILES – INTERNAL HINGE WITH PULL HANDLE



Custom designed central hinge has pull handle as shown above to make it easier to close and secure the folding panels.



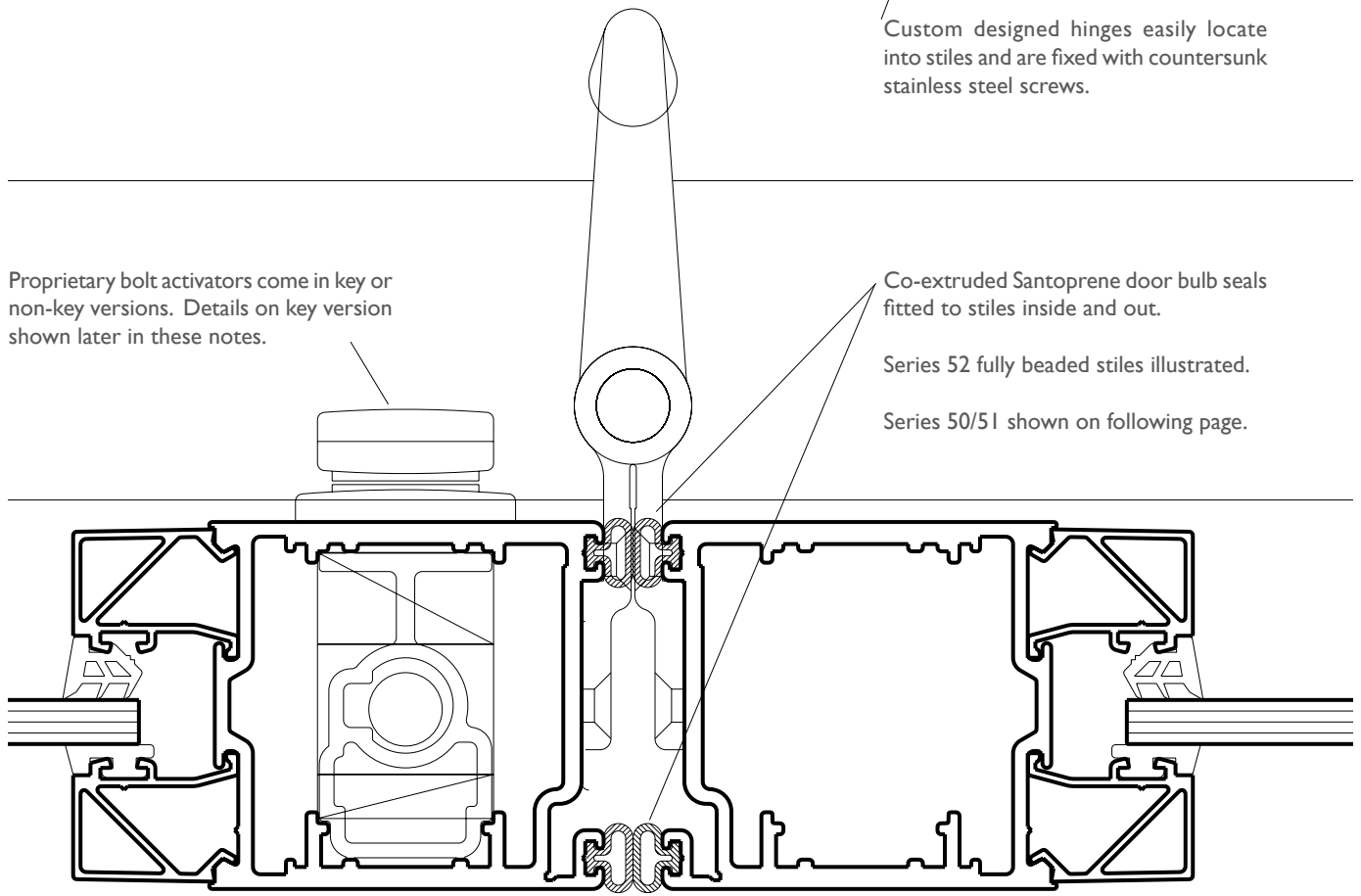
Custom designed hinges easily locate into stiles and are fixed with countersunk stainless steel screws.

Proprietary bolt activators come in key or non-key versions. Details on key version shown later in these notes.

Co-extruded Santoprene door bulb seals fitted to stiles inside and out.

Series 52 fully beaded stiles illustrated.

Series 50/51 shown on following page.

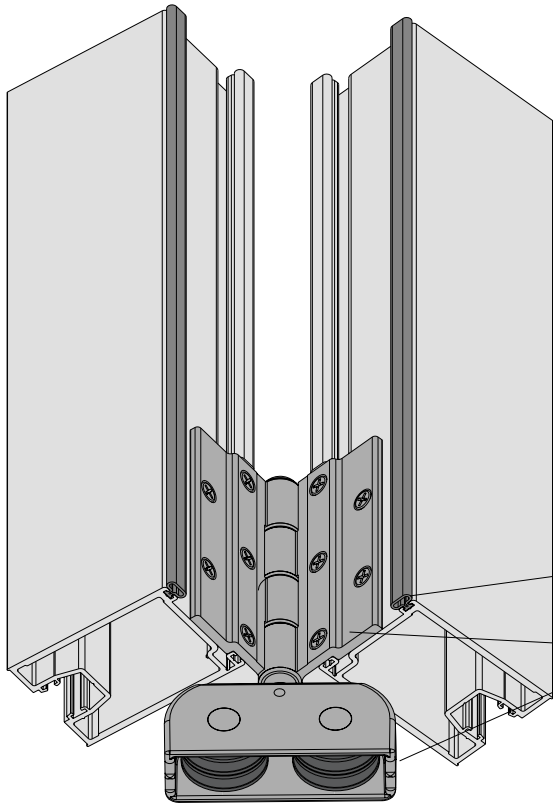


CAD file: DWG
410.BFLD.3

Series 410
FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
 REPLACES: MAY 13
 SCALE: NOT TO SCALE

MEETING STILES – QUAD ROLLER



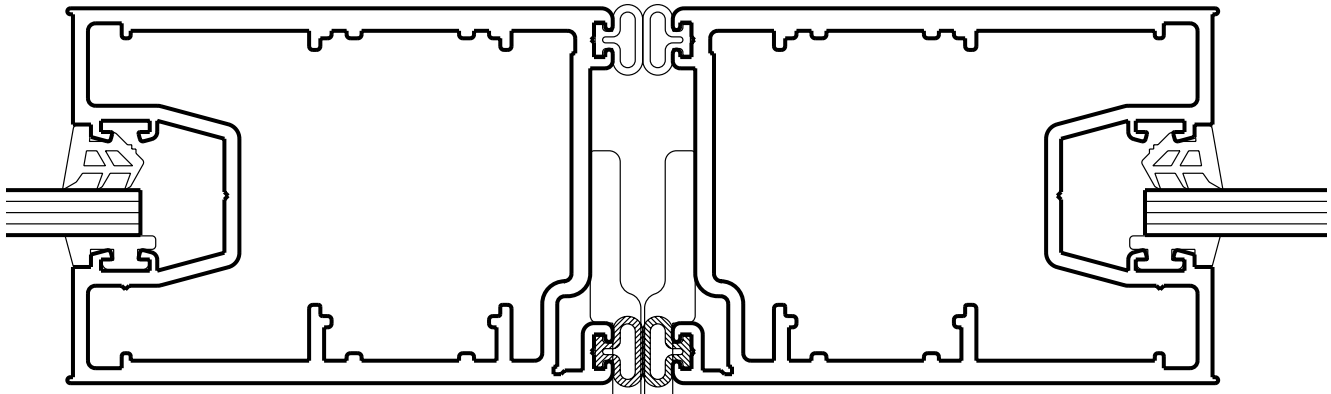
Roller hinges designed for this product nest easily into stiles and are fixed with countersunk stainless steel screws. The cowling sweeps the running track as panels are opened and closed.

For coastal installations we offer bottom rollers with marine grade 316 stainless steel cowling over the rollers.

Co-extruded Santoprene door bulb seals fitted to stiles inside and out.

Quad bogey designed to carry the load and running double rail.

Wrap around Series 50/51 stiles illustrated.
 Series 52 fully beaded stiles shown on previous page.



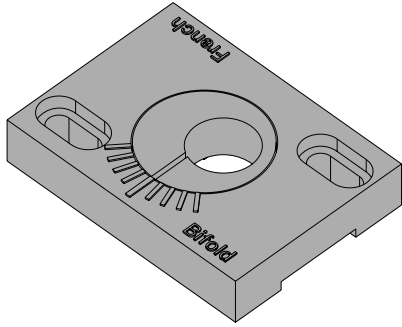
CAD file: DWG
410.BFLD.4

Roller carriage

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

FRENCH MEETING STILES



Proprietary adjustable nylon keeper for the flush and lever operated bolts helps pull panels up tight on the seals.



CAD file: DWG
410.BFLD.4

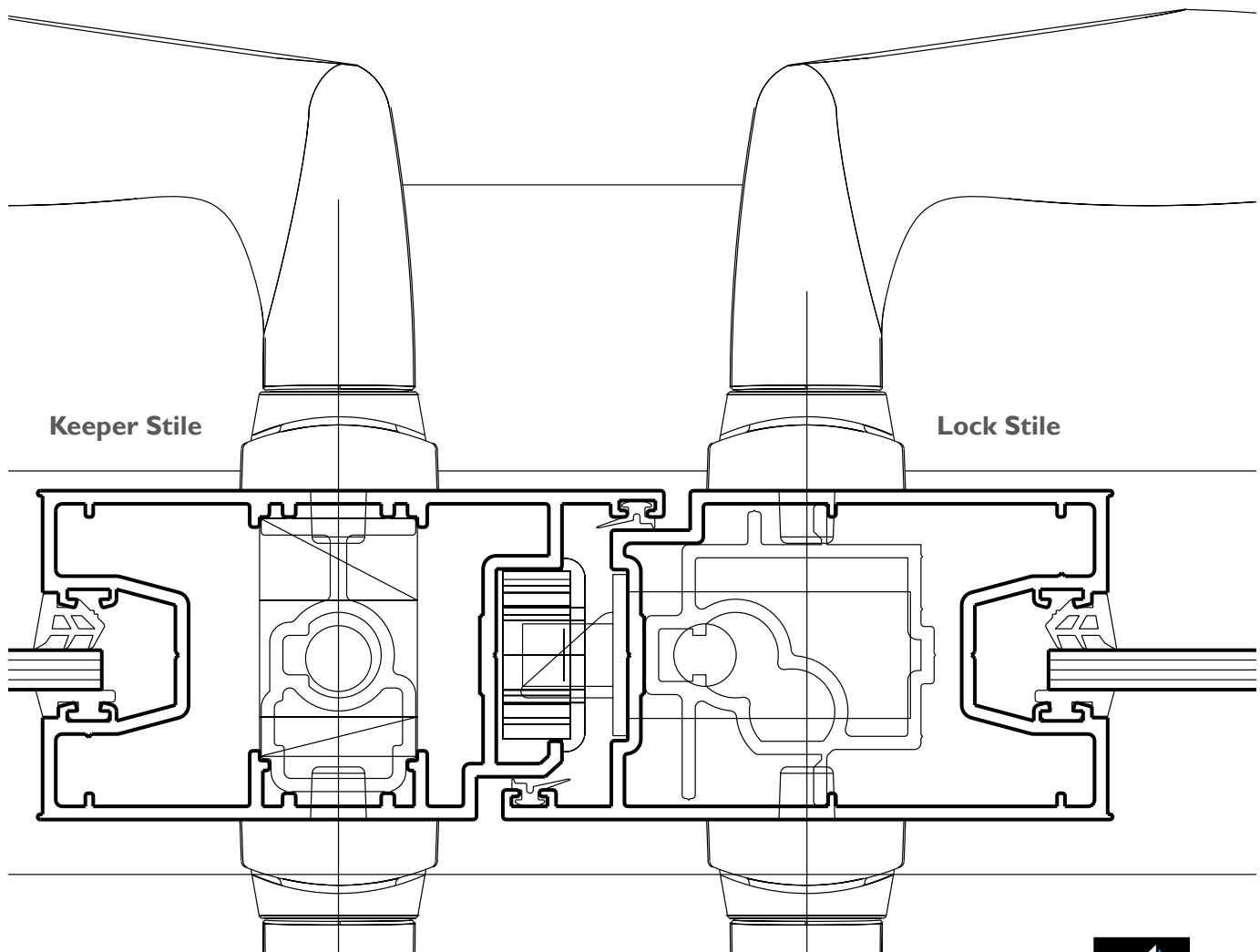
French meeting stiles have been designed to accept:

- ANDO™, ICON™ and MIRO™ lever twinbolt for the keeper stile as illustrated below.
- MIRO™ lever latch set illustrated below.
These proprietary locks come in two or four point locking.
When the panel height exceeds 2100mm we recommend four point locking to keep the top and bottom of the stile against the seals under wind load.
- Lock stile will also accept Lockwood 3580 and Legge 995MF latch sets.
- When using the Lockwood or Legge latch sets, use finger operated flush-bolts on the keeper stile.

We have dedicated proprietary glass filled nylon keepers for all of these lock options as shown later in these notes.

Flush-bolts, ANDO™, ICON™ and MIRO™ twinbolts are supported with custom extruded aluminium guides.

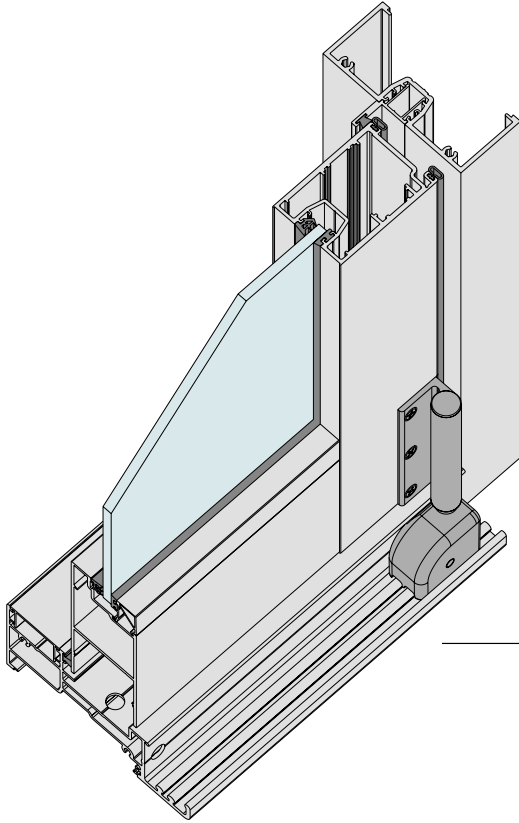
Meeting stiles are sealed with co-extruded Santoprene wiper seals.



Series 410
FoldMASTER™ BI-FOLD DOOR

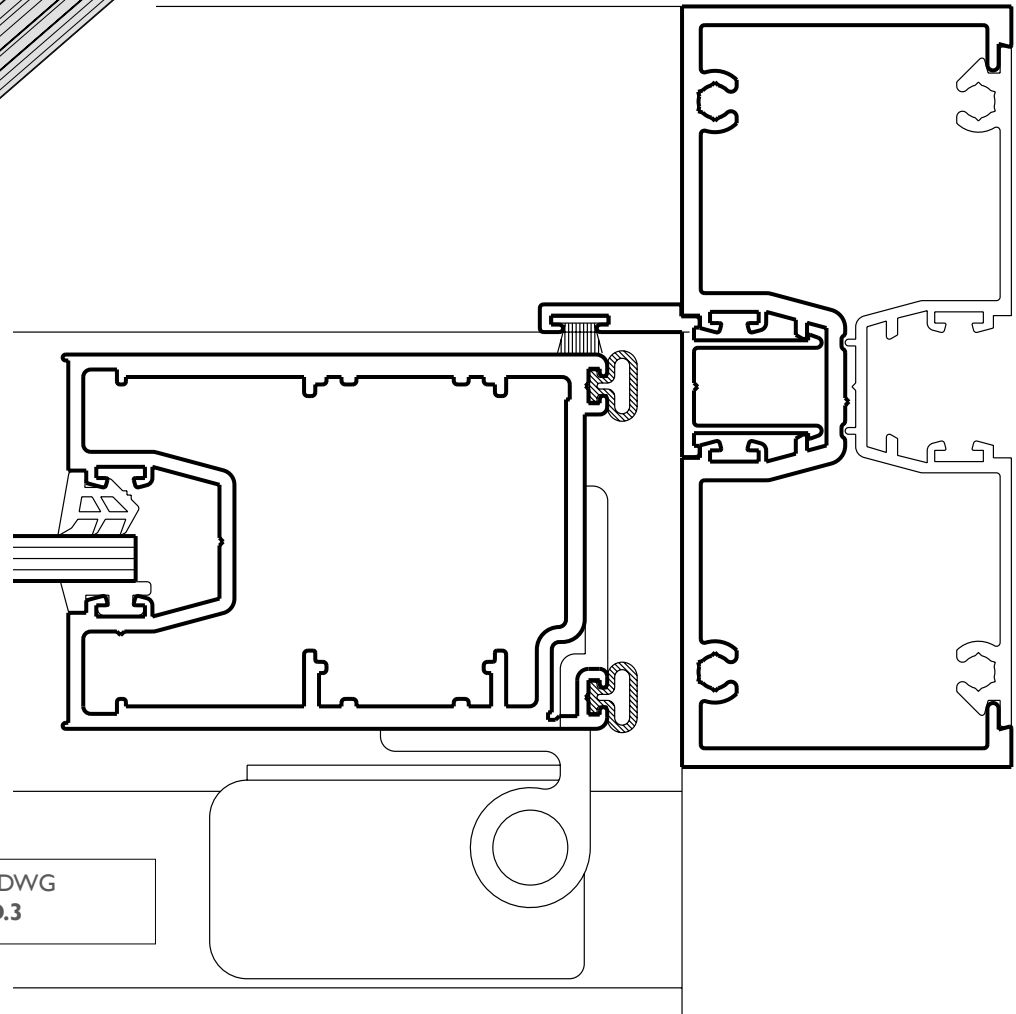
DATE: AUGUST 20
 REPLACES: MAY 13
 SCALE: NOT TO SCALE

JAMB - DOUBLE ROLLER



The double bogey wheel is used on BFD2, BFD4, BFD2+2, BFD4+2 and BFD2+4 units.

As there are only two wheels the panels are limited to 45kg.



CAD file: DWG
 410.BFLD.3

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

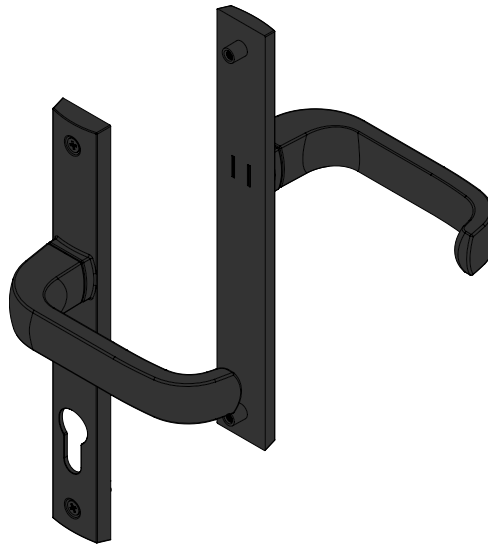
PROPRIETARY LEVER LOCKS



MIRO™ key locking twinbolt activator.

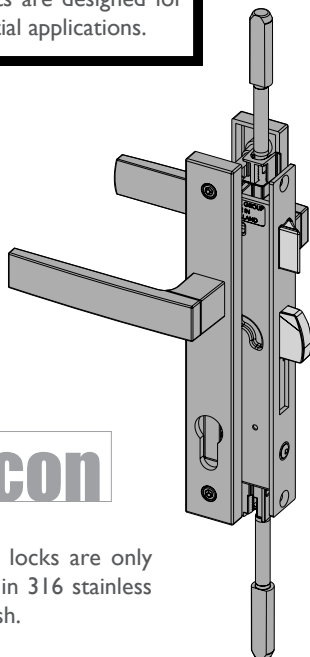
Key on the inside only.

External handle doesn't move.



Custom glass filled nylon keeper.

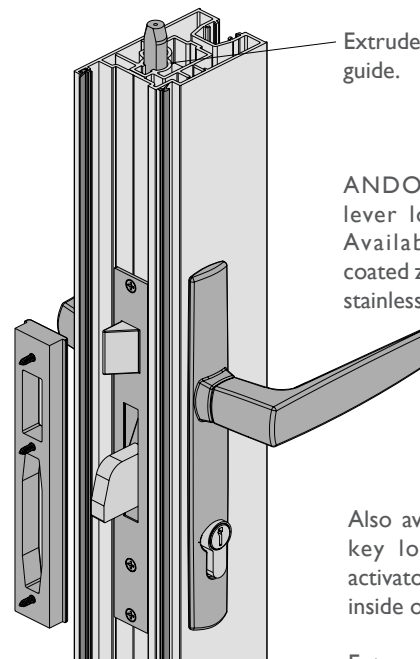
Note:
ANDO™, ICON™ and MIRO™ lever lock sets and twinbolts are designed for residential applications.



ICON™ locks are only available in 316 stainless steel finish.



AWS custom glass filled nylon keeper.



Extruded aluminium bolt guide.

ANDO™ four point lever lock illustrated. Available in powder coated zinc or 316 grade stainless steel.

Also available ANDO™ key locking twinbolt activator. Snib key on the inside only.

External handle doesn't move.

See the ANDO™ and MIRO™ twinbolts open and close on our website: www.elevatealuminium.com.au

Series 410 FoldMASTER™ BI-FOLD DOOR

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SCALE: NOT TO SCALE

SHOOT BOLTS

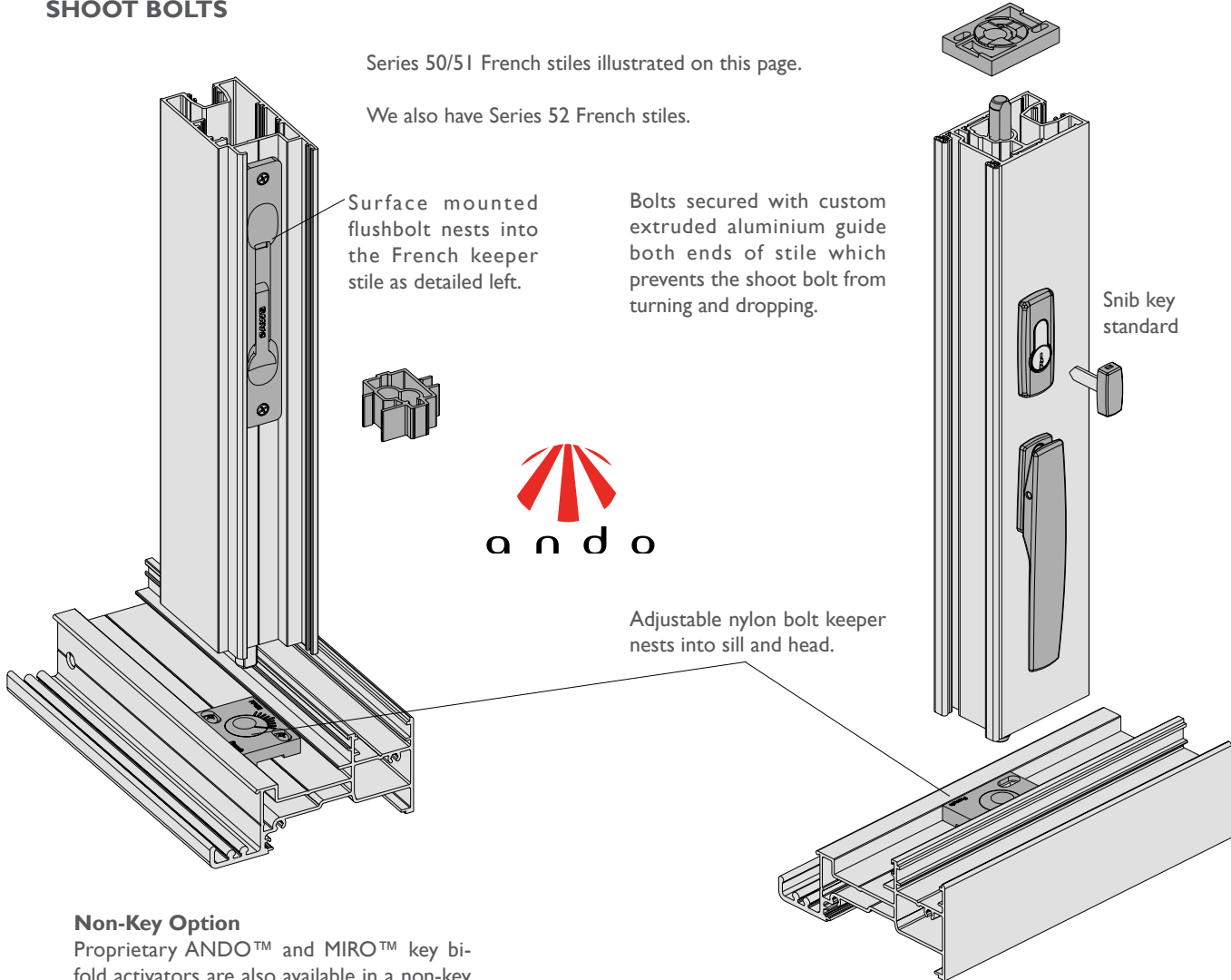
Series 50/51 French stiles illustrated on this page.

We also have Series 52 French stiles.

Surface mounted flushbolt nests into the French keeper stile as detailed left.

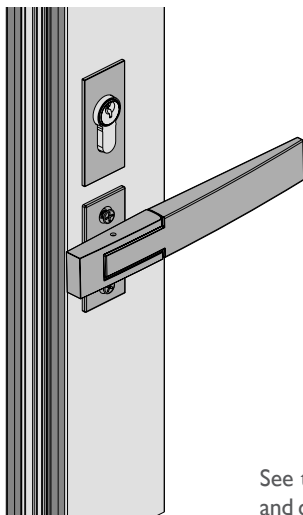
Bolts secured with custom extruded aluminium guide both ends of stile which prevents the shoot bolt from turning and dropping.

Snib key standard



Non-Key Option

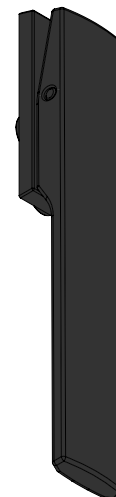
Proprietary ANDO™ and MIRO™ key bi-fold activators are also available in a non-key version.



ICON™ furniture is only available in 316 stainless steel finish.



See the ANDO™, ICON™ and Miro bi-fold activators open and close on our website: www.elevatealuminium.com.au



Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

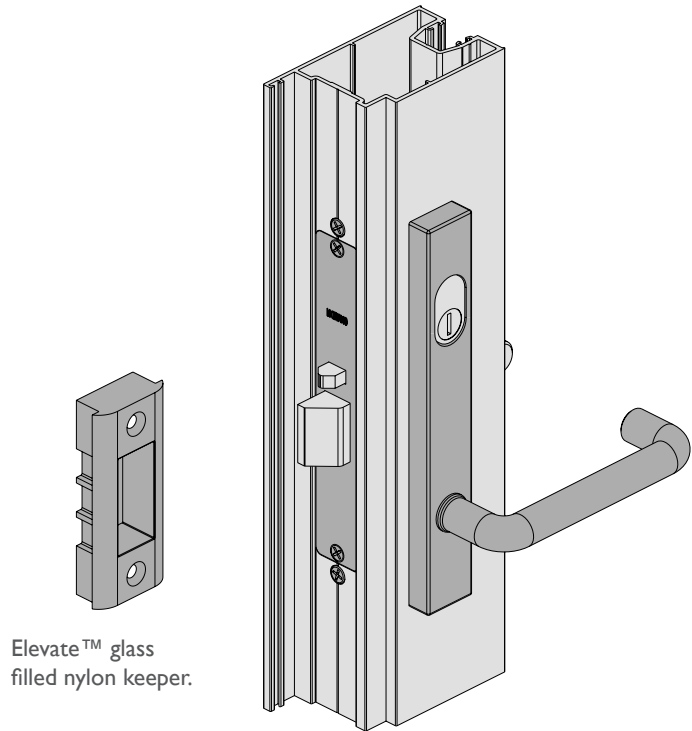
LOCKWOOD 3580 LOCK

Rebated stiles have been designed to accept a variety of locks and bolts in the keeper stile as shown later in these notes.

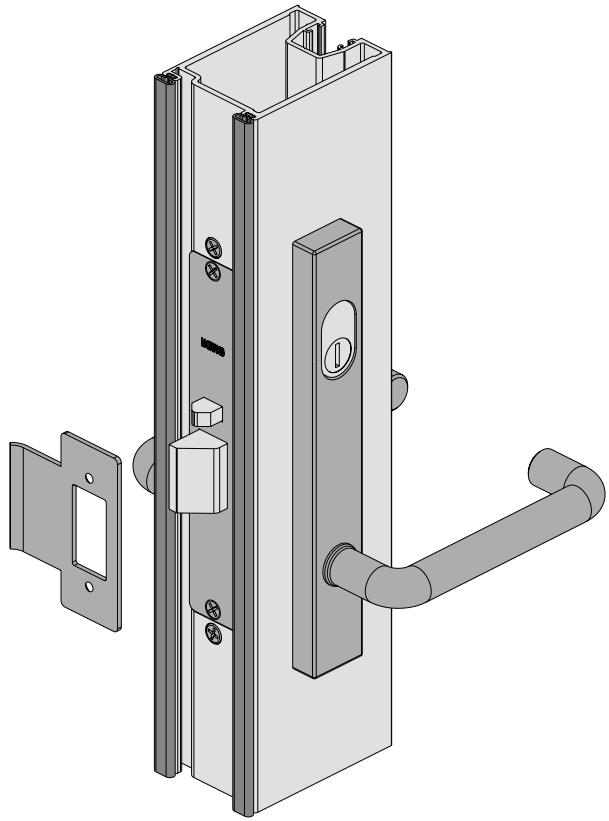
Lockwood Series 3580 short backset cylinder mortice lock – 30mm backset, with Lockwood Series 4800 or 5800 furniture.

There are numerous lock and furniture options, refer Lockwood catalogue and/or website (www.lockwoodsecurity.com).

Elevate™ Series 50/51 door French stile illustrated. This lock can also be fitted into Series 52 fully beaded French stile.



Elevate™ glass filled nylon keeper.



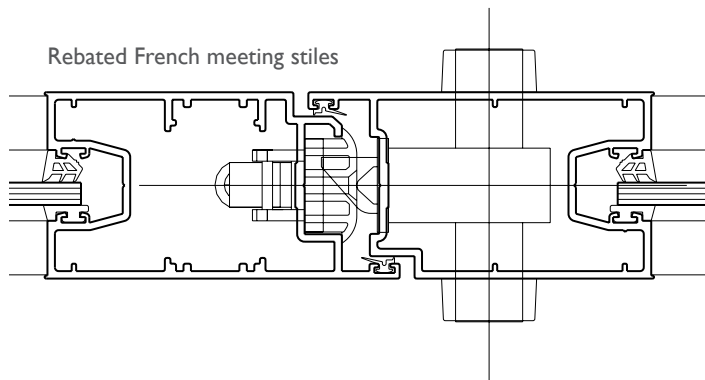
Bi-fold lock stile

Lockwood Series 3580 short backset cylinder mortice lock – 30mm backset can be fitted into Series 50 and Series 51 bi-fold stile as shown right.

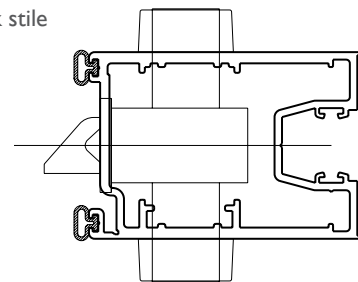
On Series 52 use 25.40mm backset, with Lockwood Series 4800 or 5800 furniture.

There are numerous lock and furniture options, refer Lockwood catalogue and/or website (www.lockwoodsecurity.com).

Jamb stile uses the standard stainless steel keeper that comes with the lock.



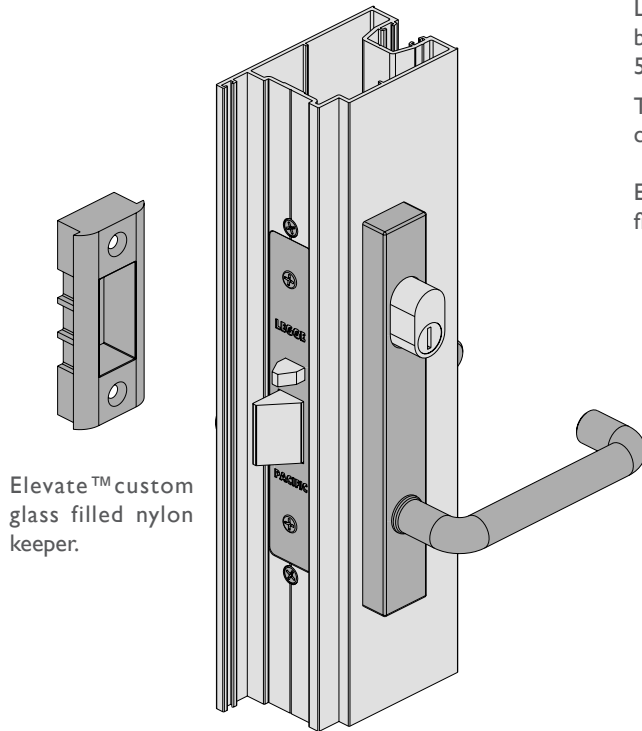
Rebated French meeting stiles



Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

LEGGE 995MF LOCK

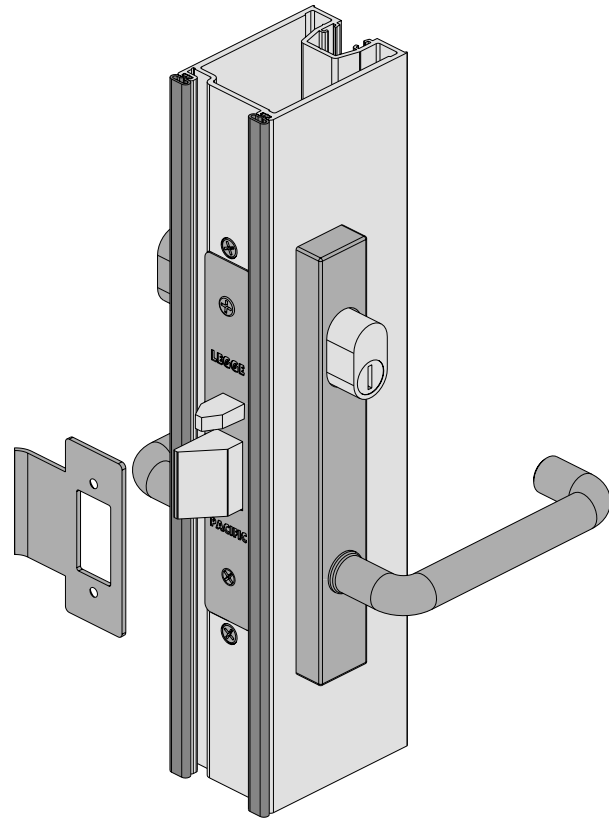


Elevate™ custom glass filled nylon keeper.

Legge Pacific 995MF multi-function narrow stile mortice lock – 30mm backset, with extended cylinders and with Dalco narrow style Series 5300 or 5400 furniture.

There are numerous furniture options, refer Dalco Narrow Style Furniture catalogue and/or website (www.ingersollrand.com.au).

Elevate™ Series 50/51 door French stile illustrated. This lock can also be fitted into Series 52 fully beaded French stile.

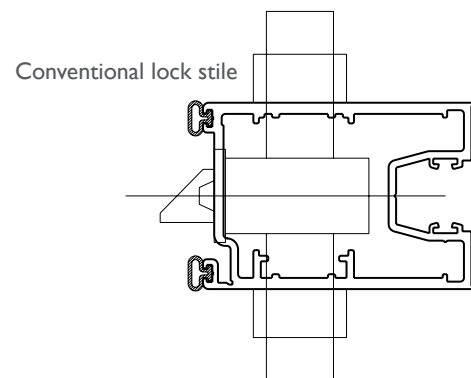
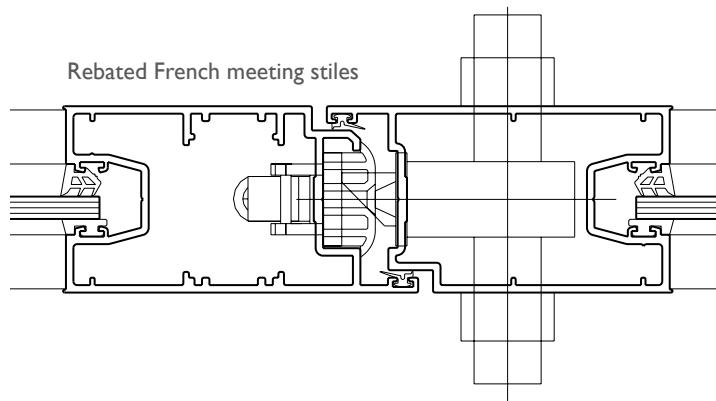


Legge Pacific 995MF multi-function narrow stile mortice lock – 30mm backset can be fitted into Series 50 and Series 51 bi-fold stile as shown right, with extended cylinders and with Dalco narrow style Series 5300 or 5400 furniture.

There are numerous furniture options, refer Dalco Narrow Style Furniture catalogue and/or website (www.ingersollrand.com.au).

Series 52 doors are **not suitable** with Legge 995MF lock as we can only fit the 23mm backset into the bi-fold stile and 23mm is not enough on bi-fold doors.

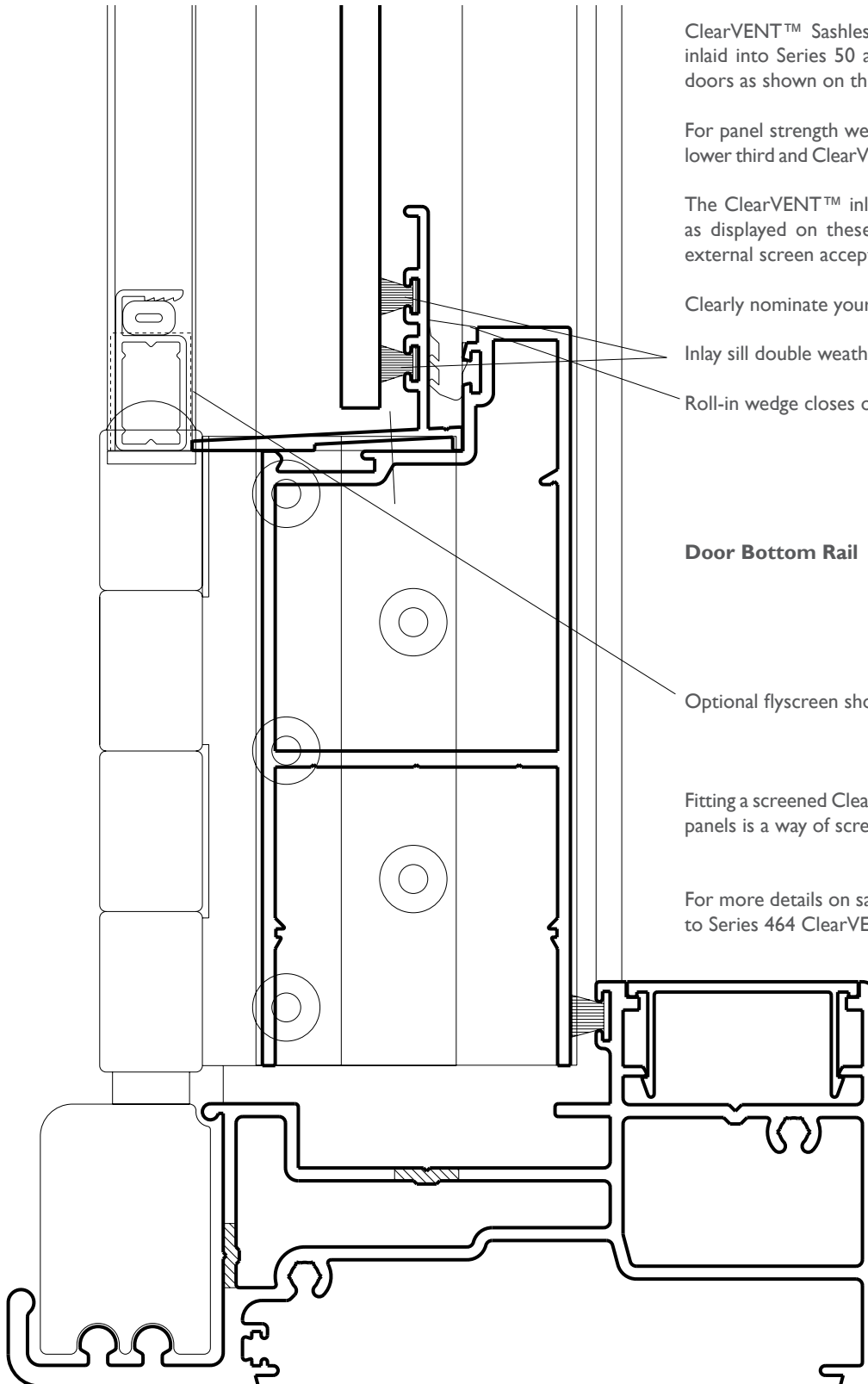
Jamb stile uses the standard stainless steel keeper that comes with the lock.



Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

ClearVENT™ SASHLESS DOUBLE-HUNG INSERT



ClearVENT™ Sashless double-hung sashes can be inlaid into Series 50 and Series 51 FoldMASTER™ doors as shown on this and the following page.

For panel strength we recommend a midrail for the lower third and ClearVENT™ in the upper two thirds.

The ClearVENT™ inlay comes in flyscreen version as displayed on these pages or non-flyscreen (no external screen acceptor channel).

Clearly nominate your preference when specifying.

Inlay sill double weatherpile sealed to glass.

Roll-in wedge closes off the inlay to door sill gap.

Door Bottom Rail

Optional flyscreen shown.

Fitting a screened ClearVENT™ into one of the door panels is a way of screening the bi-fold unit.

For more details on sashless double-hung inserts go to Series 464 ClearVENT™ windows.

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

ClearVENT™ SASHLESS DOUBLE-HUNG INSERT

Flyscreen insert version illustrated.

All ClearVENT™ inserts are supplied with removable weatherstrip at mid point.

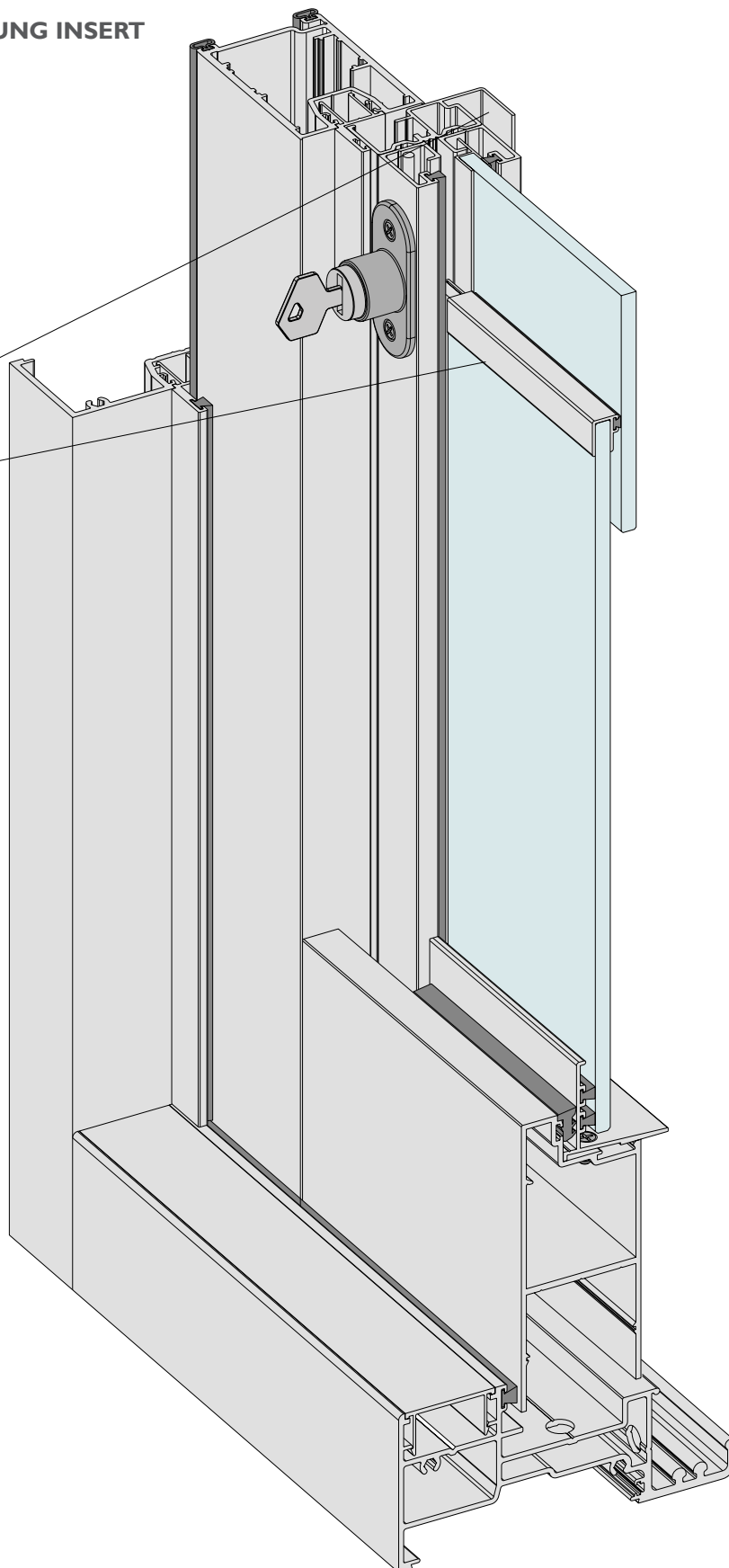
ClearVENT™ sashes glazed with grade 'A' safety glass in accordance AS 1288.

Notes:

The press button lock is positioned on the jamb hinge side, not on the fold out hinge.

ClearVENT™ inserts go into Series 50 or 51 doors.

ClearVENT™ inserts can also be installed into hinged doors or fixed framing, refer Series 400 CentreGLAZE™.



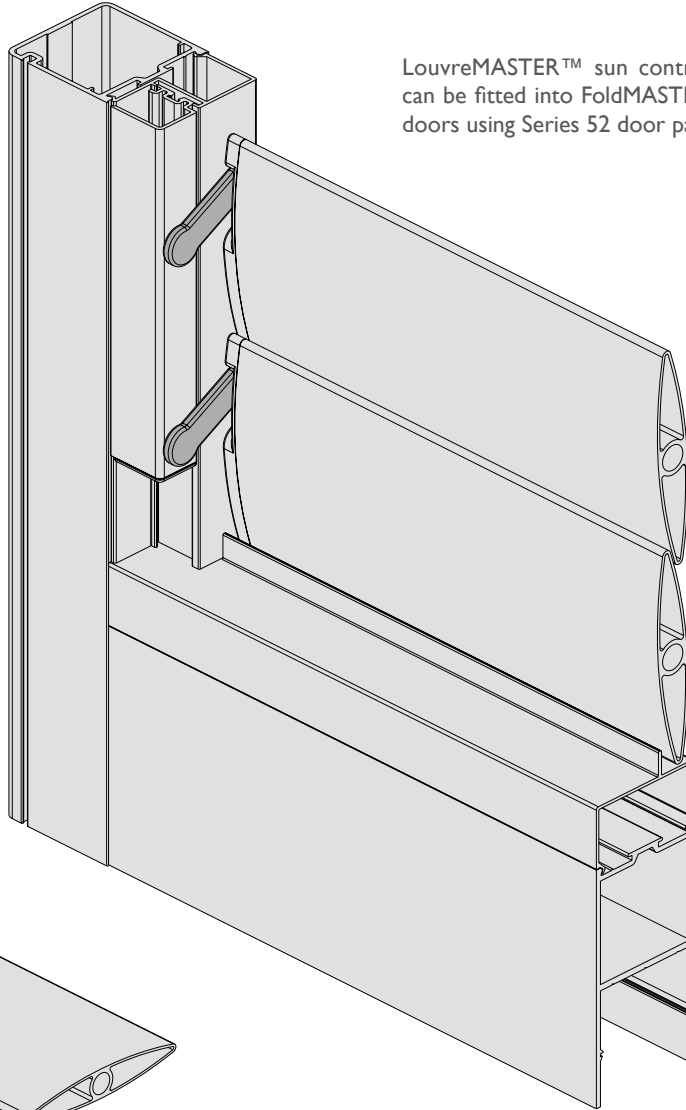
Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

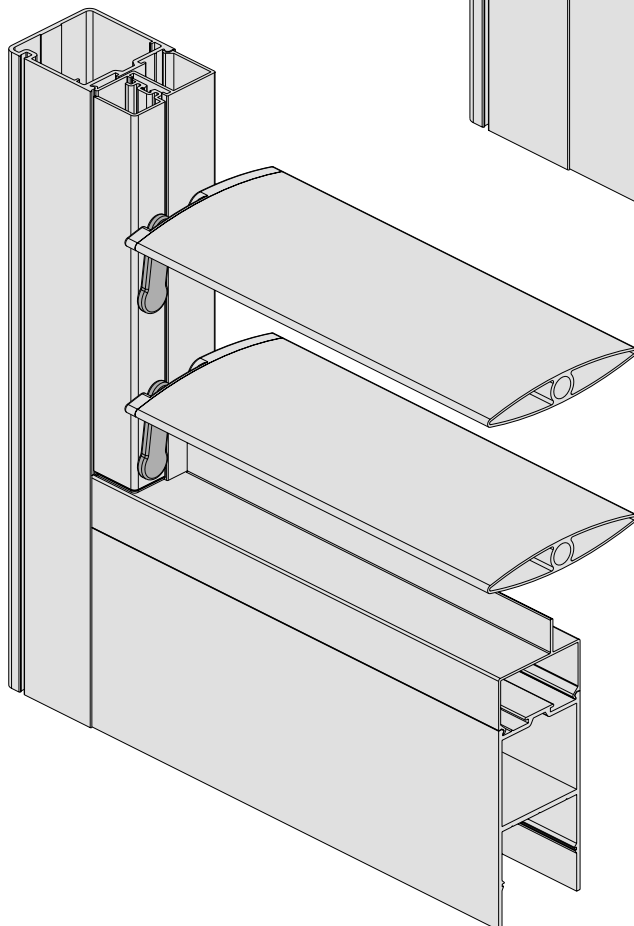
LouvreMASTER™ SUN CONTROL SHUTTERS



CAD file: DWG
417.LVR.4



LouvreMASTER™ sun control shutters can be fitted into FoldMASTER™ bi-fold doors using Series 52 door panels.



LouvreMASTER™ sun control shutters (Series 417) can be fitted into a large variety of Elevate™ products:

- Series 410 FoldMASTER™ Bi-fold doors and windows.
- Series 411 ViewMASTER™ bi-fold doors
- Series 412 ViewMASTER™ bi-fold doors
- Series 52 Hinged or sliding doors.
- Series 400 awning and casement windows.

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

CENTOR SCREEN PRODUCTION FEATURES

By far the largest and most robust retractable screening system on the market. The detail in this section show the screen fitted behind Series 410 Bi-fold door. The screen can be fitted to any of the Bi-fold door configurations up to 881 mm wide (with Standard weave mesh).

The S4 screen frame can be coloured to match the Bi-fold door frame.

Load Balancing Technology™ (LBT™) allows for effortless fingertip control. With no spring-loading to fight against, the screen's lead-stile remains firmly in any chosen position until further pressure is applied. Load-balancing also means far greater mesh tension across the screen, eliminating any tendency to sag.

Tight Technology™ manufacturing techniques ensure control of the horizontal edges of the screen so they remain straight and tight across the widest spans.

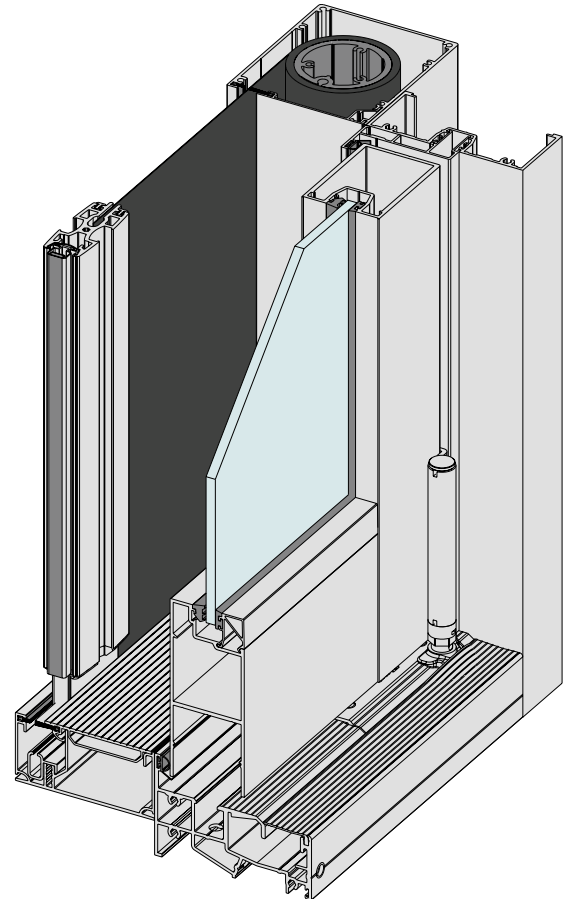
A shock absorption system allows visitors taken in by the screen's unobtrusiveness and near invisibility to walk away with little more than a surprise.

Should strong winds blow the screen out of the top or bottom channels the mesh will self-feed back onto the roll as it is rolled away.

The S4 screen is an evolution of the highly successful S1 screen with completely redesigned operating system including top and bottom tabs on the mesh to improve blowout resistance and allow blackout blinds to be added.

S4 is manufactured in stainless steel and reinforced engineered polymers. PetScreen Lite, the tough PVC coated polyester mesh used in the screen, is hard wearing and resistant to damage from pets and children. The mesh is easy to clean and can be replaced if damaged (service call required).

Large size screens available 3200mm high x 4611mm wide or 9013mm wide double bi-parting screens (with Standard mesh). It's possible with a cavity sliding door and the S4 to get about 95% clear opening.



Screen Maintenance

Screen fabric should be cleaned with a soft brush or a damp soft cloth.

Tracking should be regularly cleaned to prevent the build-up of dirt and debris.

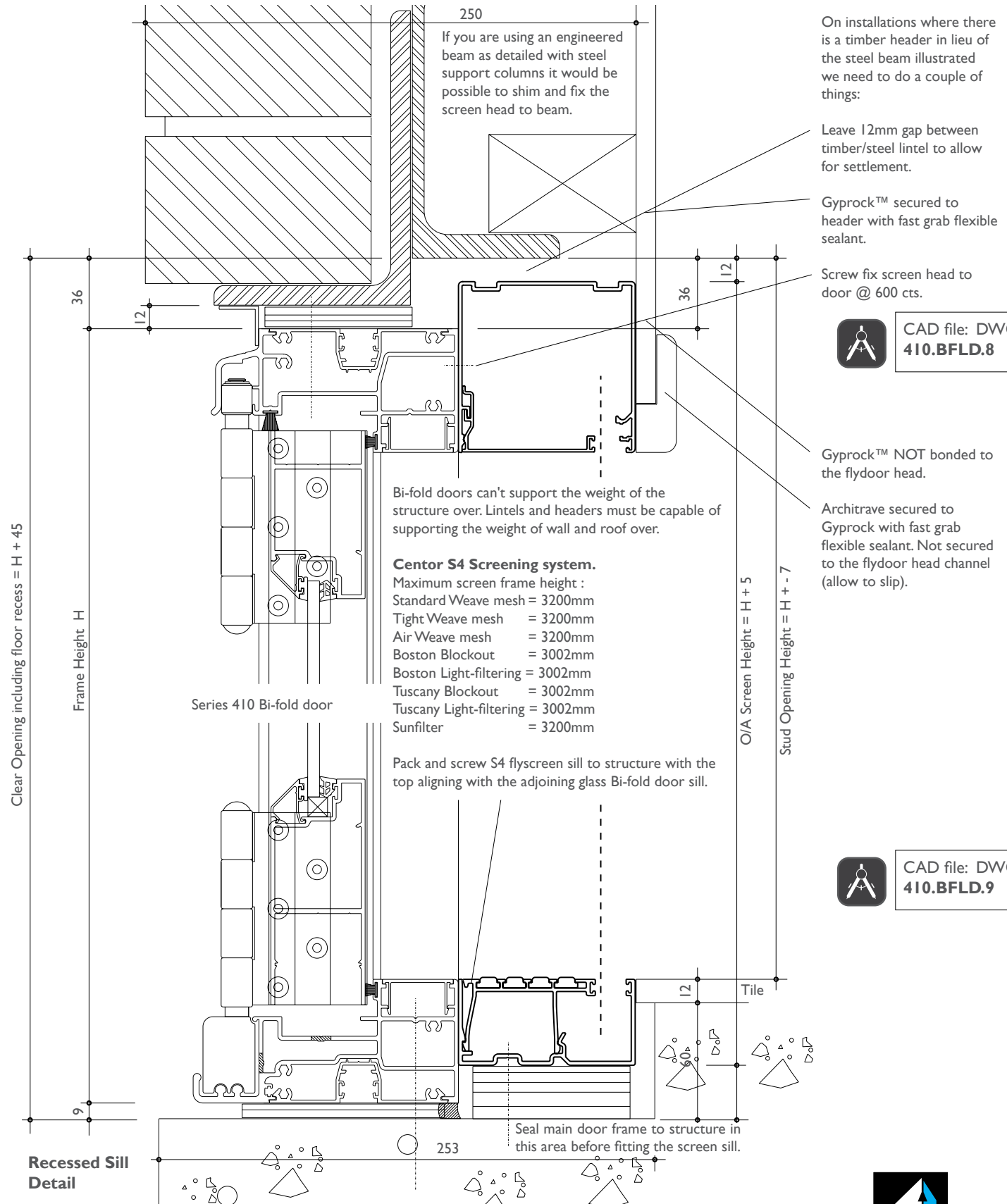
A vacuum cleaner fitted with a nozzle is effective. The S4 has an "easy fit" sill cover to facilitate simple cleaning and maintenance by the homeowner.

Operating mechanisms are fully contained and do not require maintenance other than keeping clear of dirt and debris.

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

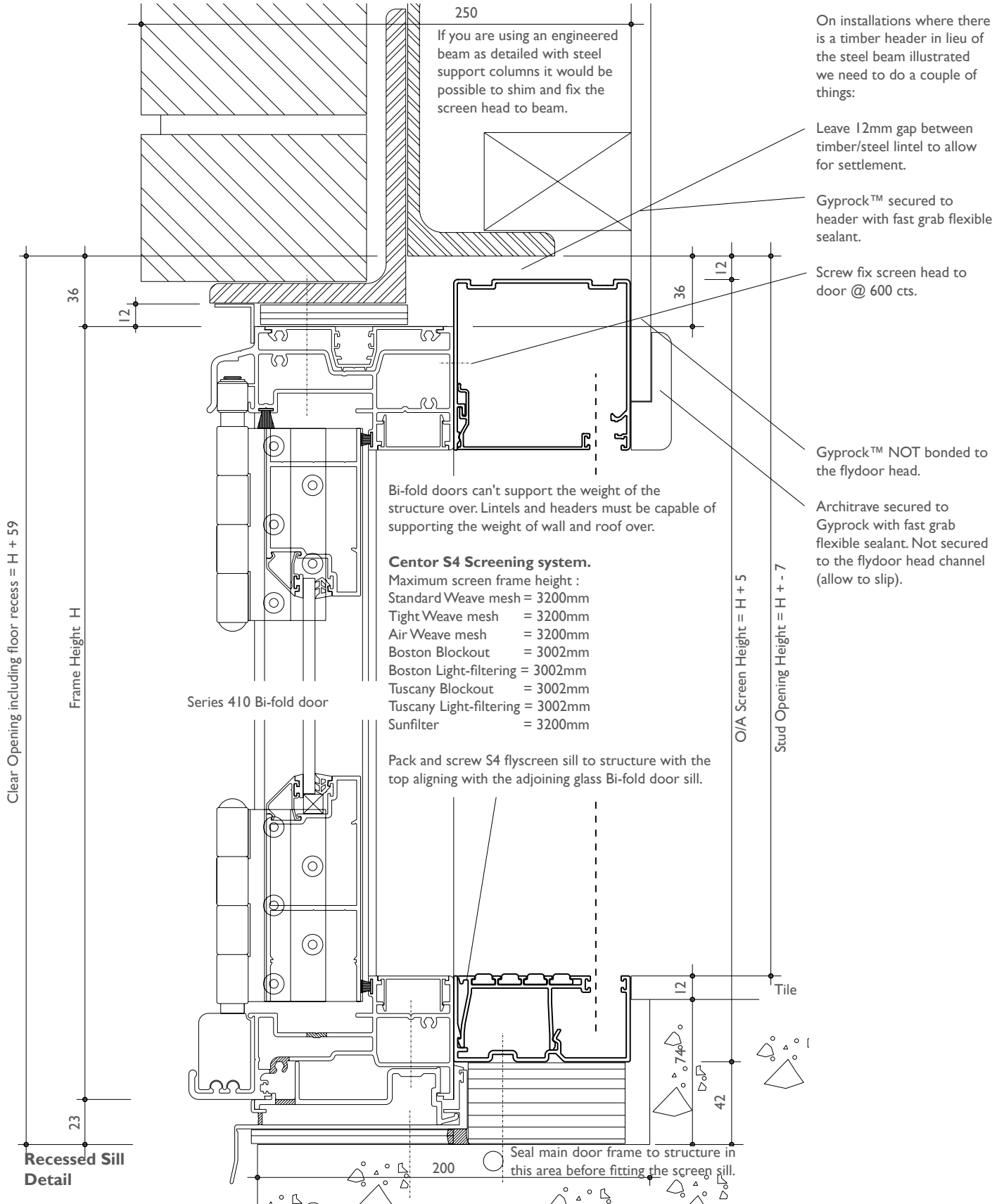
TYPICAL VERTICAL CROSS SECTION - Centor™ S4 ROLLER SCREEN - NO SUB-SILL



Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

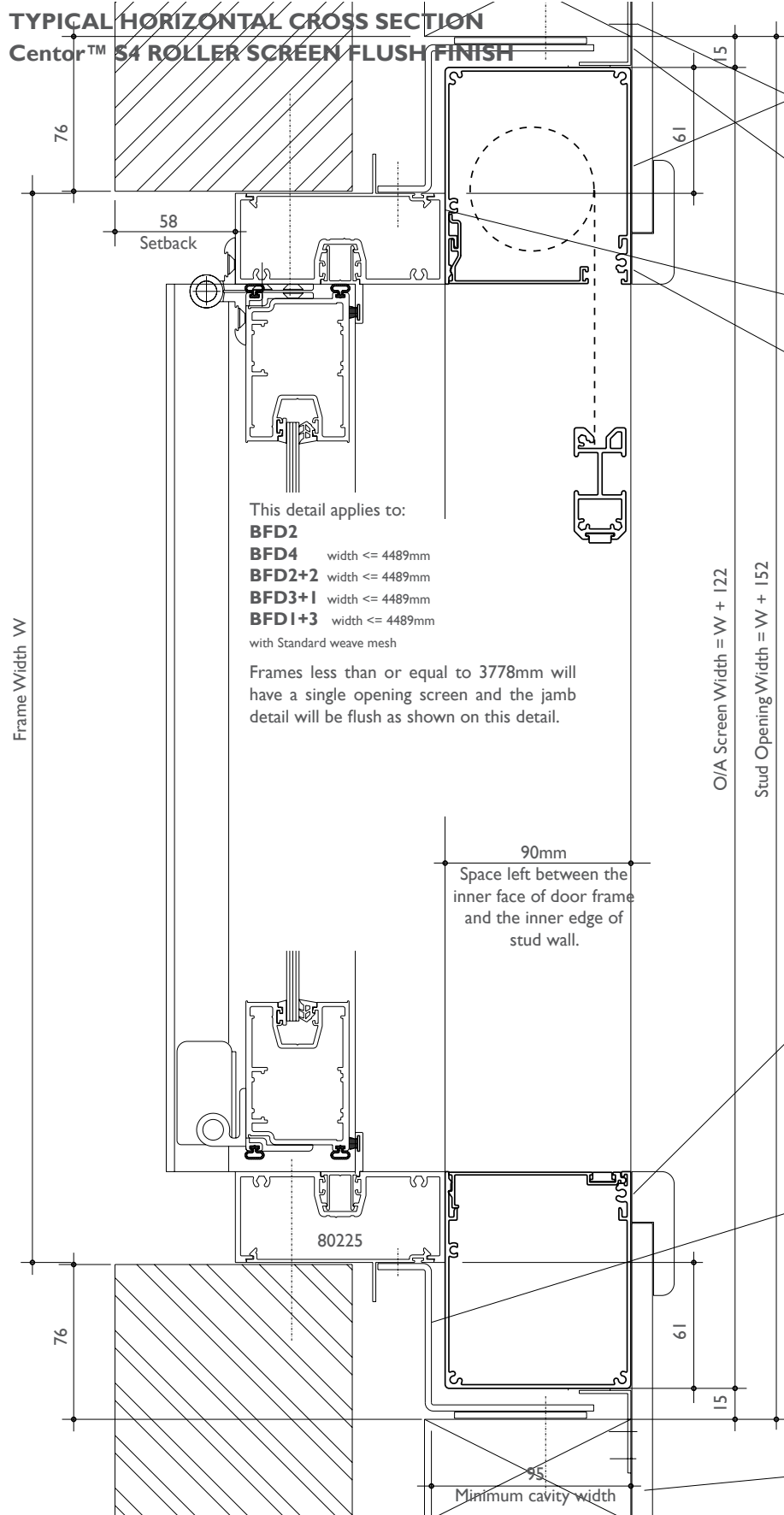
TYPICAL VERTICAL CROSS SECTION - Centor™ S4 ROLLER SCREEN - WITH SUB-SILL



FOLD DOOR

DATE: AUGUST 20
 REPLACES: MAY 13
 SCALE: NOT TO SCALE

TYPICAL HORIZONTAL CROSS SECTION Centor™ S4 ROLLER SCREEN FLUSH FINISH



Gyprock™ secured to stud wall and flydoor jamb with fast grab flexible sealant.

Flydoor jamb secured to stud.

Flydoor jamb secured to bi-fold jamb with double side tape.

Architrave secured to Gyprock™ with fast grab flexible sealant. Don't screw fix architrave or wall lining into the Centor™ flydoor jamb box as this could damage the screening.

This detail applies to:

- BFD2** width ≤ 4489mm
- BFD2+2** width ≤ 4489mm
- BFD3+1** width ≤ 4489mm
- BFD1+3** width ≤ 4489mm with Standard weave mesh

Frames less than or equal to 3778mm will have a single opening screen and the jamb detail will be flush as shown on this detail.

IMPORTANT NOTE:

When you use the single flydoor system on a bi-fold door where there is no loose edge leaf as detailed left. The screen frame aligns with the main glass door frame.

If the overall Standard weave mesh screen width exceeds 4611mm you must use a double screen frame.

Centor™ S4 Screening system.
 Maximum double screen frame width:
 Single = 4611mm
 Maximum glass door frame width:
 With single screen = 4489mm

O/A Screen Width = W + 122
 Stud Opening Width = W + 152

90mm
 Space left between the inner face of door frame and the inner edge of stud wall.

Don't screw fix architrave or wall lining into the Centor™ flydoor jamb box as this could damage the screening.

Create a rebate in the inner stud wall to accept the flydoor box as detailed.

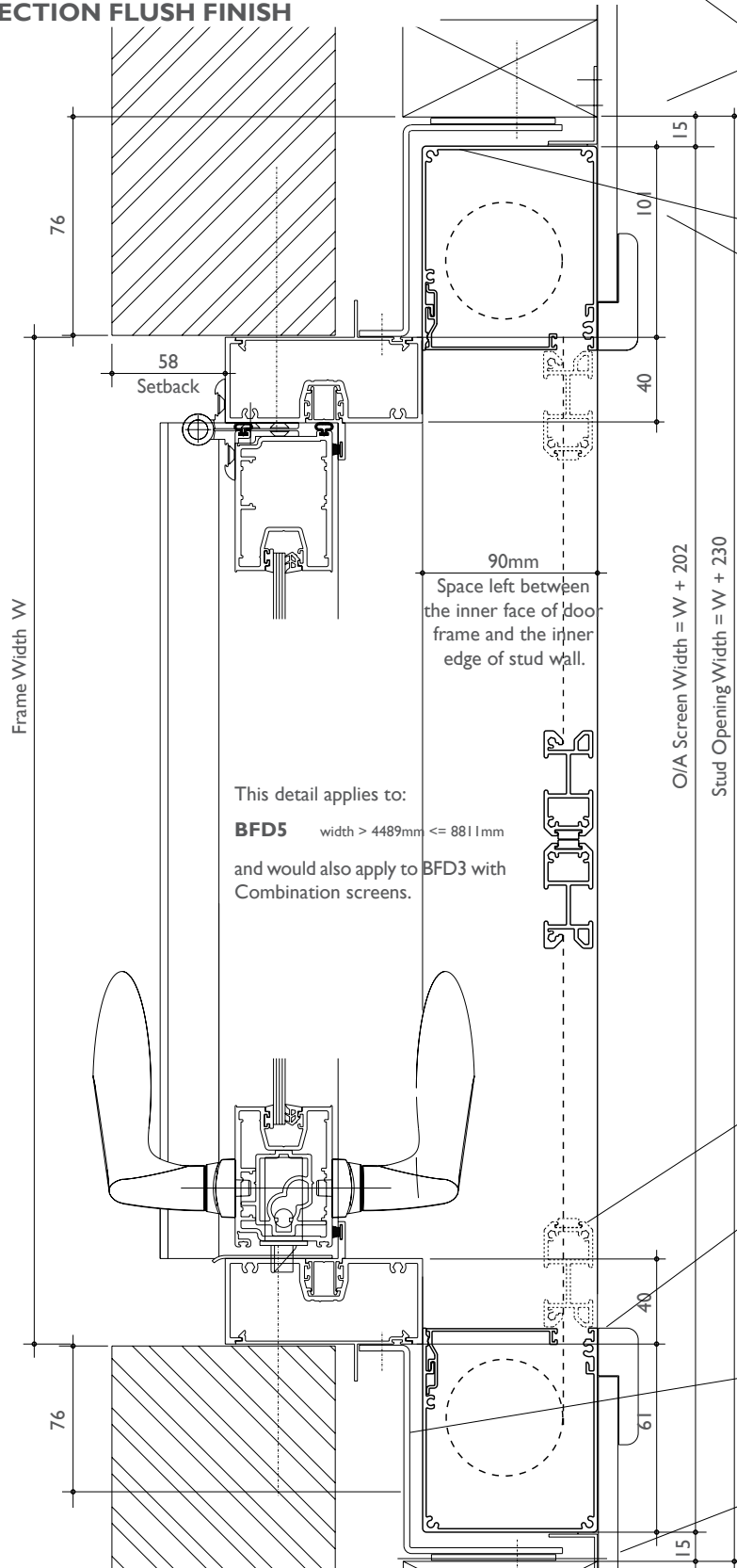
Custom galvanised mild steel 'Z' brackets @ 450mm max. cts.

250mm Thick brick veneer wall.

Series 410 FoldMASTER™ BI-FOLD DOOR

DATE: AUGUST 20
REPLACES: MAY 13
SCALE: NOT TO SCALE

Centor™ S1E ROLLER SCREEN TYPICAL HORIZONTAL CROSS SECTION FLUSH FINISH



This detail applies to:
BFD5 width > 4489mm <= 8811mm
and would also apply to BFD3 with
Combination screens.

Gyprock™ secured to stud wall and flydoor jamb with fast grab flexible sealant.

Flydoor jamb secured to stud with aluminium fixing lugs and double sided tape, lugs supplied with flydoor kit.

Flydoor jamb secured to bi-fold jamb with double side tape.

Architrave secured to Gyprock with fast grab flexible sealant. Don't screw fix architrave or wall lining into the Centor flydoor jamb box as this could damage the screening.

IMPORTANT NOTE:
When you use the double flydoor system on a bi-fold door where there is a loose edge leaf at the end (BFD3 and BFD5) as detailed left. The screen frame is rebated 40mm to allow access to the glass door lock.

Centor™ S4 Screening system.
Maximum double screen frame width:
Double = 9013mm
Maximum glass door frame width:
With double screen > 4489 <= 8811mm

On Combo screens the maximum double screen width is considerably smaller and varies depending on mesh types selected, refer S4 AWS Calculator

Location of screen stile in the open position.

Don't screw fix architrave or wall lining into the Centor flydoor jamb box as this could damage the screening.

Create a rebate in the inner stud wall to accept the flydoor box as detailed.

AWS custom 75mm extruded aluminium 'Z' brackets 93120 @ 450mm max. cts.

250mm Thick brick veneer wall.