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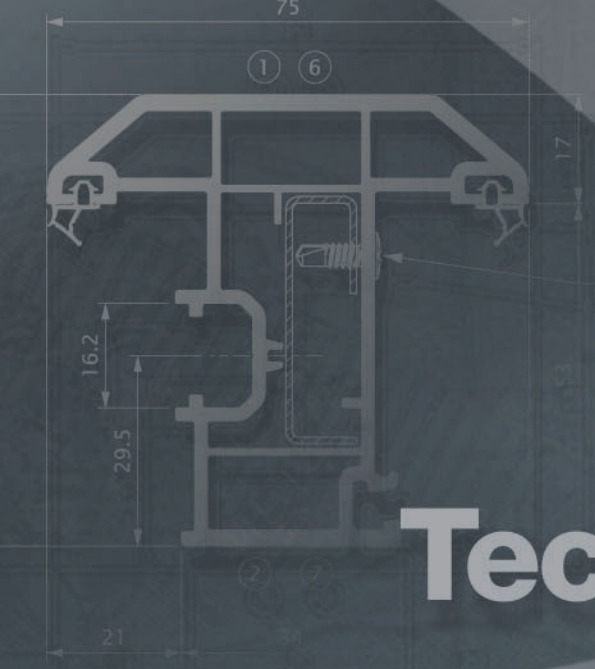

Technical Manual

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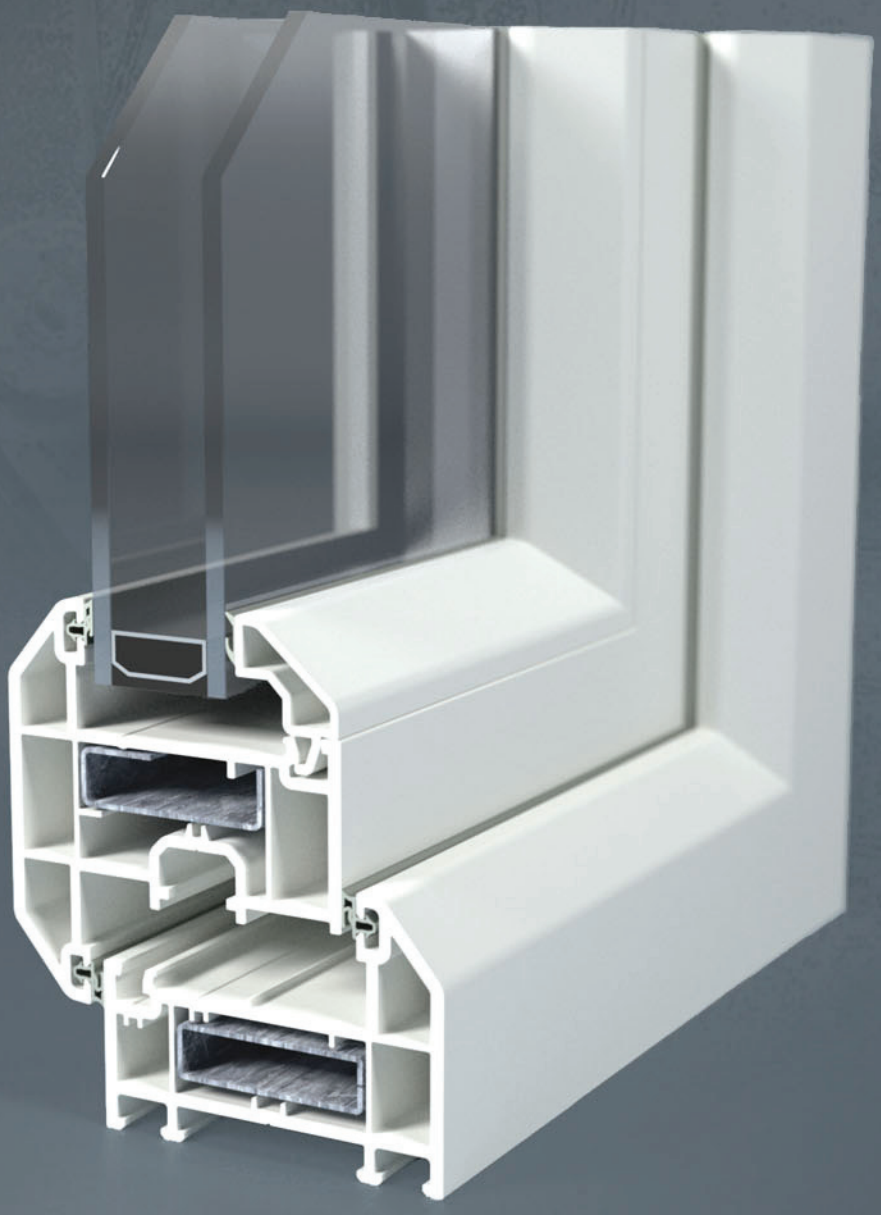

Technical data

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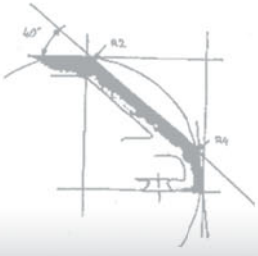

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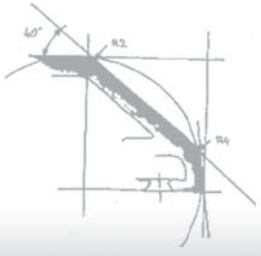
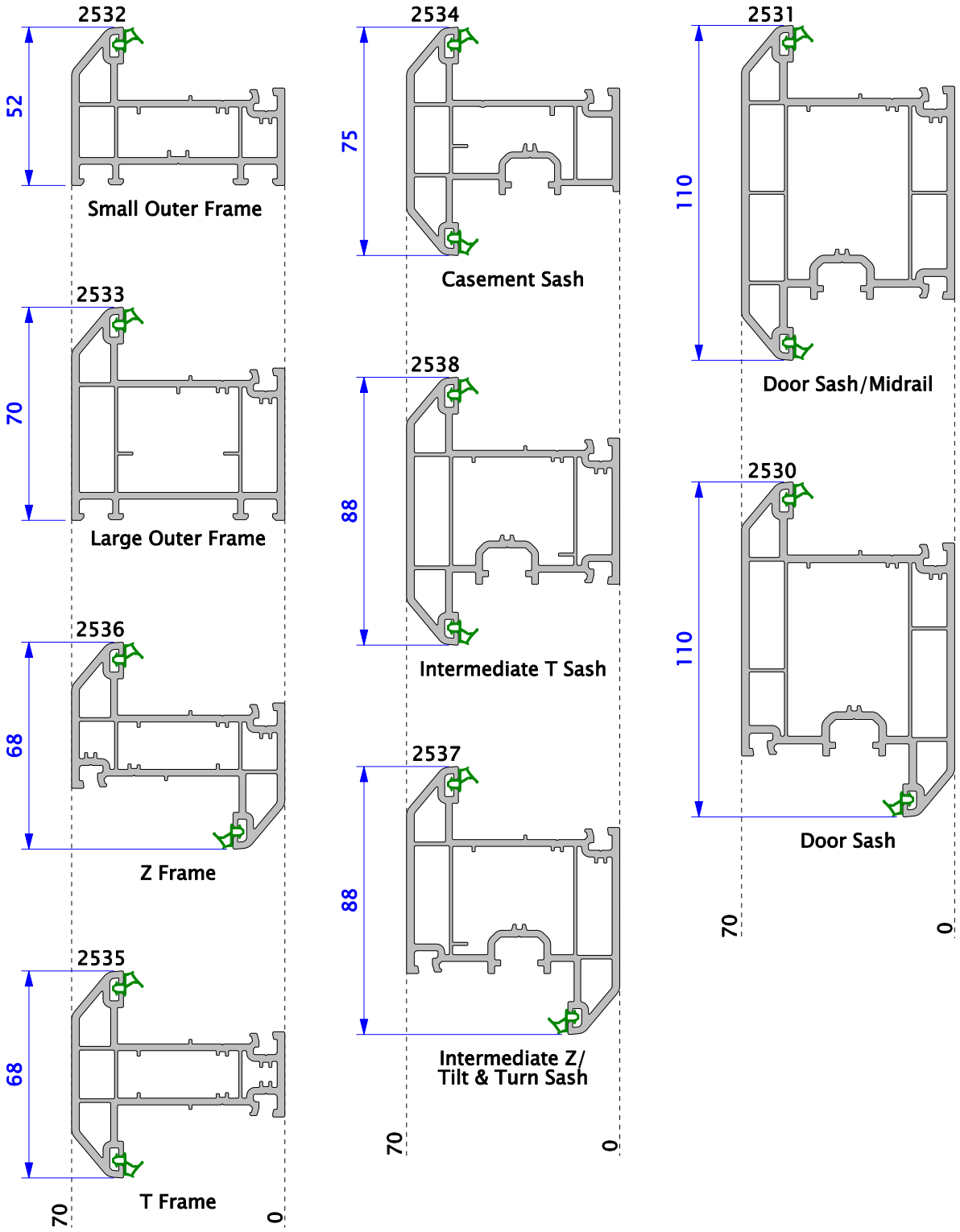
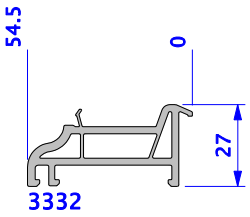
GENERAL

MAIN PROFILES
ACCESSORY PROFILES
PROFILE SHEET
WINDOW & DOOR TYPES



MAIN PROFILES

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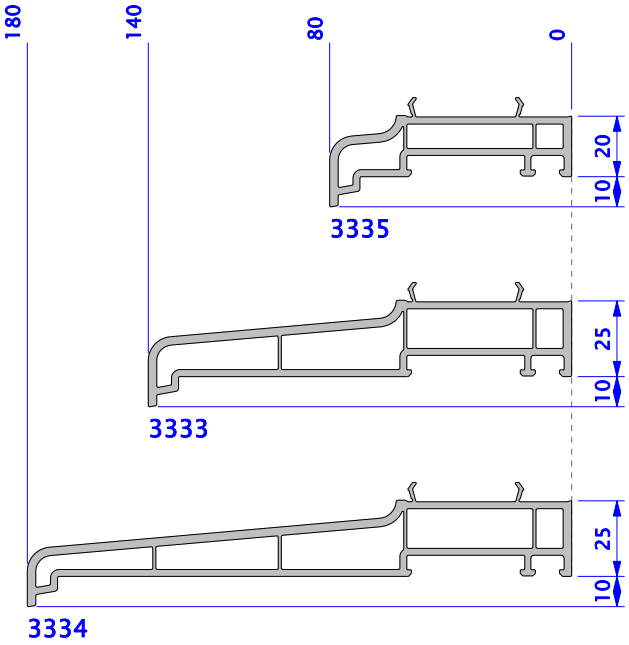
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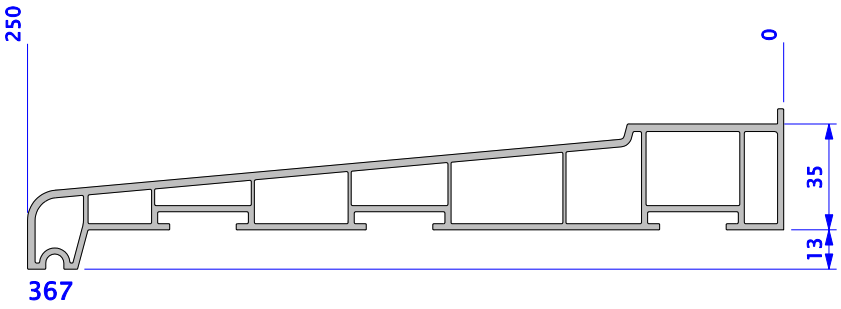
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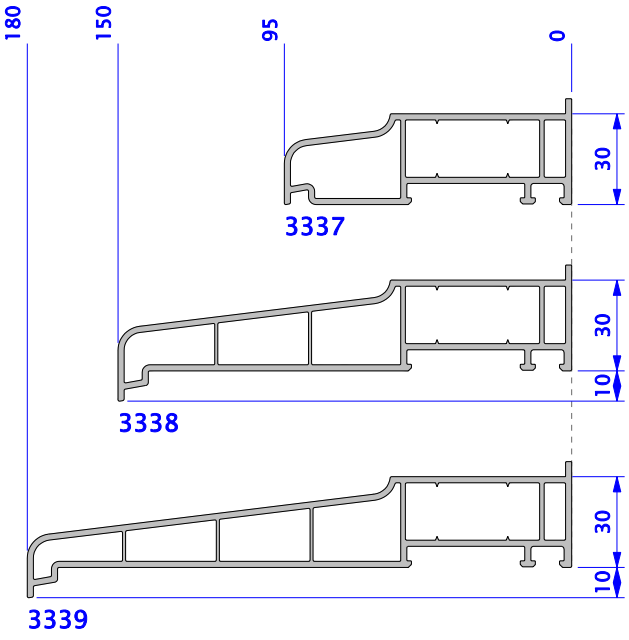
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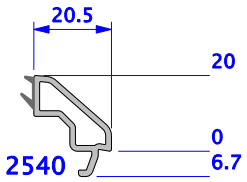
Glazing beads

See Glazing table: chapter 2.5

Chamfered



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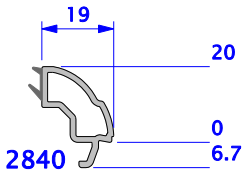

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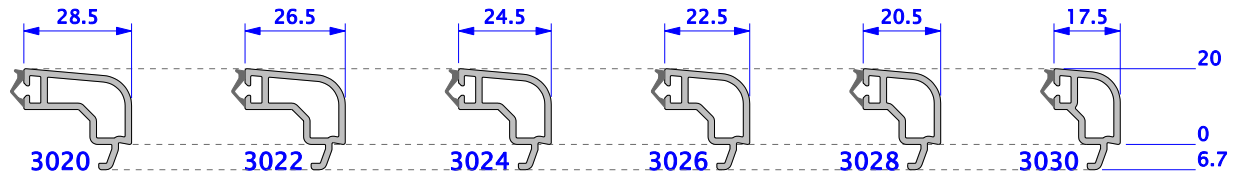

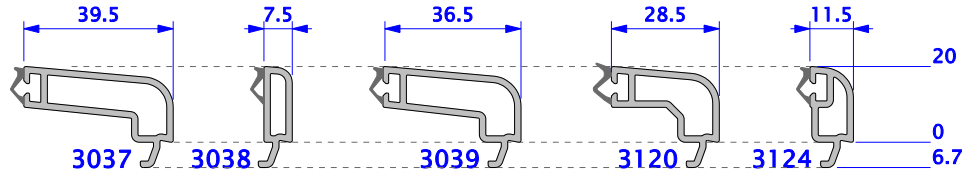

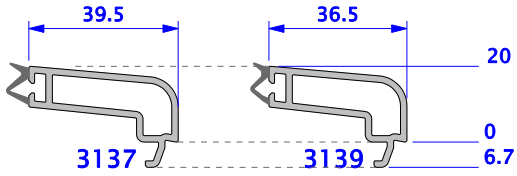

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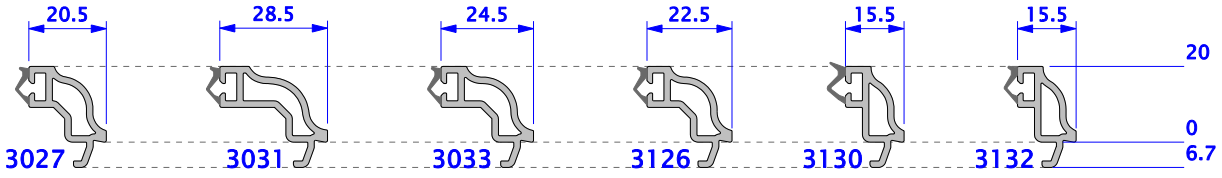

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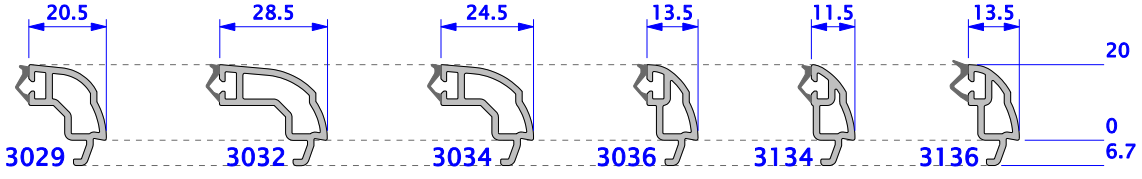
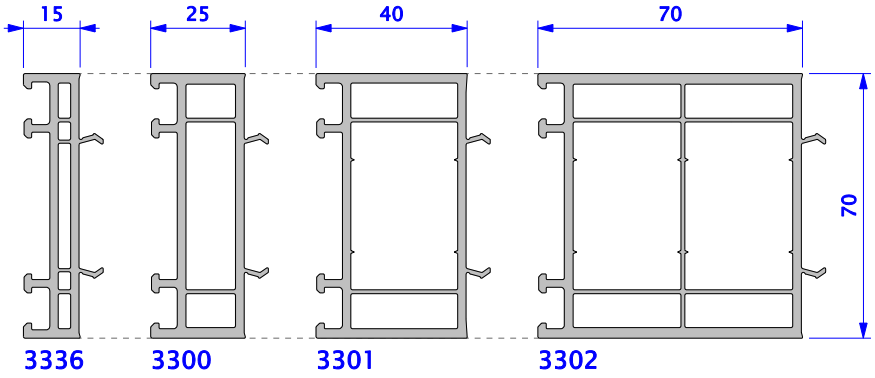
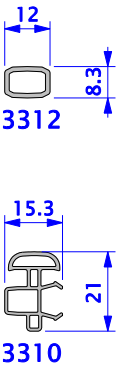
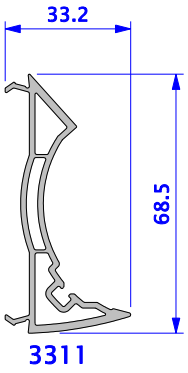


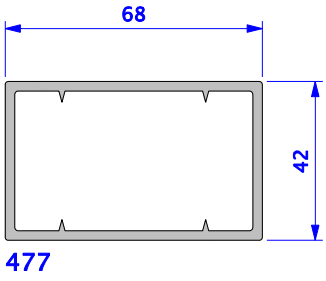
Extension & coupling profiles

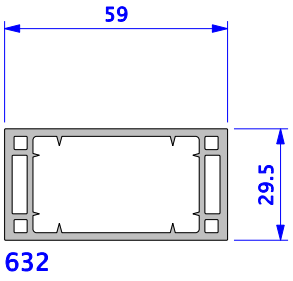
ACCESSORY PROFILES

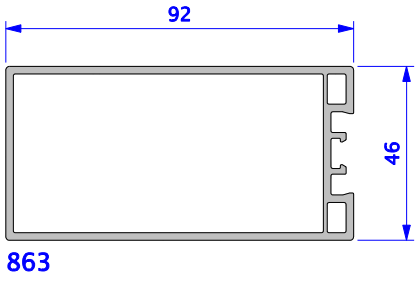


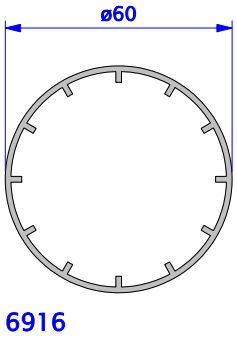


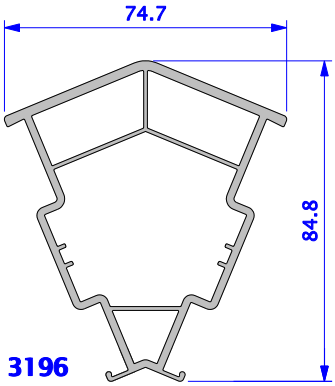


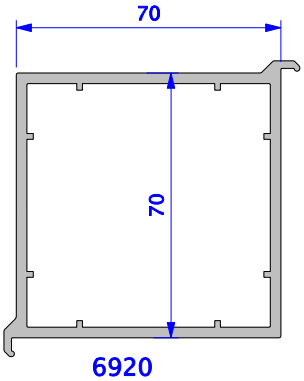


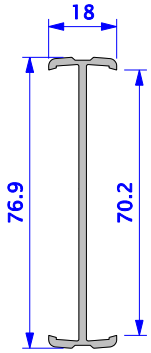


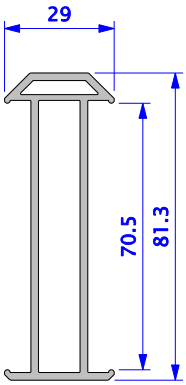


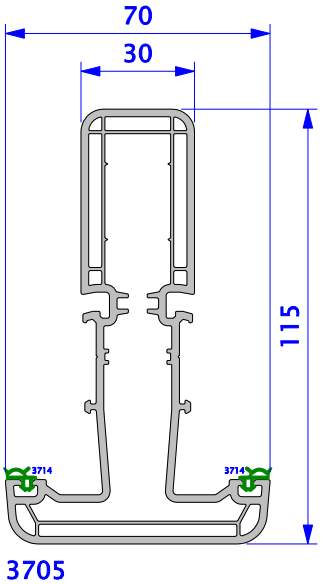


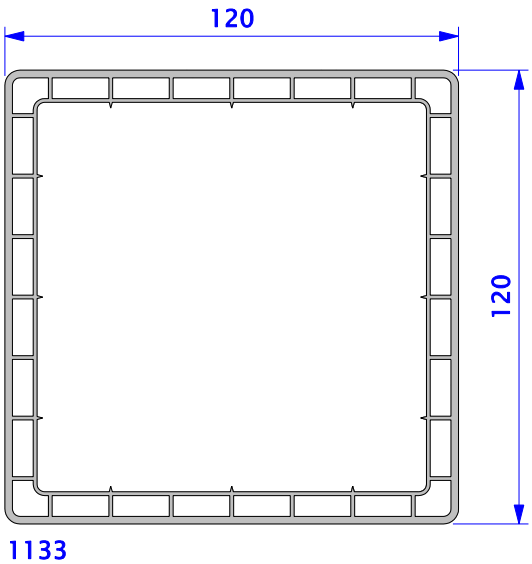


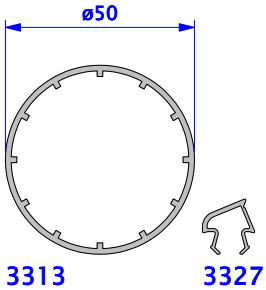


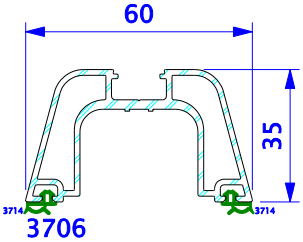






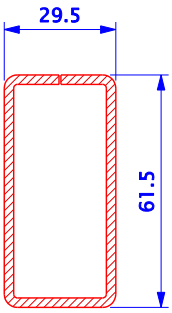






Reinforcements

ACCESSORY PROFILES



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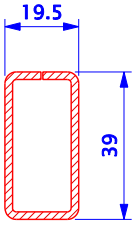

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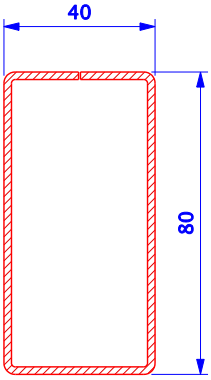

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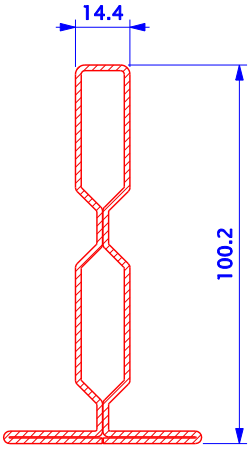

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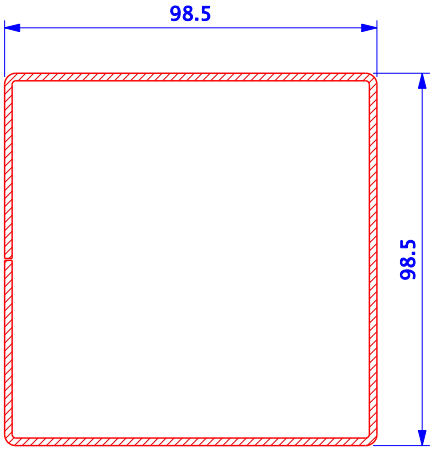

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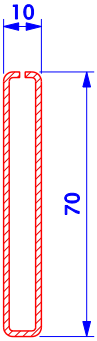

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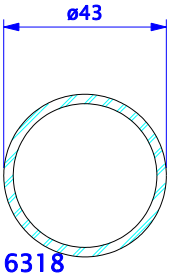

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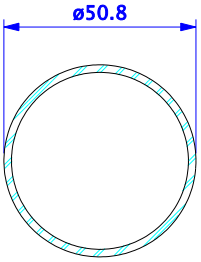

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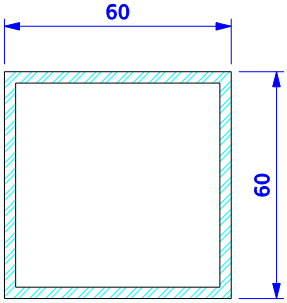

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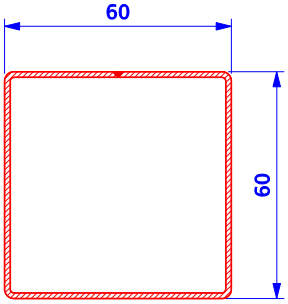

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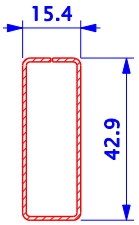

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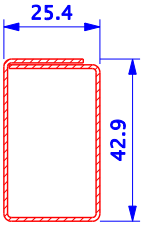

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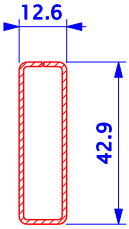

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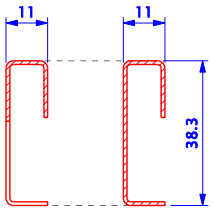

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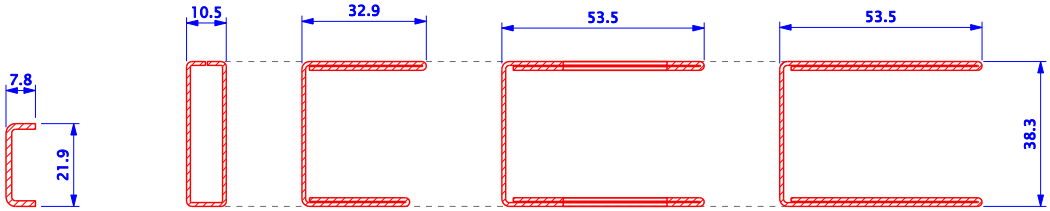

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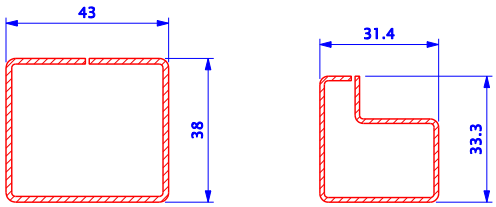

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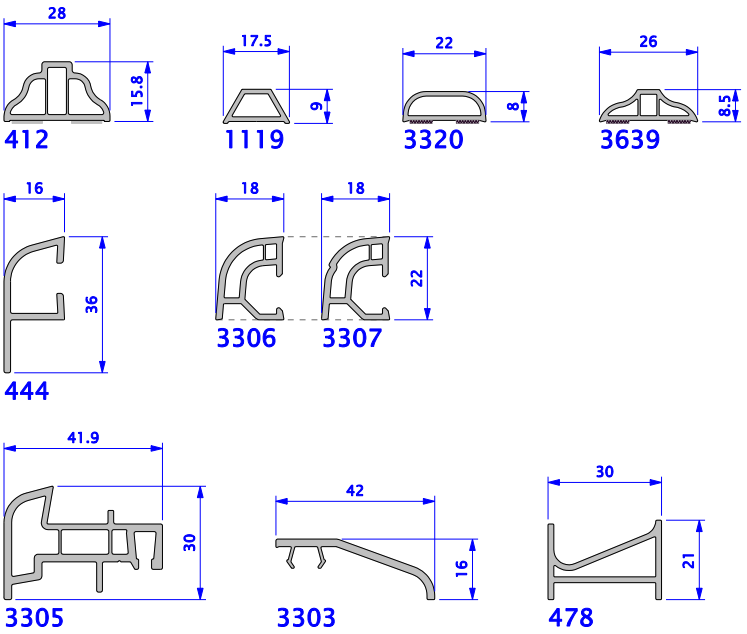
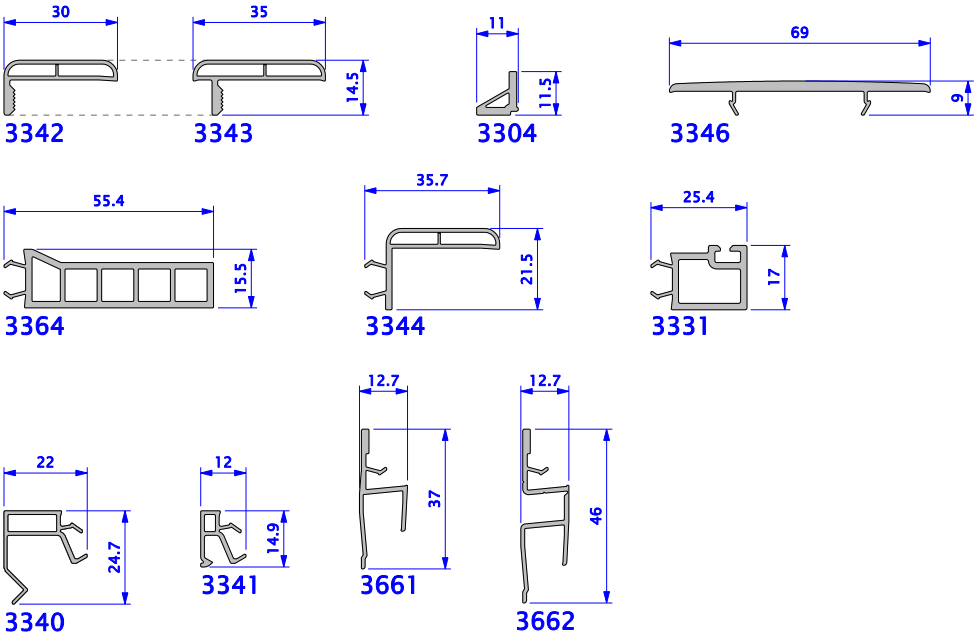
Finishing profiles

Drip rails & georgian bars

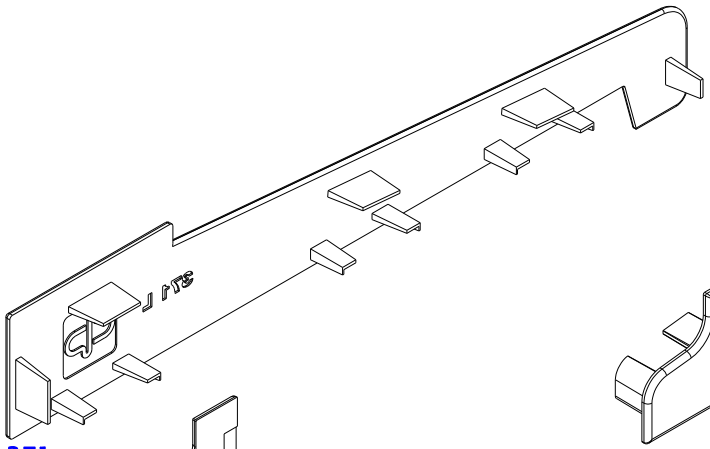


PVC universal



Miscellaneous

ACCESSORY PROFILES



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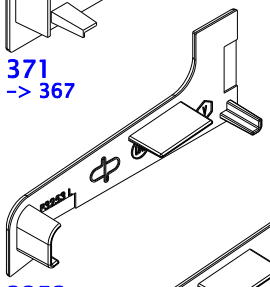

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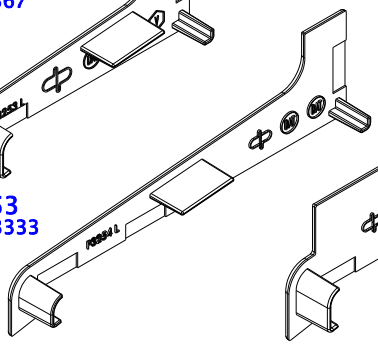

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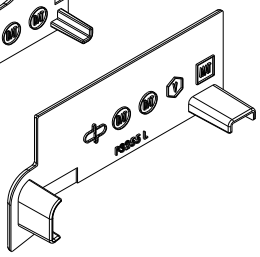

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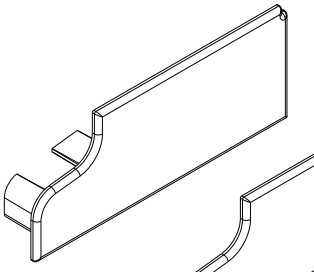

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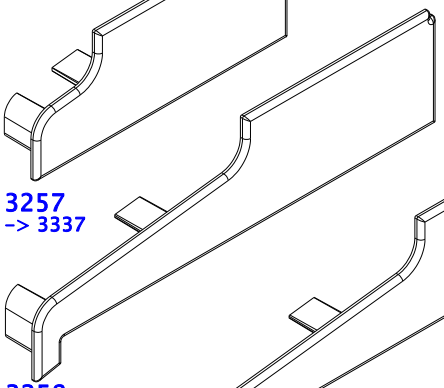

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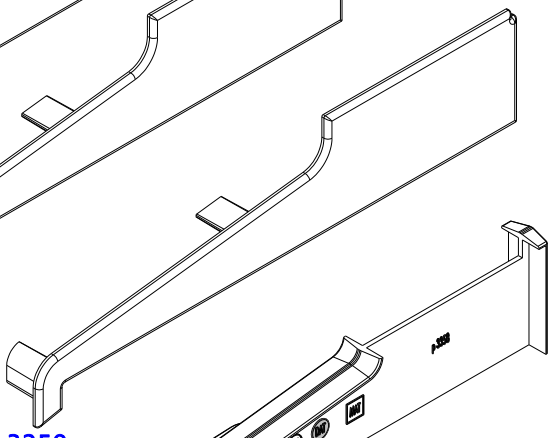

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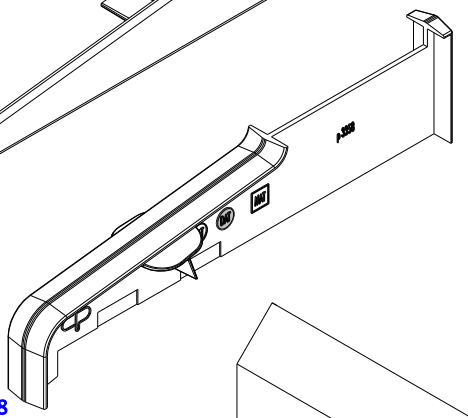

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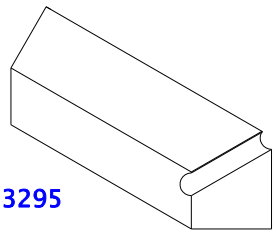

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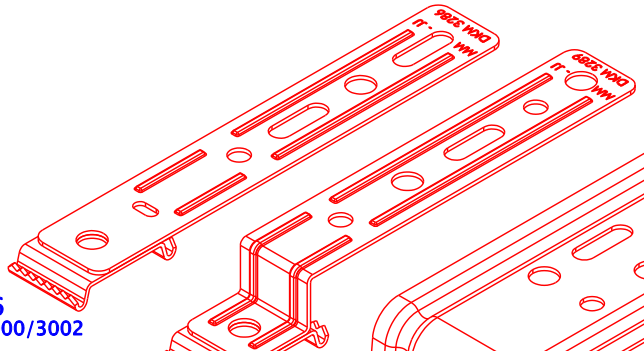

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3379
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3345
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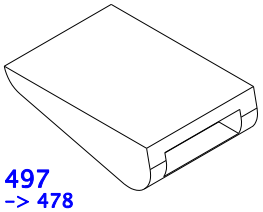

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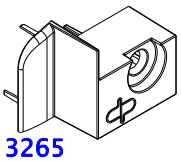

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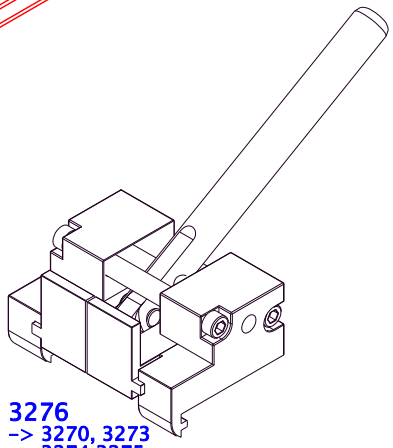

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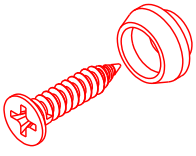

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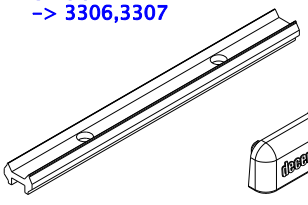

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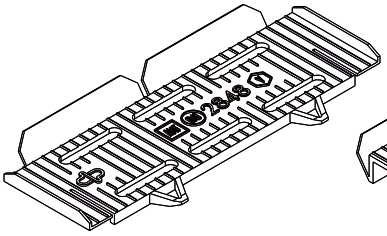

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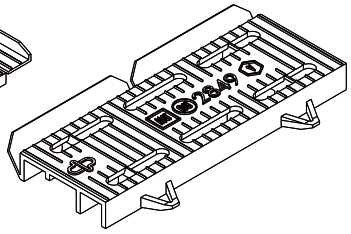

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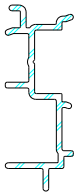

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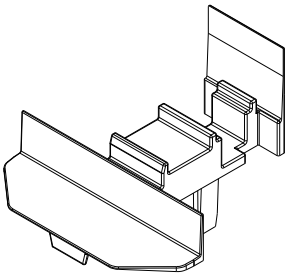

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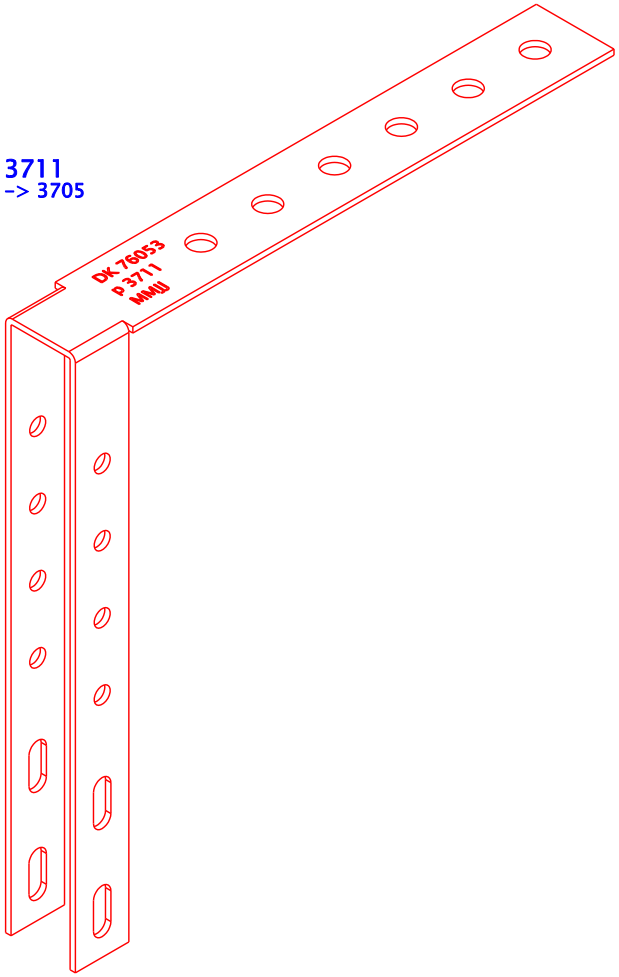

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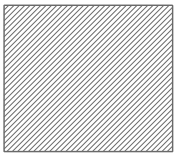

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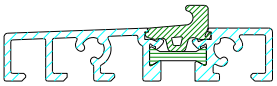
Threshold Profiles



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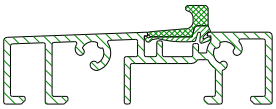

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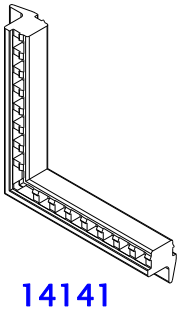

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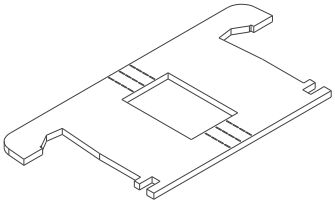

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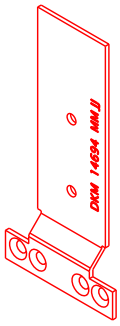

14694

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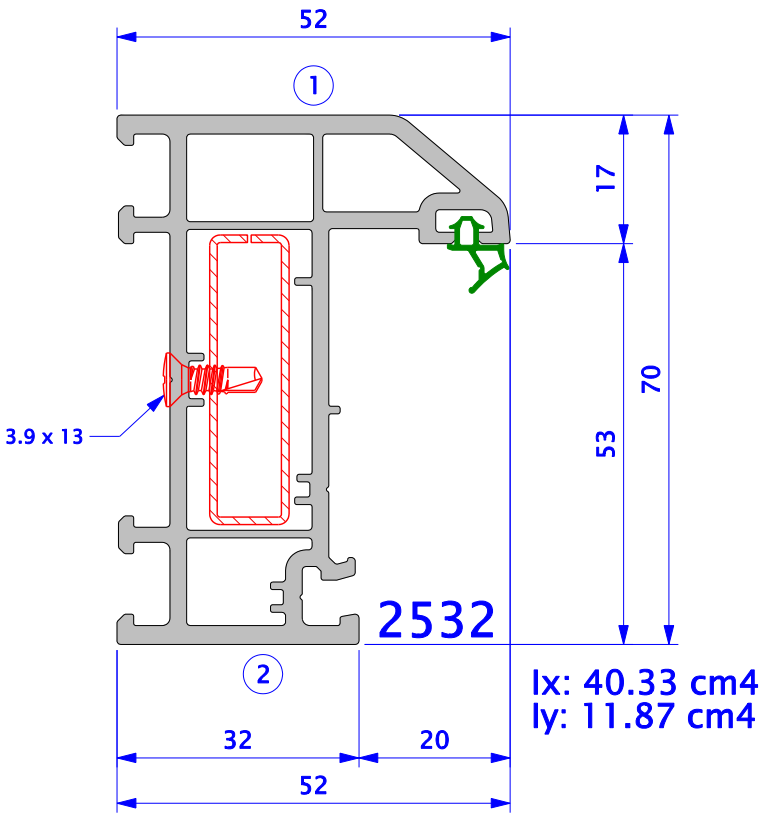

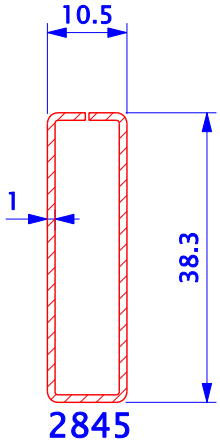

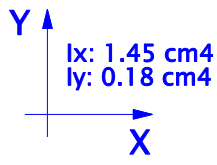

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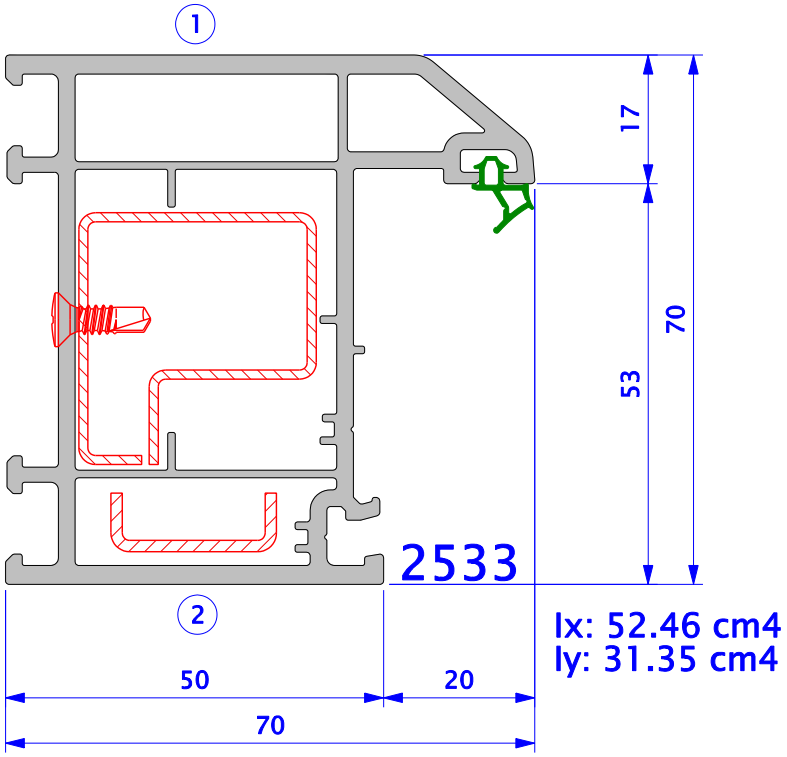

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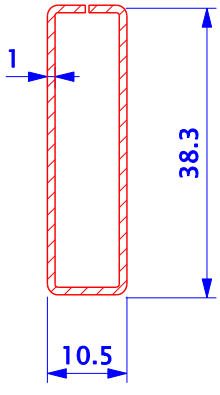

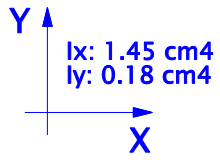

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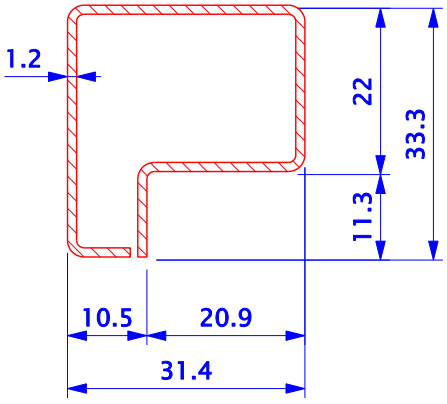

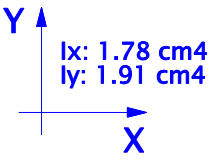

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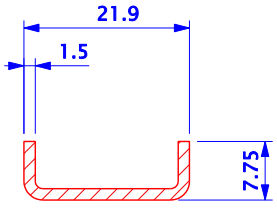

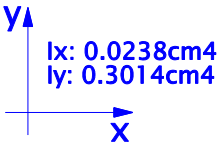

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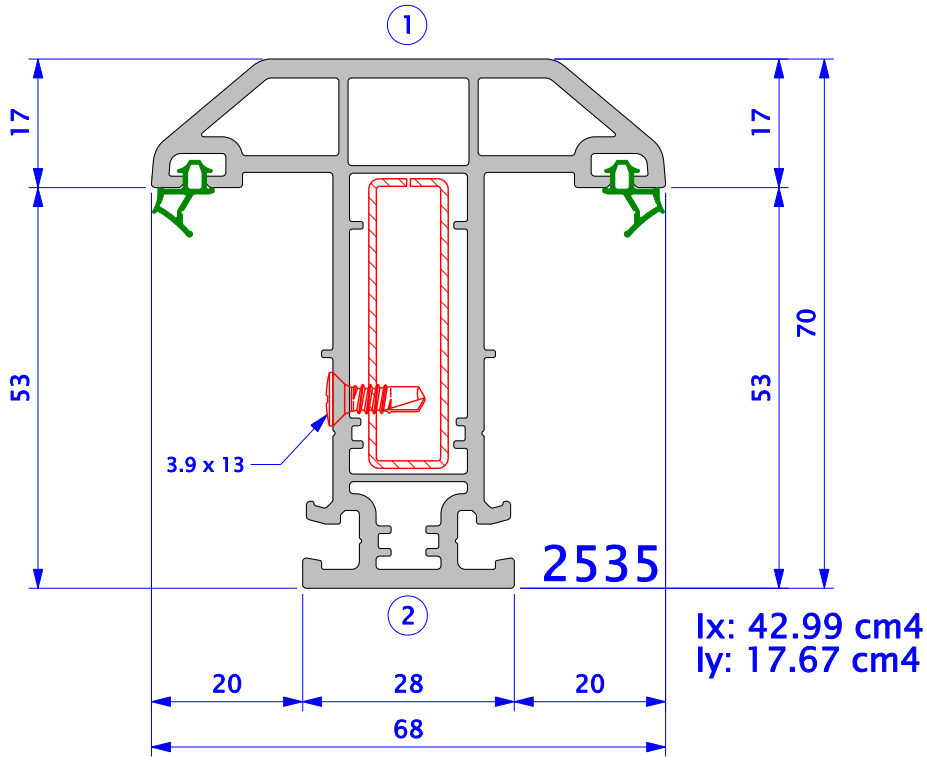
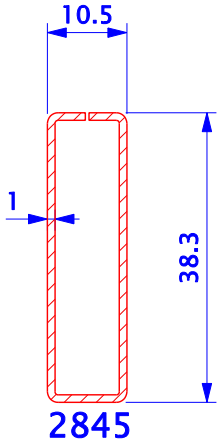
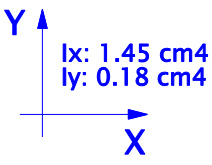
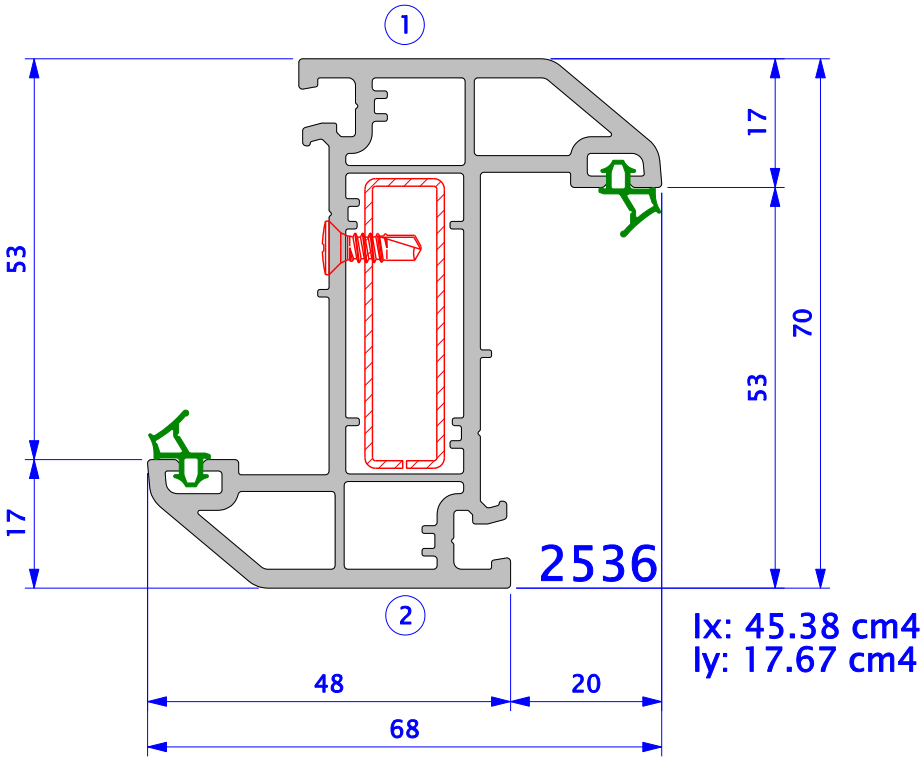
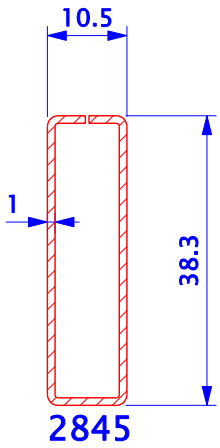
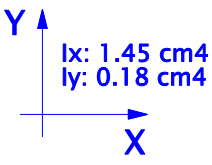




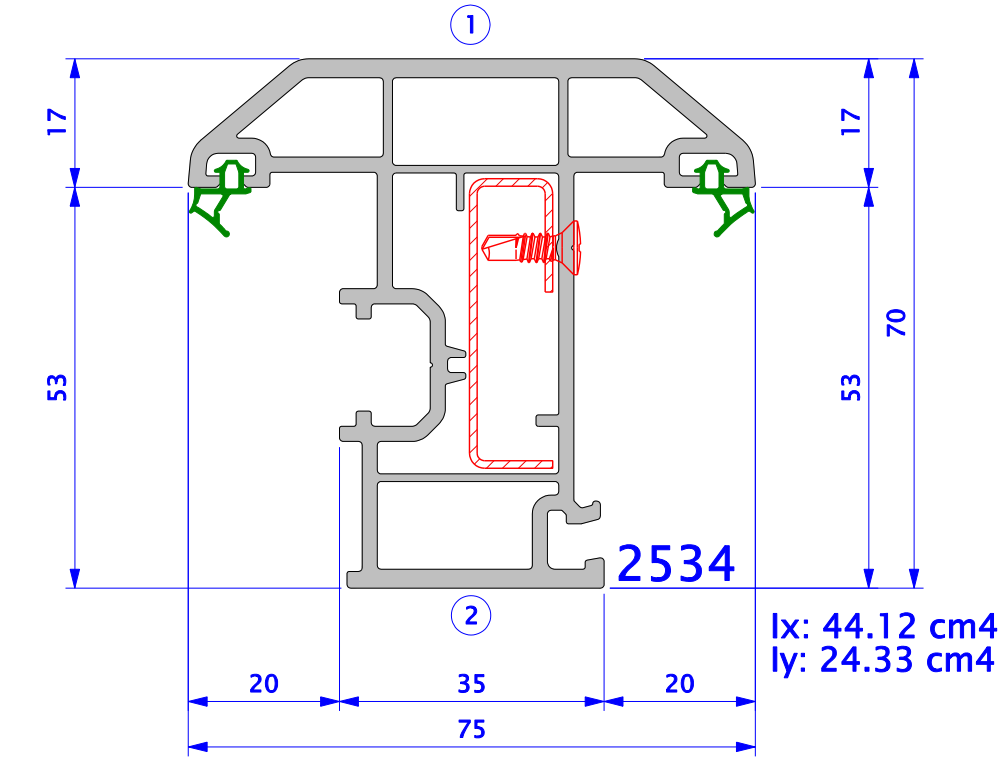


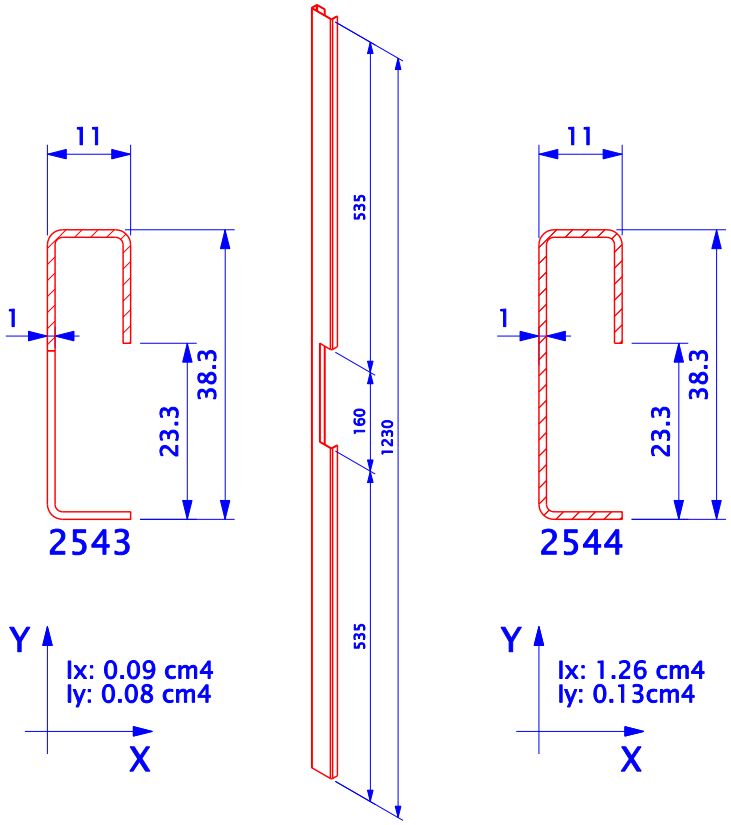

1
53
17
17
53
70
2536
2
48
20
68
Ix: 45.38 cm4
Iy: 17.67 cm4


10.5
1
38.3
2845


Y
Ix: 1.45 cm4
Iy: 0.18 cm4
X

PROFILE SHEET





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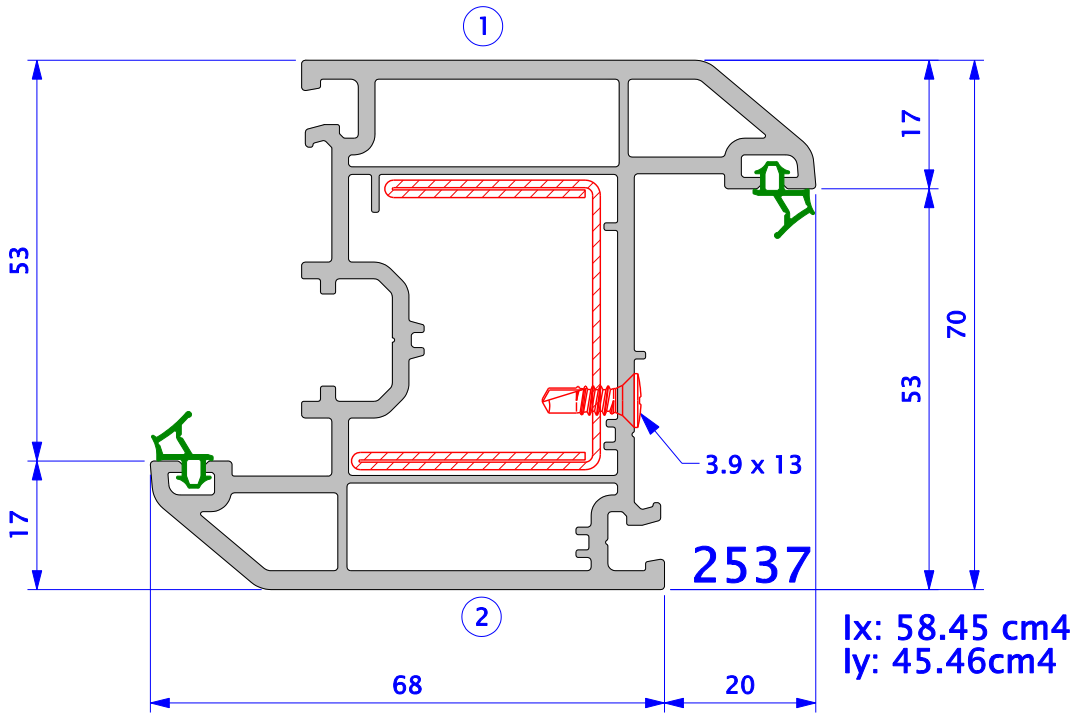

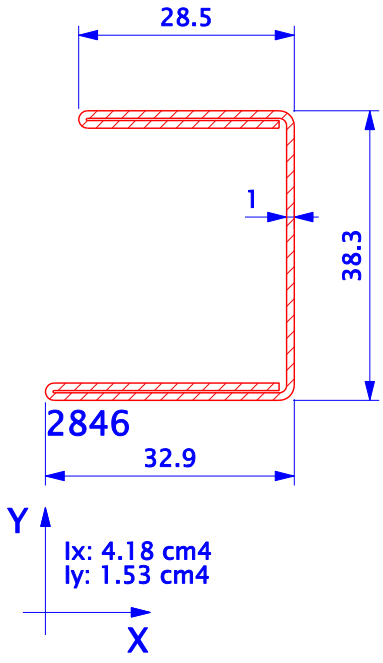

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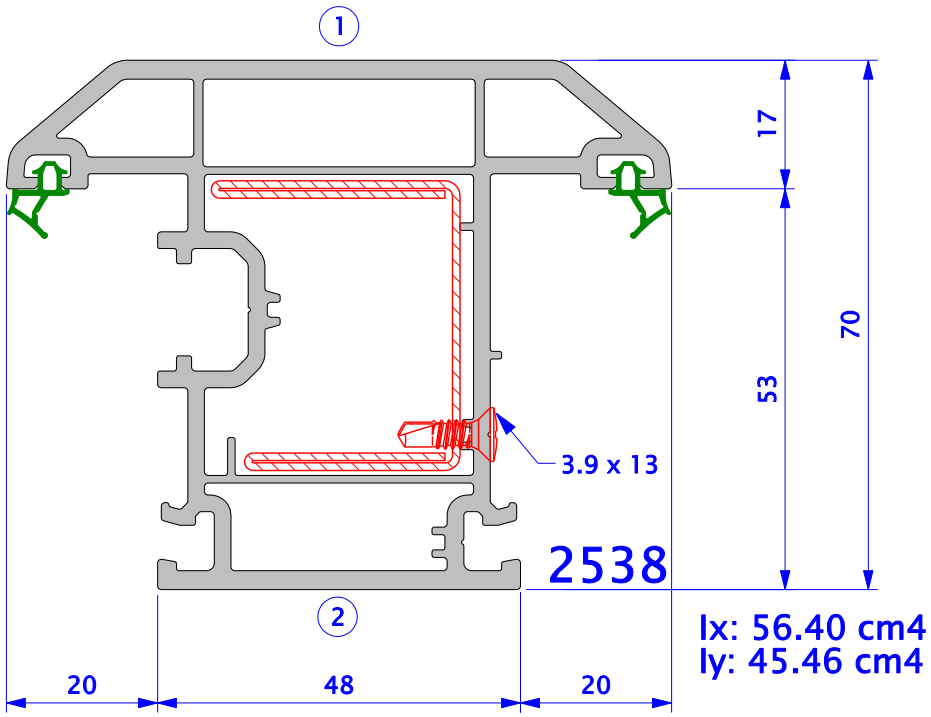

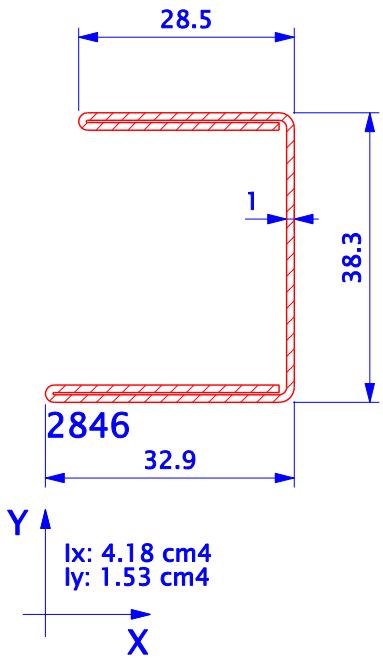

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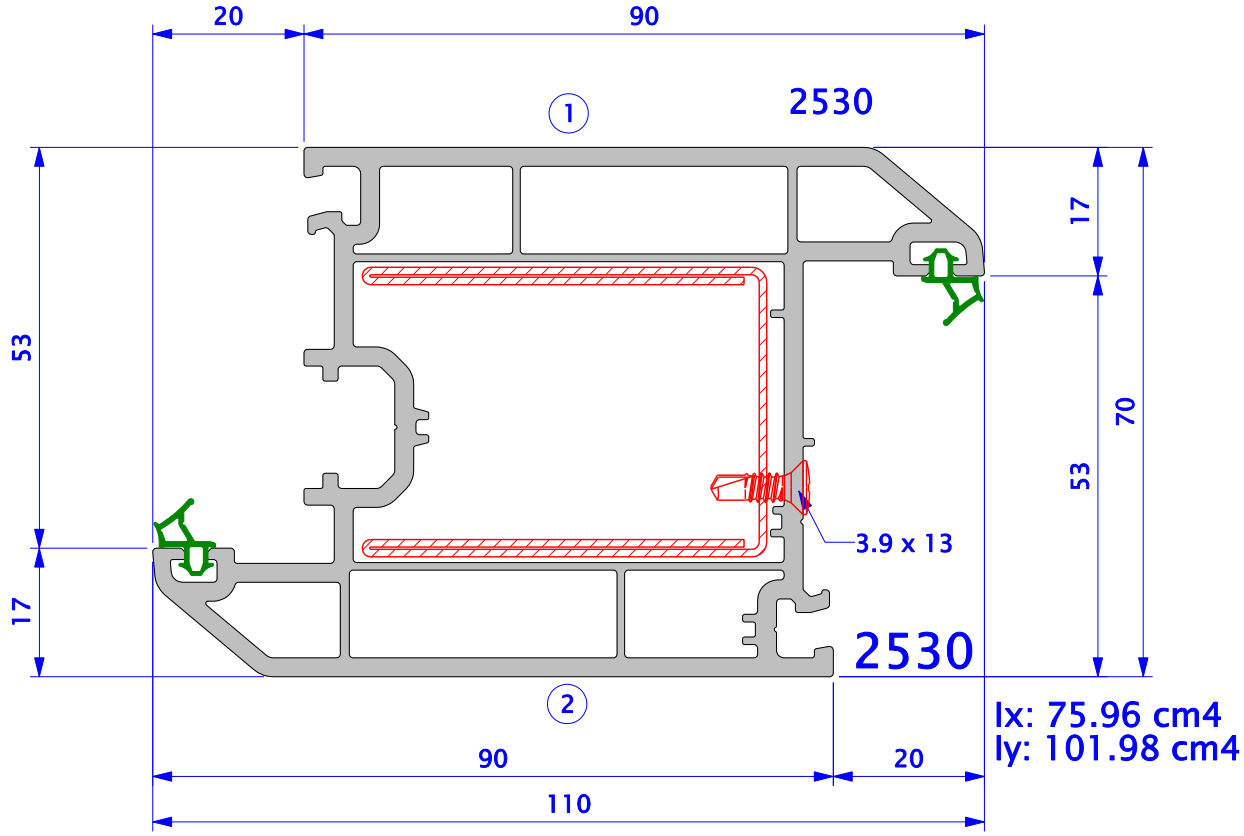

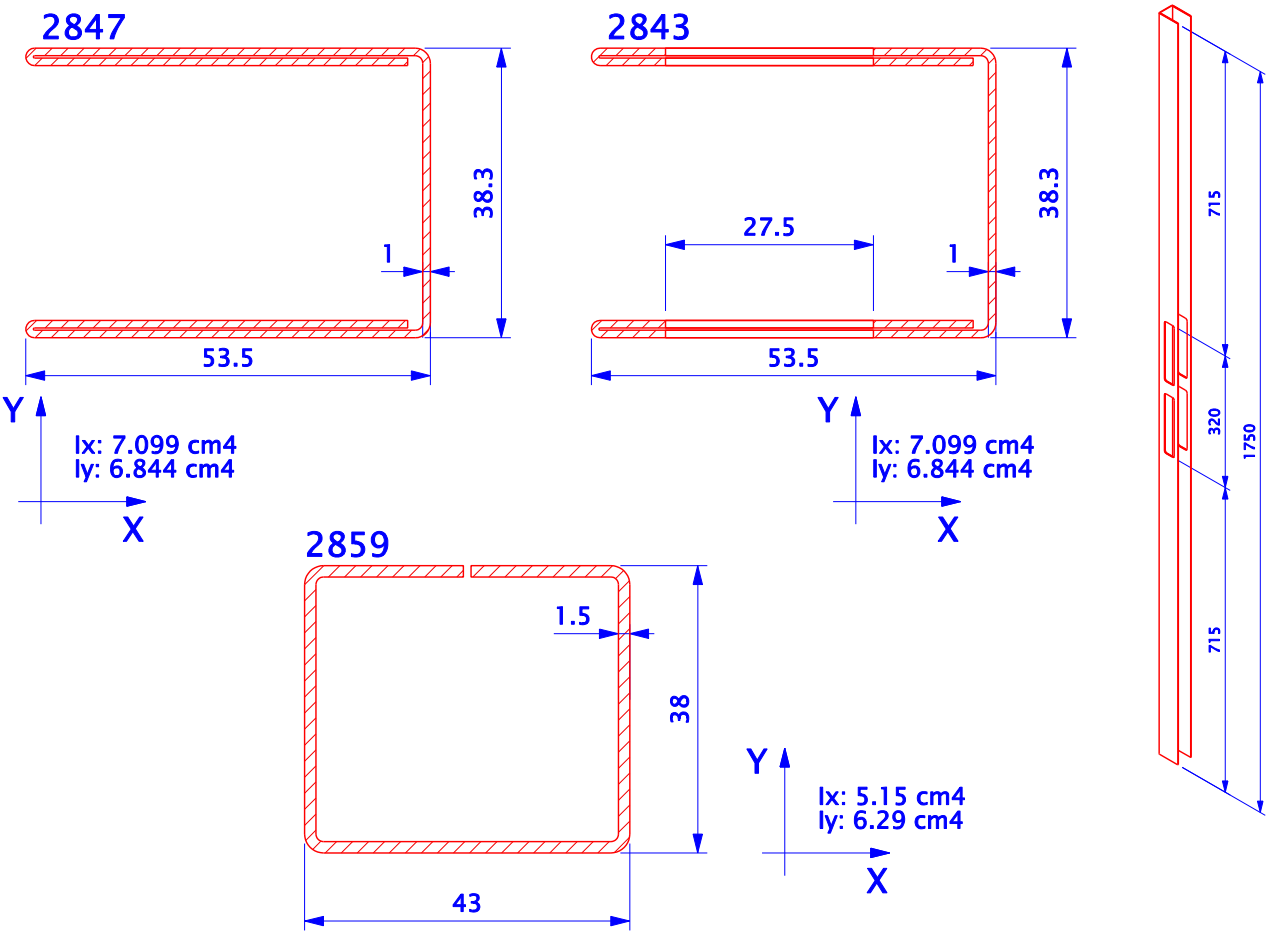

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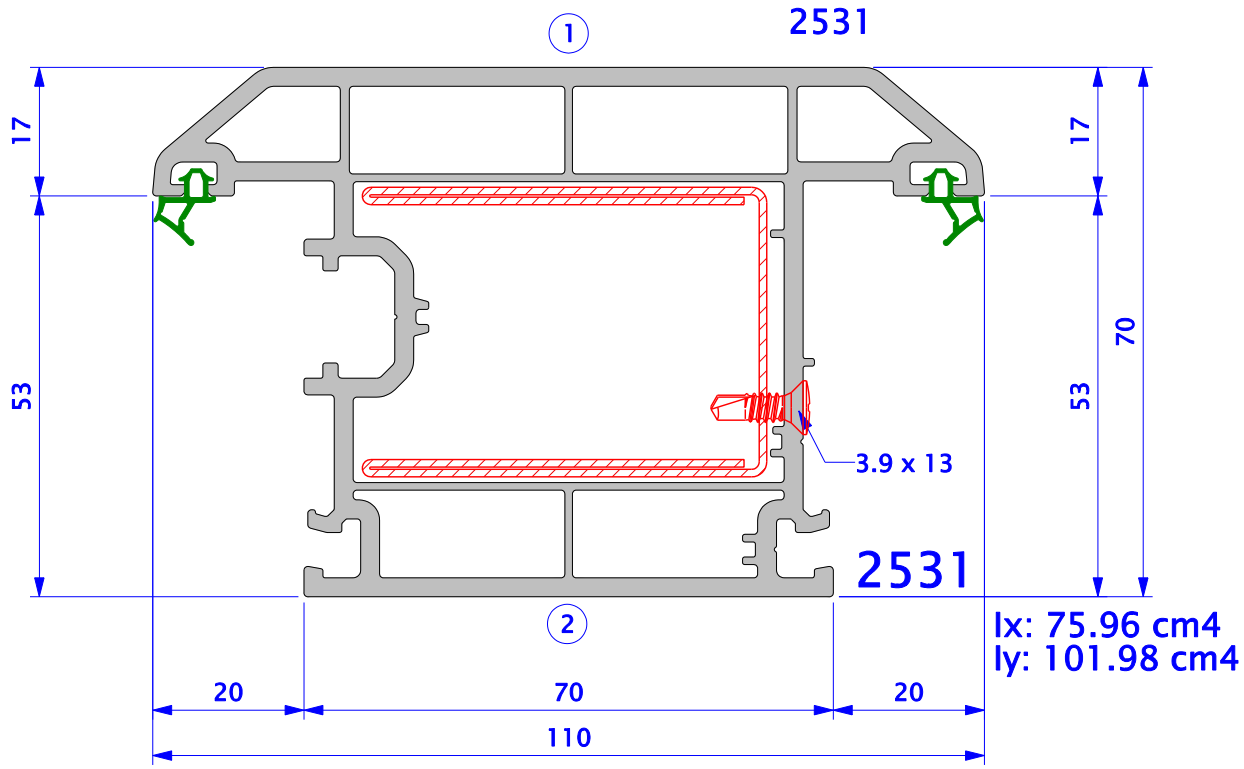
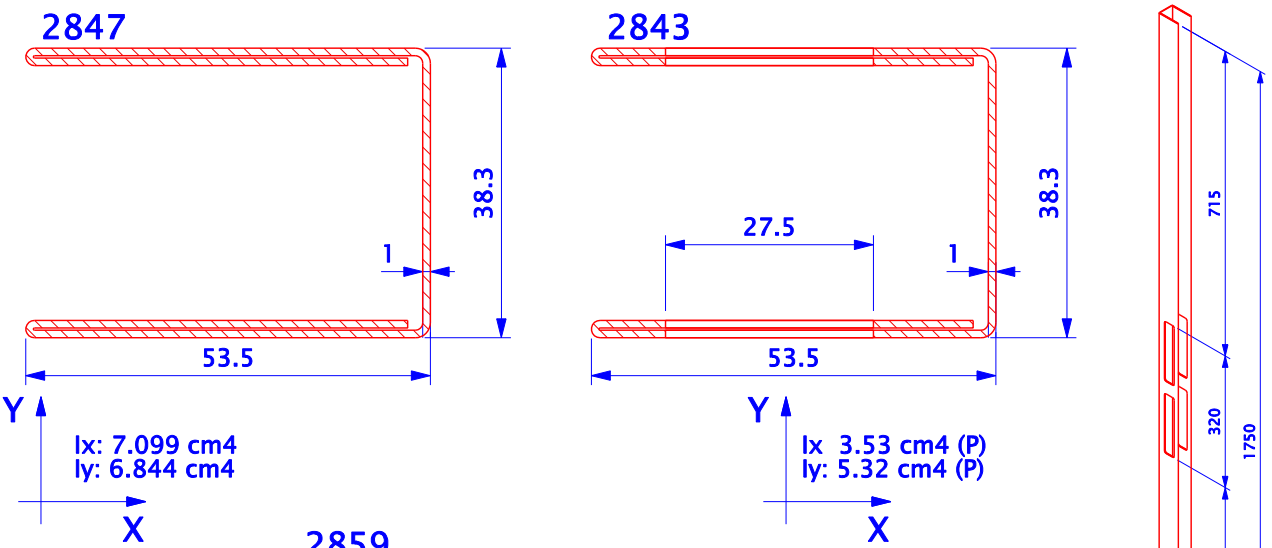
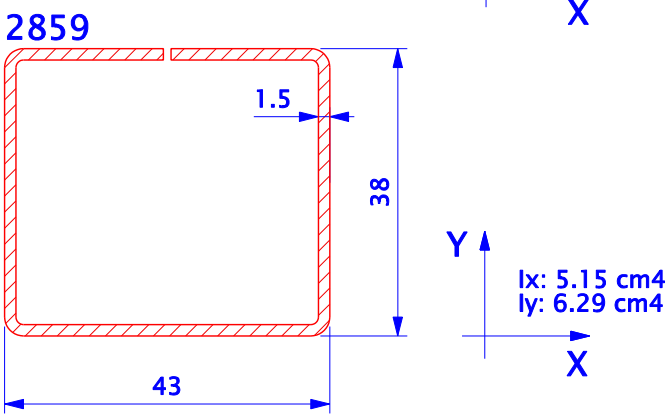
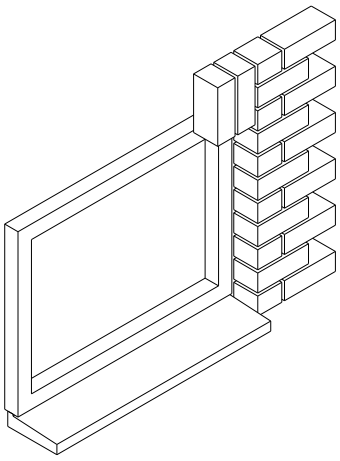


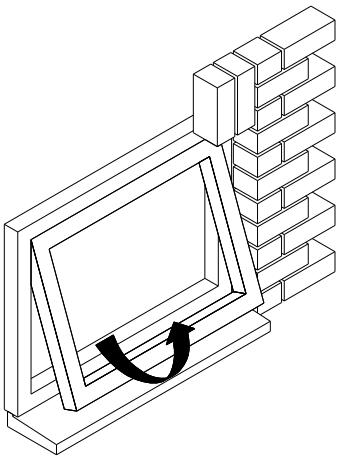




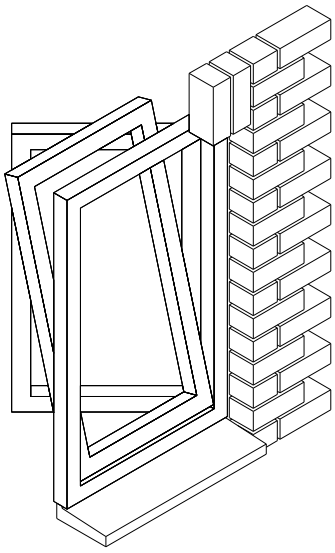
WINDOW TYPES



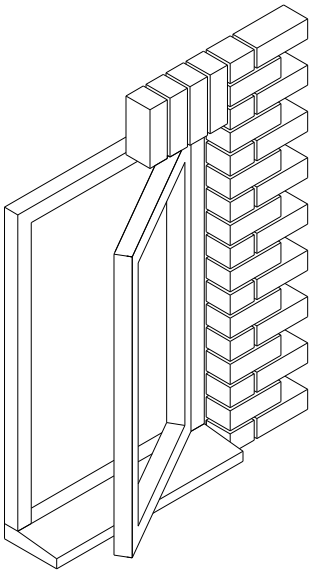
Fixed Pane



Open-Out Top Hung Casement

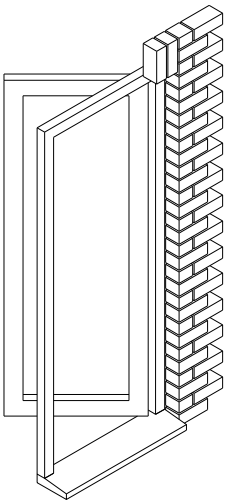


Tilt & Turn

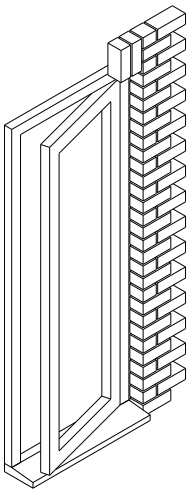


Open-Out Side Hung Casement

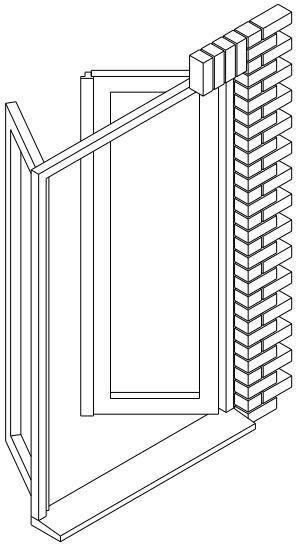
DOOR TYPES



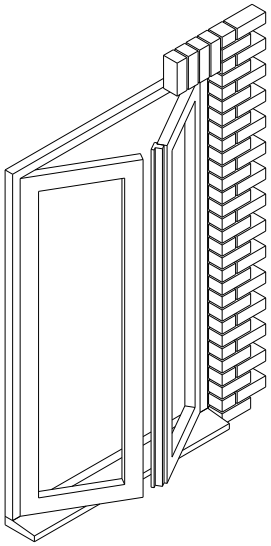
Open-In Single Door



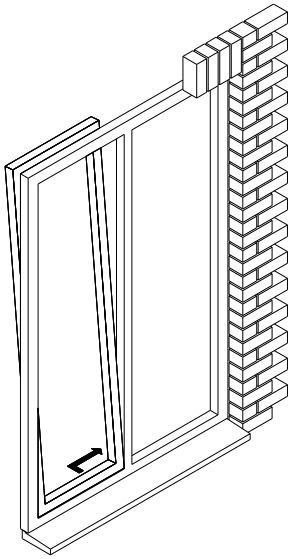
Open-Out Single Door



Open-in Double Door



Open-Out Double Doors

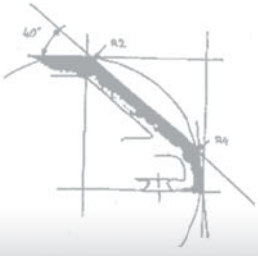


Tilt & Slide Patio

2500 chamfered

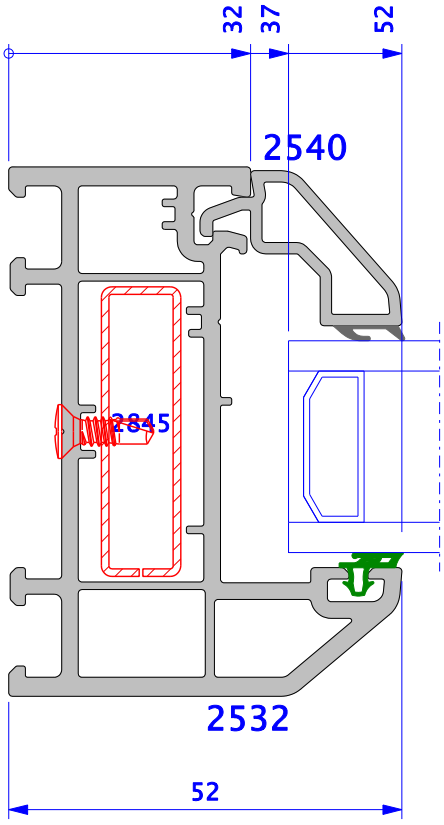
FABRICATION

SECTIONS
DRAINAGE & DECOMPRESSION
V-WELDING
HARDWARE
GLAZING TABLE
USE OF ACCESSORIES
FABRICATION TOOLS
WINDOW SECTIONS
CUTTING SIZES
GLASS DISPLACEMENTS



deceuninck

SECTIONS



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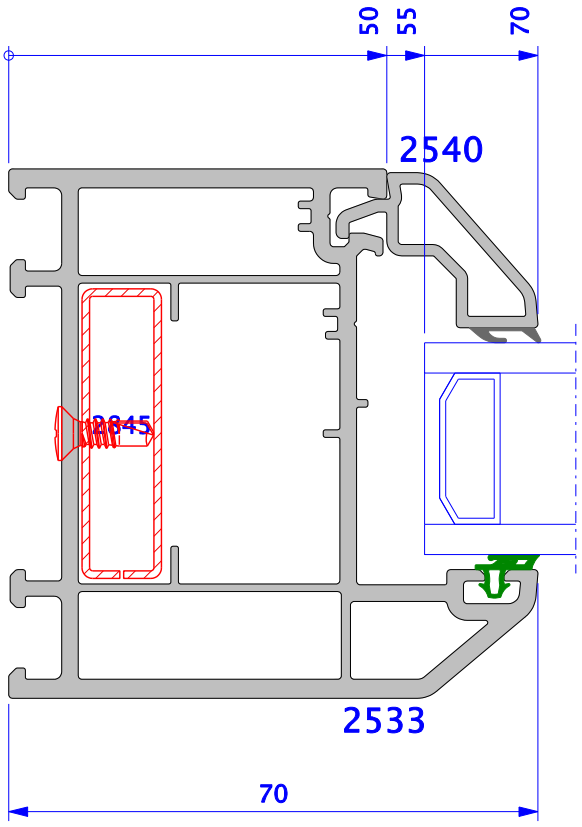

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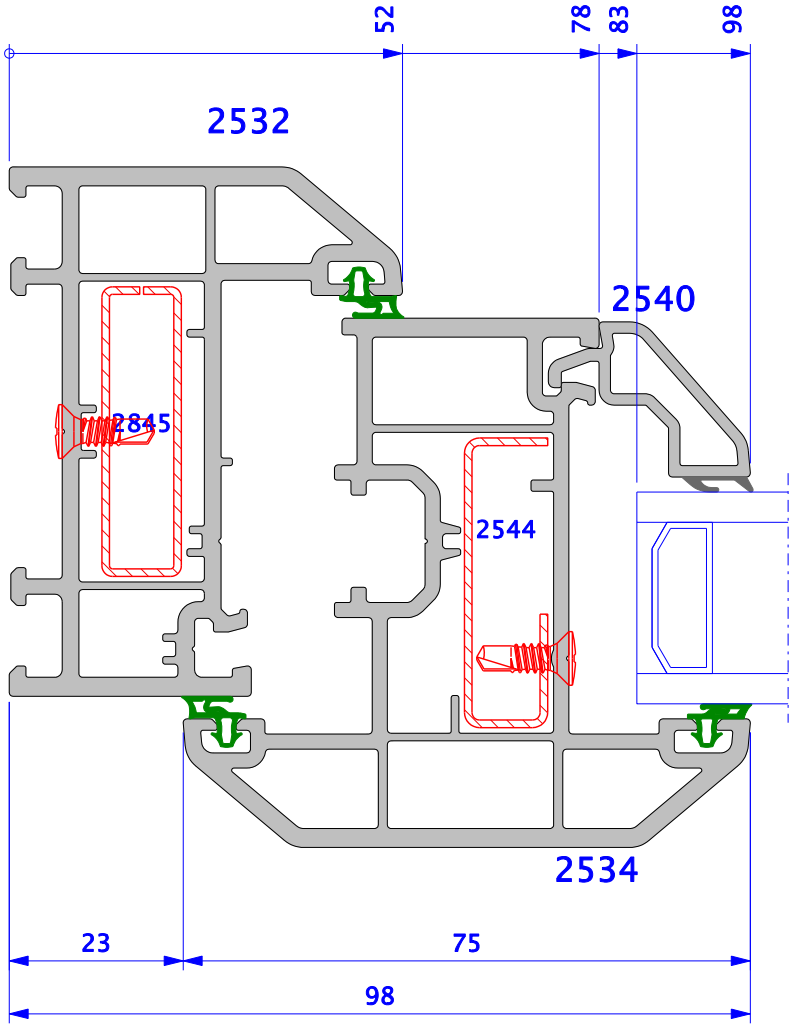

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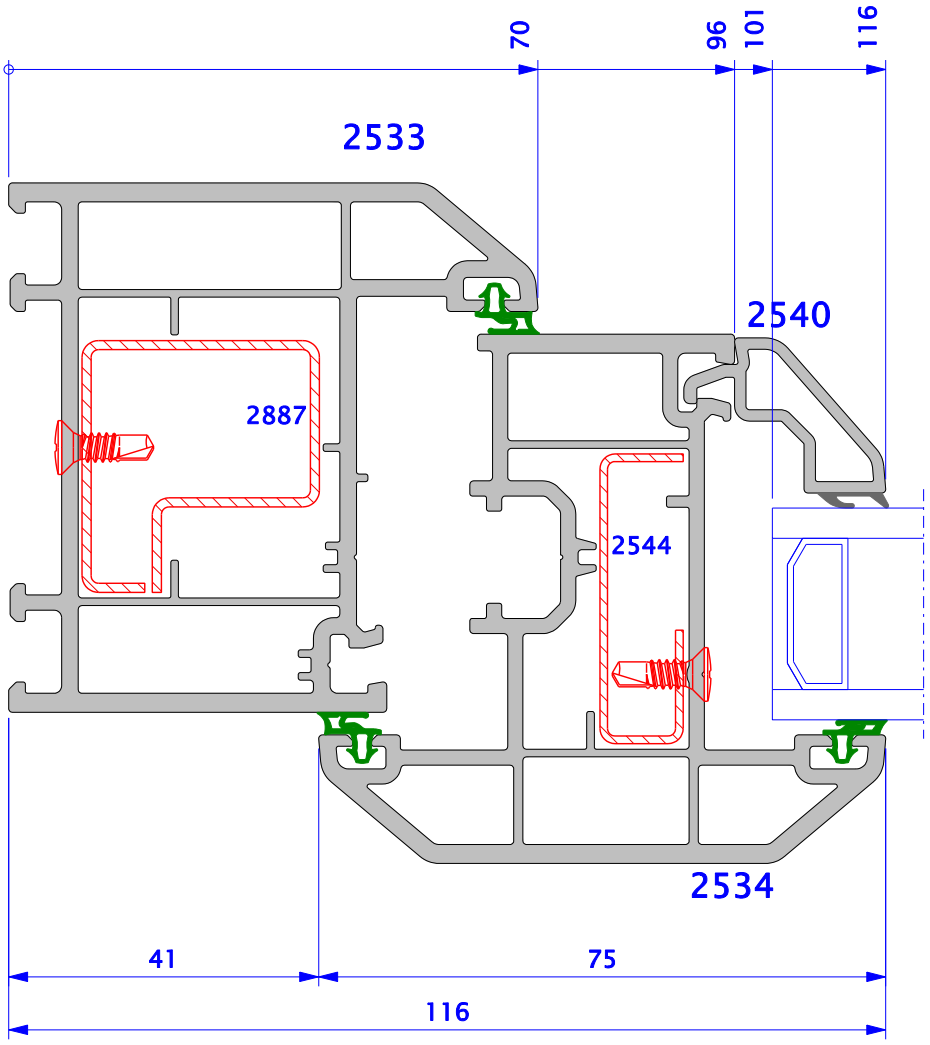

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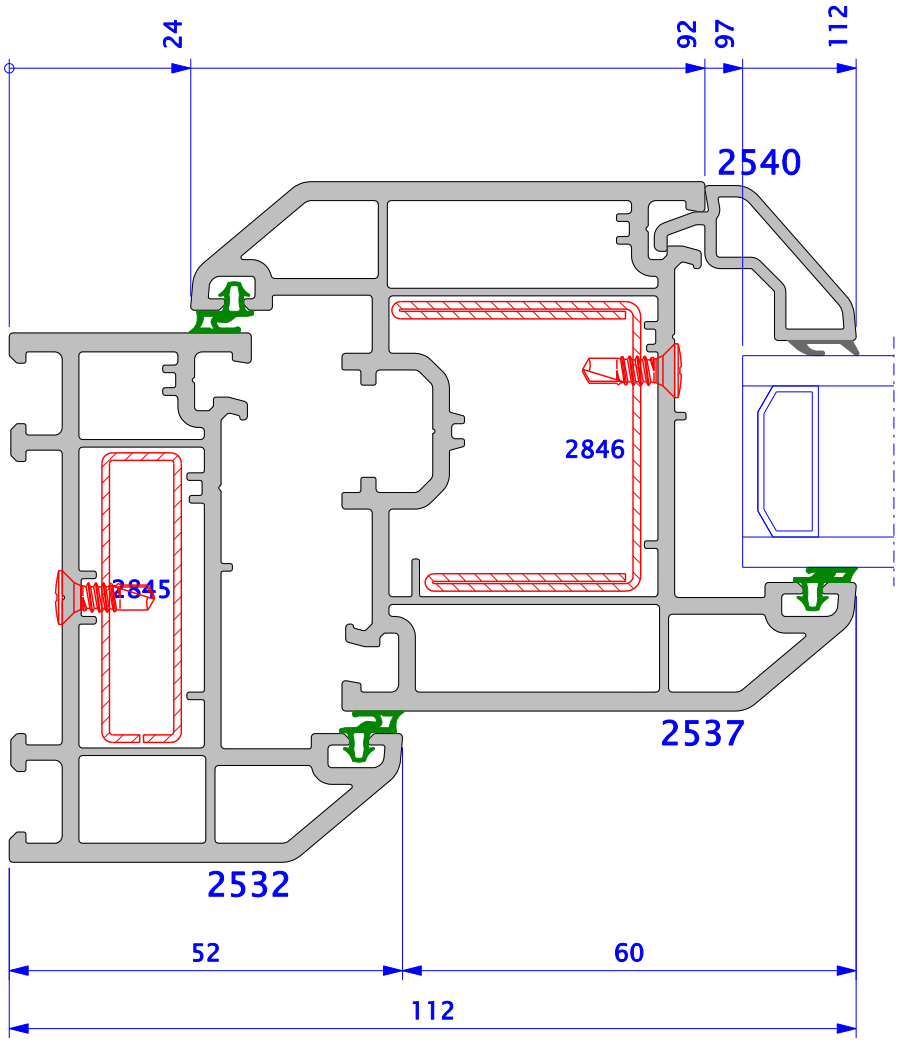

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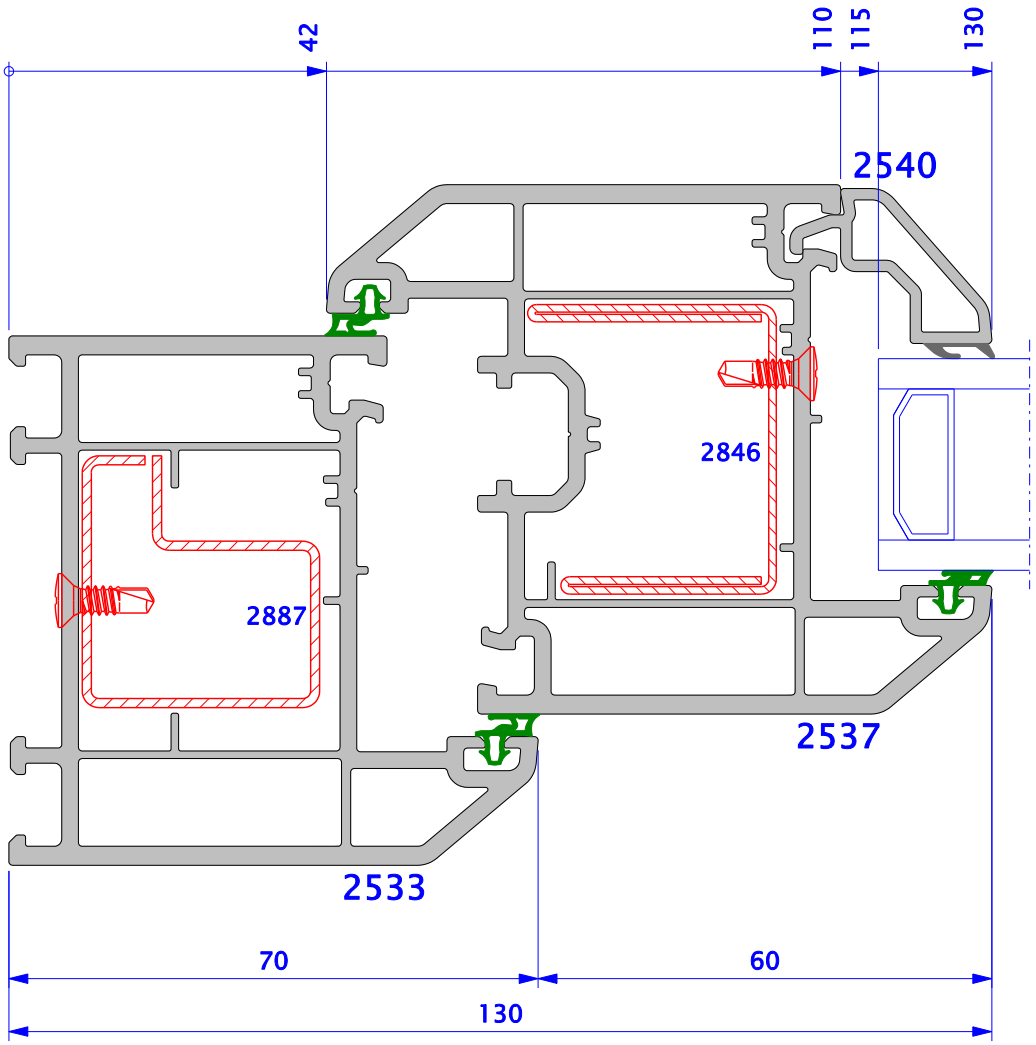

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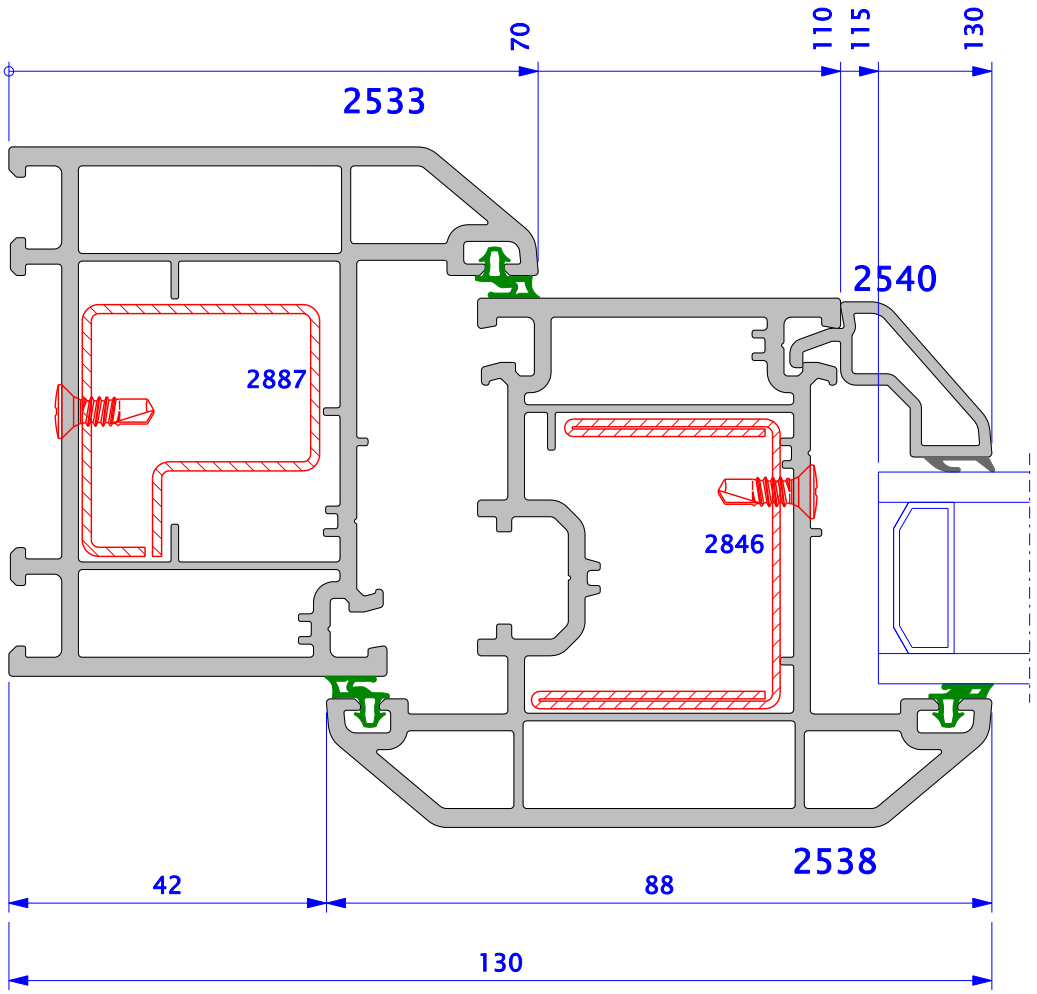

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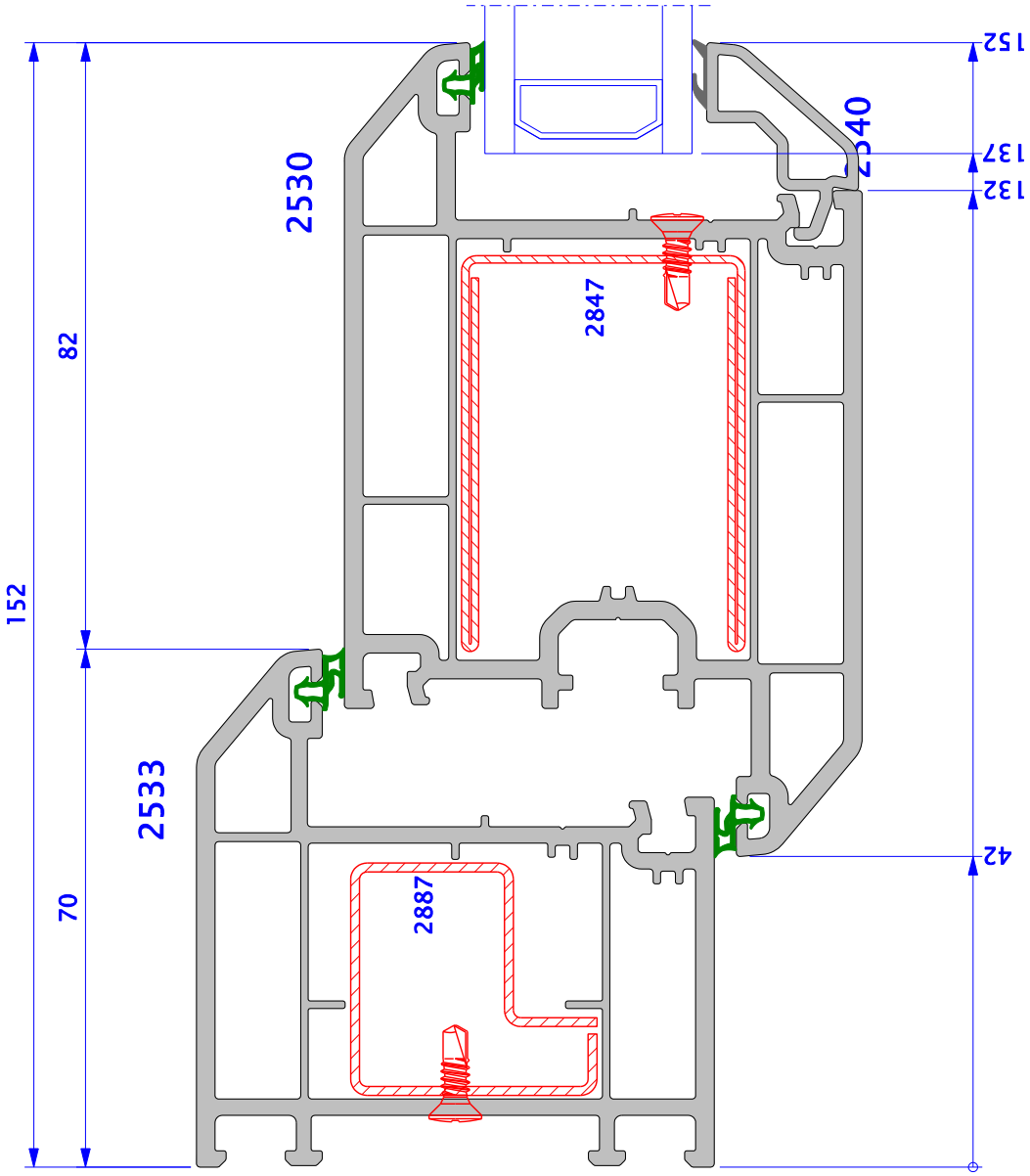

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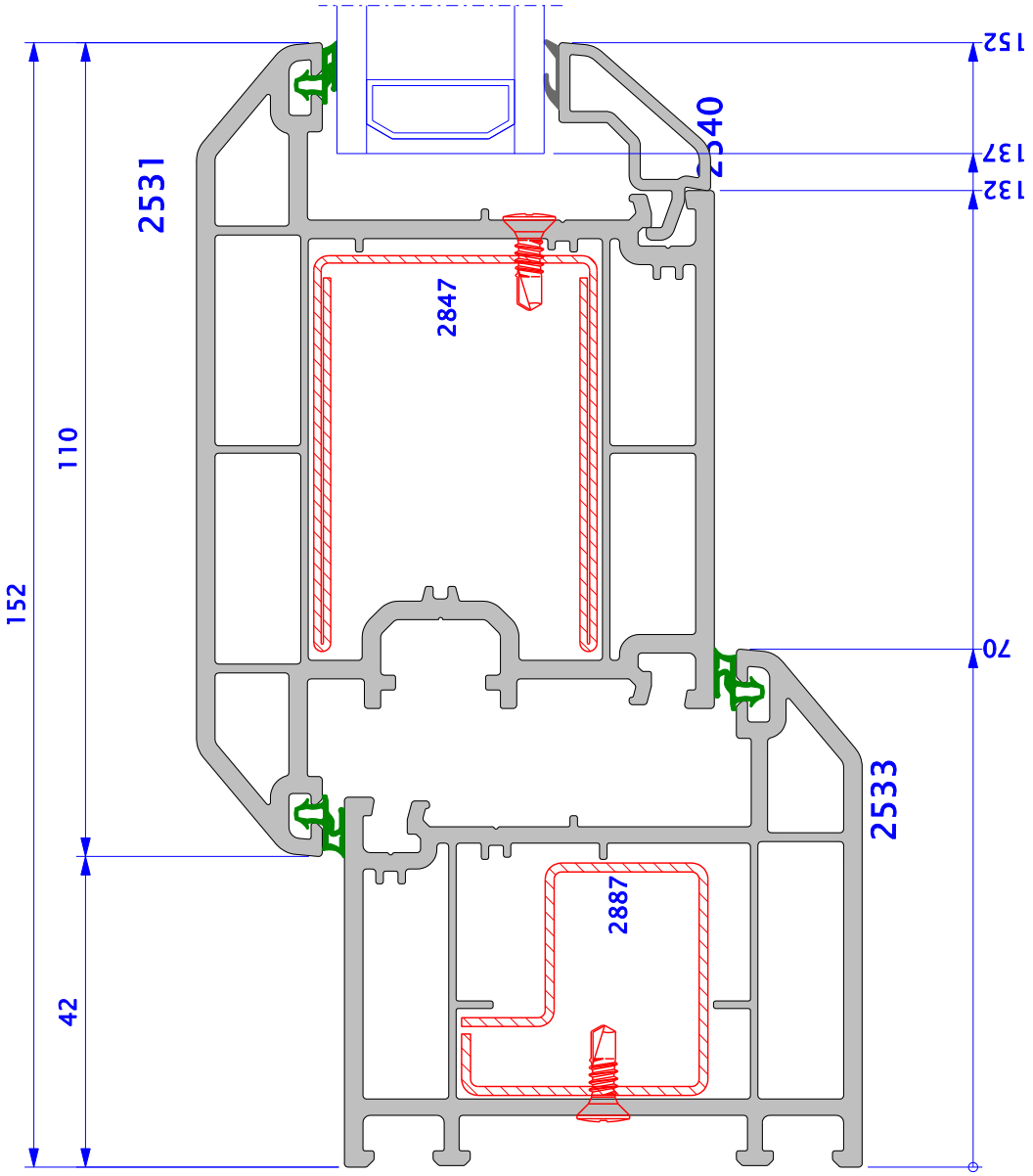

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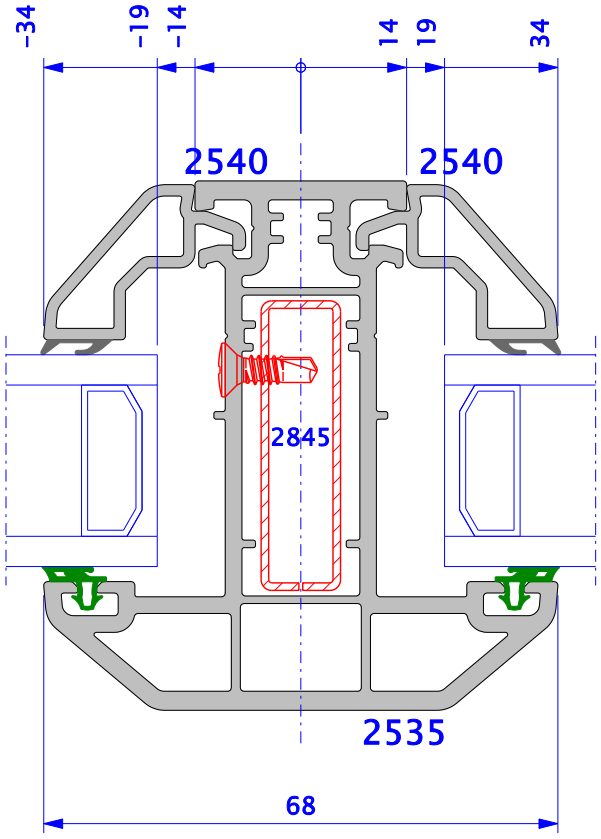

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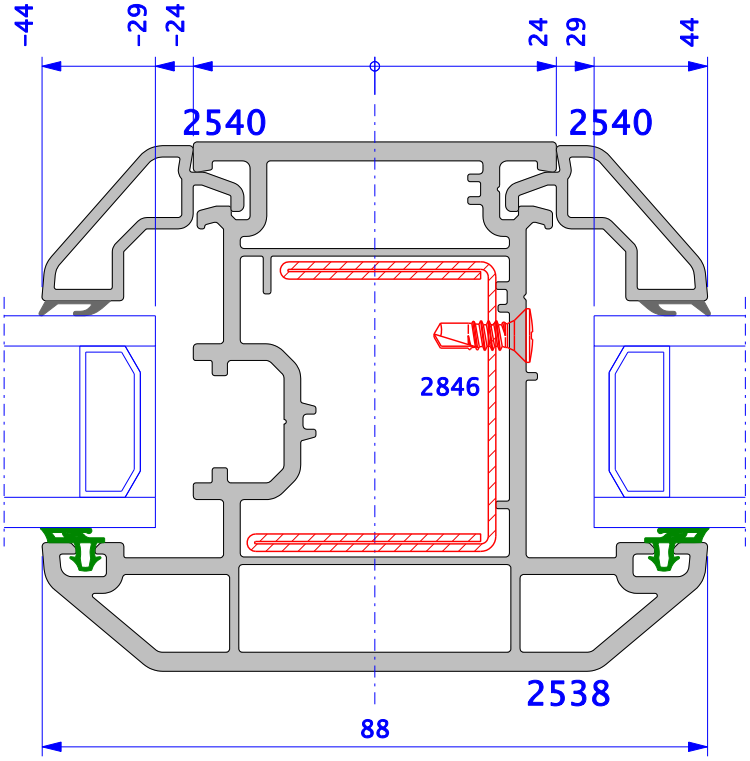

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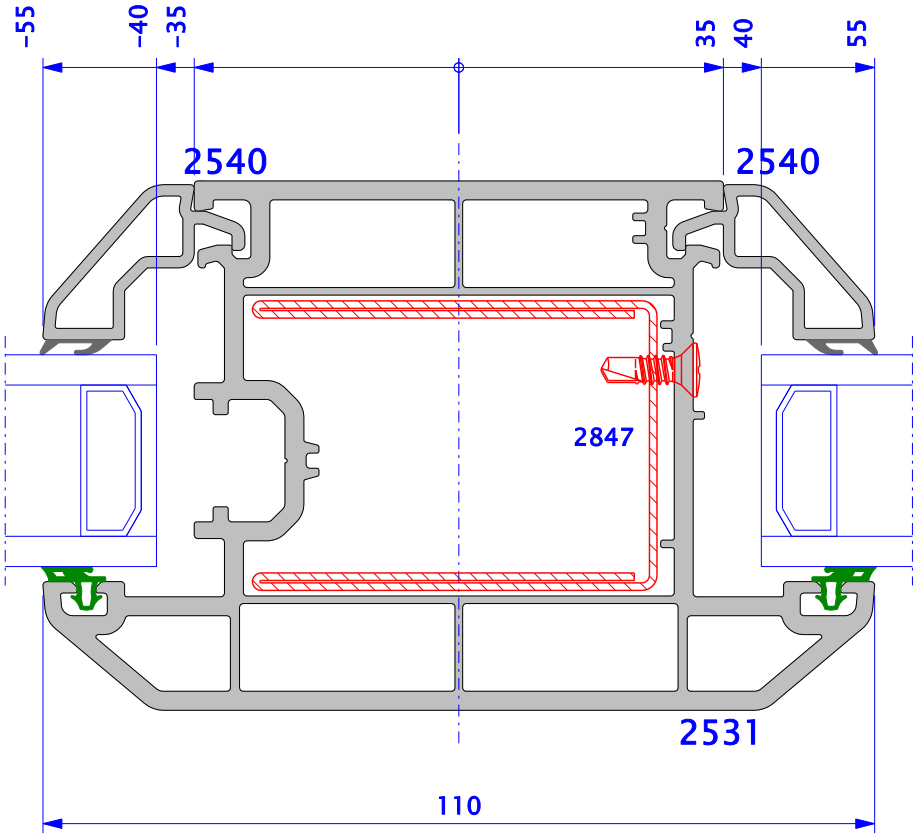

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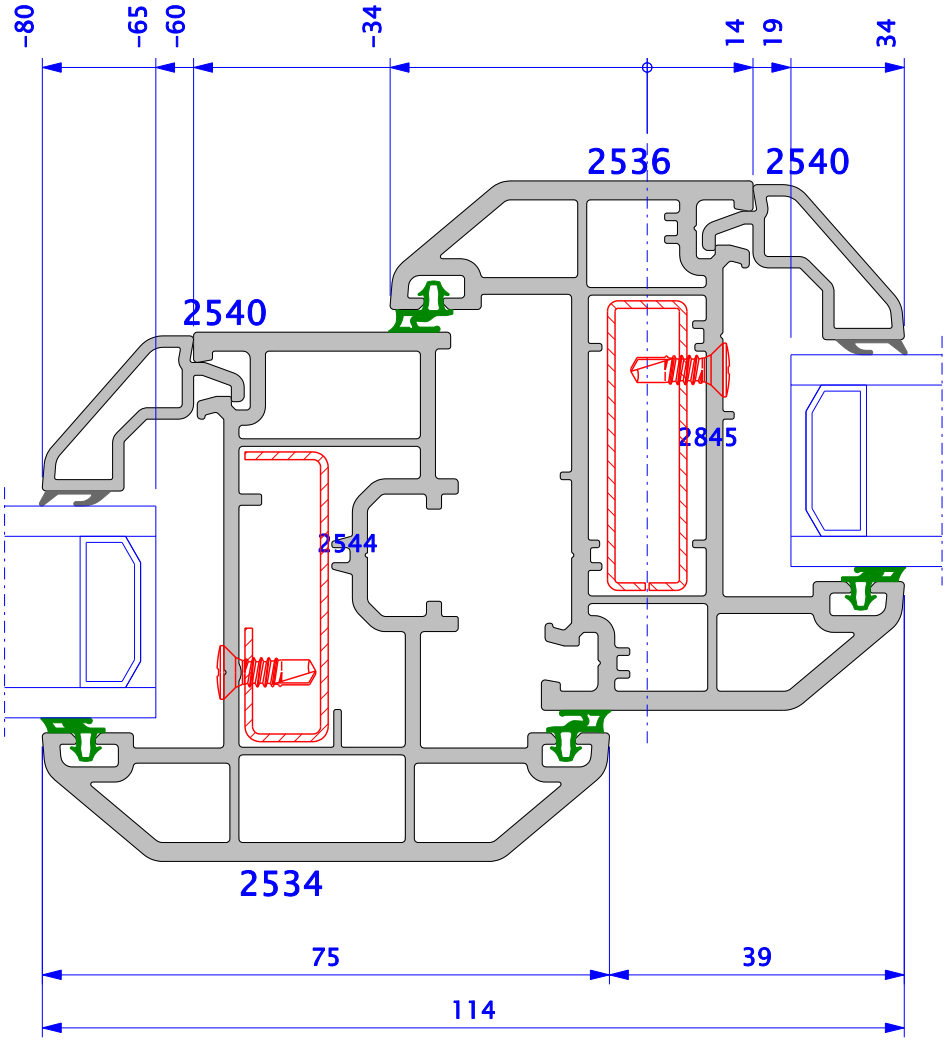

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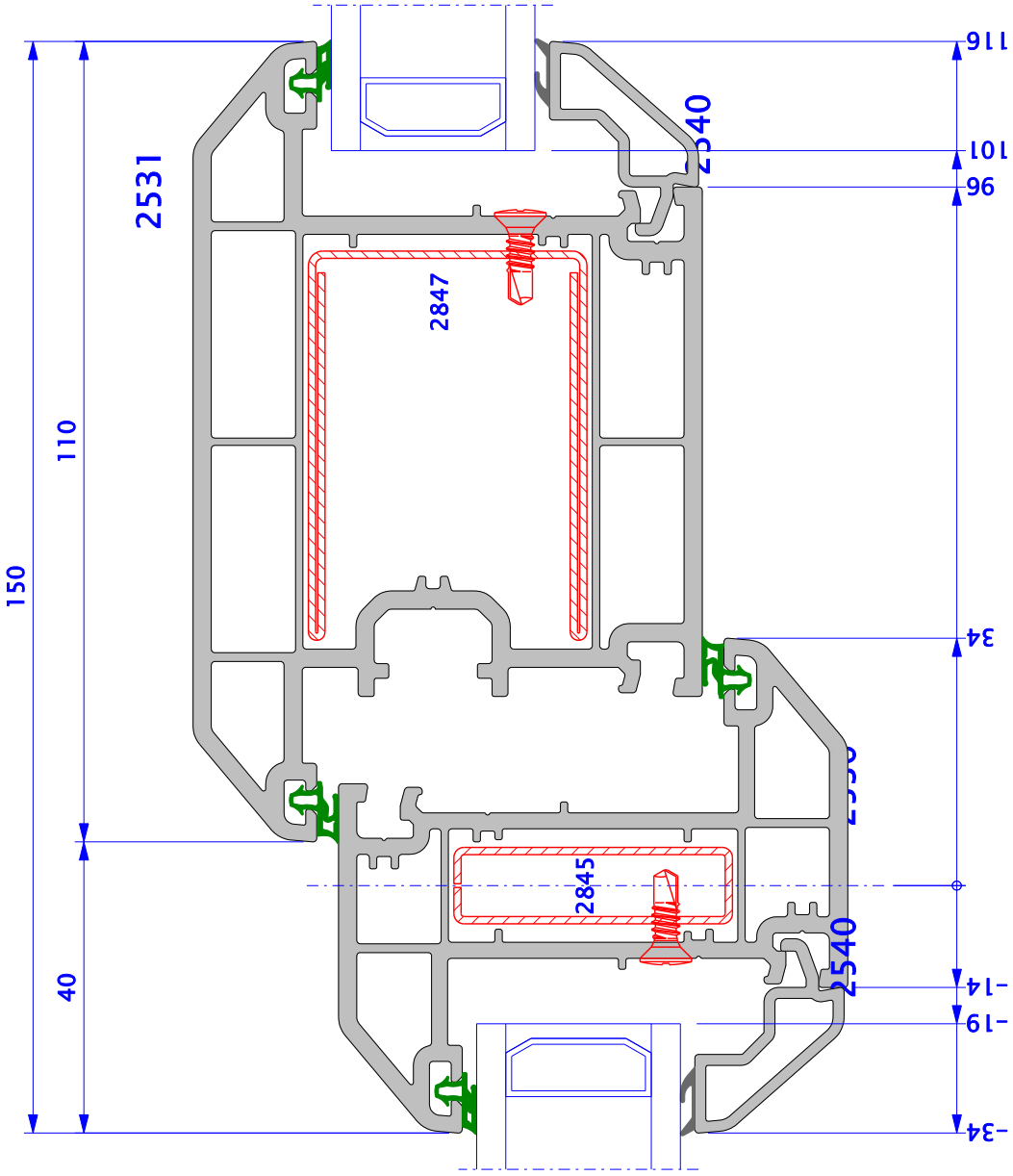

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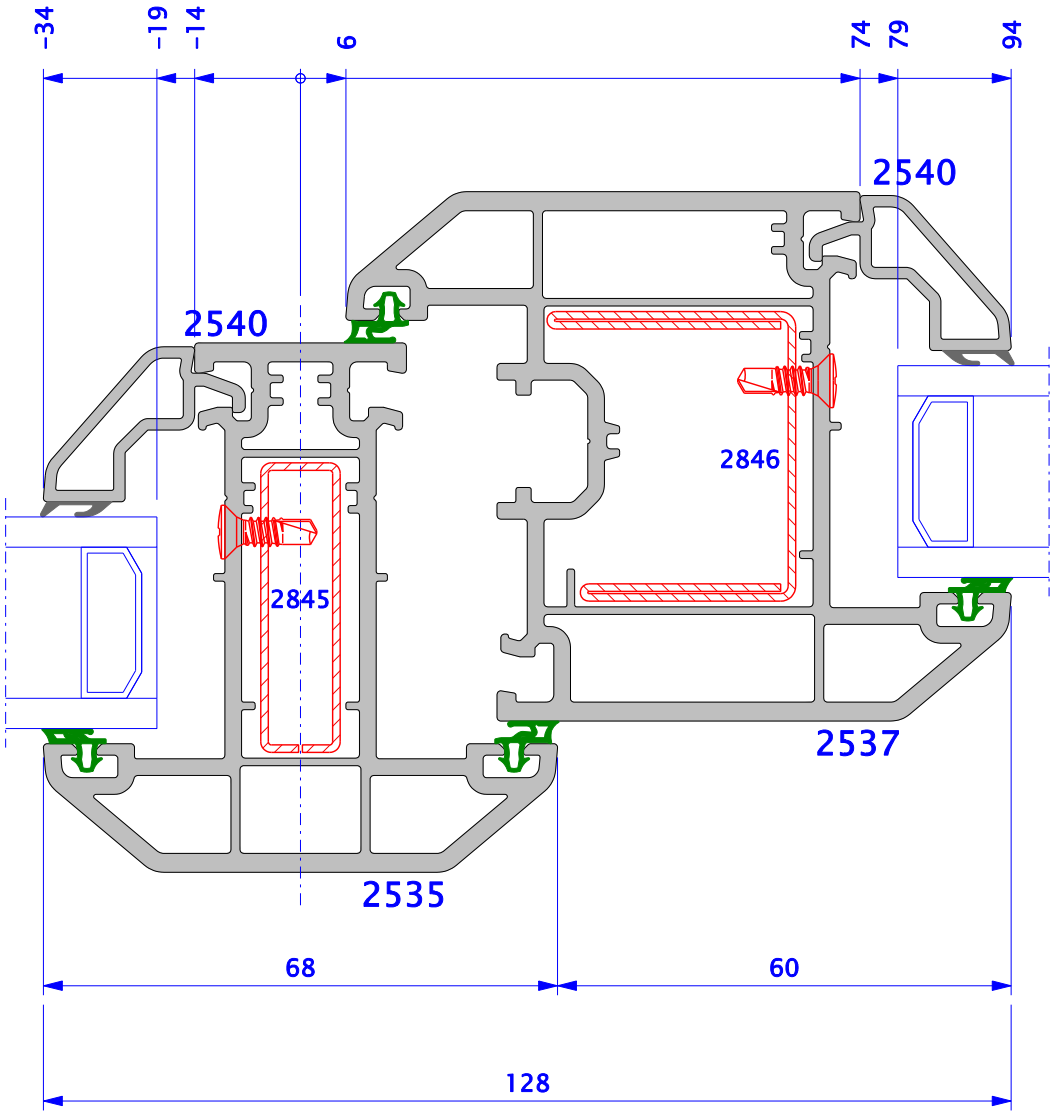

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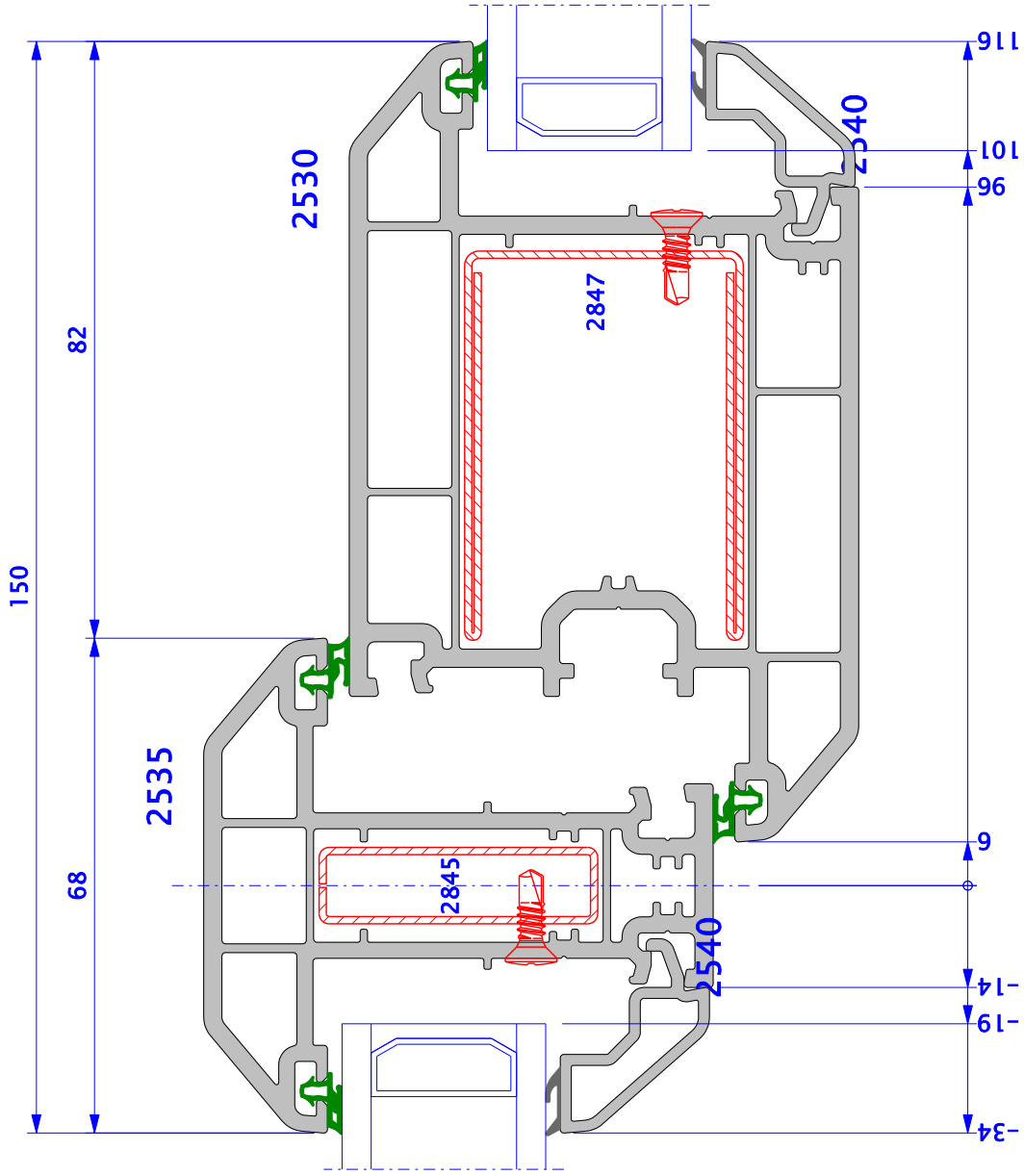

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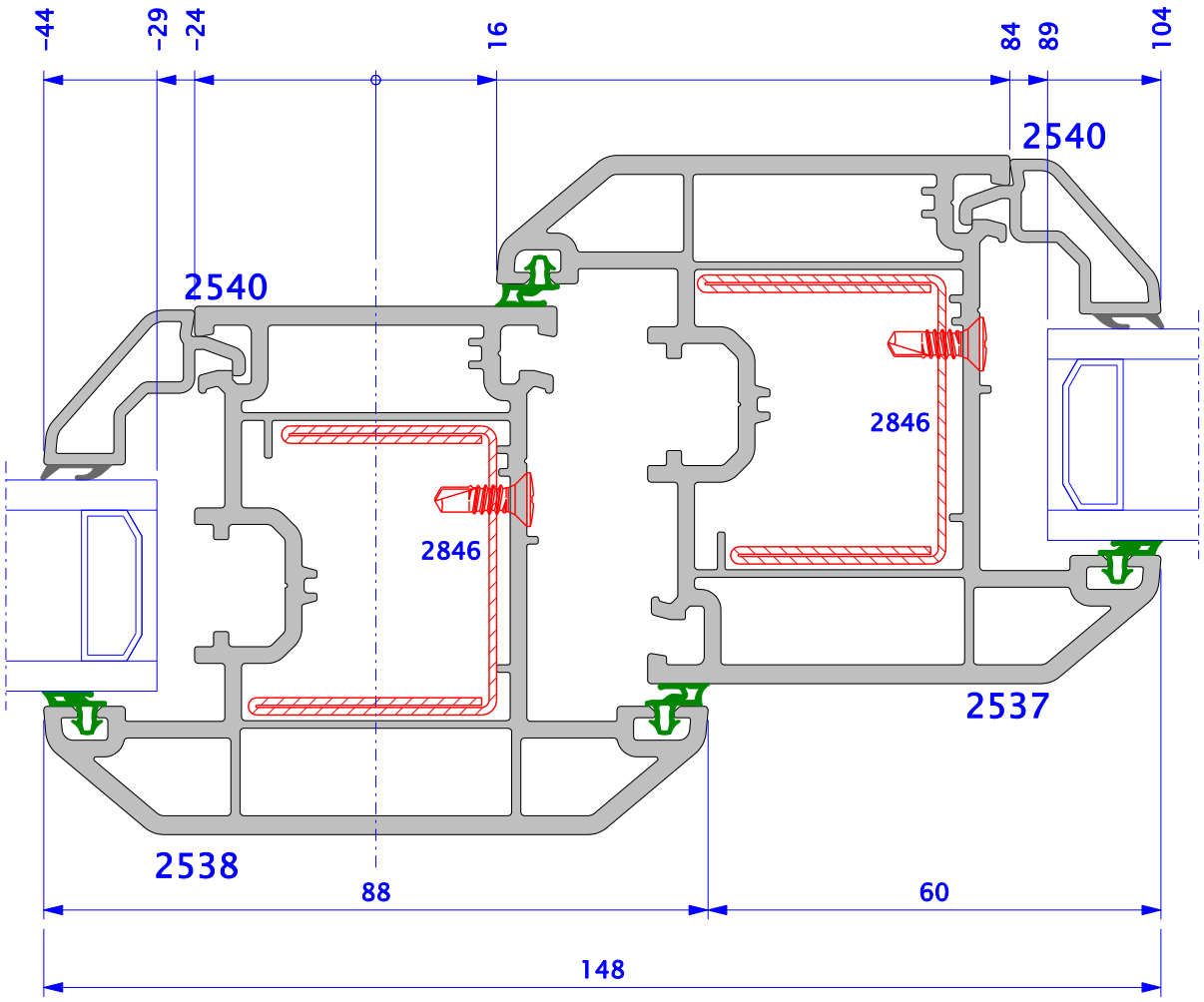

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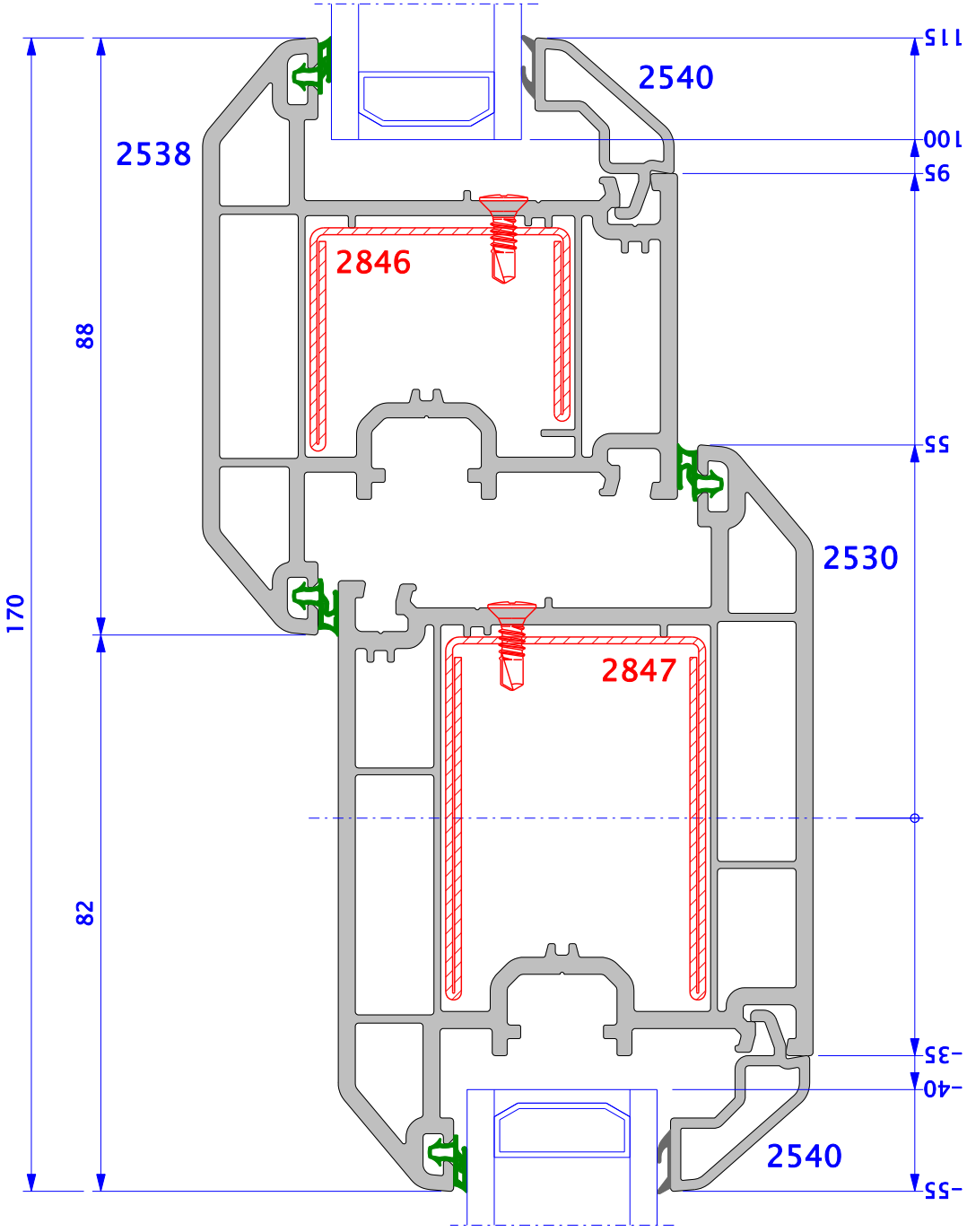

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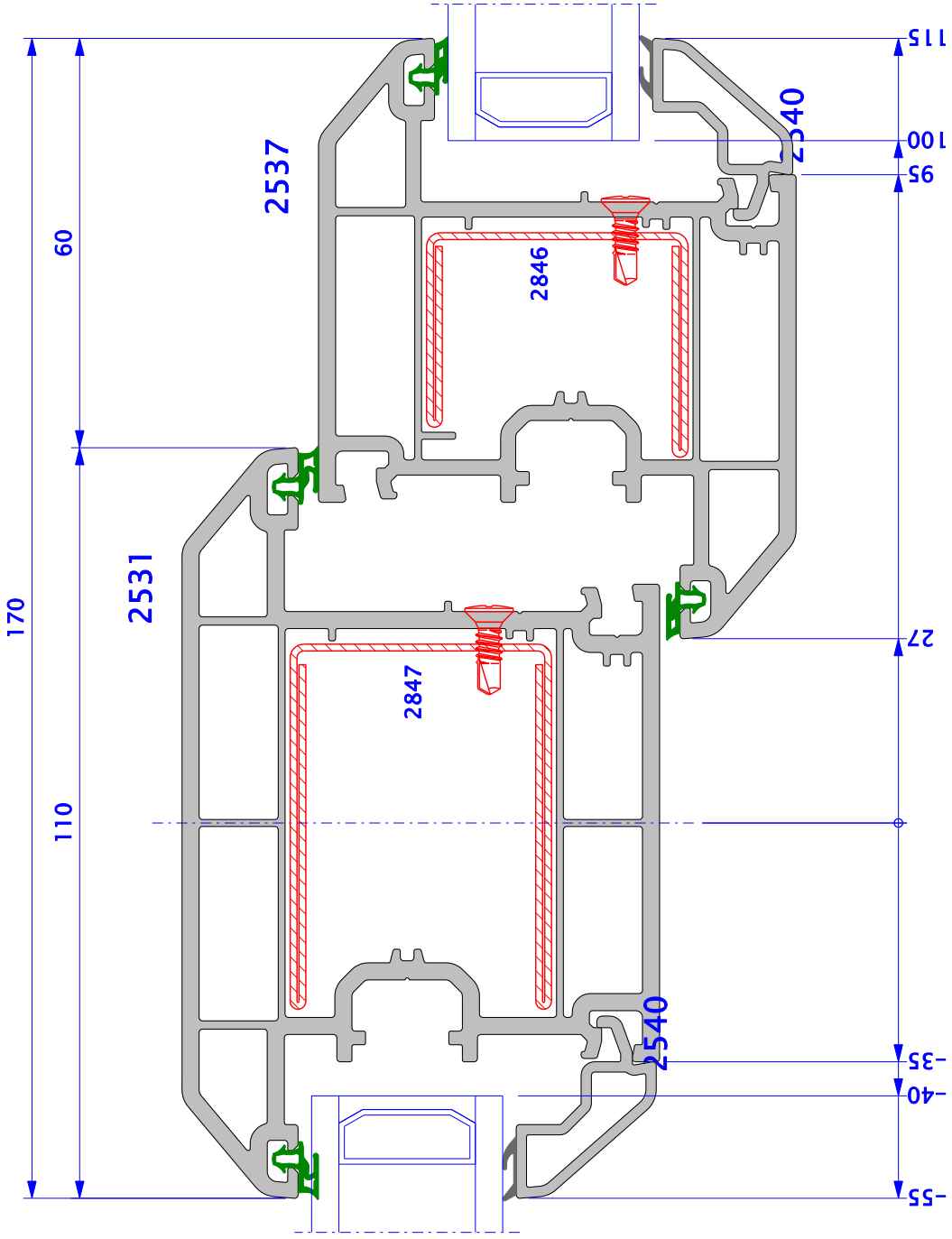

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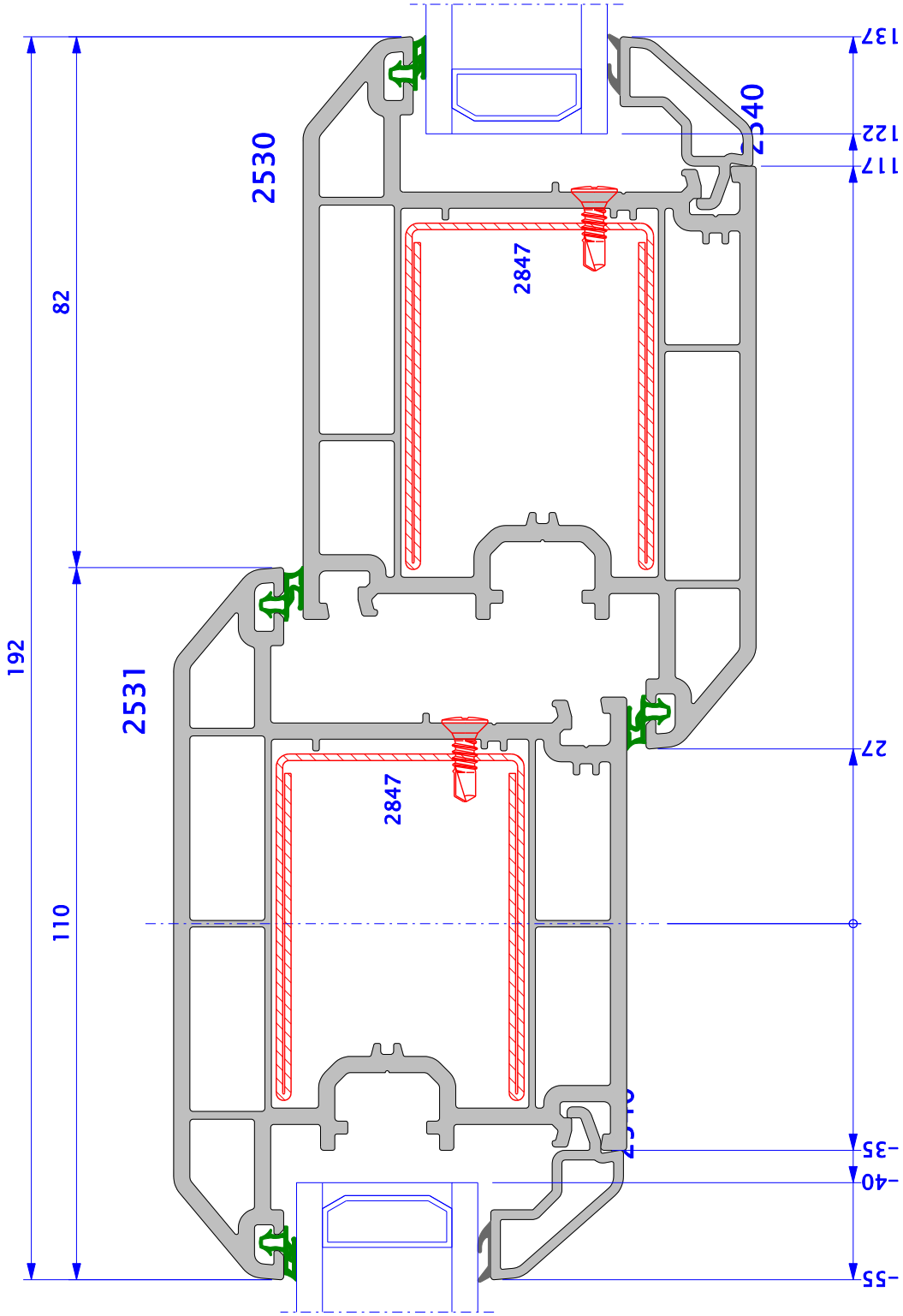

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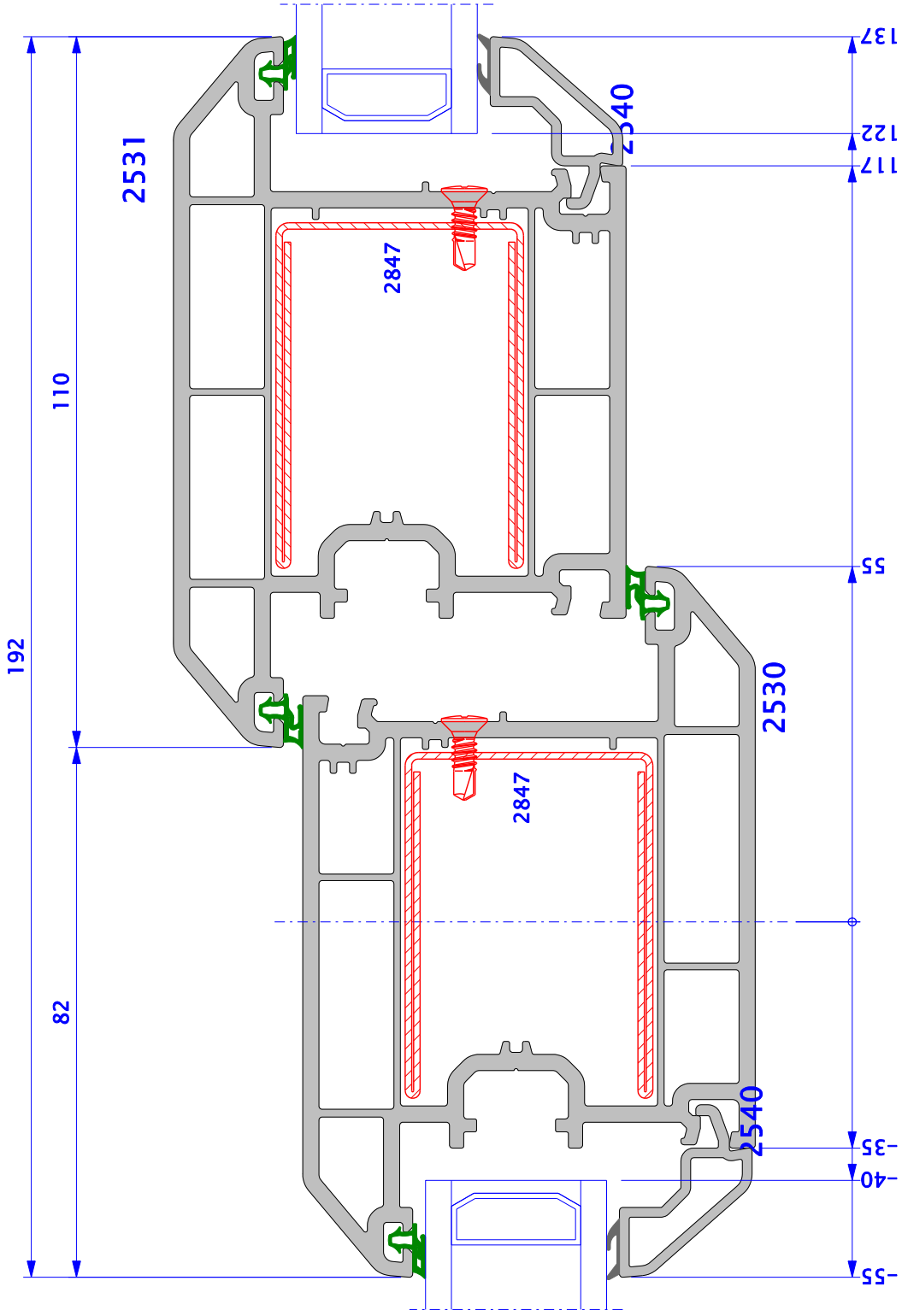

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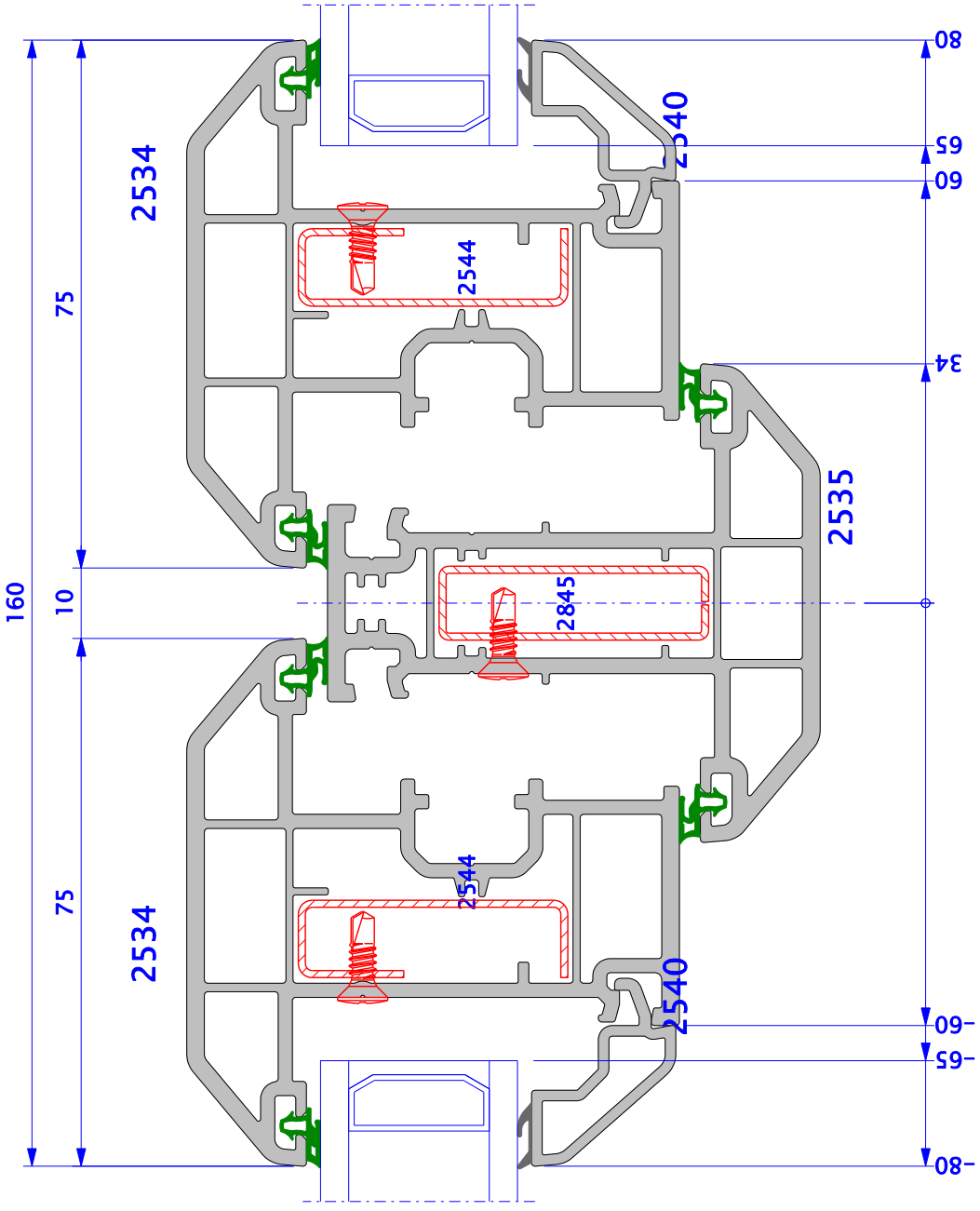
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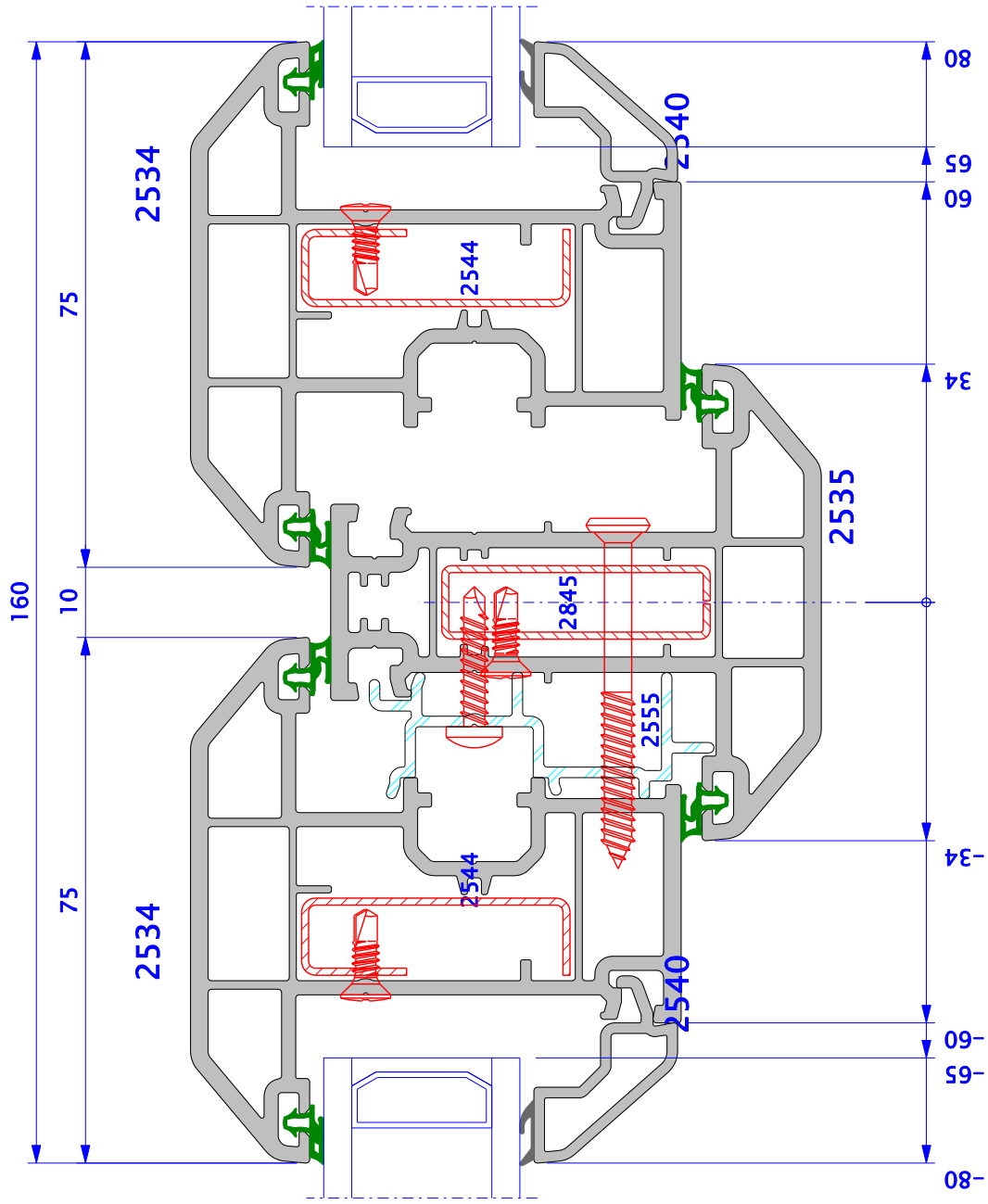
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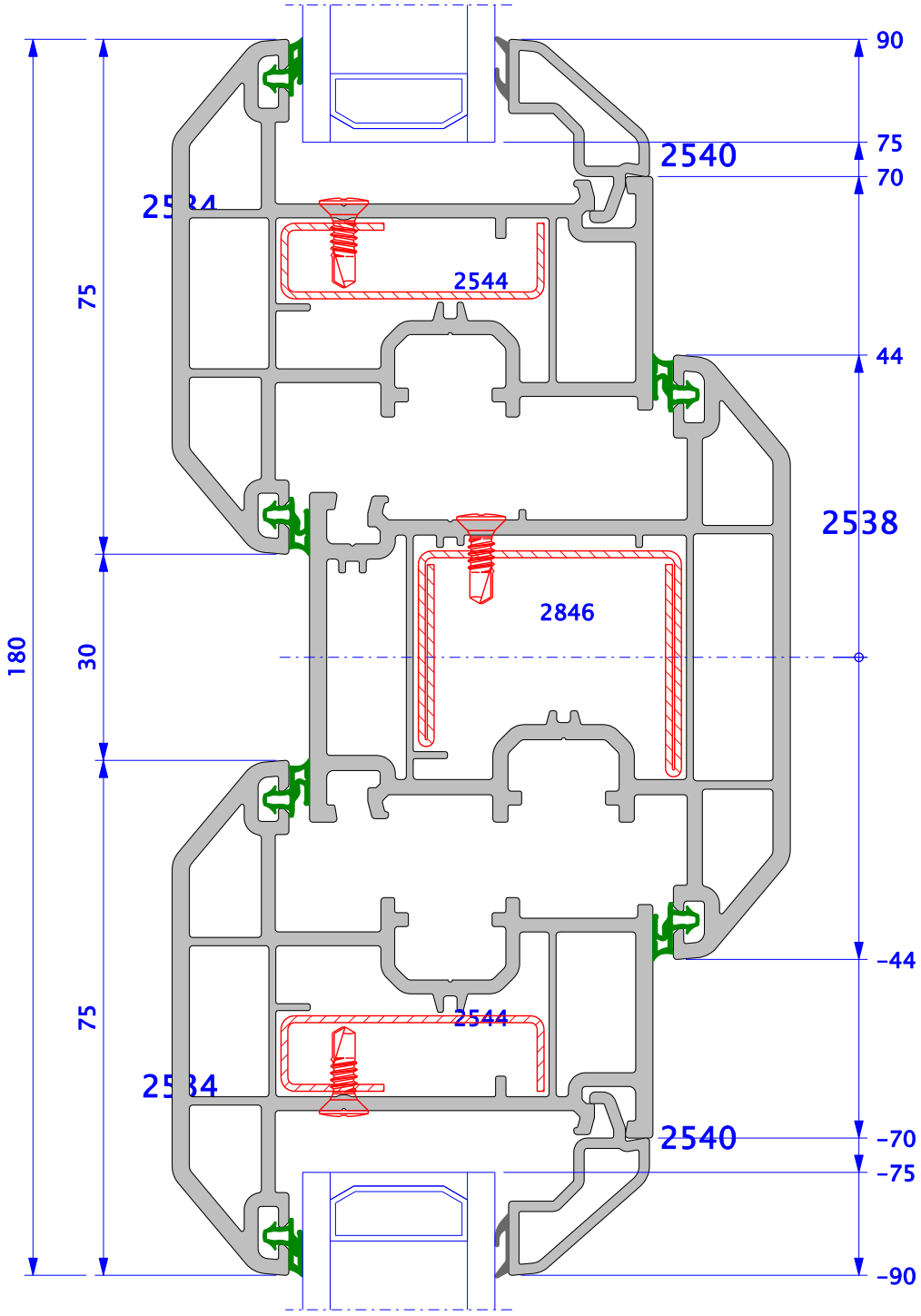

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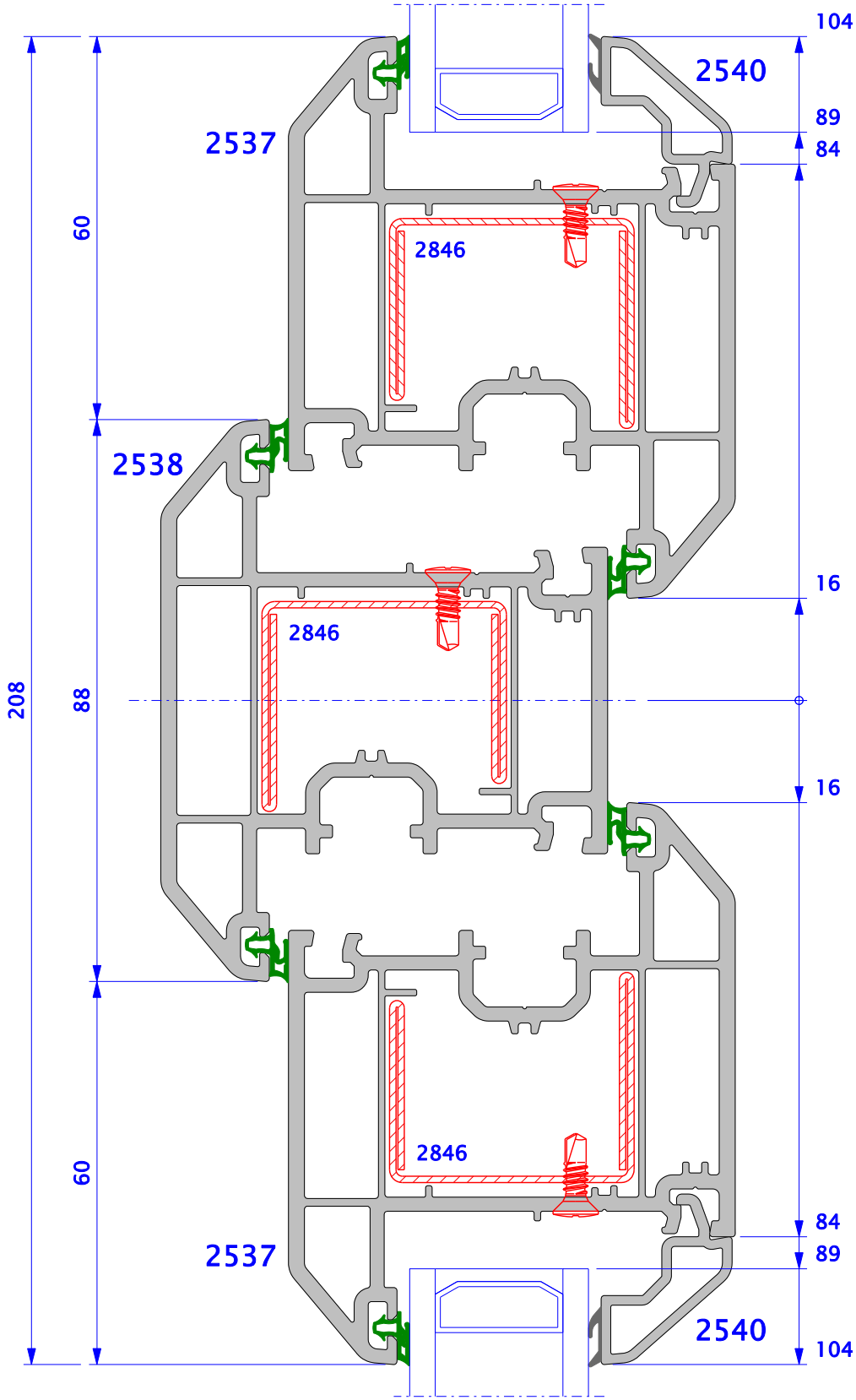
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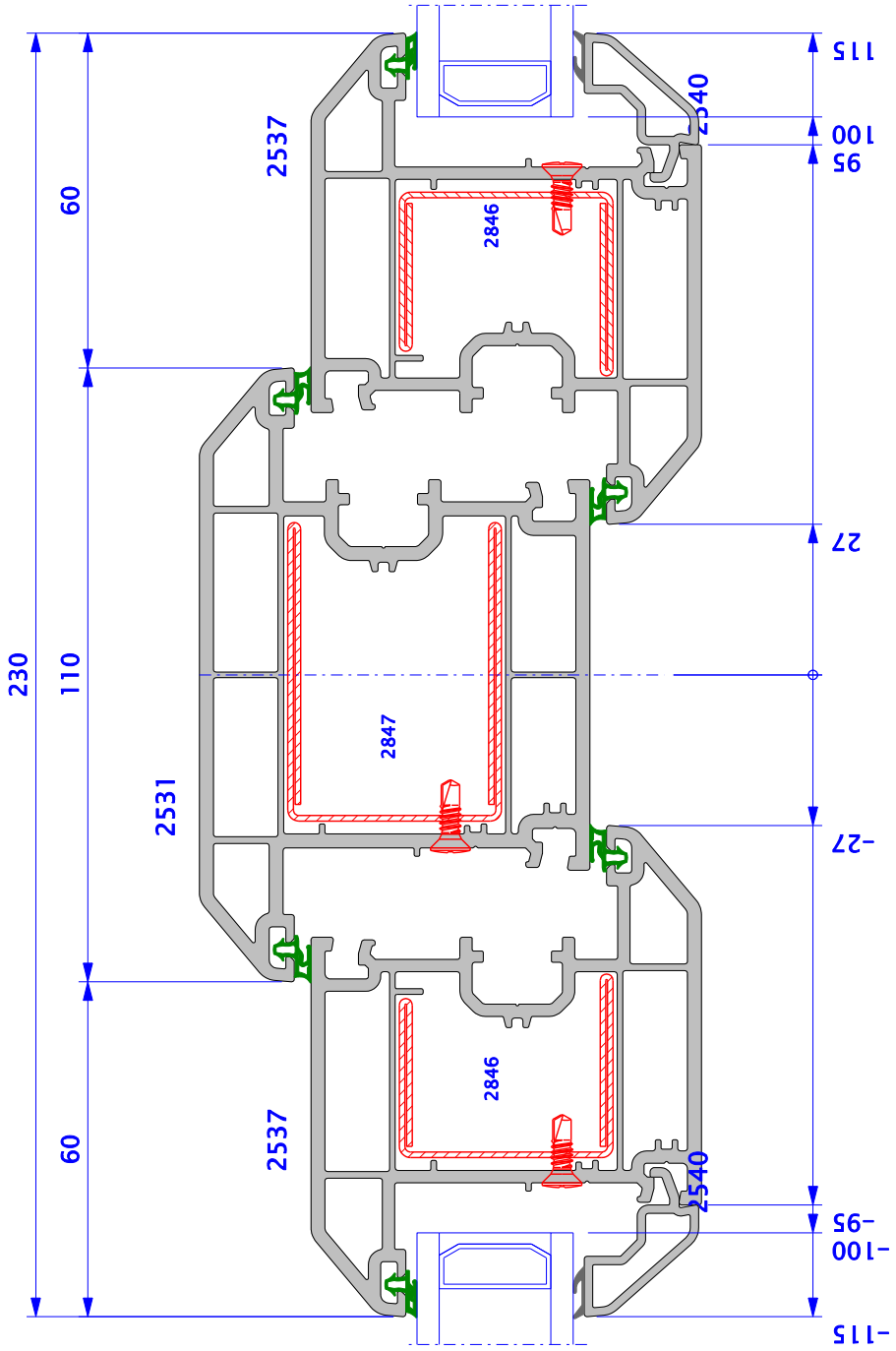
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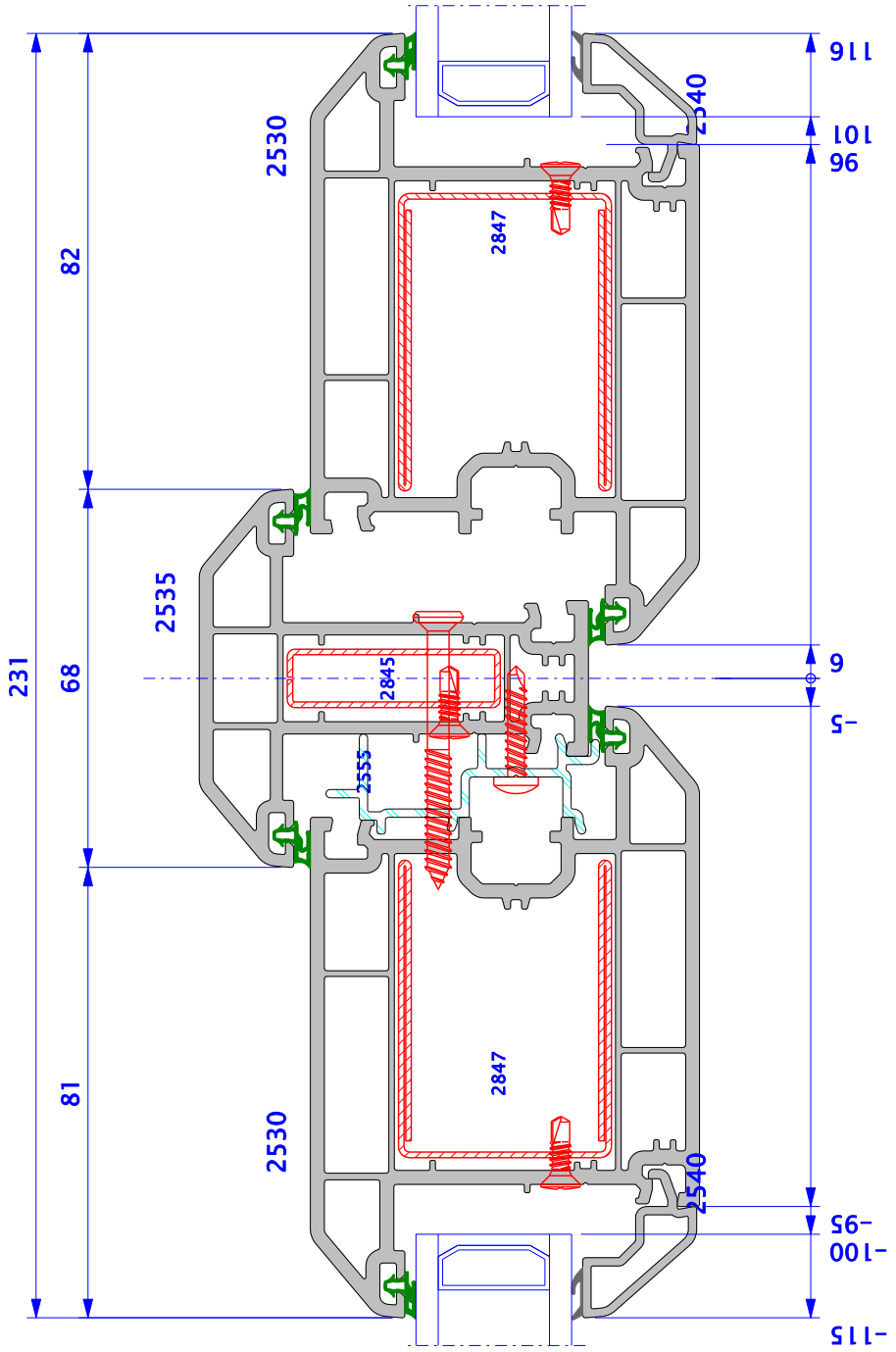
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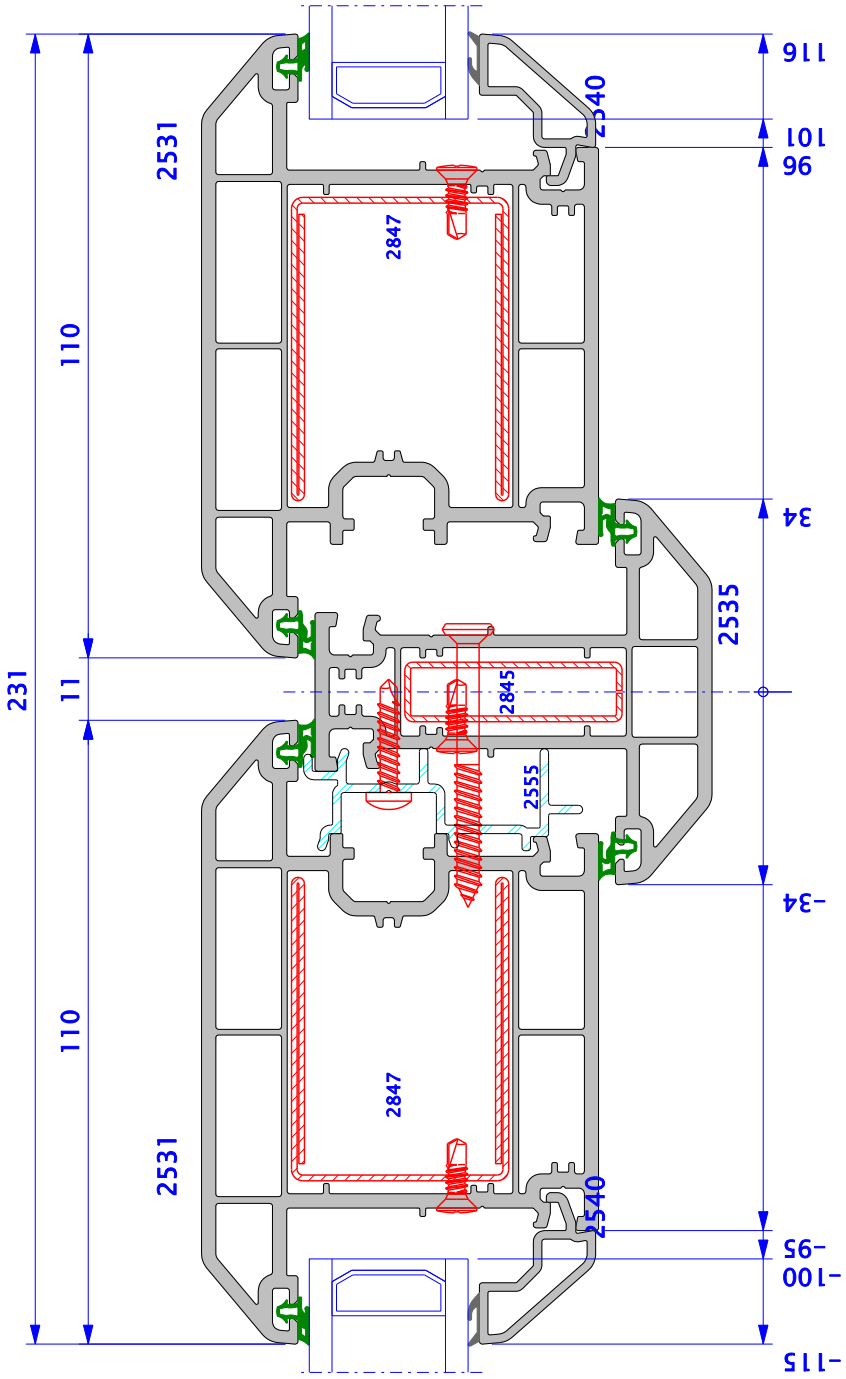
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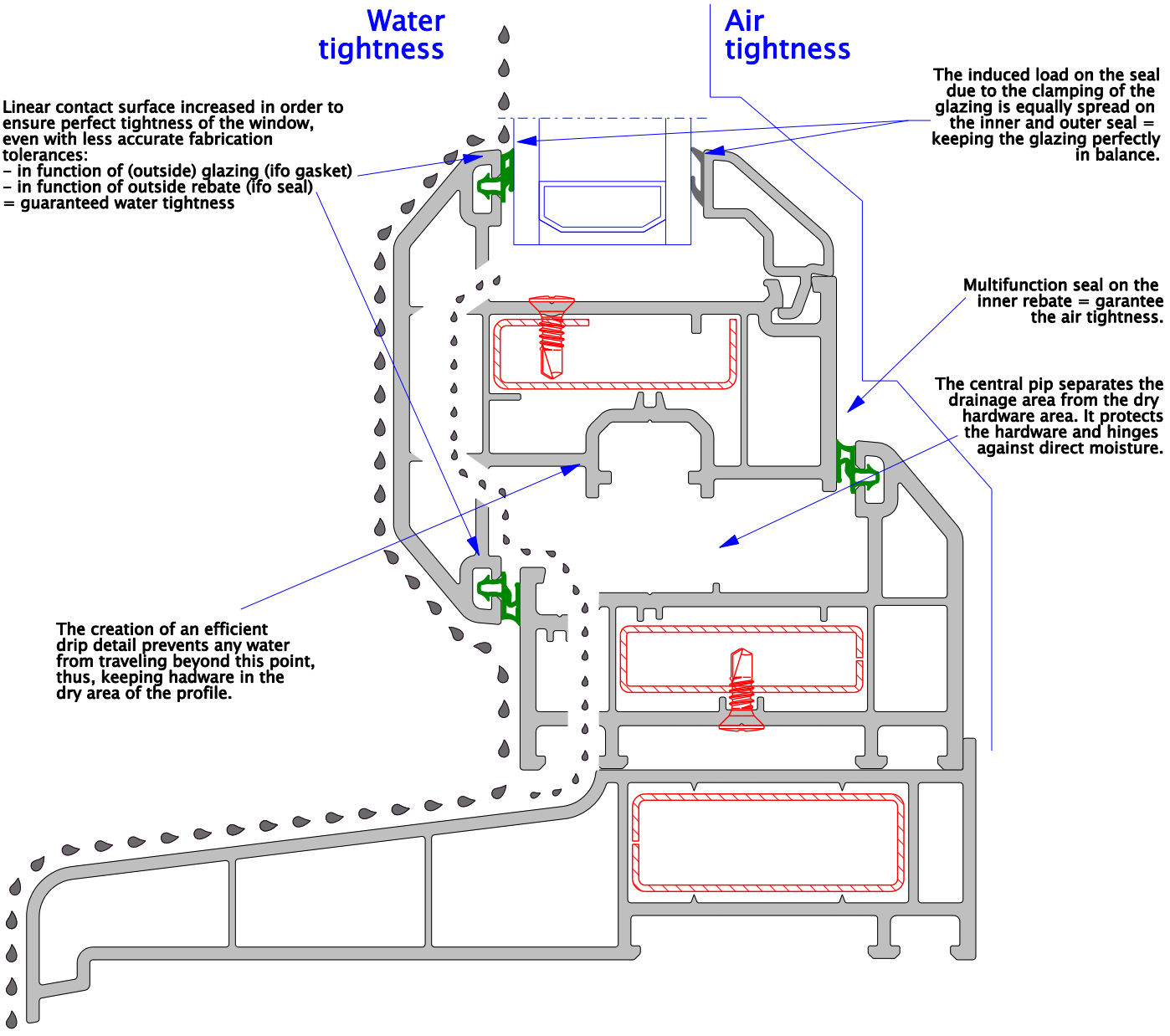
DRAINAGE & DECOMPRESSION

Why ?

- The 70mm system window is designed on a 'Pressure Equalized' basis.
  The correct positioning of decompression and drainage slots is essential to achieve the optimum performance capabilities of the window.

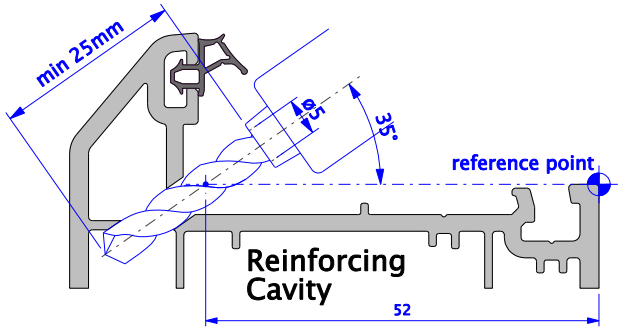
- The central chambers of the profiles are designed to retain any reinforcement required. Care must be taken to ensure that the slots do not cut into and expose the central chamber area.

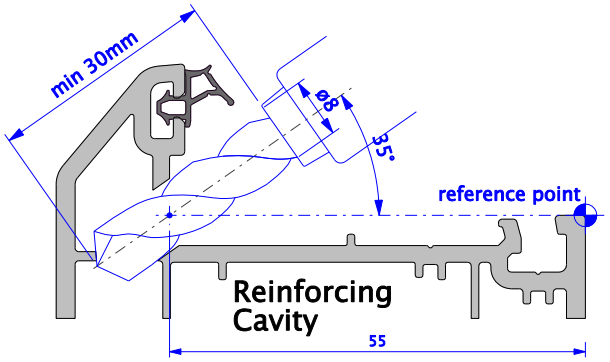
- Either slots or holes can be used to decompress and drain profiles.
  The recommended slot size = 27 x 5mm
  The recommended hole size = ø 8mm
  Decompression can also be achieved by partial gasket removal
  The recommended gasket removal = Minimum 2 X 25mm



Machine settings

- The standard setting for angled cavity drainage is between 30°-40°. If possible, 35° is recommended, for 30° & 40° a specific tuning of the machines is required.
  Below are examples of how angled cavity drainage should be set to prevent the risk of breaking through into the reinforcing cavity and also to eliminate the risk of profile or gasket damage.





- The miller/drill needs to project a min of 25mm/30mm to avoid damaging the profile or gasket
- Ensure that the tip of the 8mm drill breaks through both internal webs as shown above especially if set at 30°.

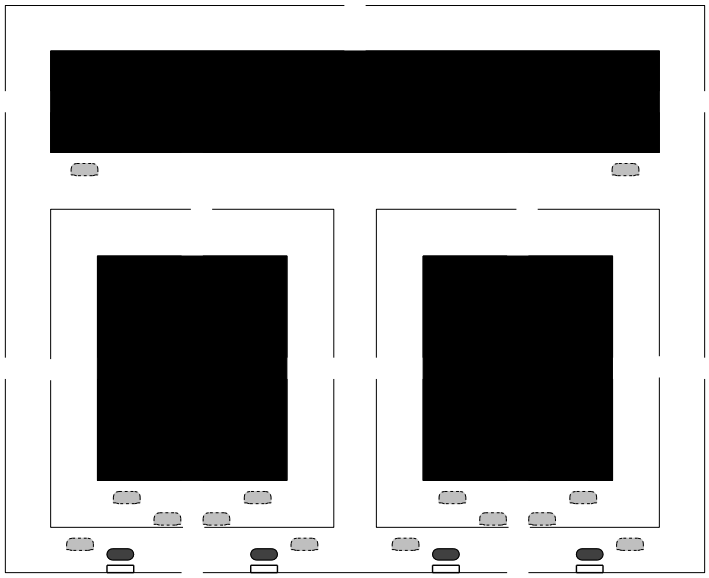
Configuration

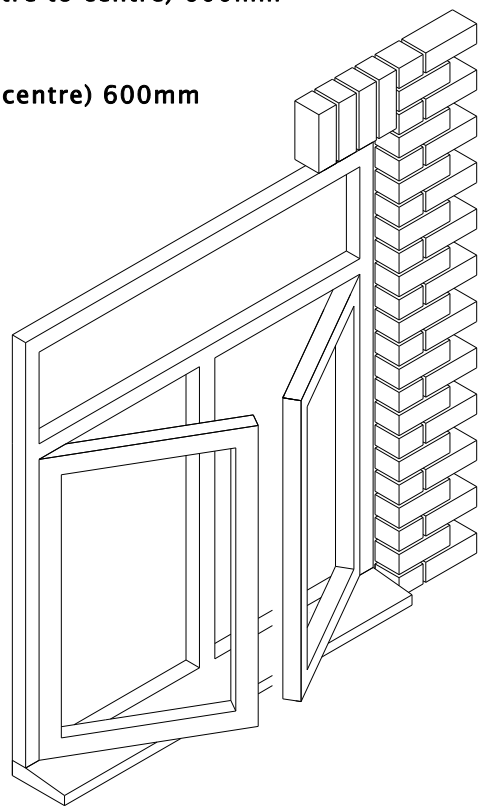
- Drain hole preparation (per section) :
  minimum 2 holes (out of each corner) per profile (see specific drawings)
  ① Cavity (drainage area):
    - slot min. 27mm long x 5mm wide, spacing (Centre to Centre) 600mm
    - or 8mm drilling, spacing 600mm

  ② Concealed (drainage area):
    - slot min. 27mm long x 5mm wide, spacing (Centre to centre) 600mm
    - or 8mm drilling, spacing 600mm

  ③ Face (drainage area):
  slot min. 27mm long x 5mm wide, spacing (Centre to centre) 600mm
    - or 8mm drilling, spacing 600mm

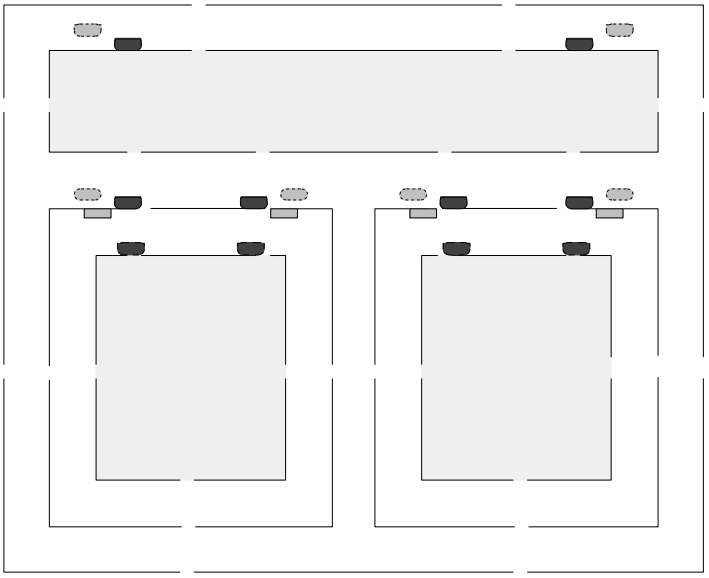
Typical drainage slot positions

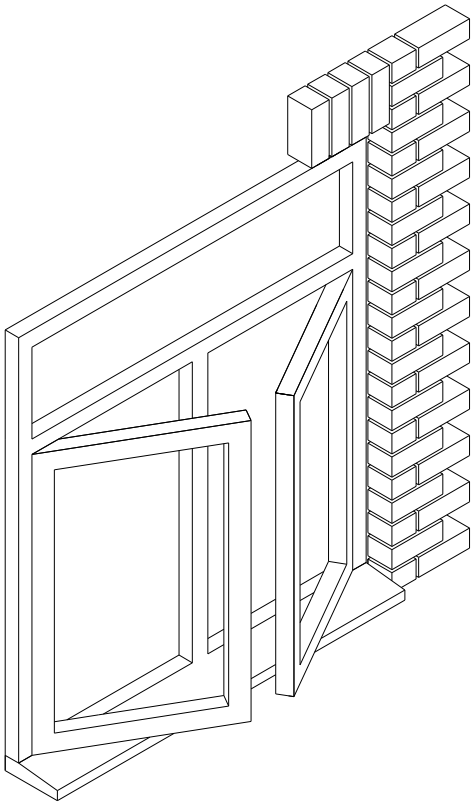




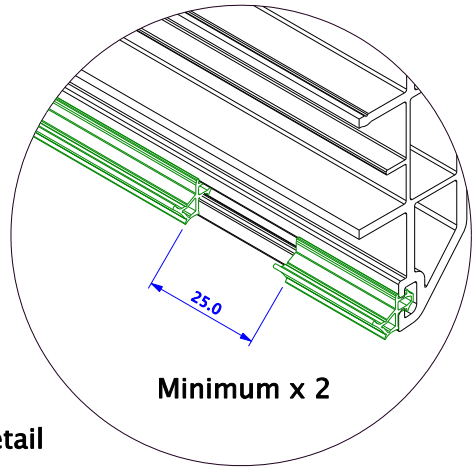
- decompression preparation (per section) :
  - o inner (decompression area) :
    - slot min. 27 mm long x 5 mm wide (minimum 2)
    - or 8 mm drilling (min. 2)
  - o outer (decompression area) :
    - slot min. 27 mm long x 5 mm wide (min. 2)
    - or 8 mm drilling (min. 2)

Typical decompression slot positions





o Alternatively these two slots or holes can be replaced by a partialy removing the external gasket over a distance of 25mm adjacent to each of the drainage slots in the bottom of each frame.



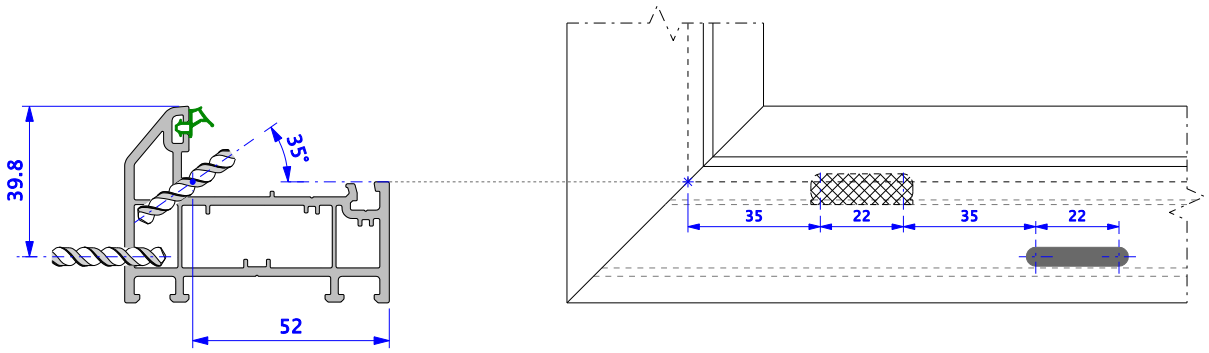
Minimum x 2

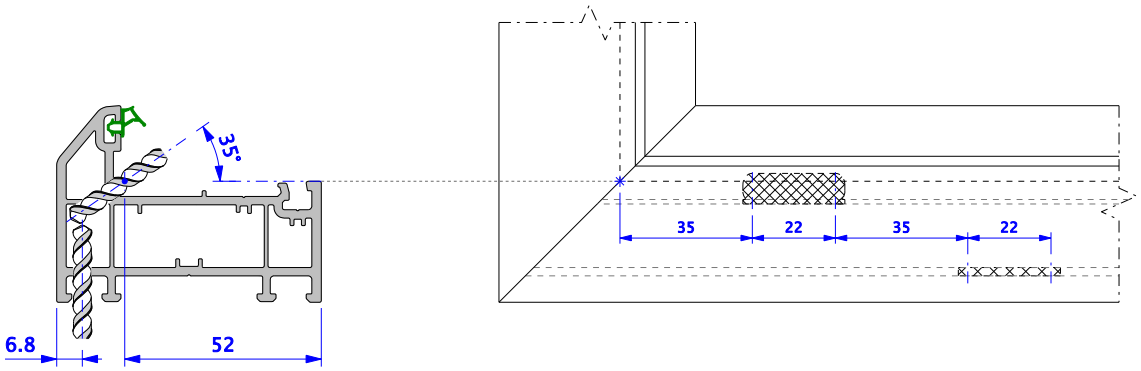
Detail

Drainage ø5 mm

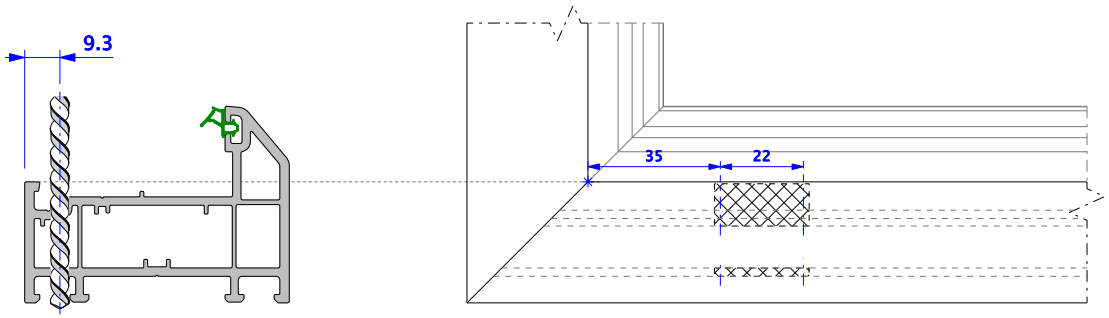
2532

Internally beaded





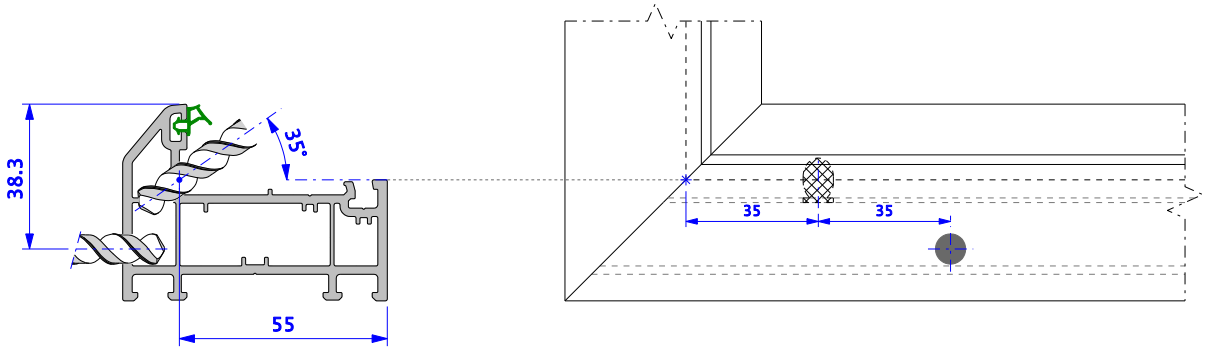
Externally beaded

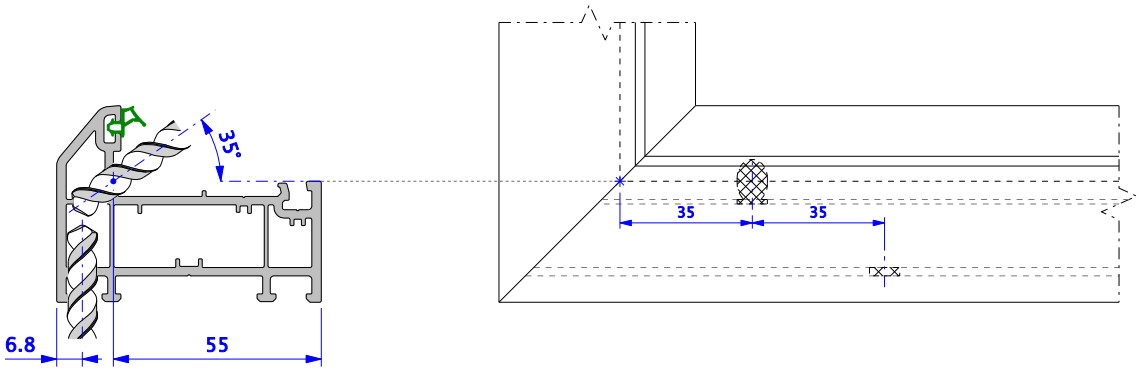


Drainage ø8 mm

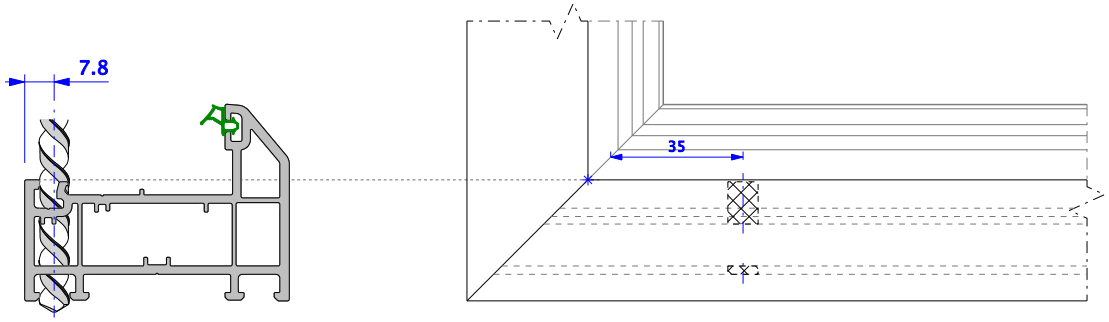
2532

Internally beaded





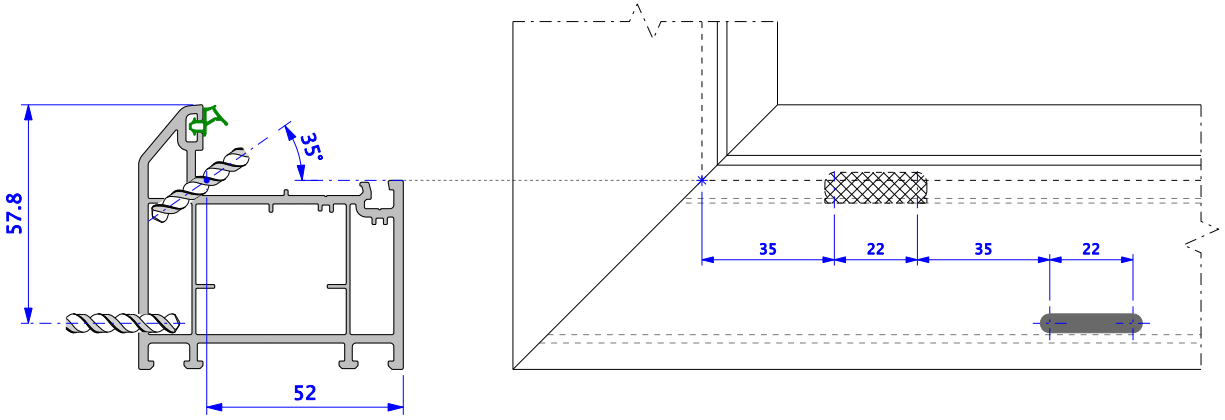
Externally beaded

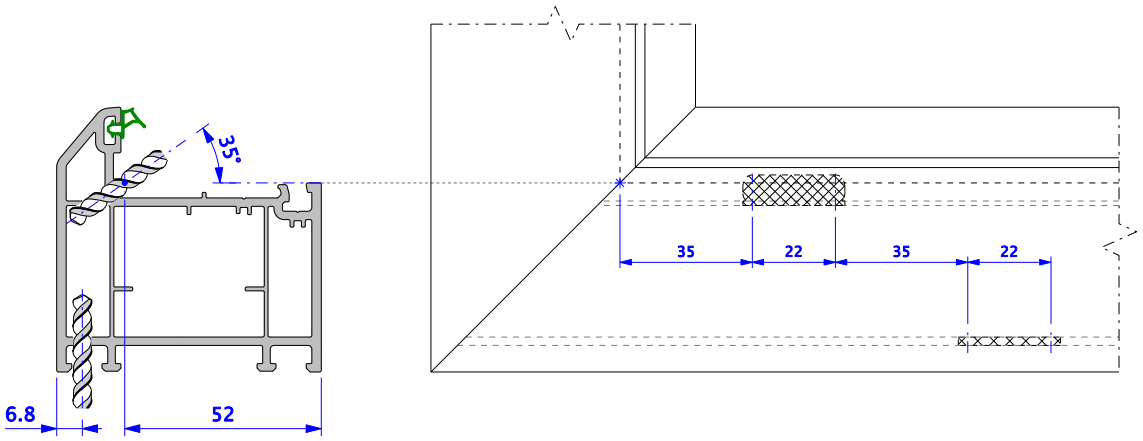


Drainage ø5 mm

2533

Internally beaded





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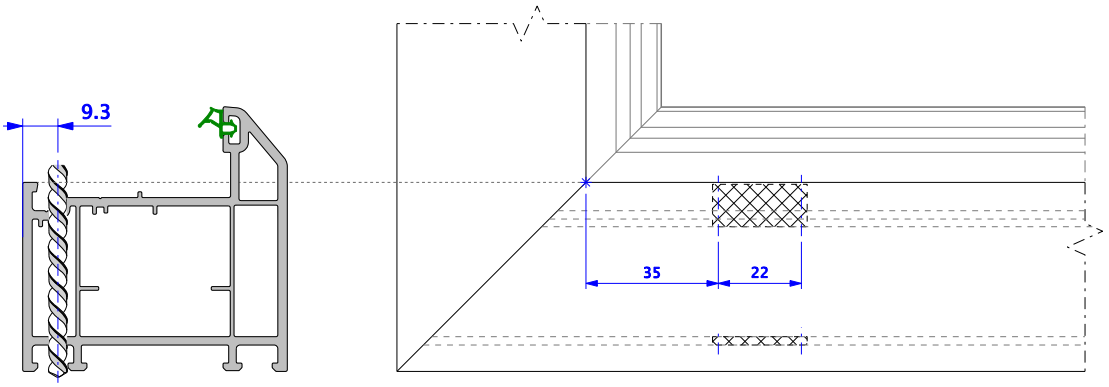
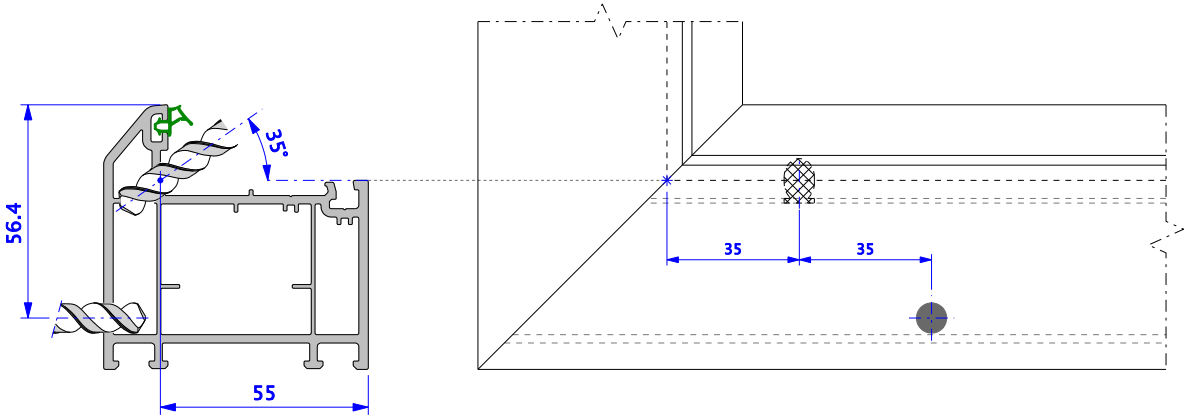
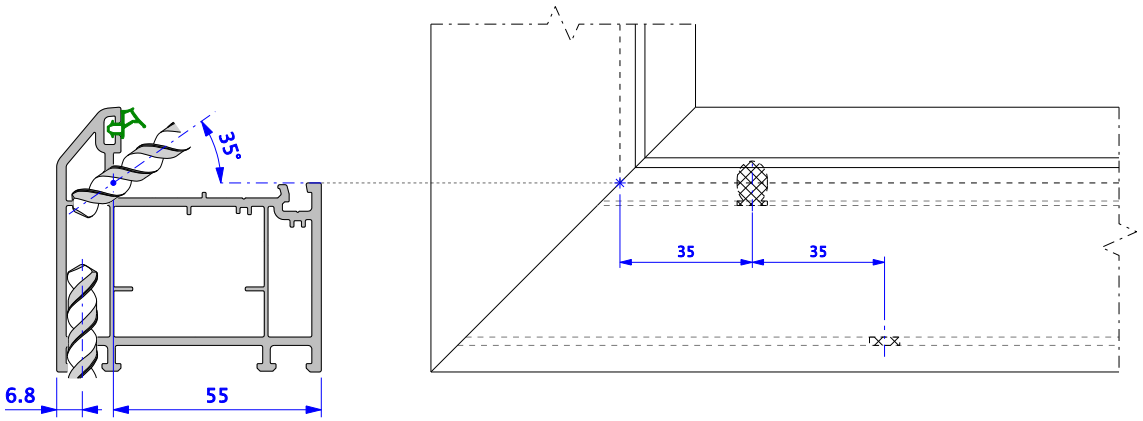


Drainage ø8 mm

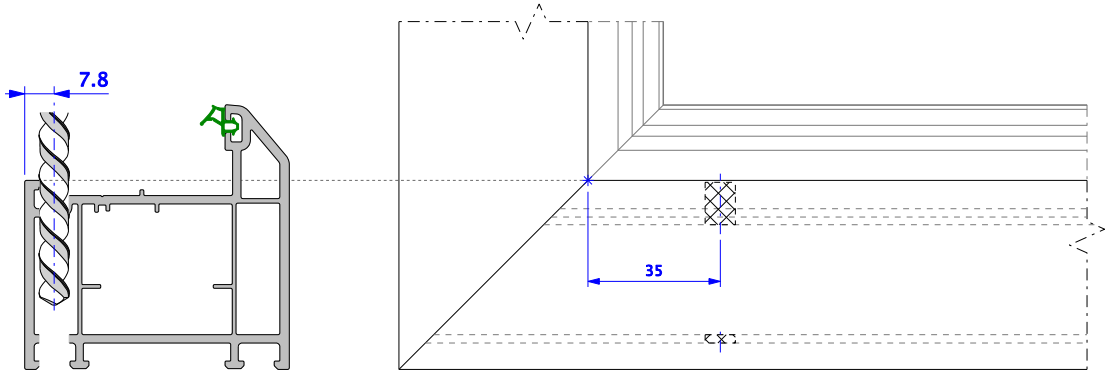
2533

Internally beaded





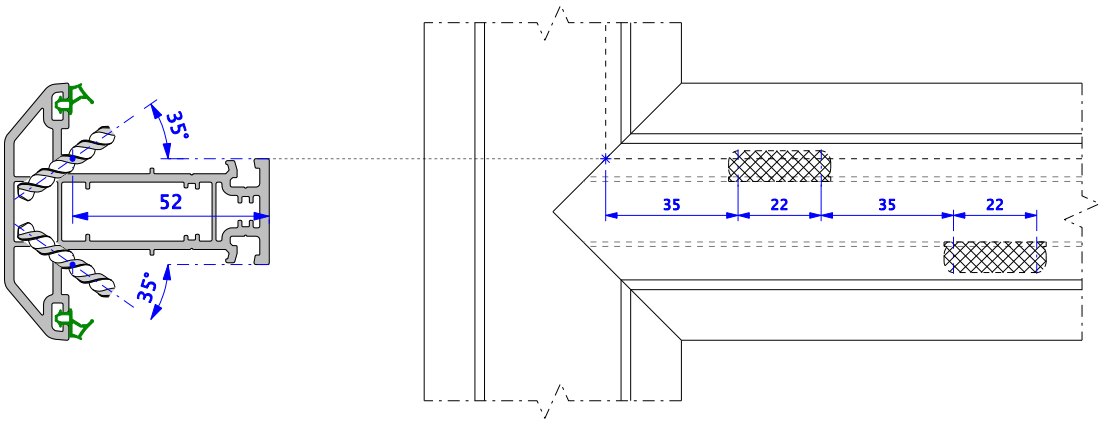
Externally beaded



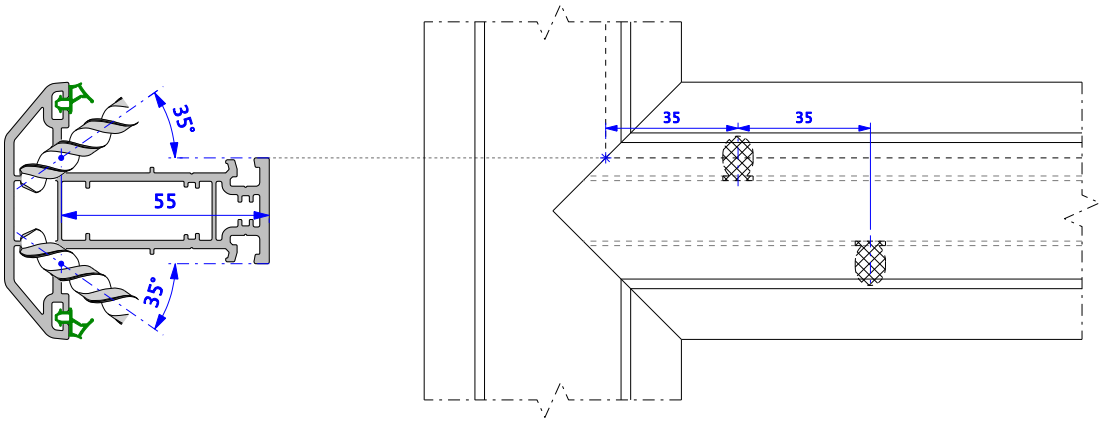
Drainage ø5 & 8 mm

2535

drainage ø5mm



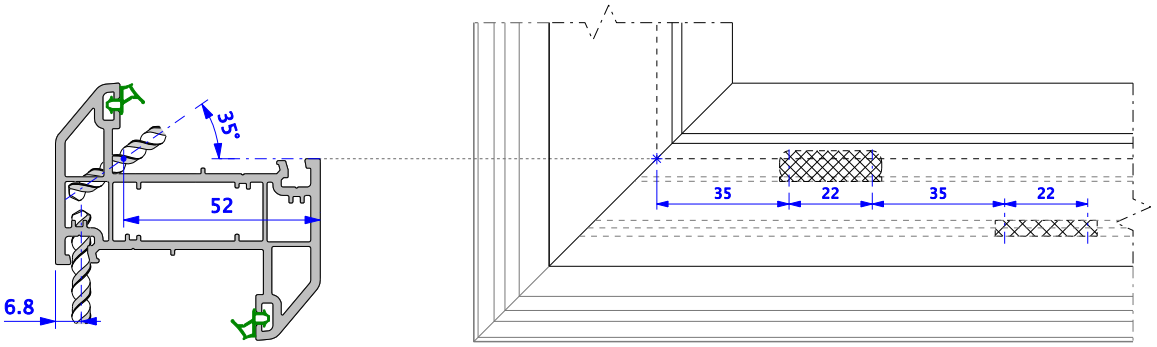
drainage ø8mm



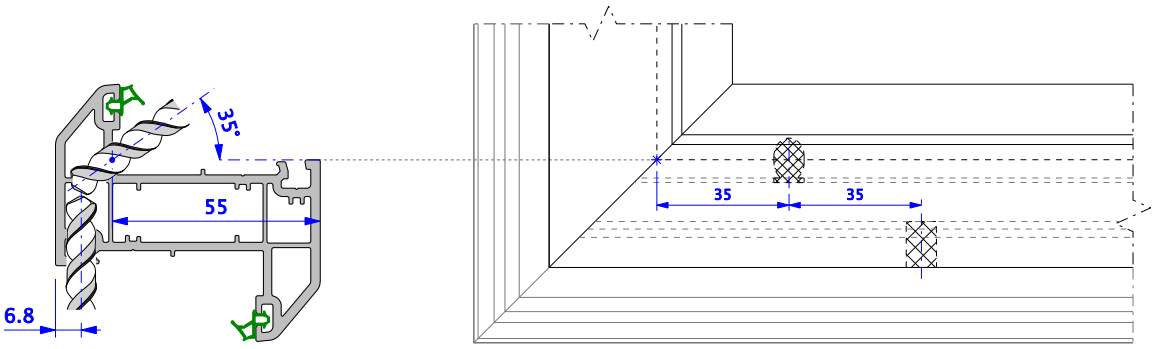
Drainage ø5 & 8 mm

2536

drainage ø5mm



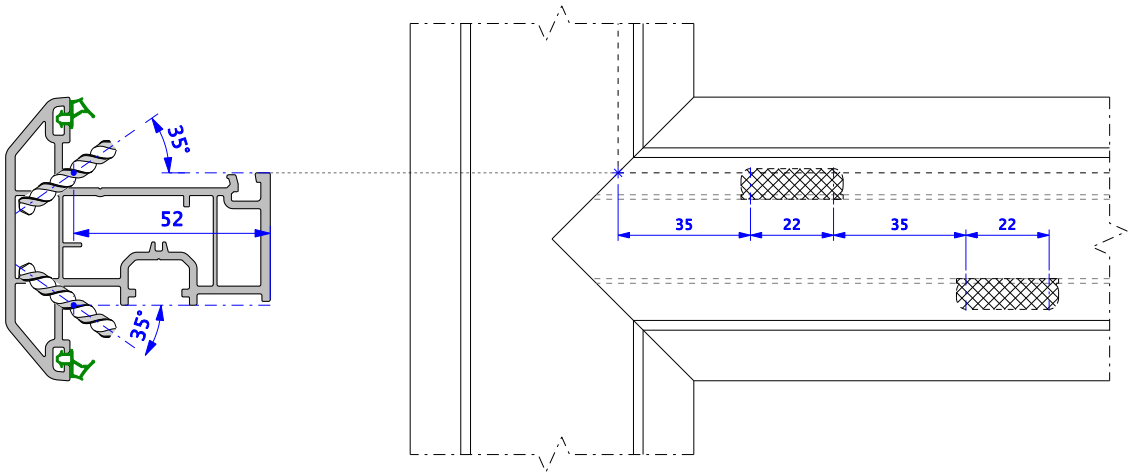
drainage ø8mm



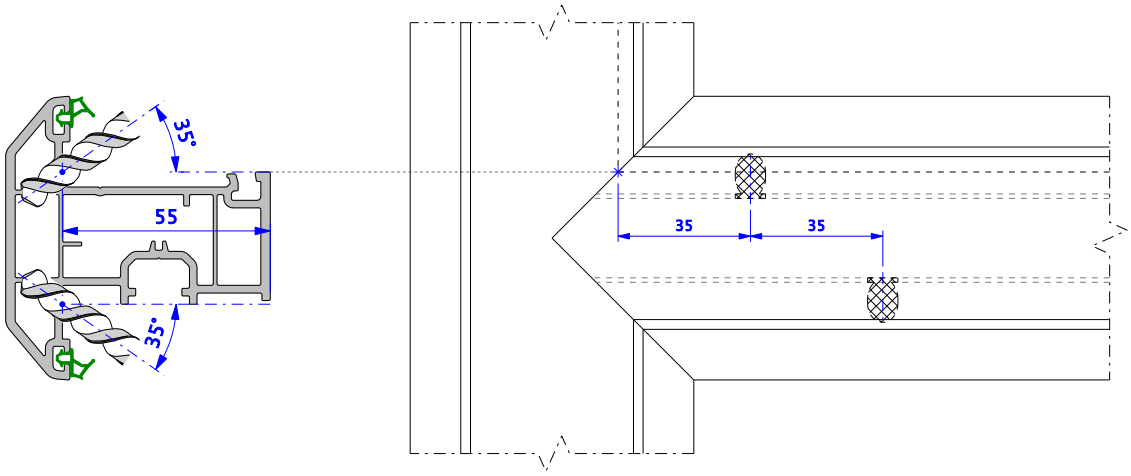
Drainage ø5 & 8 mm

2534

drainage ø5mm



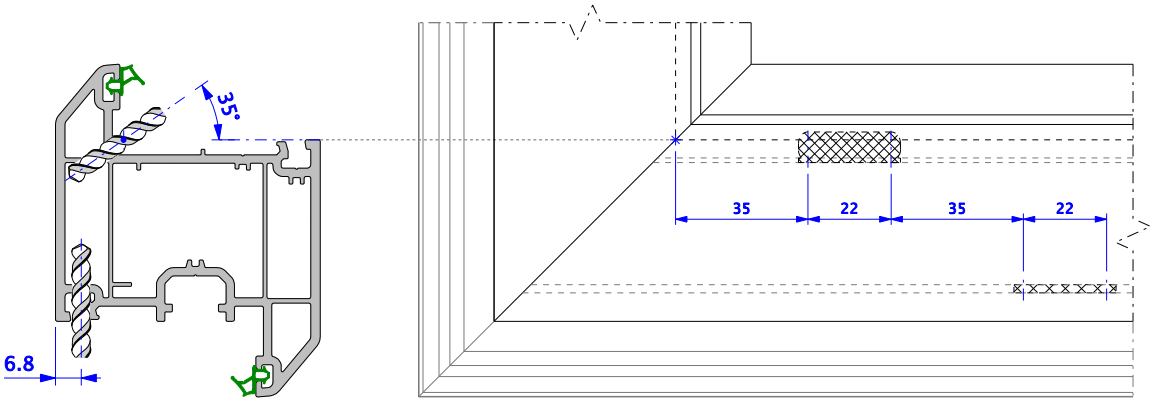
drainage ø8mm



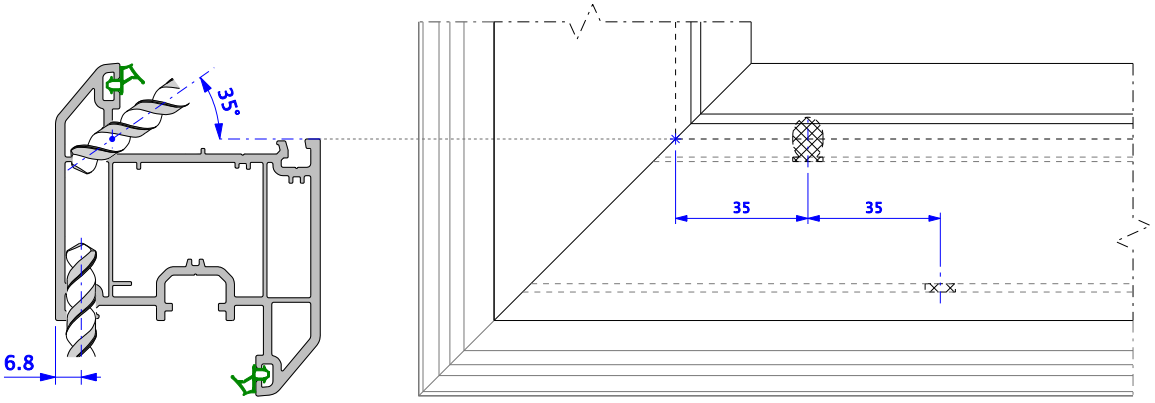
Drainage ø5 & 8 mm

2537

drainage ø5mm



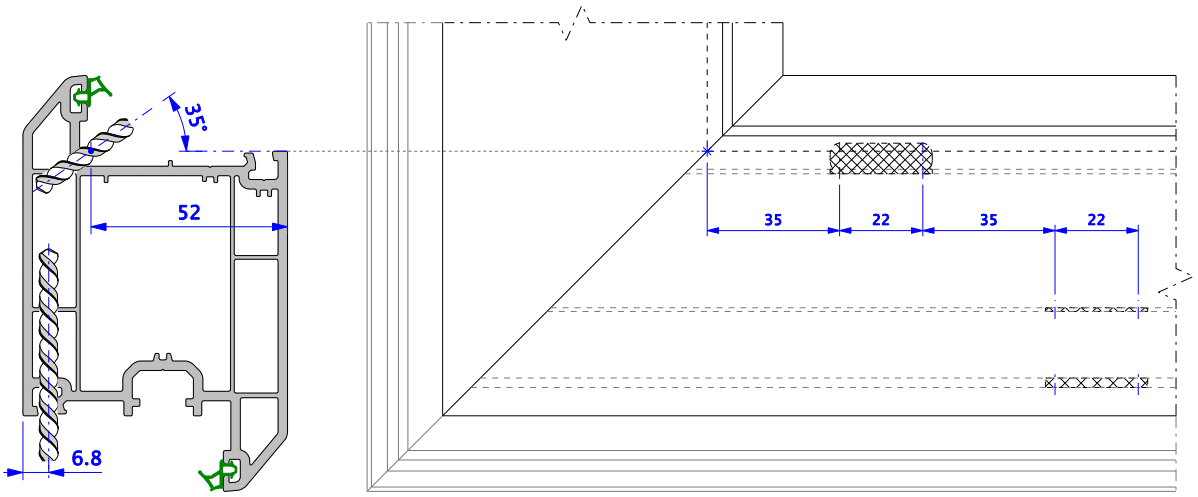
drainage ø8mm



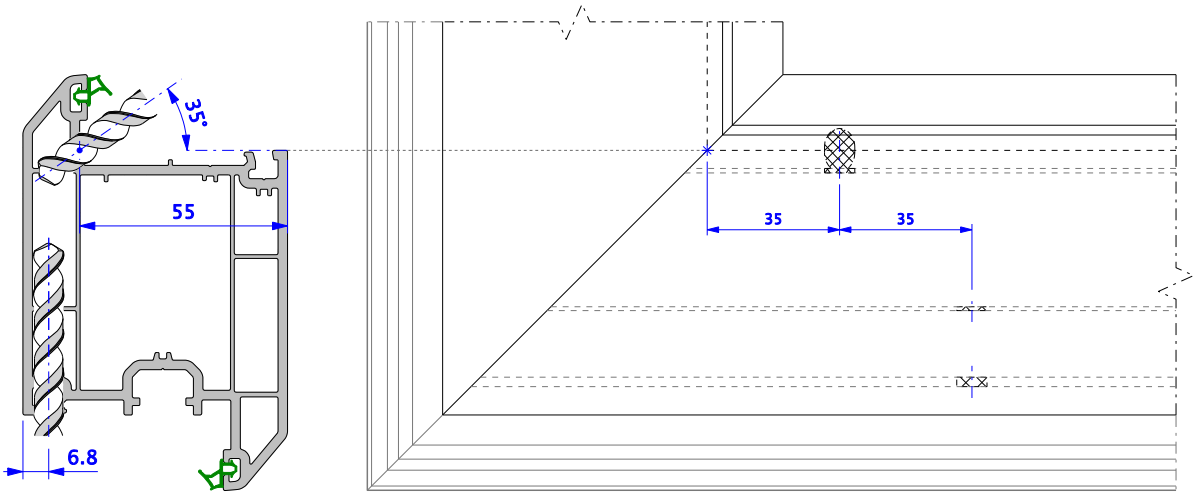
Drainage ø5 & 8 mm

2530

drainage ø5mm



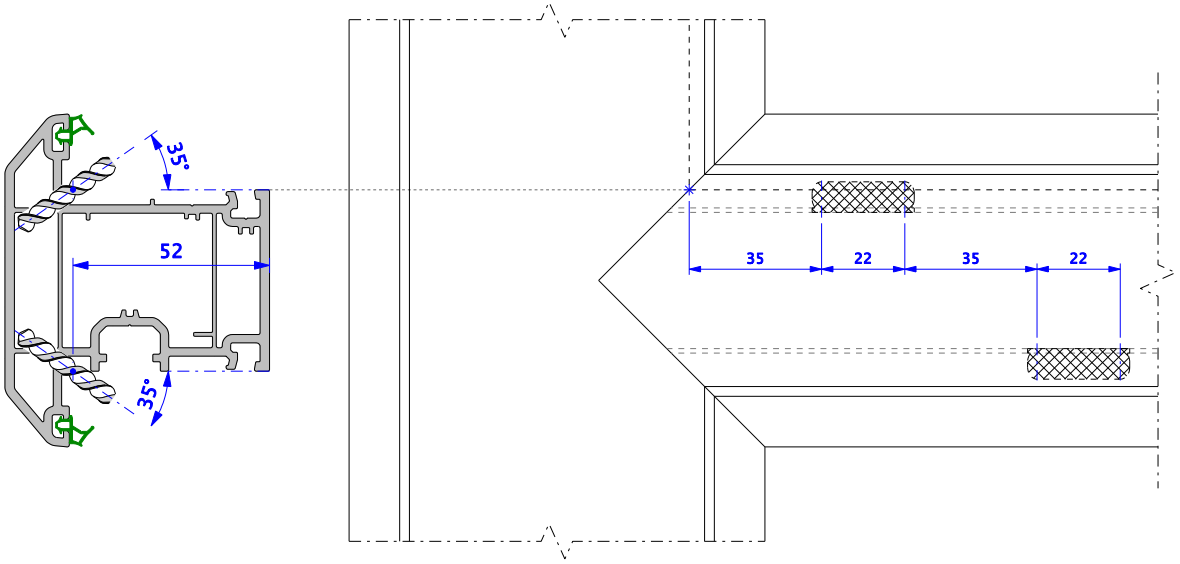
drainage ø8mm



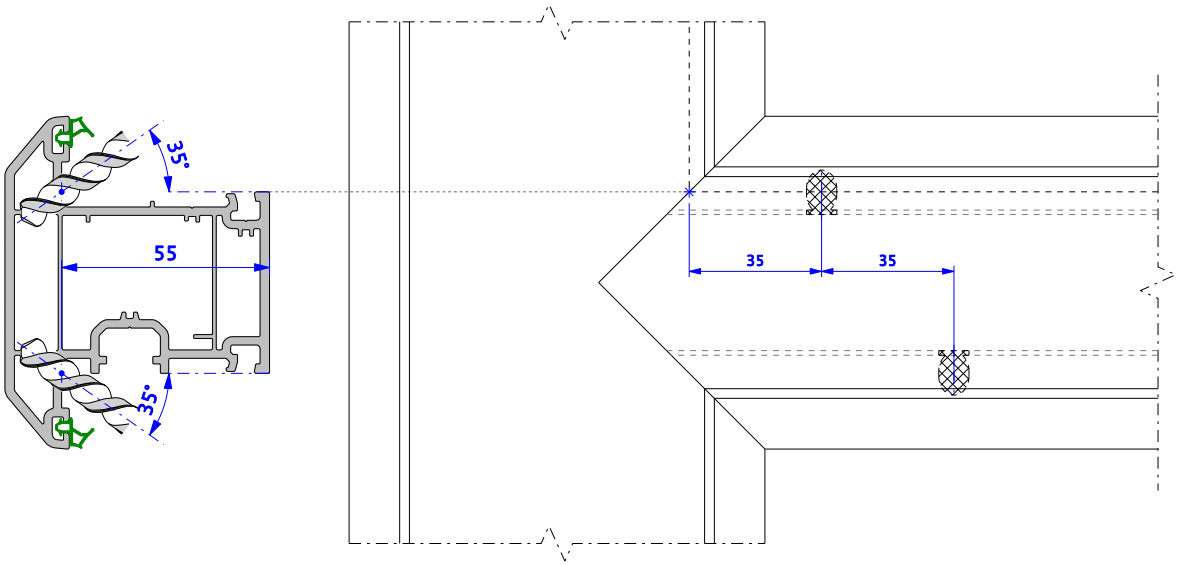
Drainage ø5 & 8 mm

2538

drainage ø5mm



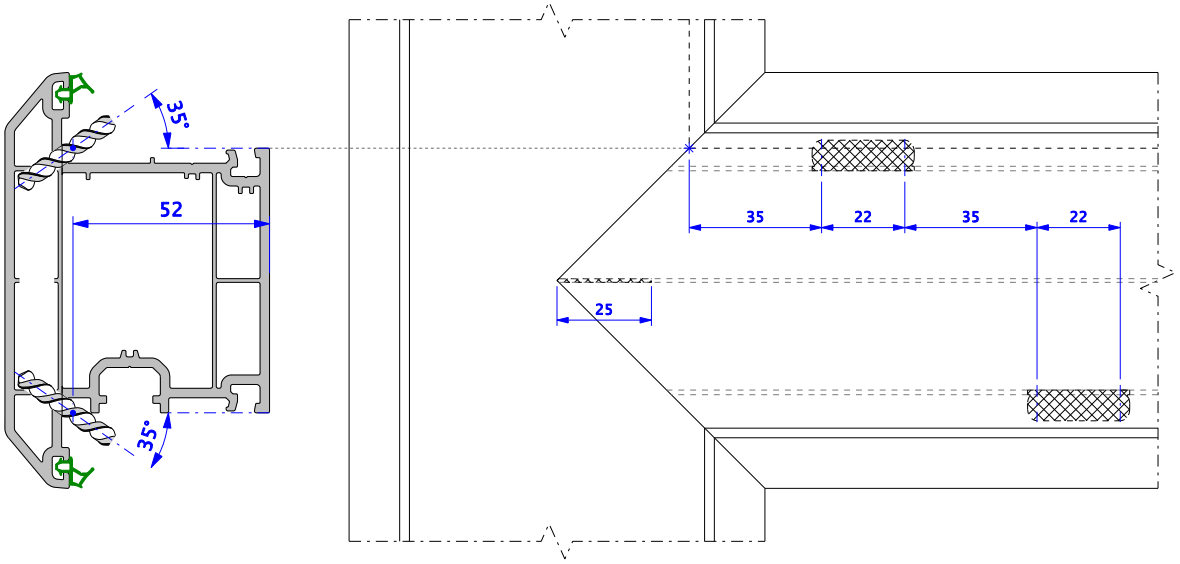
drainage ø8mm



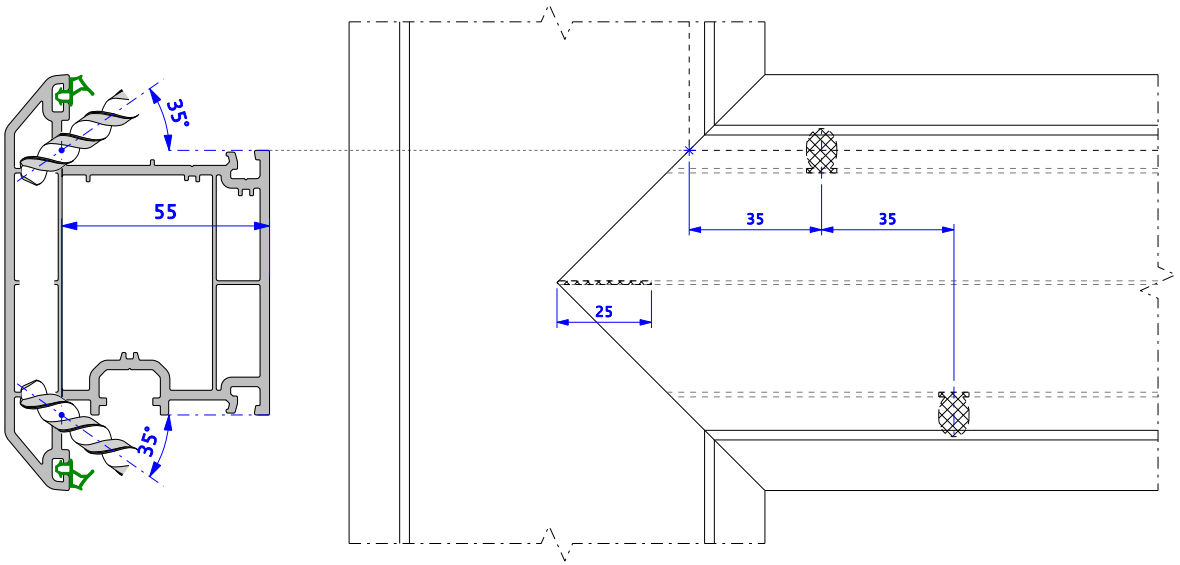
Drainage ø5 & 8 mm

2531

drainage ø5mm



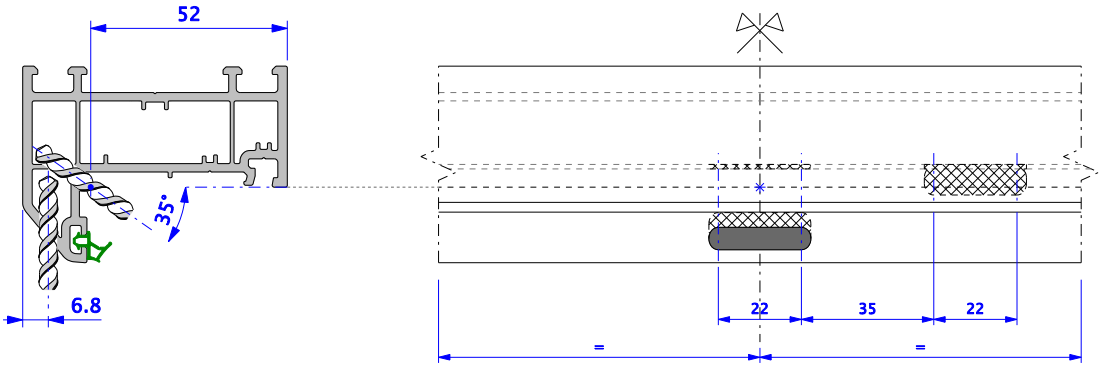
drainage ø8mm



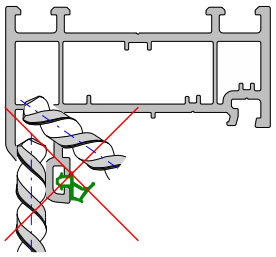
Decompression ø5 & (ø8) mm

2532

decompression ø5mm



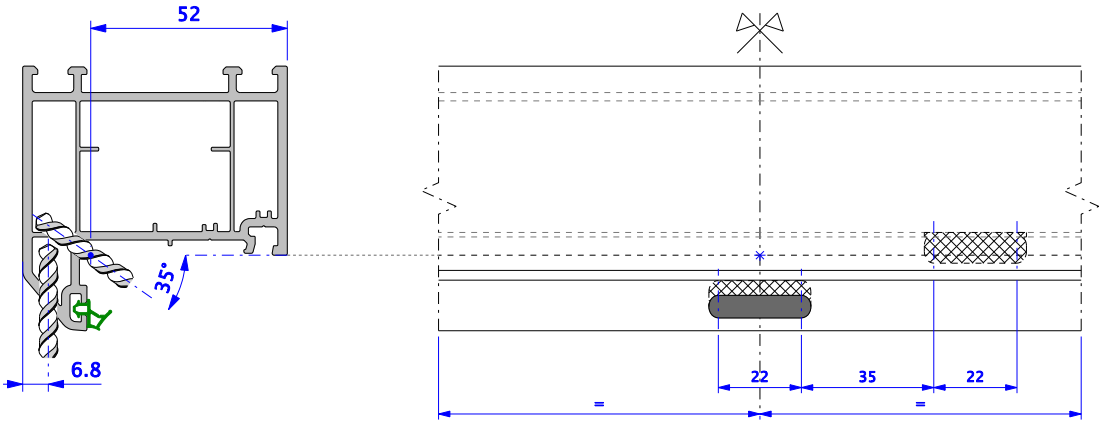
decompression ø8mm (NOT DONE)



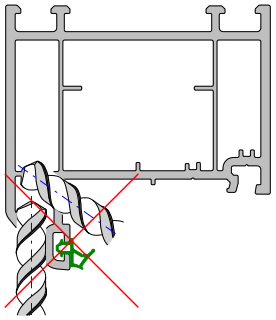
Decompression ø5 & (ø8) mm

2533

decompression ø5mm



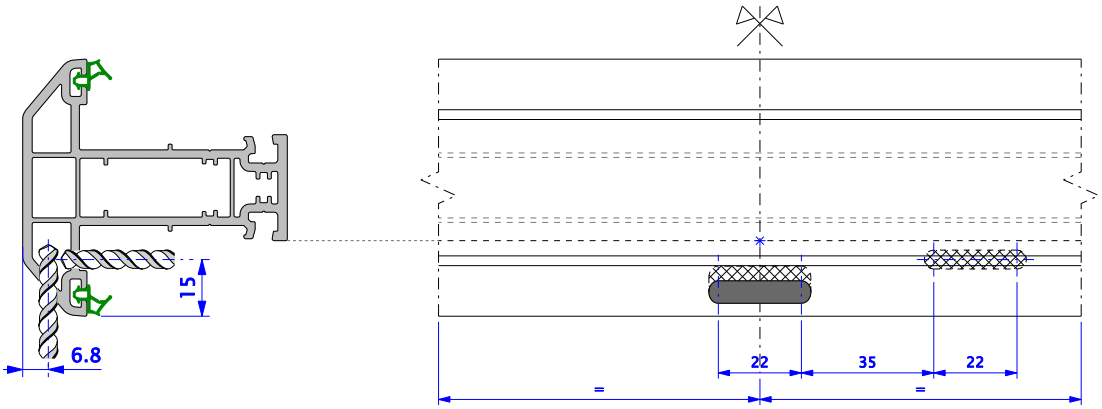
decompression ø8mm (NOT DONE)



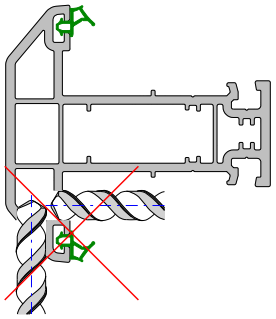
Decompression ø5 & (ø8) mm

2535

decompression ø5mm



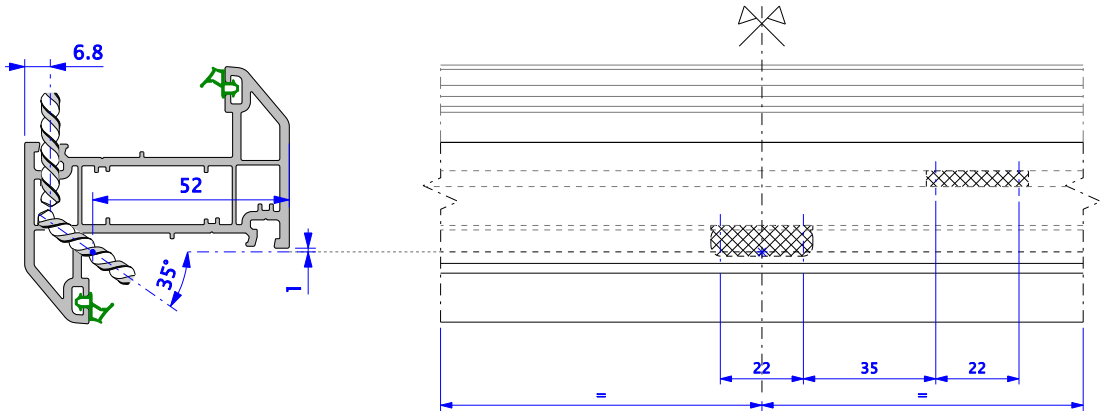
decompression ø8mm (NOT DONE)



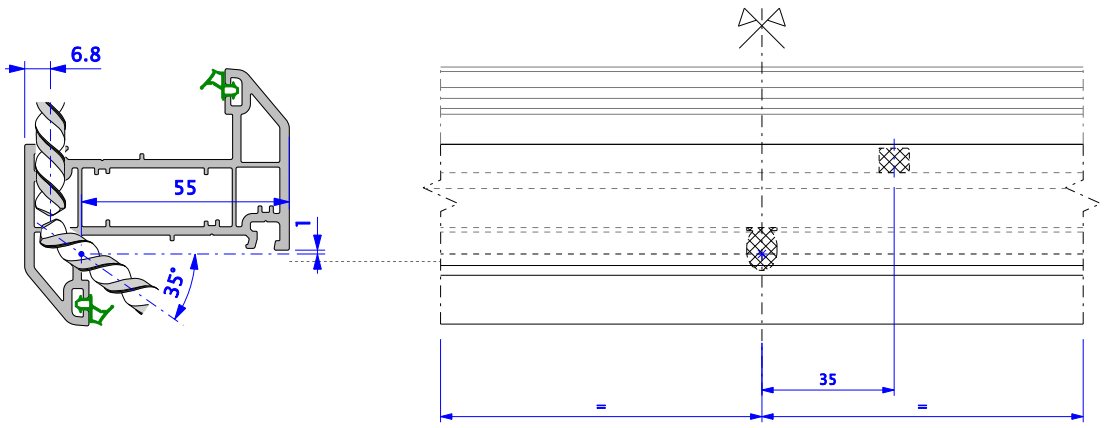
Decompression ø5 & (ø8) mm

2536

decompression ø5mm



decompression ø8mm

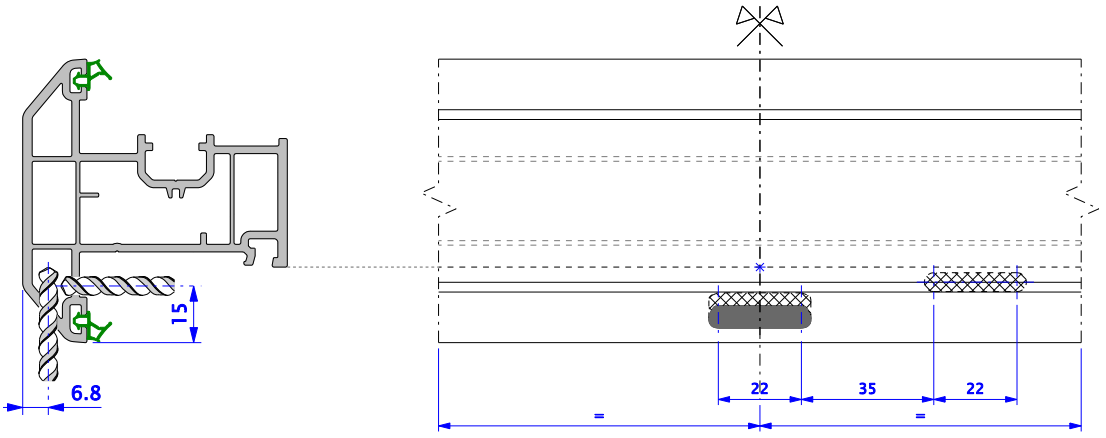


Decompression ø5 & (ø8) mm

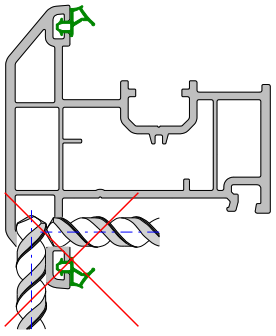
2534

DECOMPRESSION

decompression ø5mm



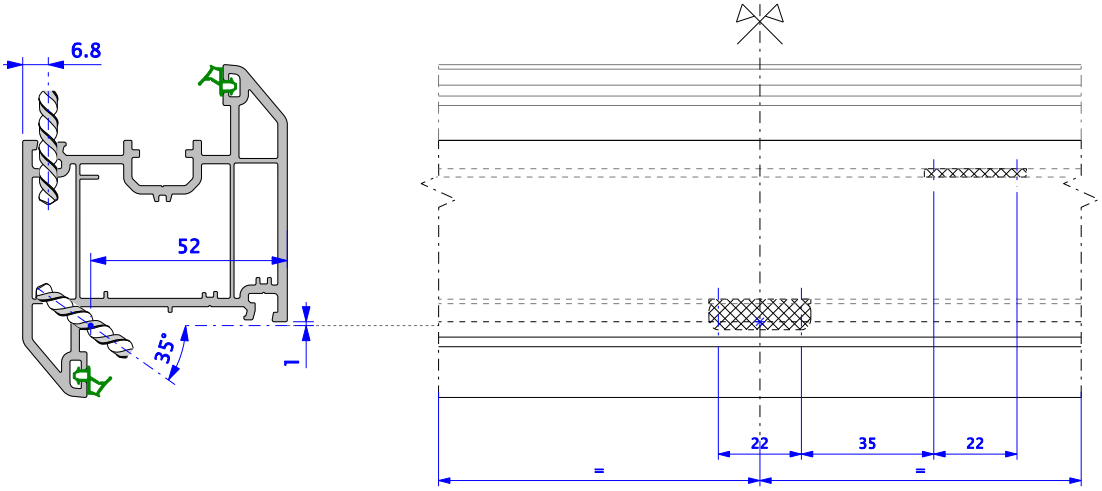
decompression ø8mm (NOT DONE)



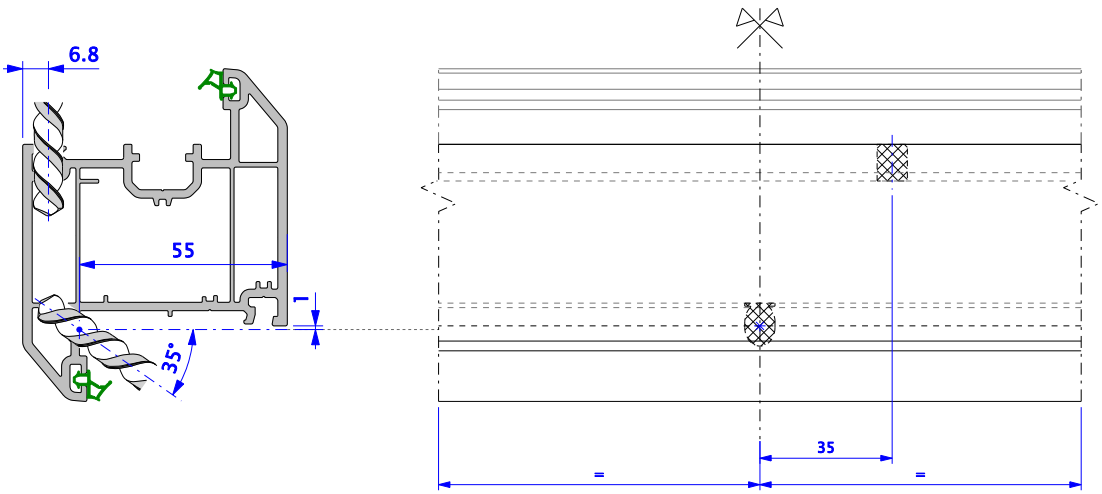
Decompression ø5 & ø8 mm

2537

decompression ø5mm



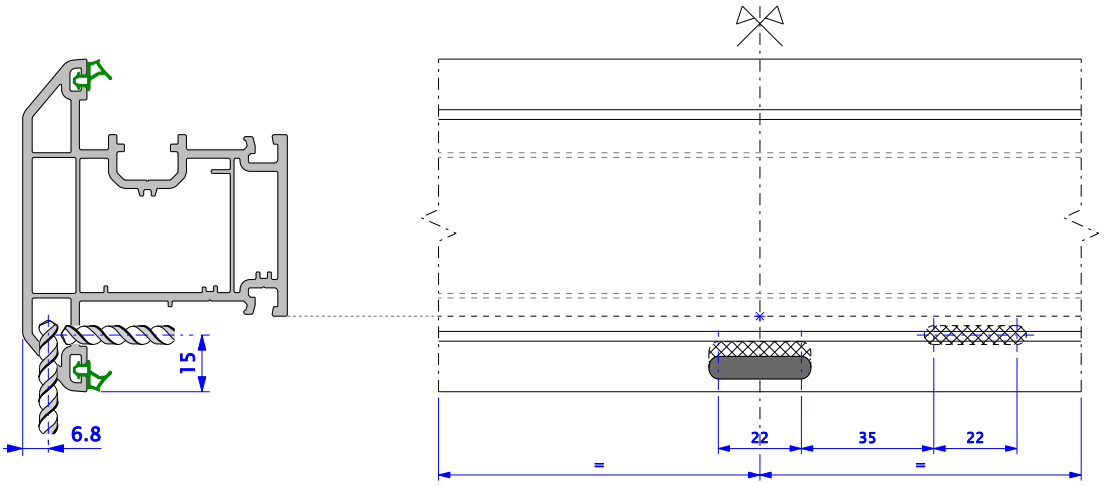
decompression ø8mm



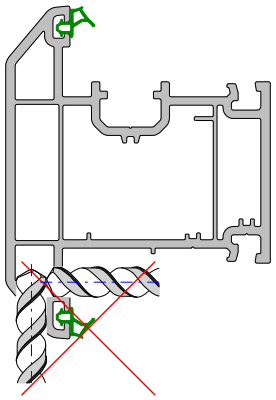
Decompression ø5 & (ø8) mm

2538

decompression ø5mm



decompression ø8mm (NOT DONE)

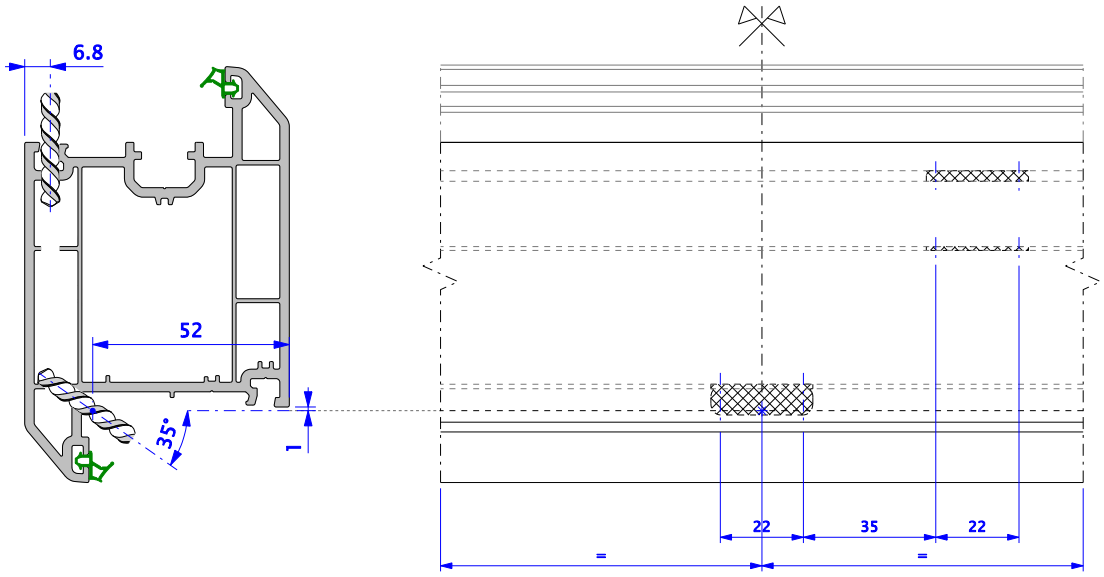


Decompression ø5 & (ø8) mm

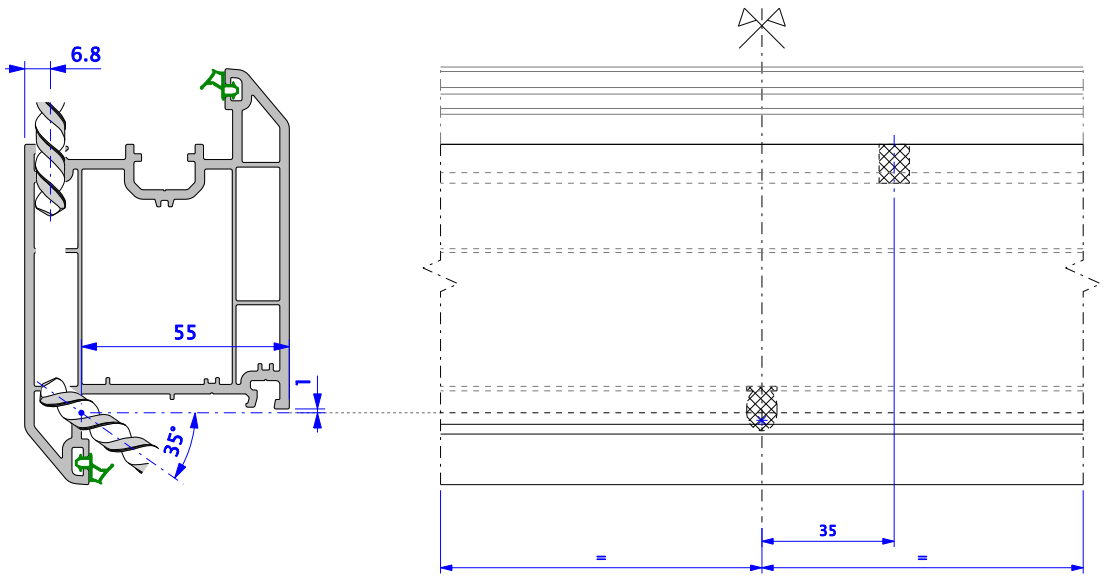
2530

DECOMPRESSION

decompression ø5mm



decompression ø8mm

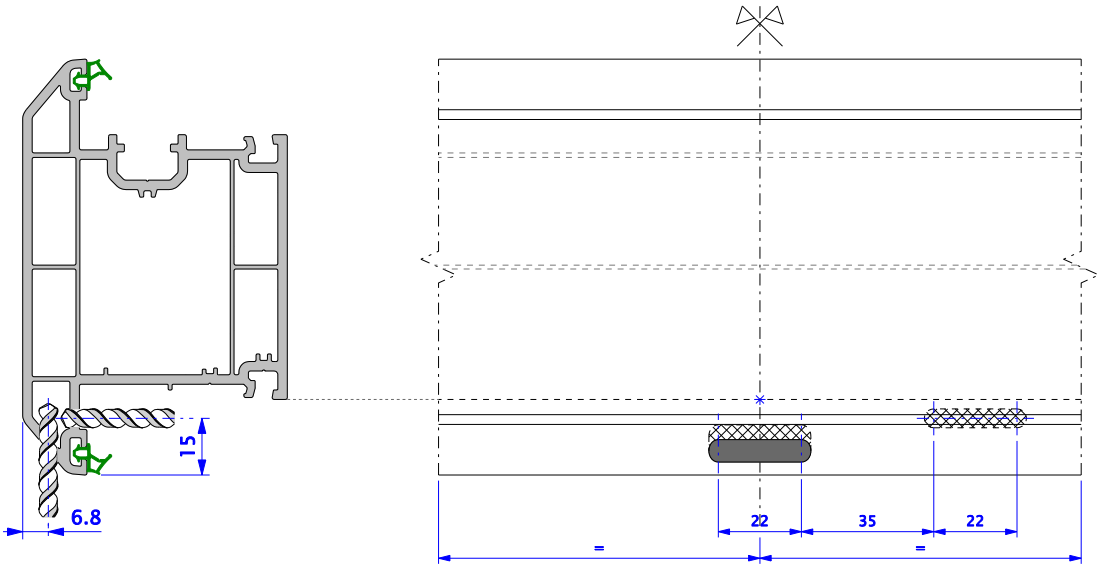


Decompression ø5 & (ø8) mm

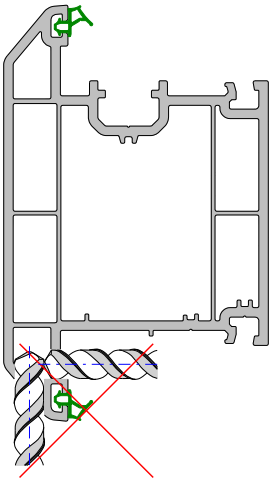
2531

DECOMPRESSION

decompression ø5mm

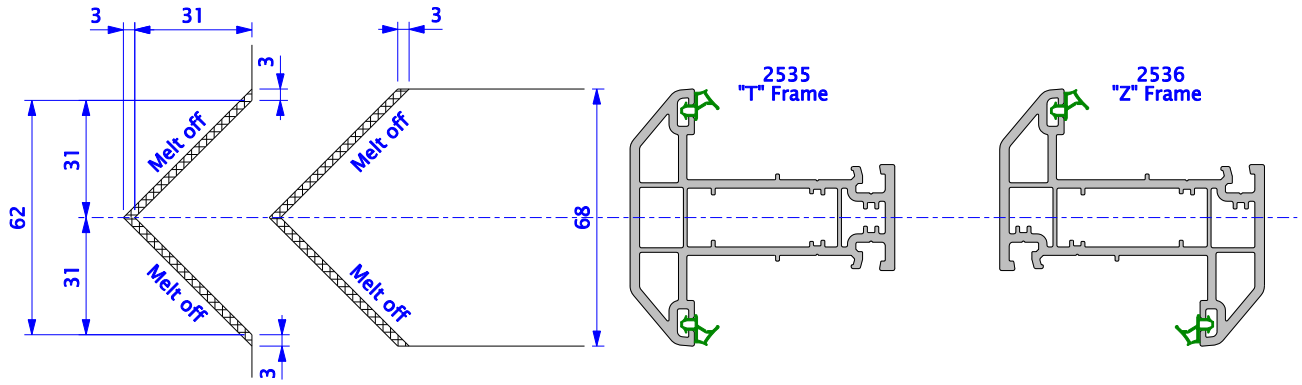


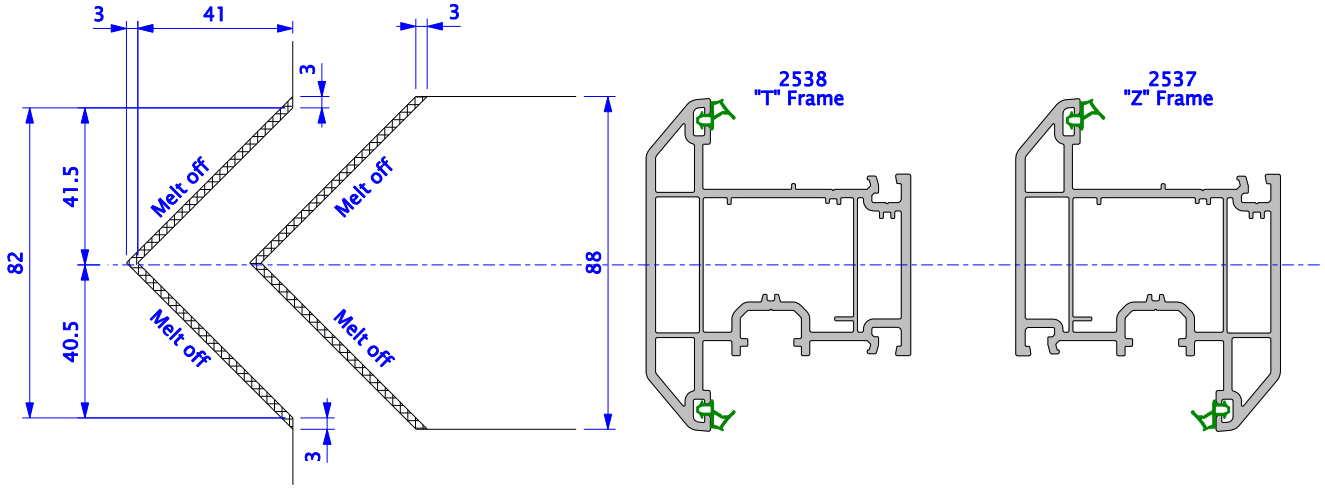
decompression ø8mm (NOT DONE)

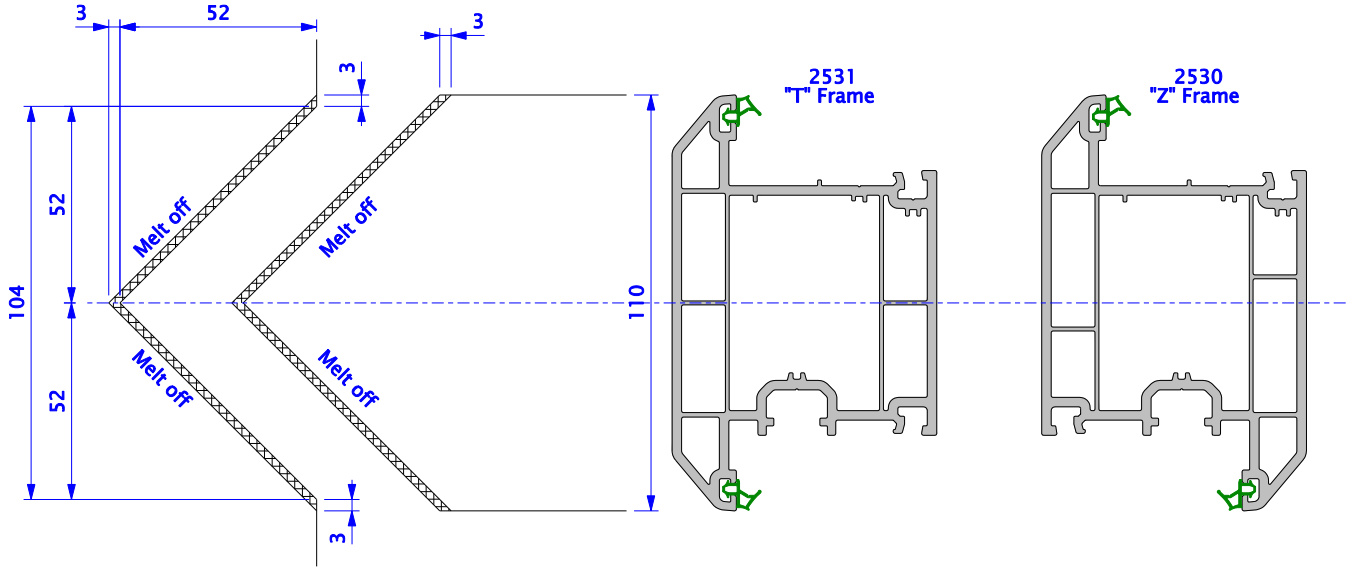


V-Notch

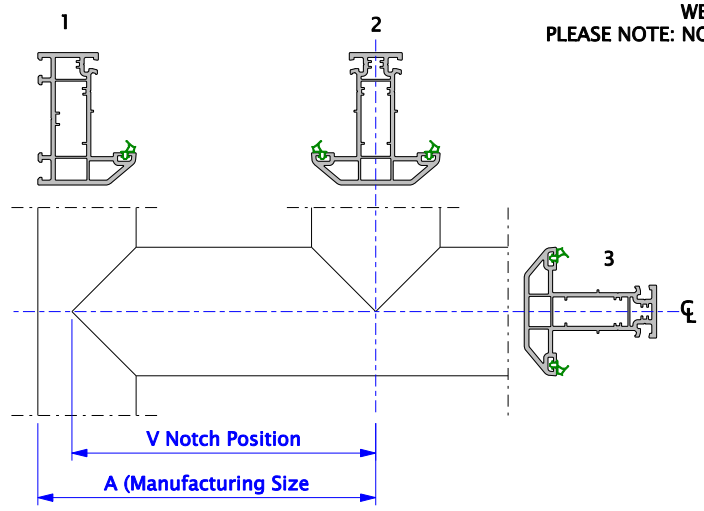
V-WELDING







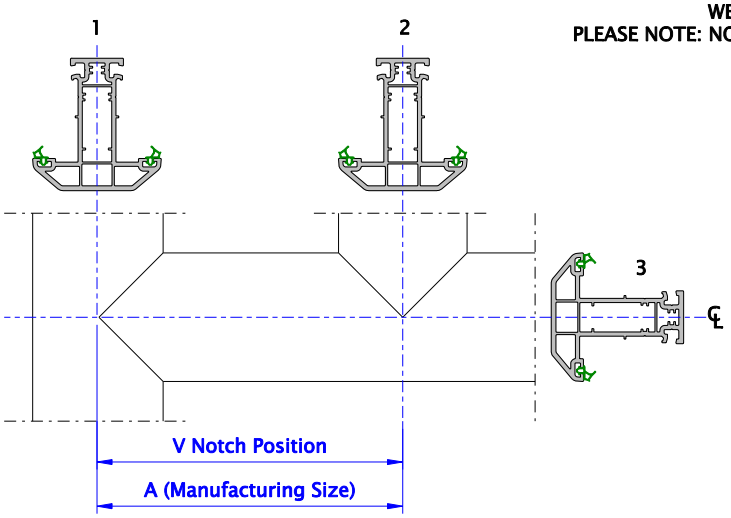
Outerframe to Centre of "V" Notch



WELDED TRANSOMS/MULLIONS
PLEASE NOTE: NO ALLOWANCE HAS BEEN MADE FOR WELD

Outerframe 1	Transom /Mullion 2	Transom /Mullion 3	V Notch position
2532	2535/ 2536	2535/ 2536	A-18
2533	2535/ 2536	2535/ 2536	A-36
	2537/ 2538	2537/ 2538	A-26
		2530/ 2531	A-15
	2530/ 2531	2537/ 2538	A-26
		2530/ 2531	A-15

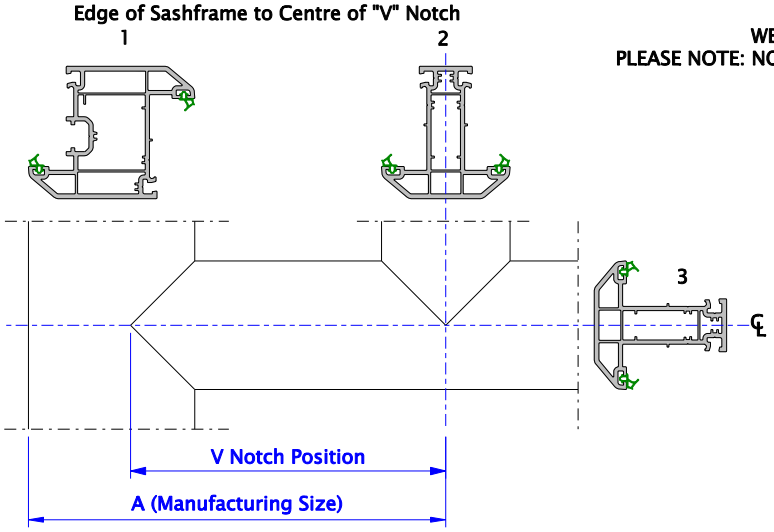
Centre of Transom-Mullion to Centre of "V" Notch



WELDED TRANSOMS/MULLIONS
PLEASE NOTE: NO ALLOWANCE HAS BEEN MADE FOR WELD

Transom /Mullion 1	Transom /Mullion 2	Transom /Mullion 3	V Notch position
2535/ 2536	2535/ 2536	2535/ 2536	A
2537/ 2538	2535/ 2536	2535/ 2536	A-10
	2537/ 2538	2537/ 2538	A
	2530/ 2531	2530/ 2531	A+11
2530/ 2531	2535/ 2536	2535/ 2536	A-21
	2537/ 2538	2537/ 2538	A-11
	2530/ 2531	2530/ 2531	A

Edge of Sashframe to Centre of "V" Notch

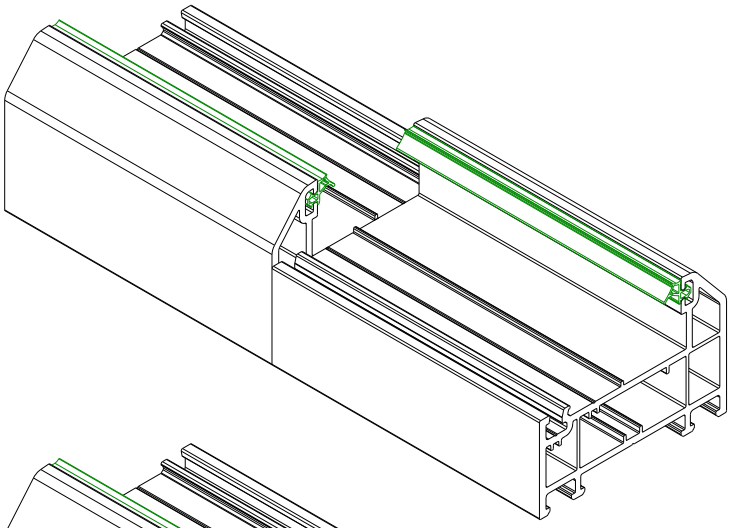


WELDED TRANSOMS/MULLIONS
PLEASE NOTE: NO ALLOWANCE HAS BEEN MADE FOR WELD

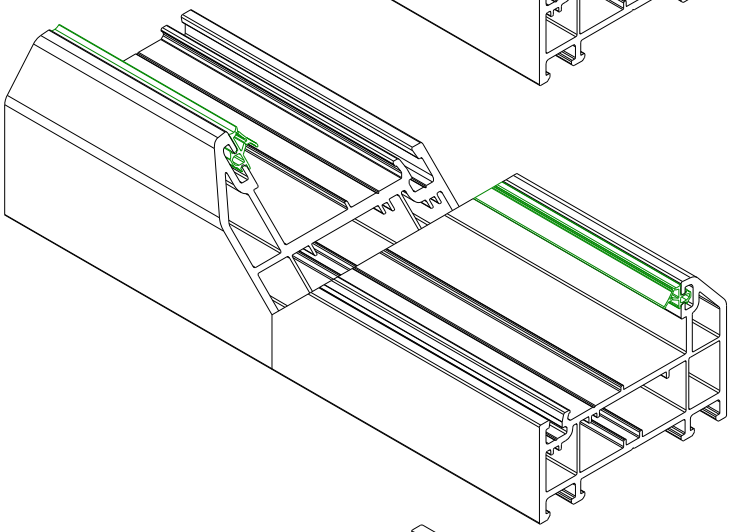
Sash Frame 1	Transom /Mullion 2	Transom /Mullion 3	V Notch position
2537/ 2538	2535/ 2536	2535/ 2536	A-54
	2537/ 2538	2537/ 2538	A-44
	2530/ 2531	2530/ 2531	A-33
2530/ 2531	2535/ 2536	2535/ 2536	A-76
	2537/ 2538	2537/ 2538	A-66
	2530/ 2531	2530/ 2531	A-55

V-WELDING

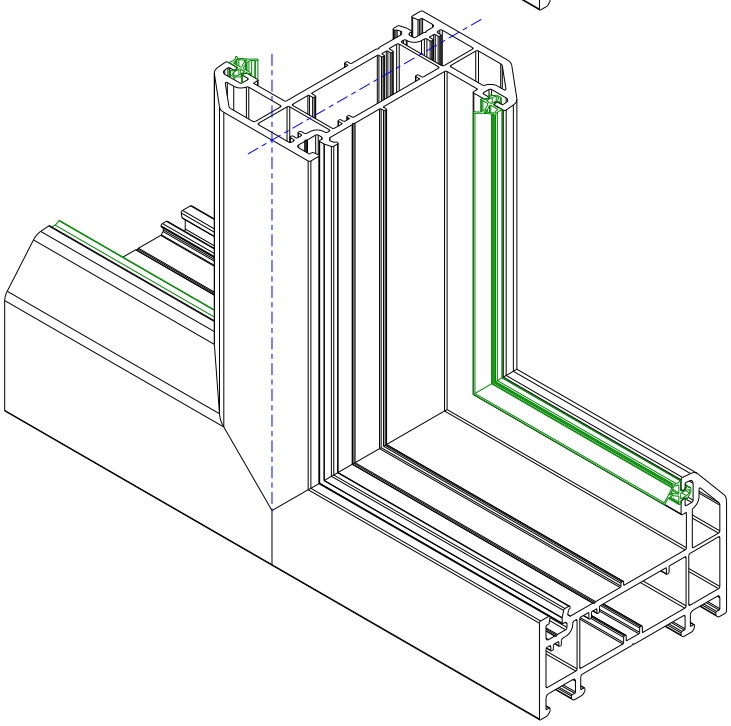
1. Reverse butt weld profiles as required. (example 2532)



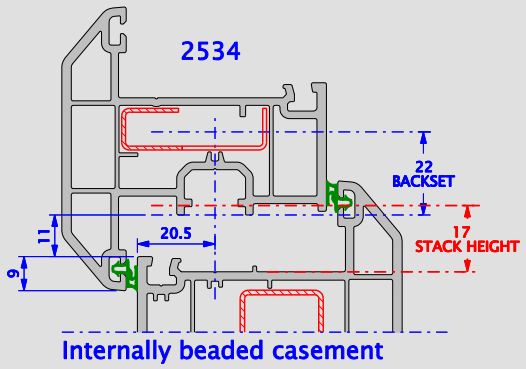
2. V-notch profiles as described on previous pages.



3. Weld-in reversible "Z" section as required (example 2536)

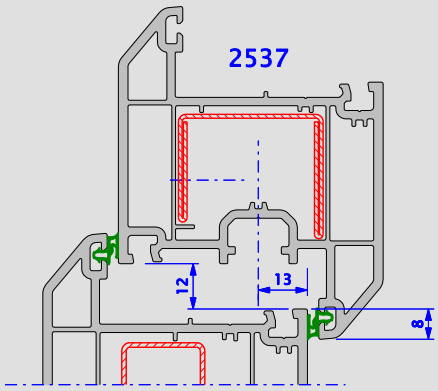


CASEMENT WINDOW



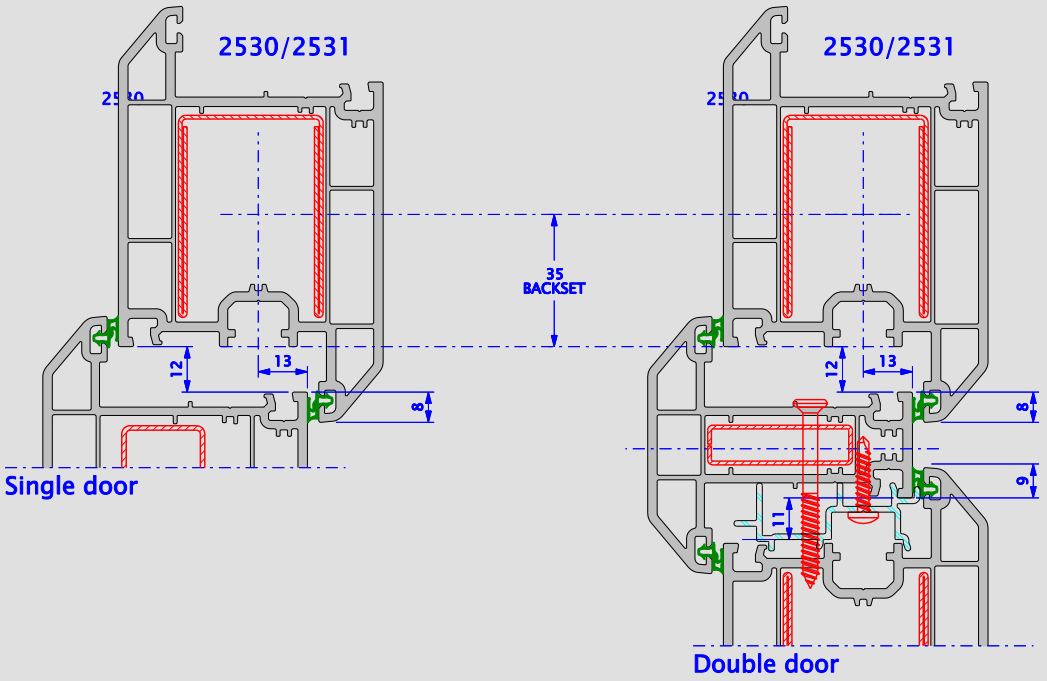
* 30mm Minimum Spindle Length

TILT & TURN

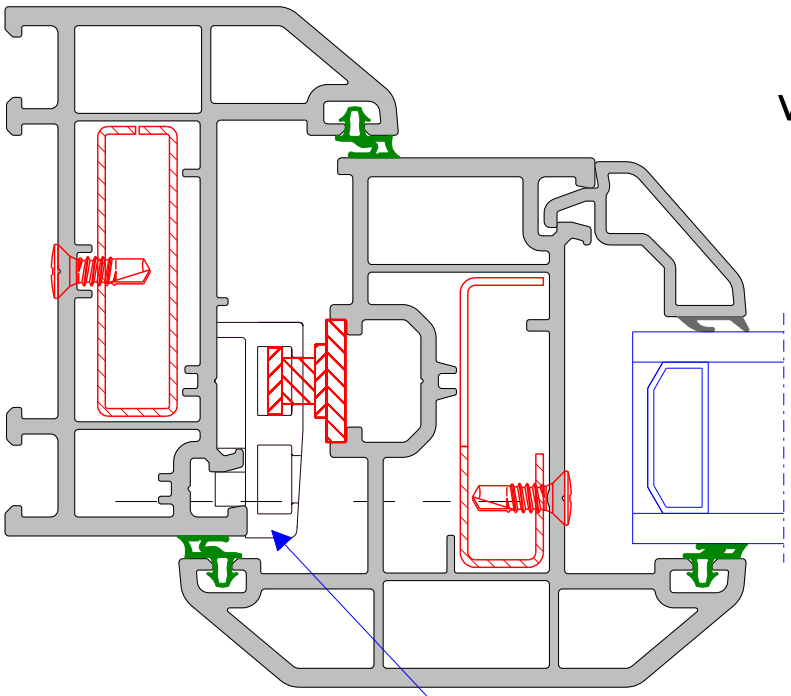


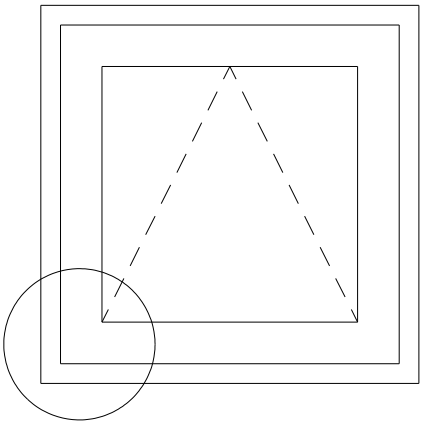
* 35mm Minimum Spindle Length

DOOR



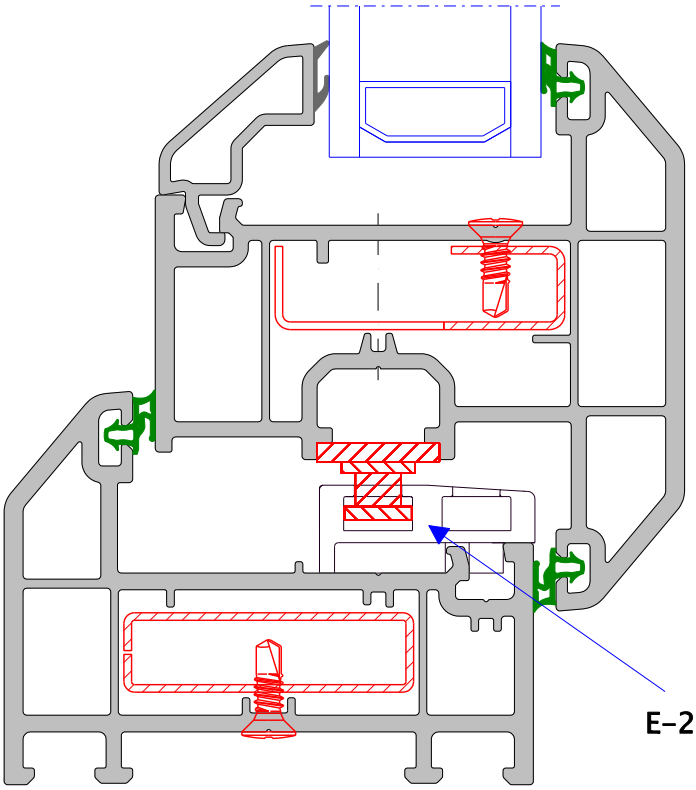
Vertical Section Through Corner

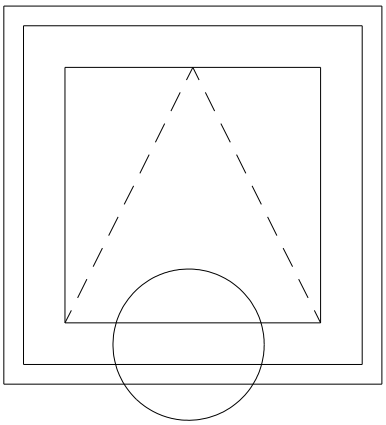




E-20591-11-0-3 (corner keep)

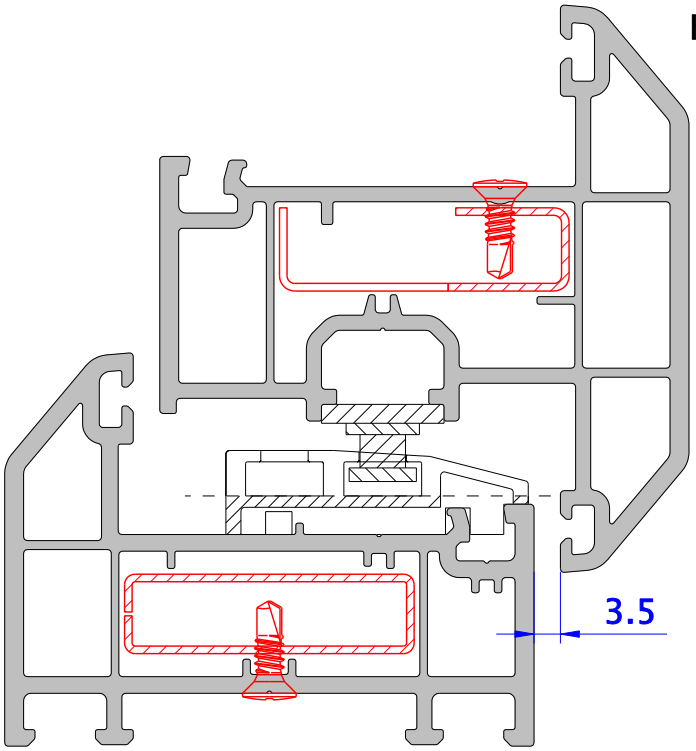
Horizontal Section Through Centre

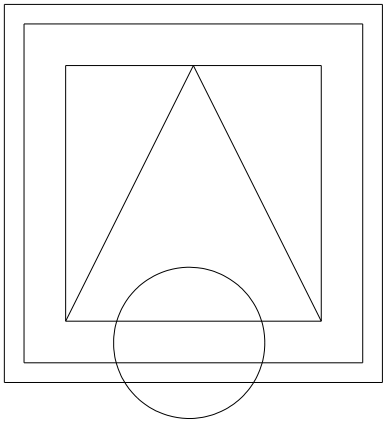


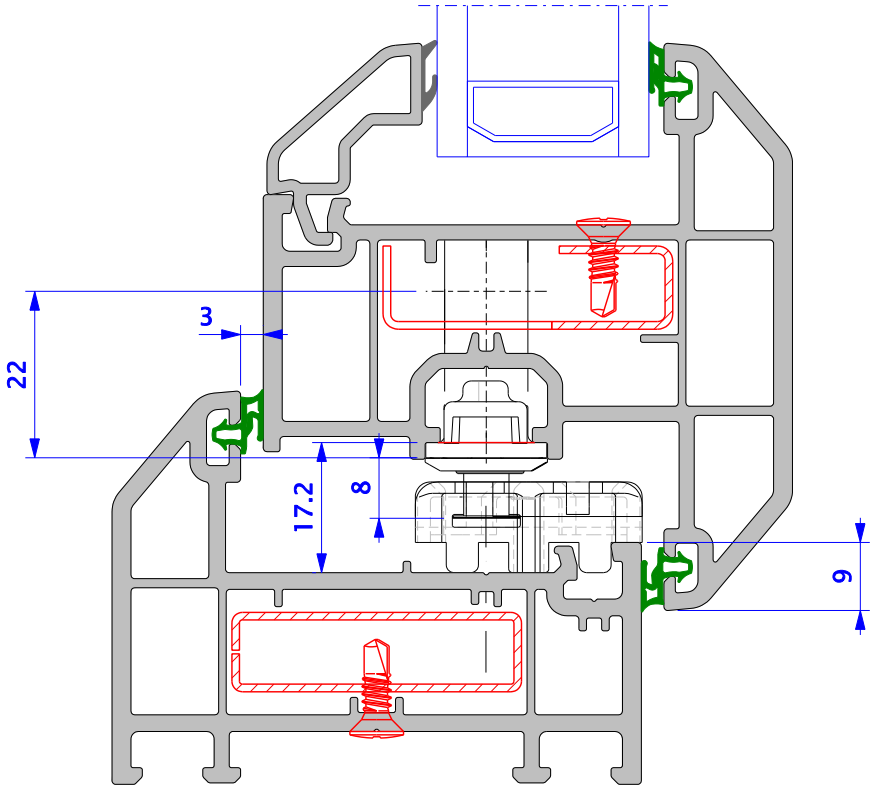


E-20590-11-0-3

Horizontal Section Through Centre







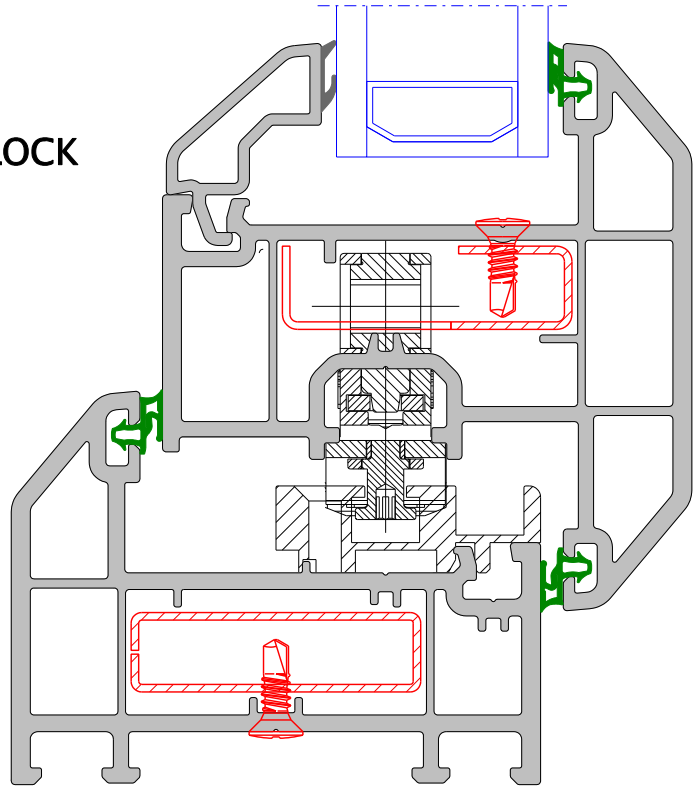
OUTER: 2532,2533.

SASH: 2534.

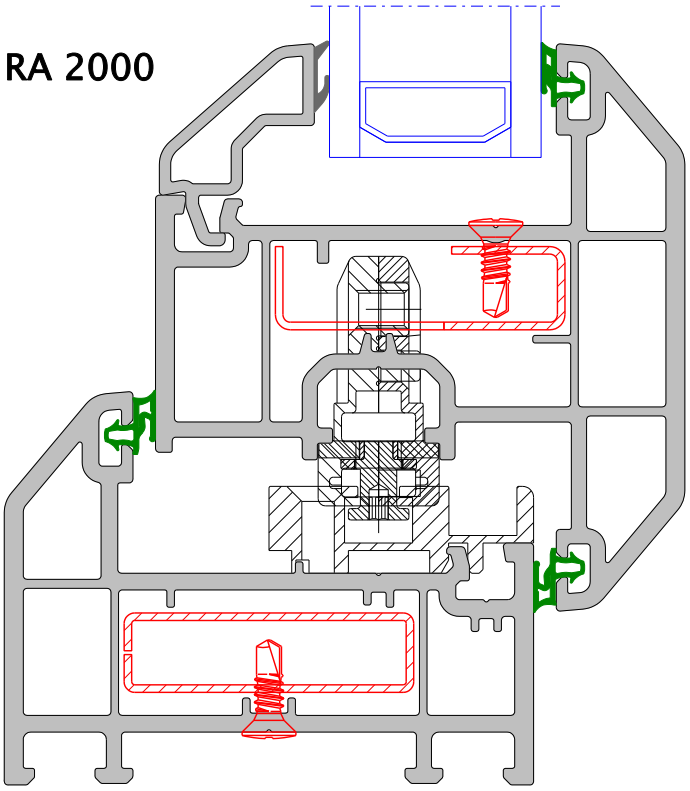
HARDWARE:

3 Series Mushroom Espags:	Pt. No. 030881-92	3 Series Mushroom Keeps:	Pt. No. M36-039257
Trinity Mushroom Espags:	Pt. No. 030881c-92c	Trinity Mushroom Keeps:	Pt. No. M36-039257
Evolution Duo Cam Espags:	Pt. No. 034463-72	Evo Duo Cam Mush. Keeps:	Pt. No. 034503
6 Series Mushroom Espags:	Pt. No. 033822-28	6 Series Mushroom Keeps:	Pt. No. N/A
7 Series Mushroom Espags:	Pt. No. 037332-42	7 Series Mushroom Keeps:	Pt. No. 038812
8 Series Shootbolt Espags:	037520 (Full)	8 Series Shootbolt Keeps:	Pt. No. 038836 & 07 Alt. No. 038811 & 12
Friction Stay Stack Height:	Pt. No. 17mm		
Handle Spindle Length:	Pt. No. 35mm		

TWIN-CAM SECURITY LOCK (TSL)



RA 2000



8mm Cam Height

Application Range (mm)	Faceplate length (mm)	Backset	Part Number
400 – 600	400	20mm	313 716
600 – 800	600	20mm	313 717
800 – 1000	800	20mm	313 718
1000 – 1200	1000	20mm	313 719
1200 – 1800	1200	20mm	313 720

Strikers

Compression	Machined 336 725

Left or Right extensions with 8mm High Adjustable Cams

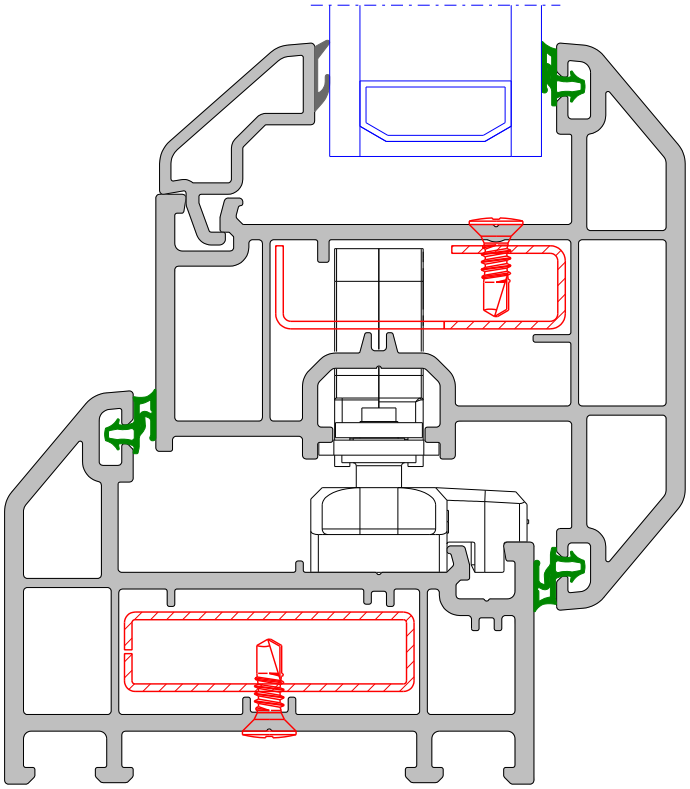
Application Range (mm)	Faceplate length (mm)	Cams	Part Number
280 – 460	160	0	204 902
461 – 860	360	1	204 993
861 – 1260	560	1	204 995
861 – 1260	560	2	204 997
1261 – 1660	760	2	204 999

Gearbox

Faceplate length (mm)	Backset	Part Number
140	20mm	294 449

Strikers

Compression	Machined 336 725
Shootbolt	Machined TBA

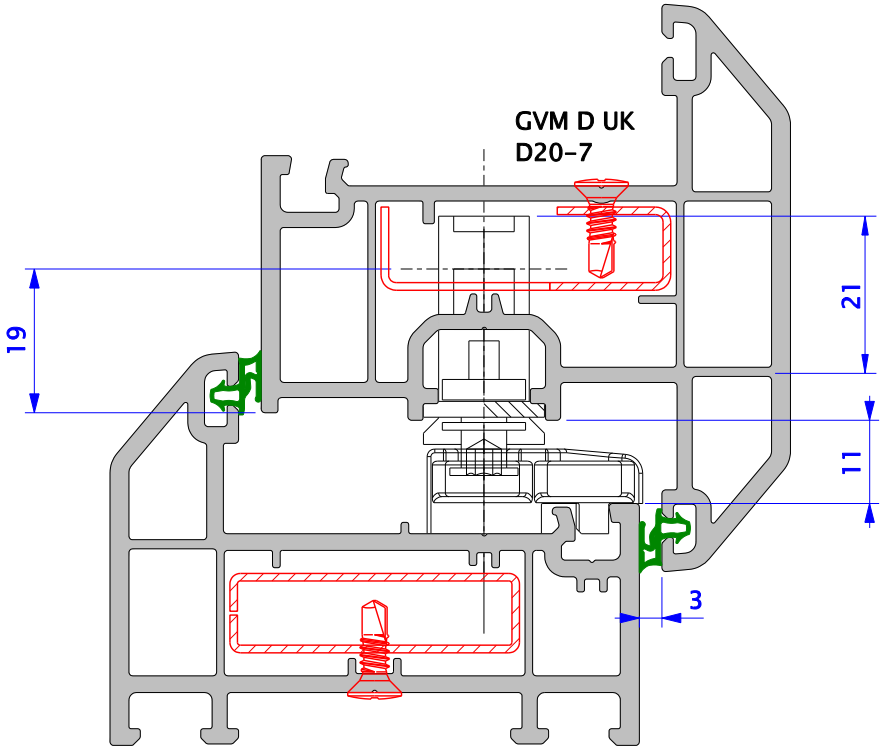


Bar Part Codes:	Sash Rebate:
HLG0350H	300 – 389mm
HLG0450H	390 – 519mm
HLG0590H	520 – 649mm
HLG0710H	650 – 779mm
HLG0850H	780 – 909mm
HLG0970H	910 – 1039mm
HLG1100H	1040 – 1169mm
HLG1250H	1170 – 1299mm
HLG1370	1300 – 1430mm

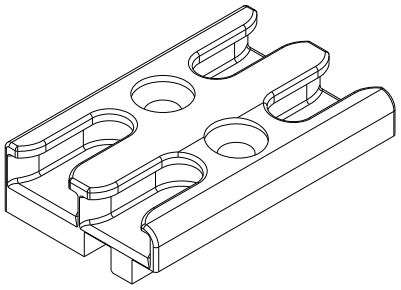
Offest Bars available on request

Housing Part Codes:
HL40 (LH)
HR40 (RH)

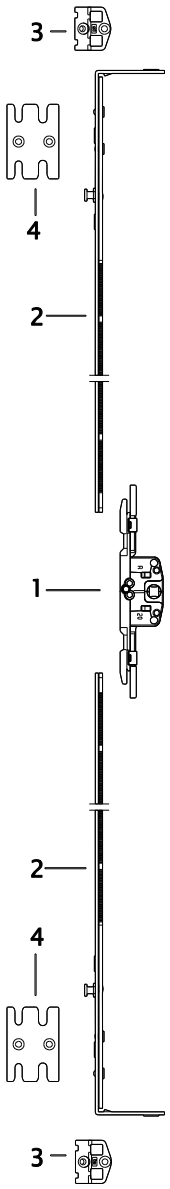
WINK HAUS



Section Through Deceuninck
2500 Casement Window
Showing Winkhaus
Espagnollete Arrangement



Deceuninck 2500 Double
Pocket Mushroom keep



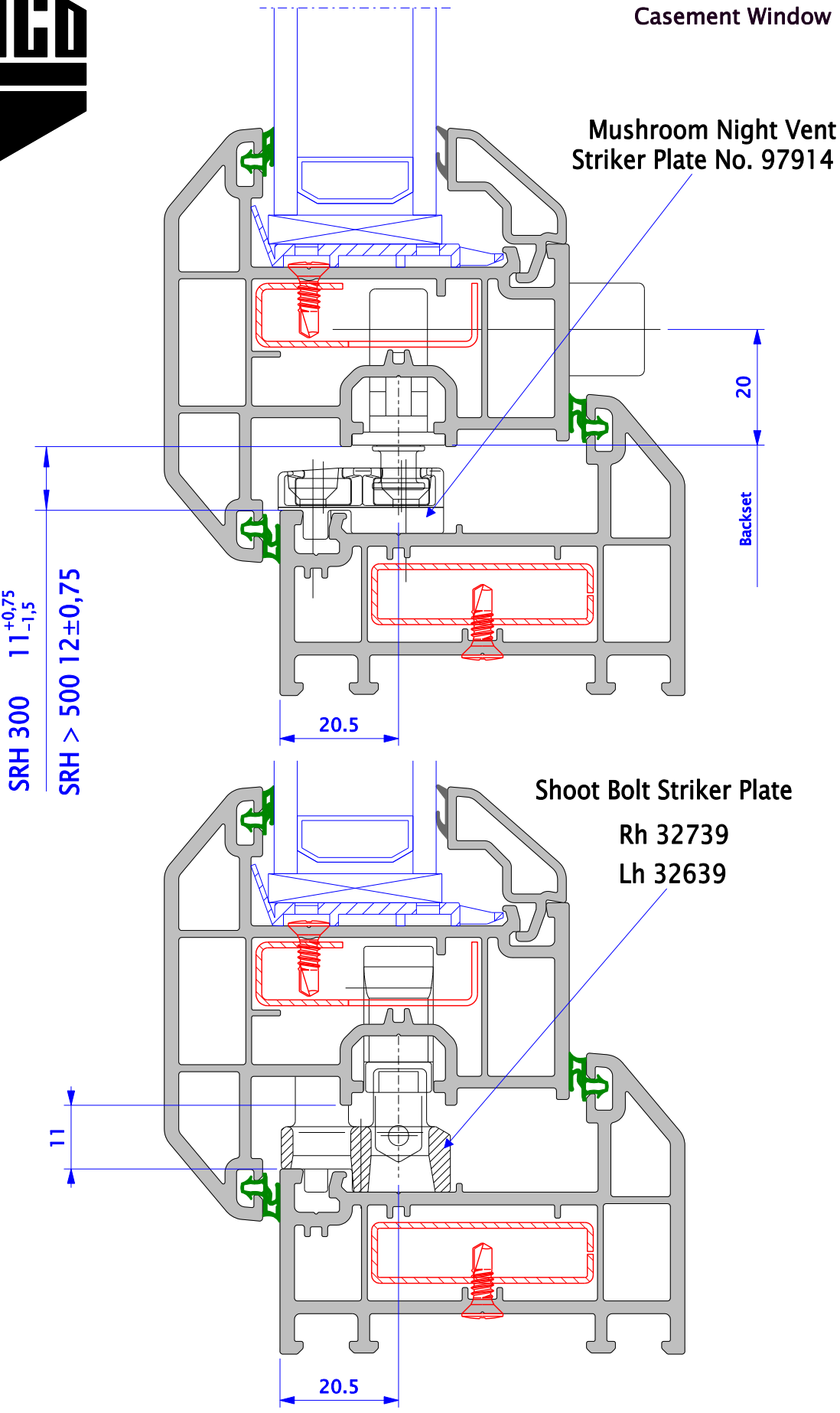
1 gear DG 20/gear DG 22
2 extension
3 striker ES – shootbolt
4 striker plate ES – mushroom

Note: For attaching the sash to the frame friction stays are required which meet the specifications of the profile system manufacturer.

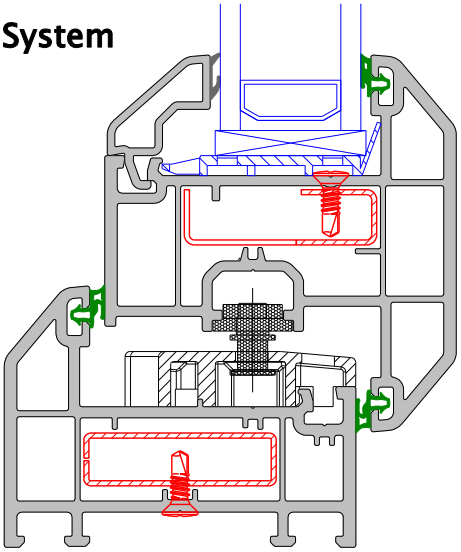
Pos.	Piece	Description				EAN 40 12453 yellow part	EAN 40 12453 box qty 20 pcs
1	1	gear DG 20	A0103	size 120 for backset 20 mm		245552	311479
		gear DG 22	A0103	size 120 for backset 22 mm		245569	281659
2	2	extension	A0103	*size FFH(in mm) handle height G(in mm)variable* *860 360 to 860 180 to 430* *1020 520 to 1020 260 to 510* *1360 860 to 1360 430 to 680* *1490 1360to 1490*	– 1 1 2	245521 260692 269312 269329	310816 311448 311455 311462
3	2	striker ES	A			229.1440.5076X61	
4	0...2	striker plate ES	A			203.2830.5062X61	

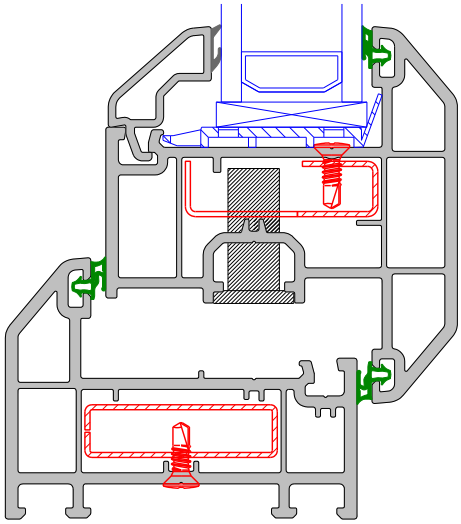
HARDWARE

Casement Window



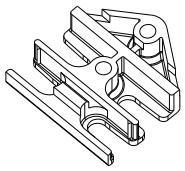
'Espagnolette' Locking System



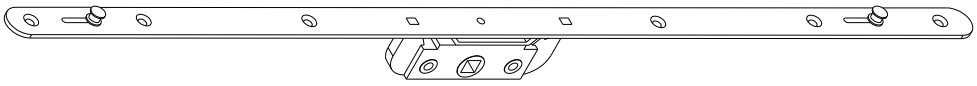


Sash No.	2534
Frame No.	2532/2533

Roller keeps RK082F



The contents of this parts list are A.K.S recommendations and we would suggest the user approve these prior to production



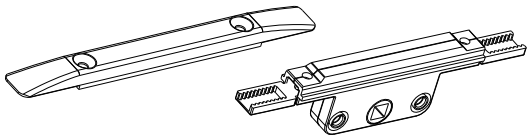
kit code				
20mm Backset	22mm Backset	Size	No. of cams	No. of fixings
KSES120020	KSES120022	1200	4	6
KSES100020	KSES100022	1000	3	6
KSES80020	KSES80022	800	2	6
KSES60020	KSES60022	600	2	4
KSES40020	KSES40022	400	2	4
KSES25020	KSES25022	250	2	2

KENRICK

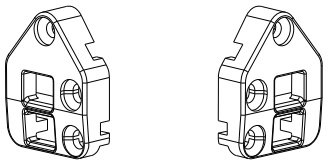
'Centurion' Locking System

Sash No. 2534
Frame No. 2532/2533

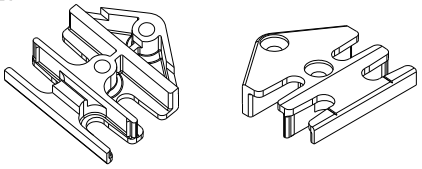
Gear box and cover plate
back Set 20mm – CLS20
back Set 20mm – CLS22



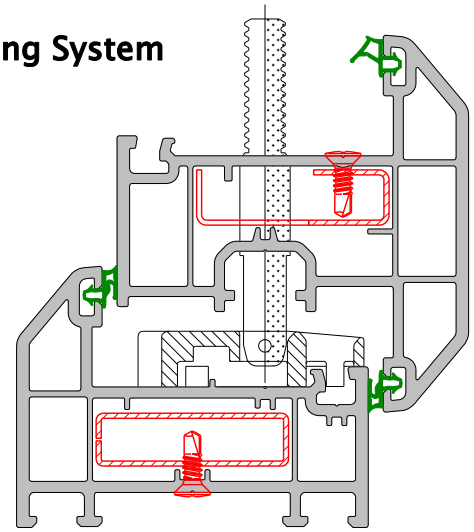
End Keeps. RLCO382LF & RLCO382RF

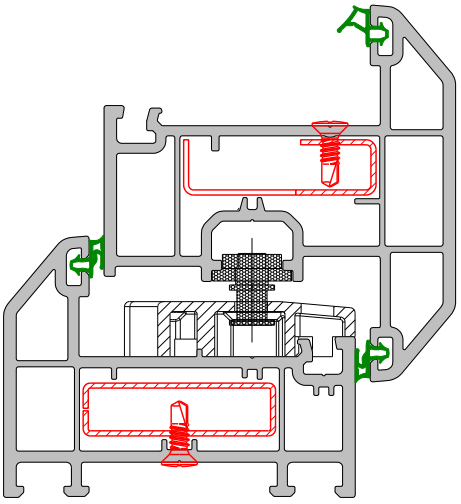


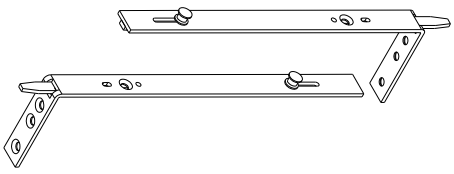
ROLLER KEEP
RK082F



The contents of this parts list are A.K.S recommendations and we would suggest the user approve these prior to production





Locking Bars		
	Sash Rebate mm	Part Number
	240–370	CLS240370
	370–620	CLS370620
	620–890	CLS620890
	890–1155	CLS8901155
	1155–1400	CLS11551400

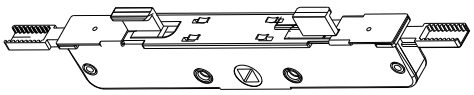
Kit code for gearbox, cover plate and keep set	
20mm Backset	CLS – C39
22mm Backset	CLS – C40

KENRICK

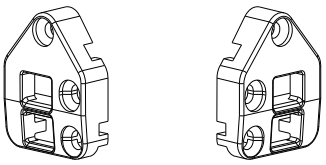
'Excalibur' Locking System

Sash No. 2534
Frame No. 2532/2533

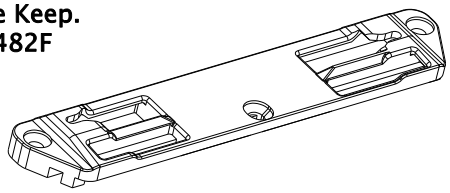
Gear Box
back Set 20mm – EXC0020
back Set 20mm – EXC0022



End Keeps. RLCO382LF & RLCO382RF



Centre Keep.
RLCO482F



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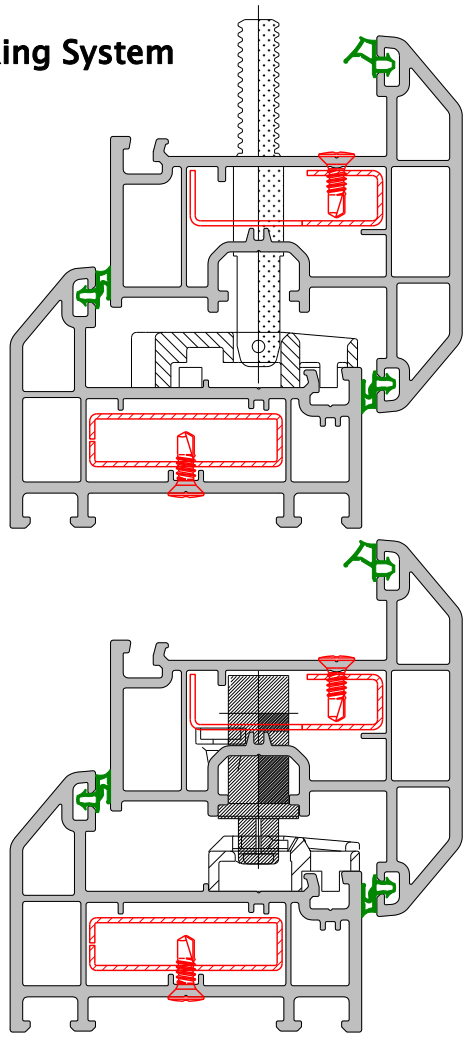
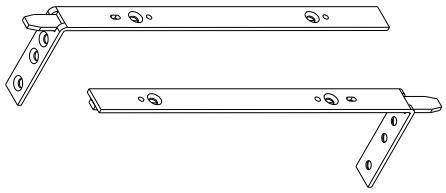
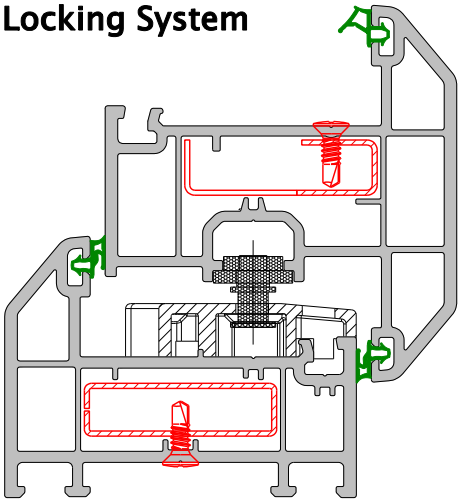


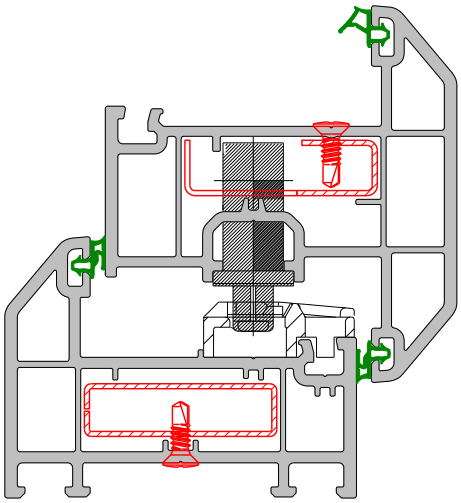
'Excalibur' Locking Bars		
	Sash Rebate mm	Part Number
	240–370	EXCB9610
	300–440	EXC300440
	430–700	EXC430700
	690–950	EXC690950
	950–1210	EXC9501210
	1210–1470	EXC12101470

kit code for gearbox and keep set	
20mm Backset	EXC93F
22mm Backset	EXC94F

KENRICK

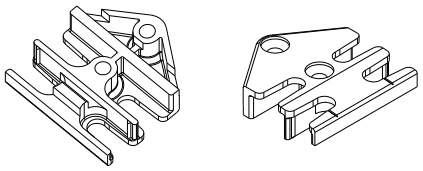
'Excalibur Easifit' Locking System



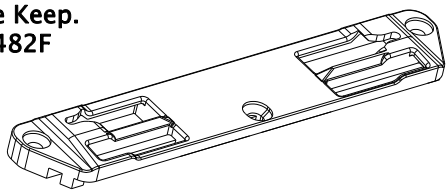


Sash No. 2534
Frame No. 2532/2533

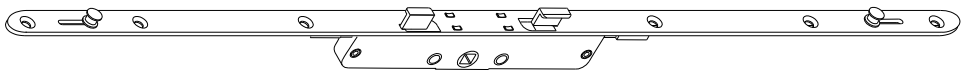
Roller keeps RK082F



Centre Keep.
RLCO482F

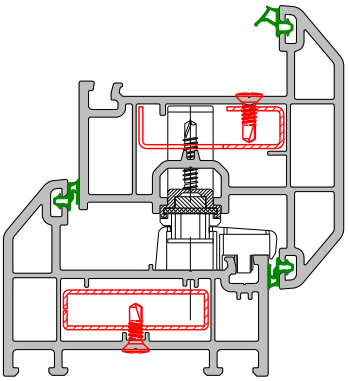


The contents of this parts list are A.K.S recommendations and we would suggest the user approve these prior to production



'Excalibur Easifit' Gearbox kit code				
20mm Backset	22mm Backset	Size	No. of cams	No. of fixings
KSEF120020	KSEF120022	1200	4	6
KSEF100020	KSEF100022	1000	2	6
KSEF80020	KSEF80022	800	2	6
KSEF60020	KSEF60022	600	2	4
KSEF40020	KSEF40022	400	2	2

Trojan Hardware



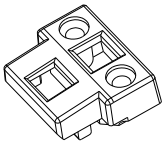
TRO-0300-1078 SS/ 01

TRO-0300-1078 SS/ 01

SASH REBATE
MIN MAX
300mm 400mm

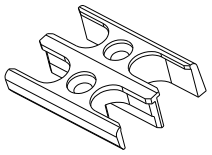
(Assy) TRO/400 SS/01
0300-285 (End Keep 2off)
0300-150 (Serrated clamp 2off)

0300-150



0300-285

0300-014



0300-288

TRO-0300-1078 SS/FL 82

TRO-0300-1078 SS/AC 82

SASH REBATE
MIN MAX
400mm 555mm

(Assy) TRO/400 SS/82
0300-285 (End Keep 2off)
0300-288 (Centre Keep 2off)
0300-150 (Serrated clamp 2off)

TRO-0300-1078 SS/FL 83

TRO-0300-1078 SS/AC 83

SASH REBATE
MIN MAX
550mm 760mm

(Assy) TRO/400 SS/83
0300-285 (End Keep 2off)
0300-288 (Centre Keep 2off)
0300-150 (Serrated clamp 2off)

TRO-0300-1078 SS/FL 84

TRO-0300-1078 SS/AC 84

SASH REBATE
MIN MAX
750mm 1020mm

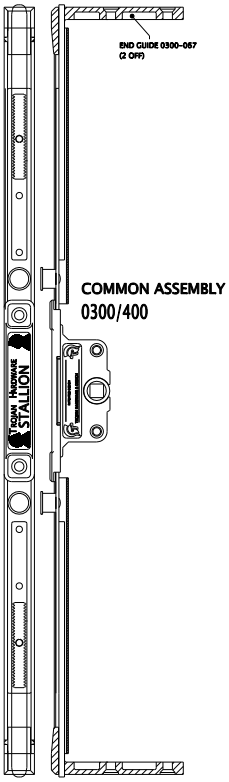
(Assy) TRO/400 SS/84
0300-285 (End Keep 2off)
0300-288 (Centre Keep 2off)
0300-150 (Serrated clamp 2off)
0300-014 (Guide Plate 2off)

TRO-0300-1078 SS/FL 85

TRO-0300-1078 SS/AC 85

SASH REBATE
MIN MAX
1000mm 1300mm

(Assy) TRO/400 SS/85
0300-285 (End Keep 2off)
0300-288 (Centre Keep 2off)
0300-150 (Serrated clamp 2off)
0300-014 (Guide Plate 2off)



deceuninck

LAIRD
SECURITY HARDWARE

ASSEMBLY DETAILS

PROFILE TO BE ROUTED TO ACCEPT GEARBOX AND DRILLED TO ACCEPT HANDLE FIXINGS & SPINDLE.

PLACE GEARBOX IN ROUTED SLOT AND SECURE HANDLE IN OPEN POSITION.

TAKE 2 BARS, INSERT EACH BAR INTO THE EURO-GROOVE AND CUT TO LENGTH WITH THE AID OF THE TOP OF CHAMFER LINE ON THE C/ PLATE.

ROTATING THE HANDLE TO THE CLOSE POSITION EXTENDS THE DRIVE COUPLINGS ON THE GEAR-BOX.

ATTACH BARS ONE TOOTH IN FROM THE MAXIMUM ENGAGEMENT TO COUPLINGS AND ROTATE HANDLE TO THE OPEN POSITION, BARS ARE THEREBY HELD IN POSITION BY THE FACEPLATE.

PRESS BARS DOWN TO ENGAGE THE GROOVE CLAWS ON THE BARS AND SECURE WITH A FIXING SCREW.

ROTATE HANDLE TO CLOSE POSITION TO BREAK PLASTIC RETAINING PINS IN BARS.

LOCATE HANDED KEEPS INTO CORNER OF OUTER FRAME.

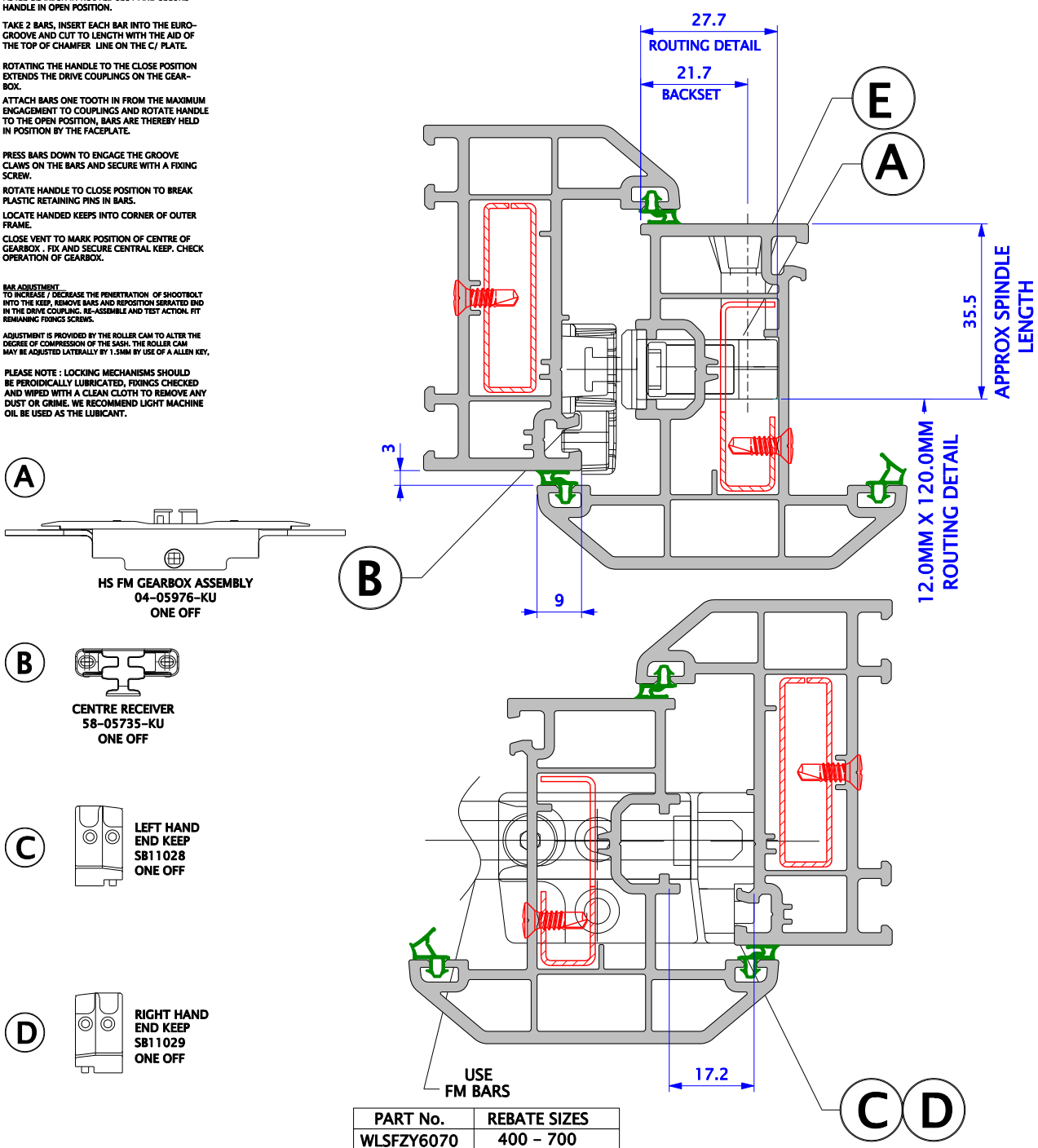
CLOSE VENT TO MARK POSITION OF CENTRE OF GEARBOX . FIX AND SECURE CENTRAL KEEP. CHECK OPERATION OF GEARBOX.

BAR ADJUSTMENT
TO INCREASE / DECREASE THE PENERTRATION OF SHOOTBOLT INTO THE KEEP, REMOVE BARS AND REPOSITION SERRATED END IN THE DRIVE COUPLING. RE-ASSEMBLE AND TEST ACTION. FIT REMIANING FIXINGS SCREWS.

ADJUSTMENT IS PROVIDED BY THE ROLLER CAM TO ALTER THE DEGREE OF COMPRESSION OF THE SASH. THE ROLLER CAM MAY BE ADJUSTED LATERALLY BY 1.5MM BY USE OF A ALLEN KEY,

PLEASE NOTE : LOCKING MECHANISMS SHOULD BE PERIODICALLY LUBRICATED, FIXINGS CHECKED AND WIPED WITH A CLEAN CLOTH TO REMOVE ANY DUST OR GRIME. WE RECOMMEND LIGHT MACHINE OIL BE USED AS THE LUBICANT.

SARACEN HS (HIGH SECURITY) SHOOTBOLT SYSTEM



A

HS FM GEARBOX ASSEMBLY
04-05976-KU
ONE OFF

B

CENTRE RECEIVER
58-05735-KU
ONE OFF

C

LEFT HAND
END KEEP
SB11028
ONE OFF

D

RIGHT HAND
END KEEP
SB11029
ONE OFF

E

CAVITY INSERT
CO10492/175
TWO OFF

PART No.	REBATE SIZES
WLSFZY6070	400 – 700
WLSFZY6071	660 – 960
WLSFZY6072	920 – 1220
WLSFZY6073	1180 – 1480
WLSFZY6074	1140 – 1740

(PLEASE NOTE: Z & Y BARS)

LAIRD SECURITY HARDWARE

ASSEMBLY DETAILS

PROFILE TO BE ROUTED TO ACCEPT GEARBOX AND DRILLED TO ACCEPT HANDLE FIXINGS & SPINDLE.

PLACE GEARBOX IN ROUTED SLOT AND SECURE HANDLE IN OPEN POSITION.

TAKE 2 BARS, INSERT EACH BAR INTO THE EURO-GROOVE AND CUT TO LENGTH WITH THE AID OF THE TOP OF CHAMFER LINE ON THE C/ PLATE.

ROTATING THE HANDLE TO THE CLOSE POSITION EXTENDS THE DRIVE COUPLINGS ON THE GEAR-BOX.

ATTACH BARS ONE TOOTH IN FROM THE MAXIMUM ENGAGEMENT TO COUPLINGS AND ROTATE HANDLE TO THE OPEN POSITION, BARS ARE THEREBY HELD IN POSITION BY THE FACEPLATE.

PRESS BARS DOWN TO ENGAGE THE GROOVE CLAWS ON THE BARS AND SECURE WITH A FIXING SCREW.

ROTATE HANDLE TO CLOSE POSITION TO BREAK PLASTIC RETAINING PINS IN BARS.

LOCATE HANDED KEEPS INTO CORNER OF OUTER FRAME.

CLOSE VENT TO MARK POSITION OF CENTRE OF GEARBOX . FIX AND SECURE CENTRAL KEEP. CHECK OPERATION OF GEARBOX.

BAR ADJUSTMENT

TO INCREASE / DECREASE THE PENERTRATION OF SHOOTBOLT INTO THE KEEP, REMOVE BARS AND REPOSITION SERRATED END IN THE DRIVE COUPLING. RE-ASSEMBLE AND TEST ACTION. FIT REMIANING FIXINGS SCREWS.

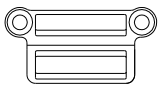
ADJUSTMENT IS PROVIDED BY THE ROLLER CAM TO ALTER THE DEGREE OF COMPRESSION OF THE SASH. THE ROLLER CAM MAY BE ADJUSTED LATERALLY BY 1.5MM BY USE OF A ALLEN KEY,

PLEASE NOTE : LOCKING MECHANISMS SHOULD BE PEROIDICALLY LUBRICATED, FIXINGS CHECKED AND WIPED WITH A CLEAN CLOTH TO REMOVE ANY DUST OR GRIME. WE RECOMMEND LIGHT MACHINE OIL BE USED AS THE LUBICANT.

A

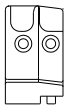
HS FM GEARBOX ASSEMBLY
SB11105/115
ONE OFF

B



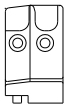
CENTRE RECEIVER
SB11270
ONE OFF

C



LEFT HAND
END KEEP
SB11028
ONE OFF

D

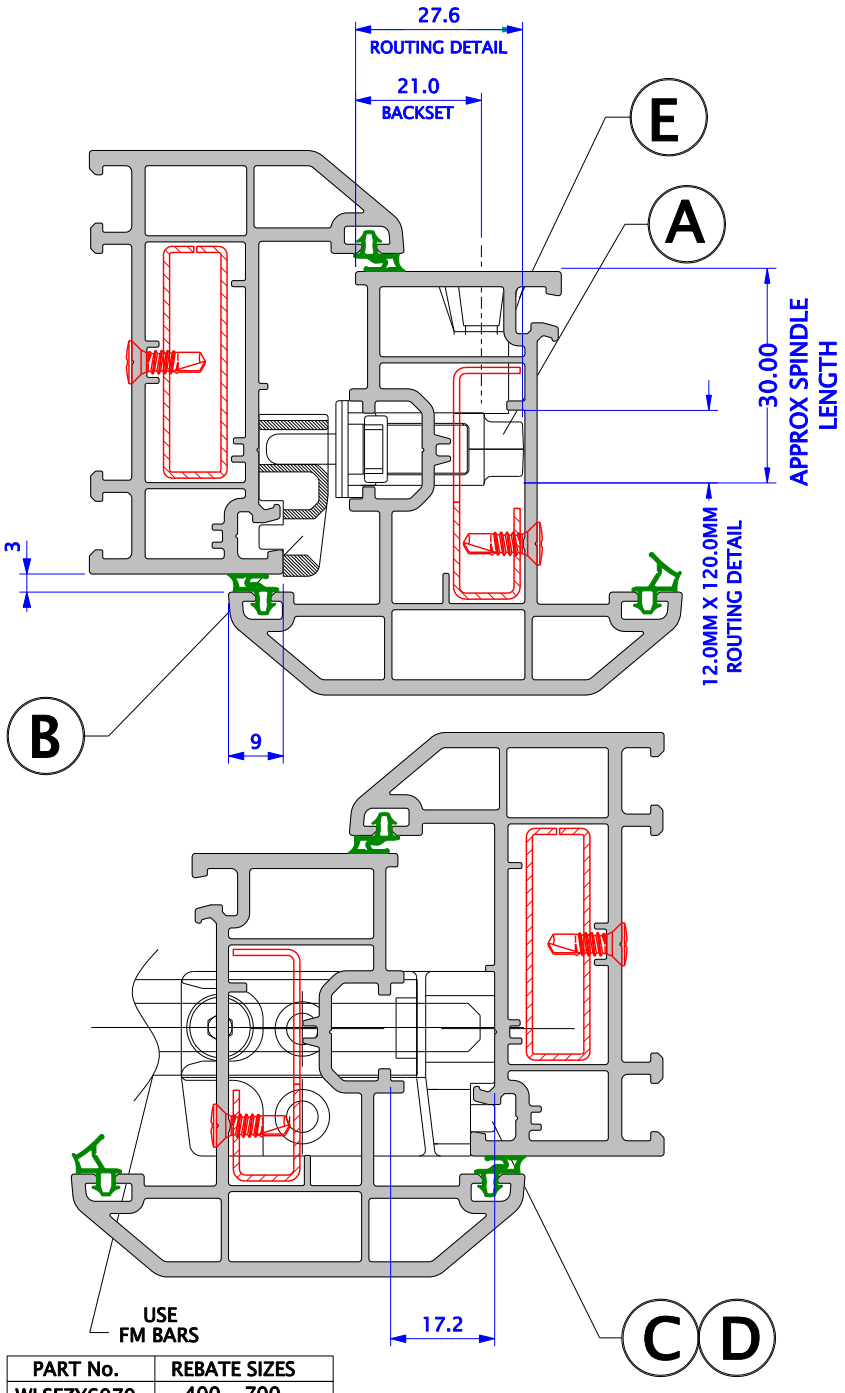


RIGHT HAND
END KEEP
SB11029
ONE OFF

E

CAVITY INSERT
CO10492/175
TWO OFF

SARACEN 'VALIANT' SHOOTBOLT SYSTEM



PART No.	REBATE SIZES
WLSFZY6070	400 – 700
WLSFZY6071	660 – 960
WLSFZY6072	920 – 1220
WLSFZY6073	1180 – 1480
WLSFZY6074	1140 – 1740

(PLEASE NOTE: Z & Y BARS)

LAIRD SECURITY HARDWARE

SARACEN DEAD-LATCH SHOOTBOLT SYSTEM

ASSEMBLY DETAILS

PROFILE TO BE ROUTED TO ACCEPT GEARBOX AND DRILLED TO ACCEPT HANDLE FIXINGS & (REFER TO DRAWING)

PLACE GEARBOX IN ROUTED SLOT AND SECURE

(INSERT HANDLE WITH CORRECT SPINDLE LENGTH).

LOCATE ROD COUPLING INTO GEARBOX ROD APPERTURE, TURN CLOCKWISE UNTIL COUPLING

FIT SHOOTBOLT AND GUIDES TO SASH ENDS (REMOVE GUIDES AND ADJUST ROD TO SHOW PROVISIONAL SETTING MARK AND REPLACE END

FIT END KEEPS – TO MARK KEEP POSITION – PUT HANDLE IN LOCK POSITION, CLOSE SASH ONTO OUTER FRAME, MARK POSTION OF RODS ONTO FRAME AND MARK CENTRE LATCH.

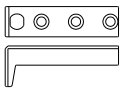
CLOSE VENT TO MARK POSITION OF CENTRE OF GEARBOX . FIX AND SECURE CENTRAL KEEP. CHECK

PLEASE NOTE : LOCKING MECHANISMS SHOULD BE PEROIDICALLY LUBRICATED, FIXINGS CHECKED AND WIPED WITH A CLEAN CLOTH TO REMOVE ANY DUST OR GRIME. WE RECOMMEND LIGHT MACHINE OIL BE USED AS THE LUBICANT.

A SARACEN DEADLATCH
SB10393/115
ONE OFF

B CENTRE RECEIVER
SB10381
ONE OFF

C END KEEP
SB10380
TWO OFF

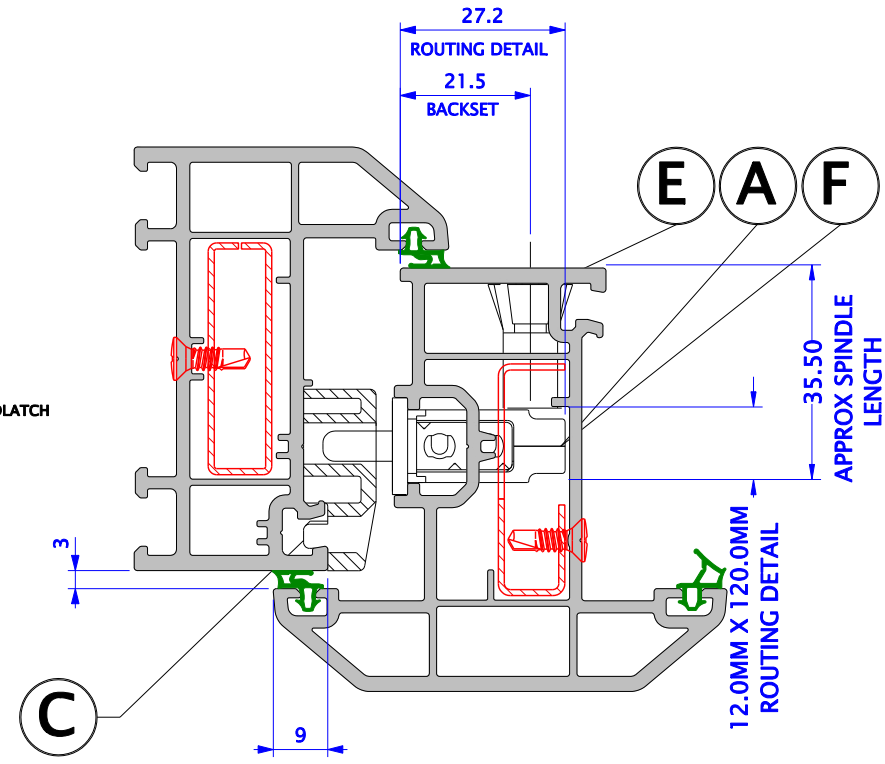


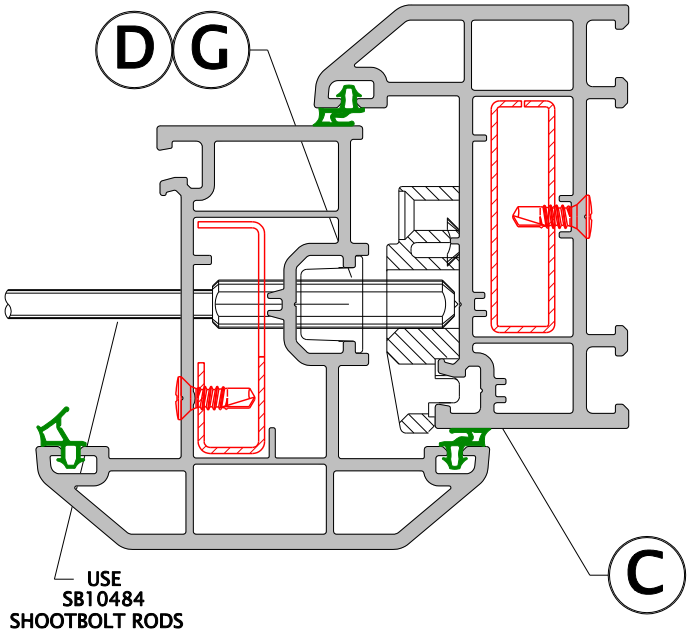
D END GUIDES
SB10370
TWO OFF

E COVER CAPS
SB10289/01
TWO OFF

F CAVITY INSERT
CO10492/210
TWO OFF

G EURO GROOVE COVER TRIM
AVAILABLE FROM DECEUNINCK P2270
03 WHITE
08 BROWN
61 TAN

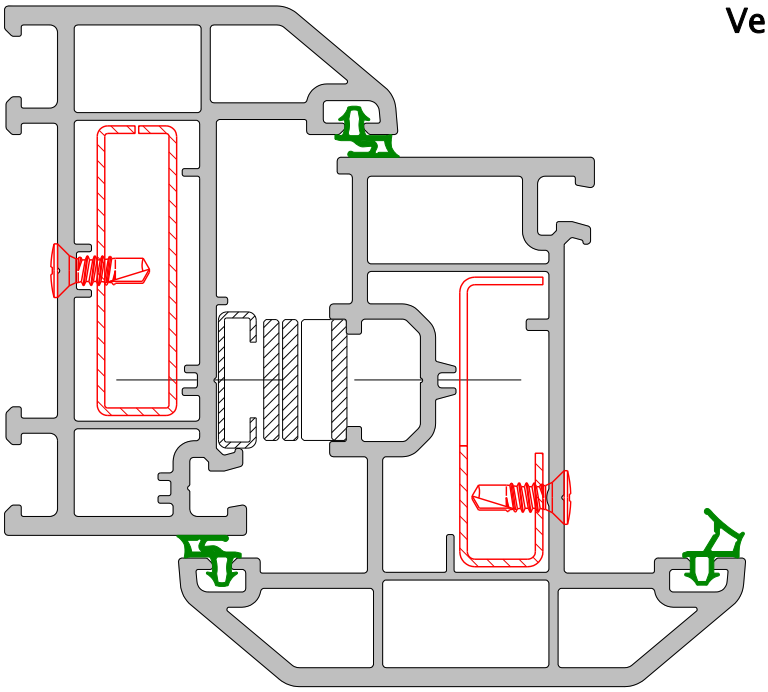




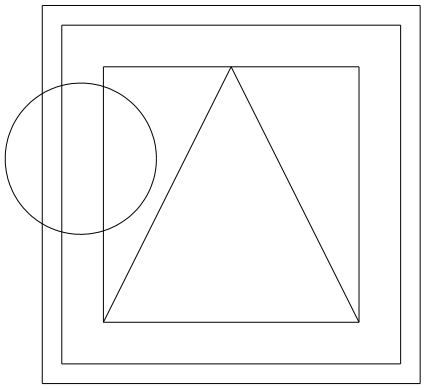
USE
SB10484
SHOOTBOLT RODS

NOTE: A EUROGROOVE COVER TRIM MUST BE USED TO COMPLY WITH THE SARCEN SECURITY GUARANTEE

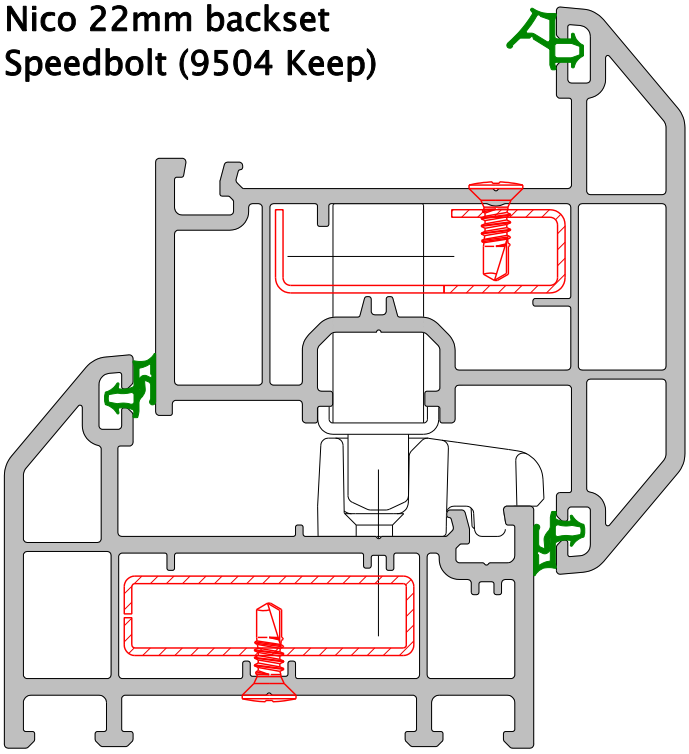
Nico Friction Hinge



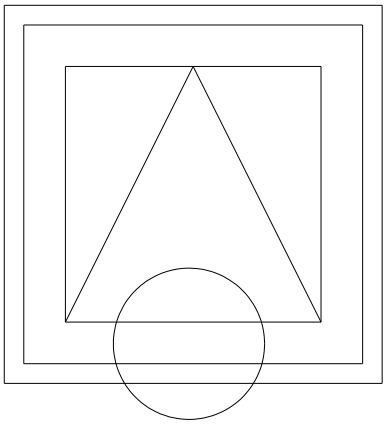
Vertical Section Through Corner



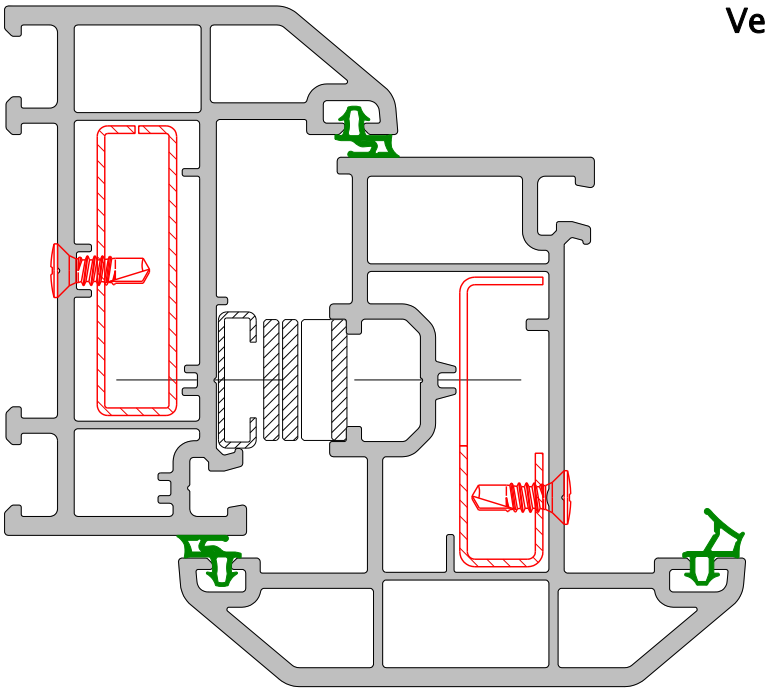
Nico 22mm backset Speedbolt (9504 Keep)



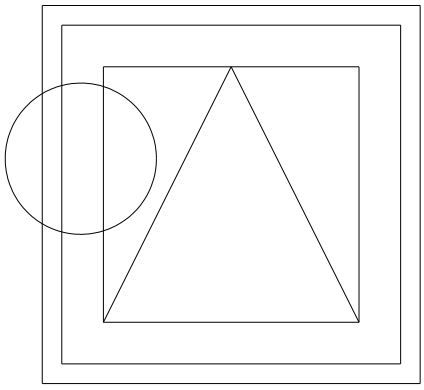
Horizontal Section Through Centre



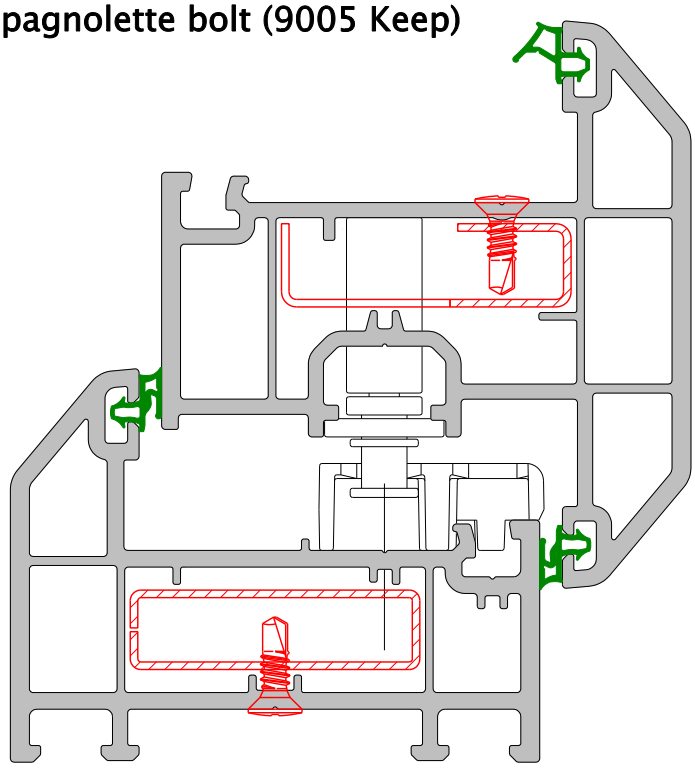
Nico Friction Hinge



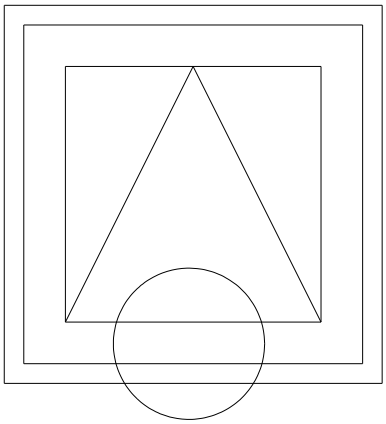
Vertical Section Through Corner



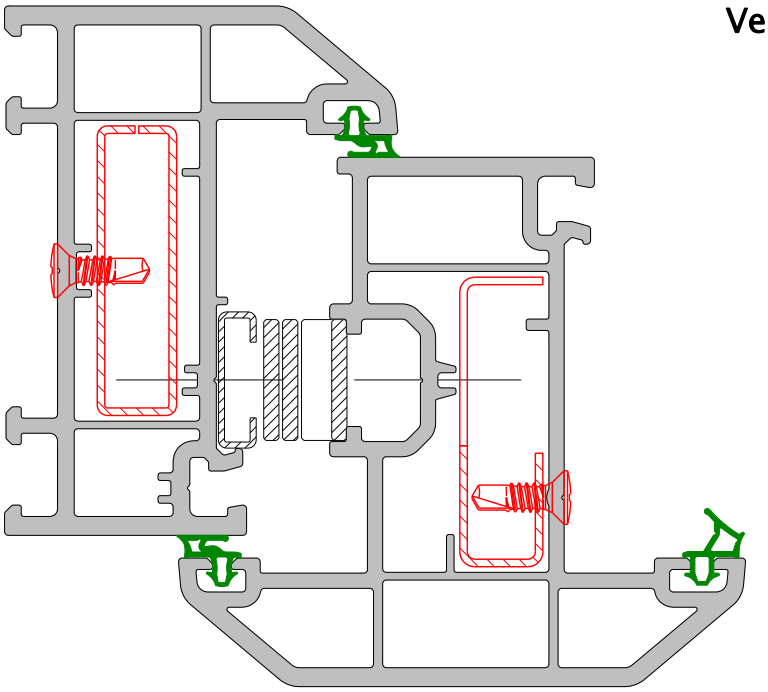
Nico 22mm backset
Espagnolette bolt (9005 Keep)



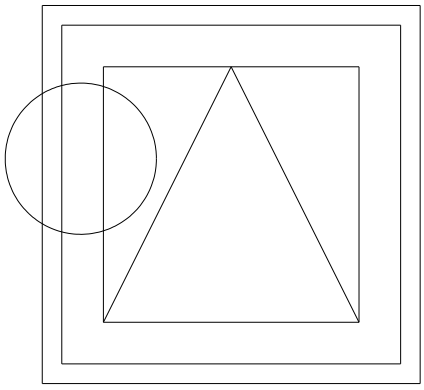
Horizontal Section Through Centre



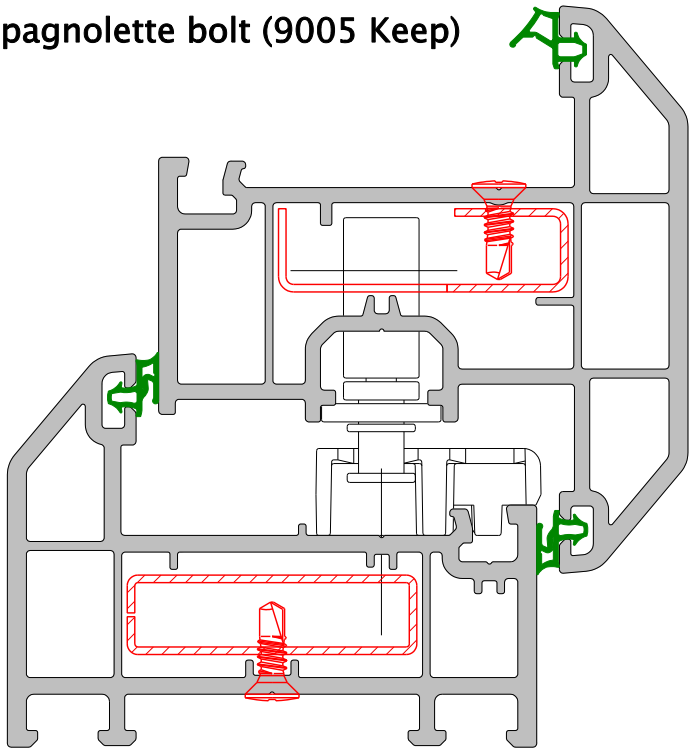
Nico Friction Hinge



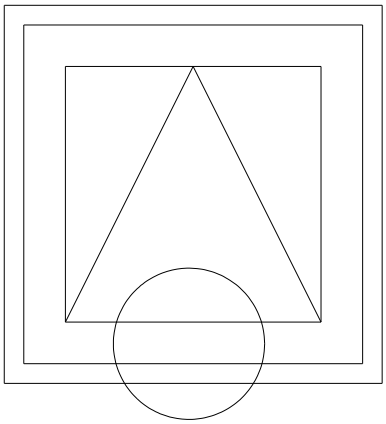
Vertical Section Through Corner



Nico 20mm backset
Espagnolette bolt (9005 Keep)

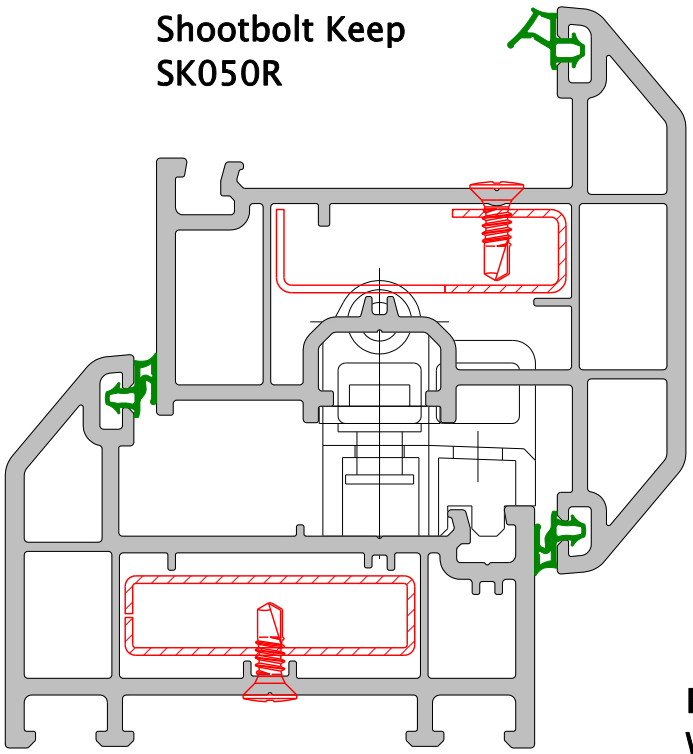


Horizontal Section Through Centre

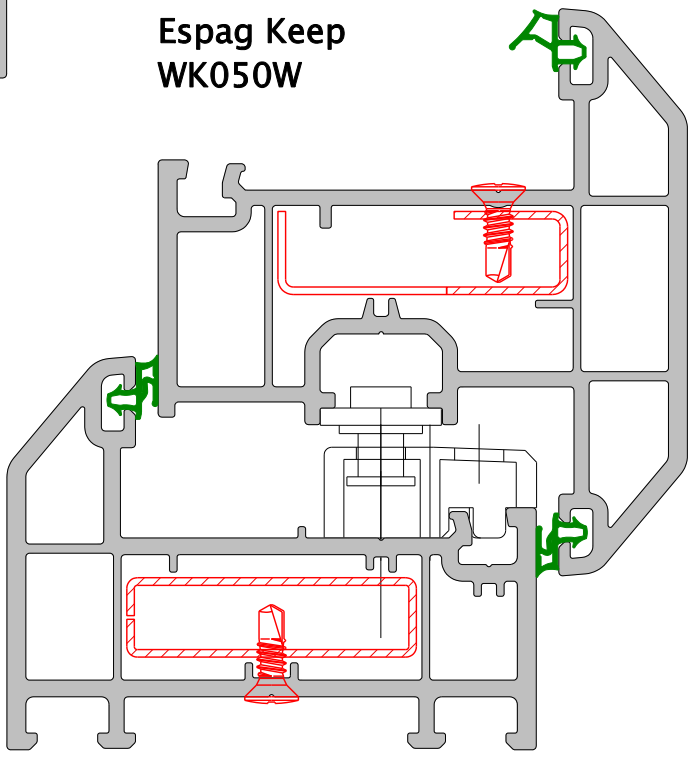


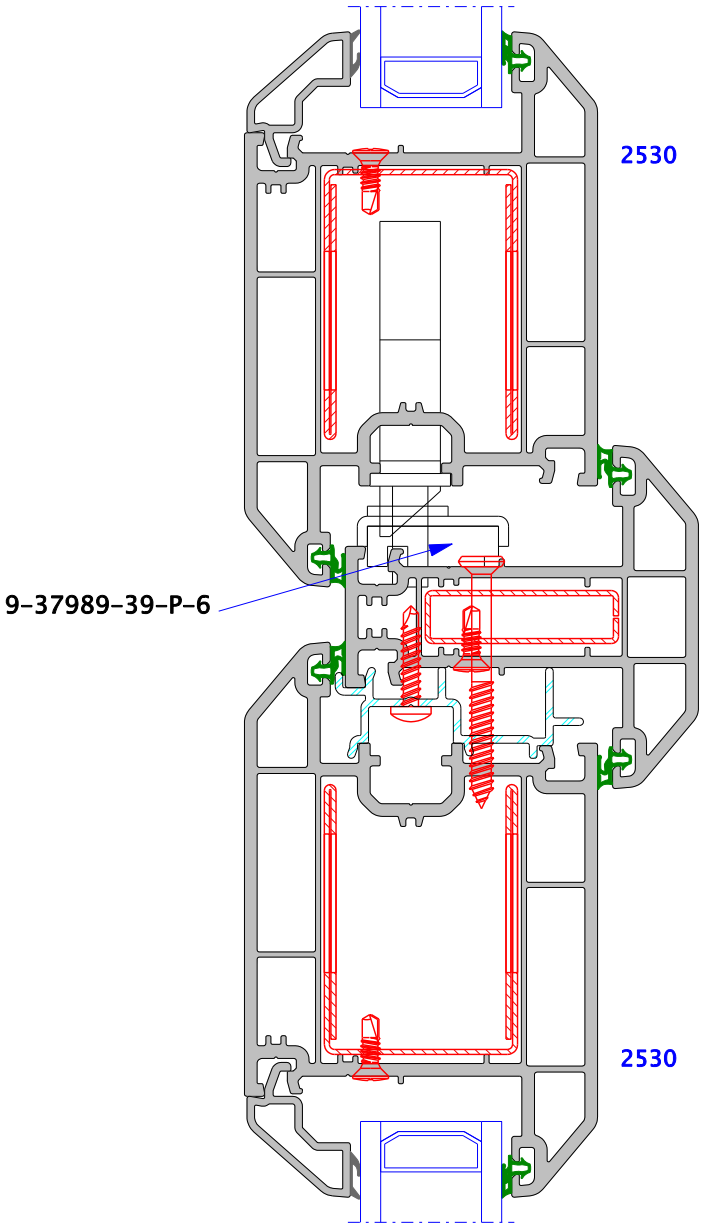
VITA

Shootbolt Keep
SK050R



Espag Keep
WK050W

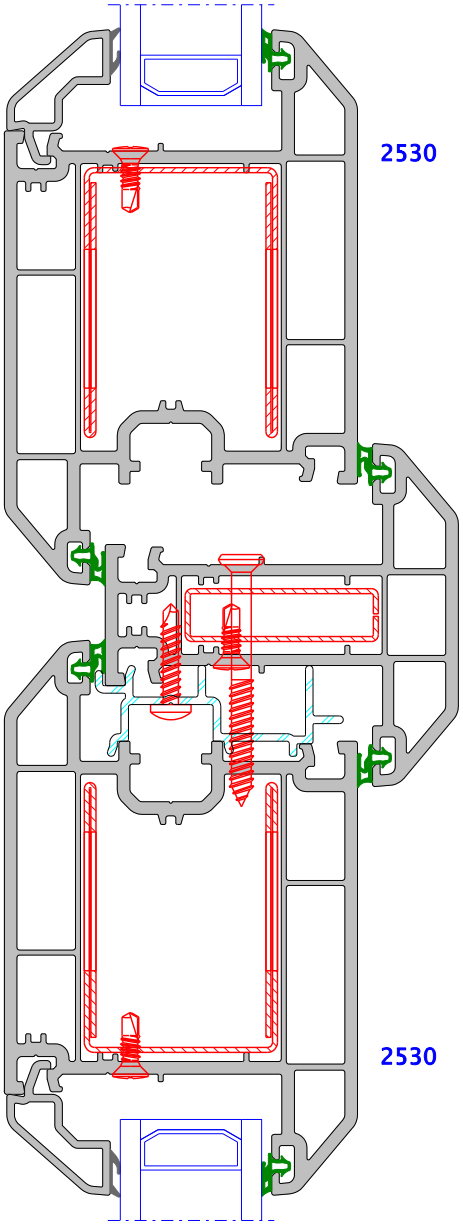




Standard False Mullion
2535

Groupco
Quality Door and Window Fittings

FUHR MULTISAFE



FUHR 856 LEVER OPERATED LOCK OPTIONS FOR MASTER DOOR

080856F635 Latch, Deadbolt, 2 roller cams, 2 hookbolts & 2 shootbolts
080856G335 Latch, Deadbolt, 2 hookbolts & serrations top & bottom

FUHR 859 SPLIT SPINDLE LOCK OPTIONS FOR MASTER DOOR

080859S335 Latch, Deadbolt, 2 roller cams, 2 hookbolts & serrations top & bottom
080929140 Top shootbolt used with 080856G335 & 080859S335
080929142 Bottom shootbolt used with 080856G335 & 080859S335

FUHR SLAVE DOOR OPTIONS

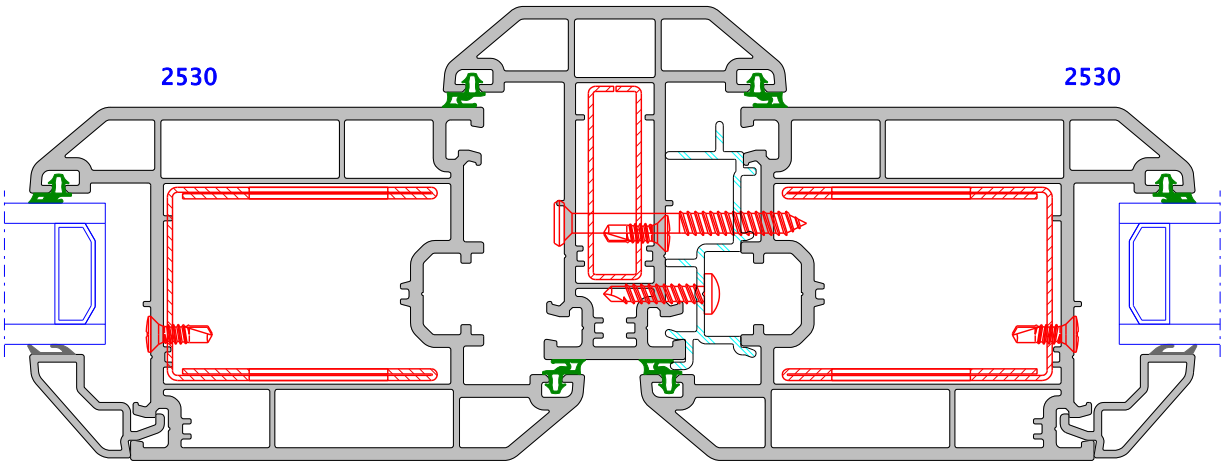
Concealed Lever Gear
0808904M 1600mm drive rail
0808905M 1900mm drive rail
0808905MH Handle set
080929142 Top & Bottom shootbolt

Second Lever Handle Gear
080856Z735 Lever operated centre section
08092A266 Top shootbolt extension
08092A269 Bottom shootbolt extension

FUHR STRIKER PLATES

080155812L Adjustable latch & deadbolt plate left hand
080155812R Adjustable latch & deadbolt plate right hand
080155677 Roller plate
080155813 Adjustable security hookbolt plate
080154126 Double entry adjustable shootbolt plate
080180774 Profile packer to suit 080154126
080155185 Single entry adjustable shootbolt plate
080184030L Left hand profile packer to suit 080155185
080184030R Right hand profile packer to suit 080155185
080113394 PVCu back box to suit 080155185

Standard False Mullion



OUTER: 2532,2533.

SASH: 2530,2531.

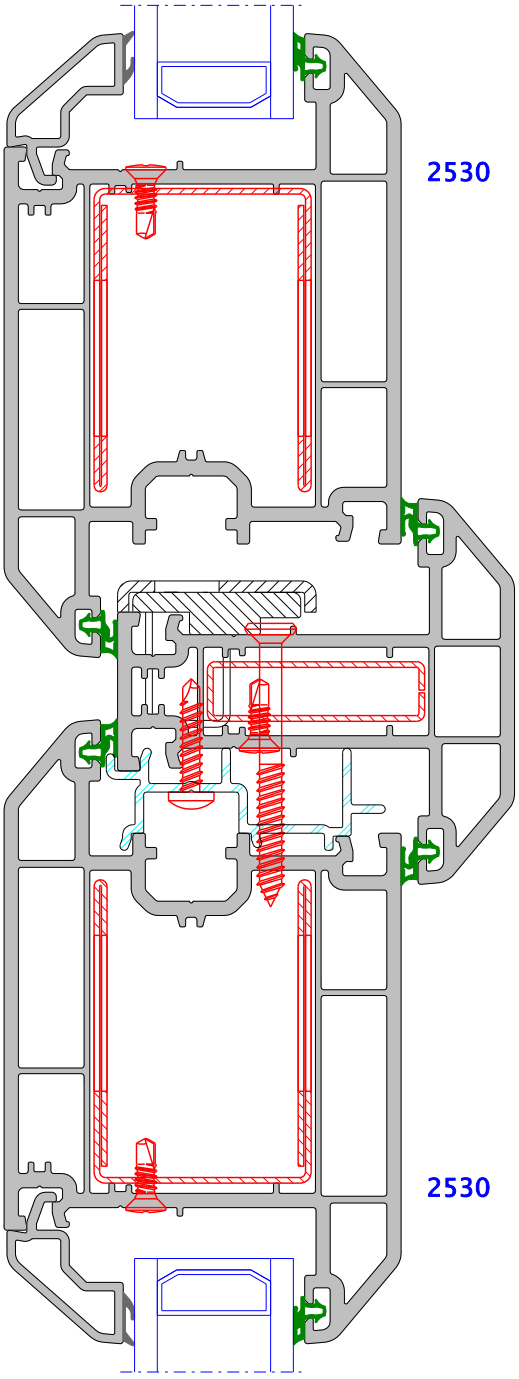
False Mullion: 2535

HARDWARE:

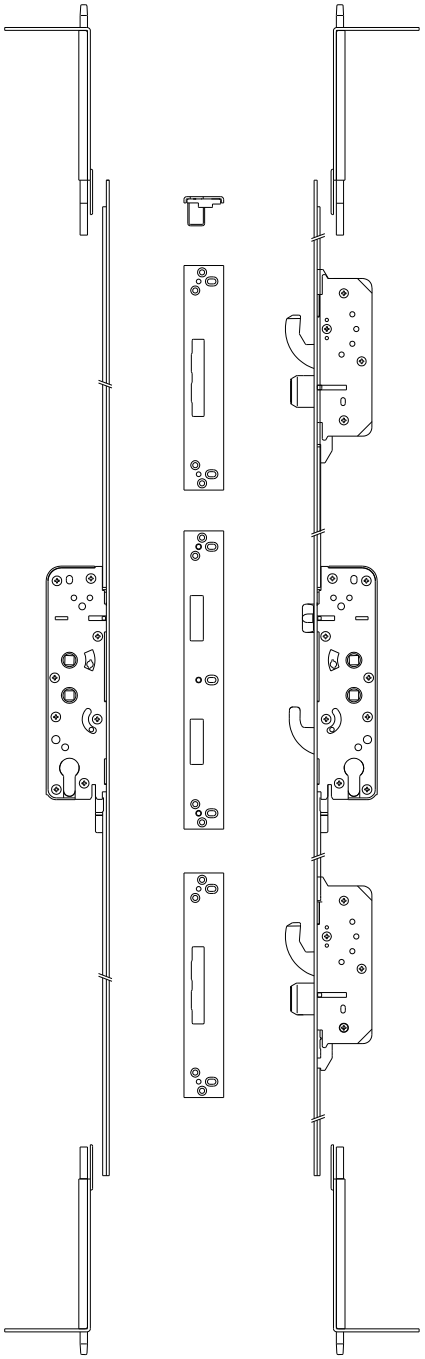
Packer for Mila individual keeps:	Pt. No. 13-420113
Packer for Mila Uni-keeps:	Pt. No. 40-421640
K.F.V. Series keeps:	----.857 (alt .967)
Roller cam keep no. 3375/1900:	Pt. No. 673375/371900
Cylinder size = 45/50:	Pt. No. 049054
Handle spindle size:	130mm
Eurogroove Axis:	13mm

Millenco Hardware Ltd
Secured By Design

Application: French doors – Non handed hardware
Millenco Lock ii 550 + gear (Master) & Millenco Lock ii Slave lock
Mk23 Striker and keep set & shoot bolt keeps – Mild Steel



SECTION SHOWING MK3 STRIKER LOCATION
ON 2535 STANDARD FALSE MULLION

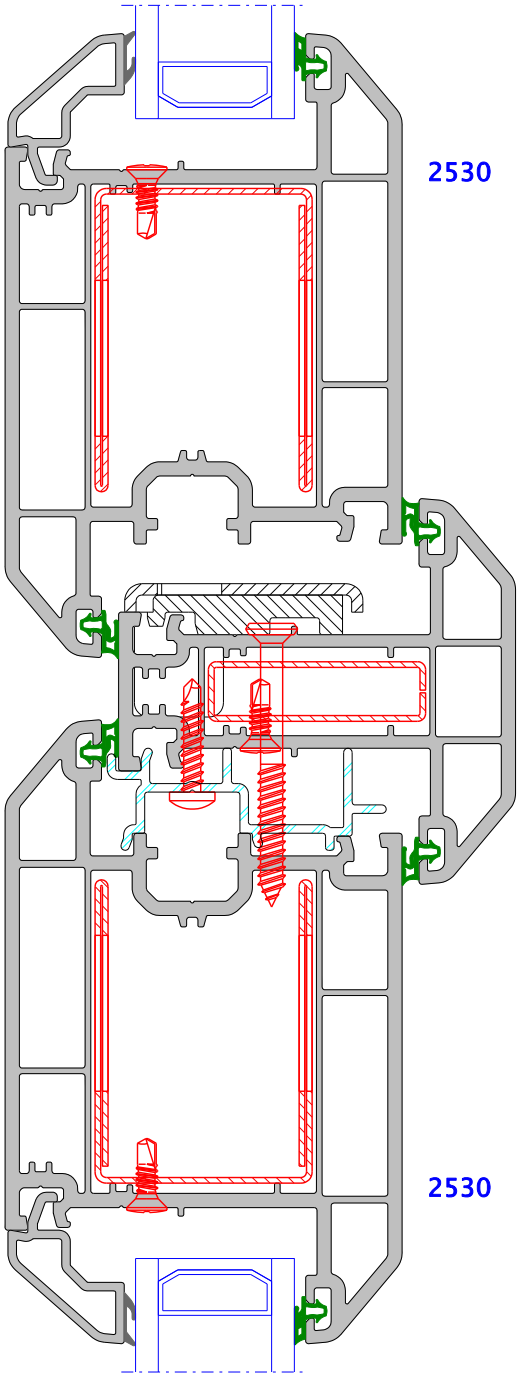


Millenco Hardware Ltd
Secured By Design

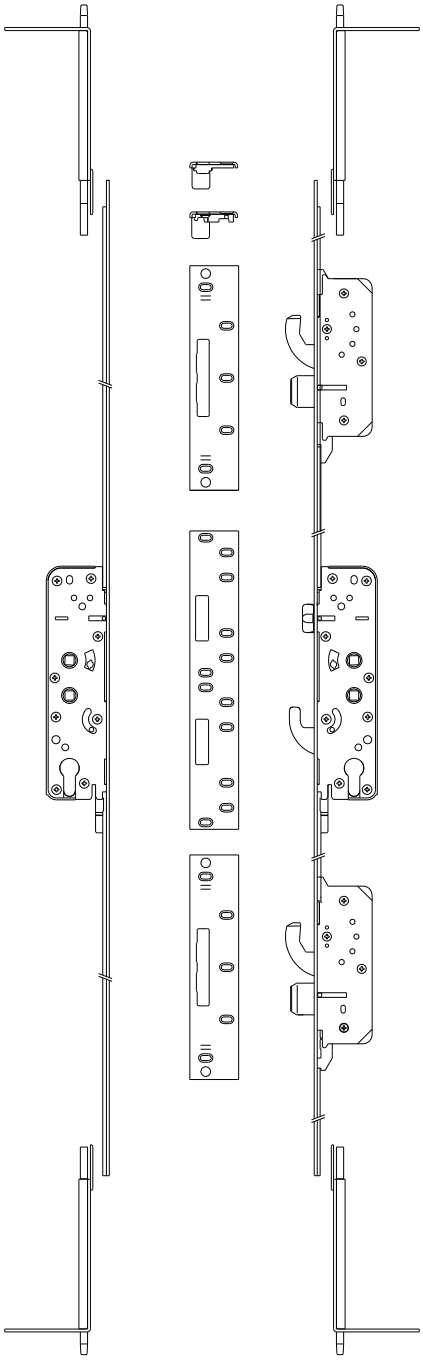
HARDWARE

Double Doors

Application: French doors – Non handed hardware
Millenco Lock ii 550 + gear (Master) & Millenco Lock ii Slave lock
Mk24 Striker and keep set & shoot bolt keeps – Stainless Steel



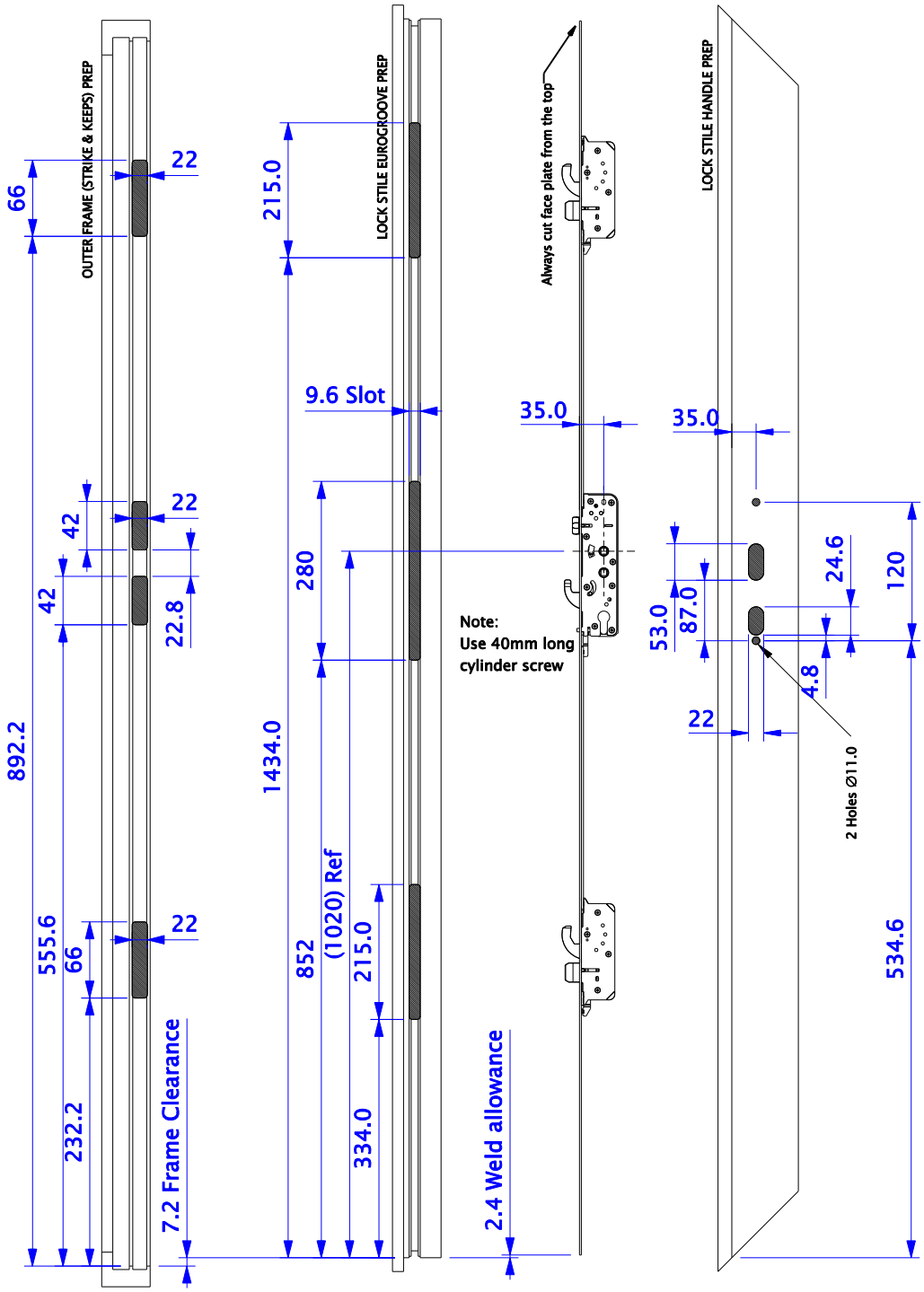
SECTION SHOWING MK4 STRIKER LOCATION
ON 2535 STANDARD FALSE MULLION



Millenco Hardware Ltd

Secured By Design

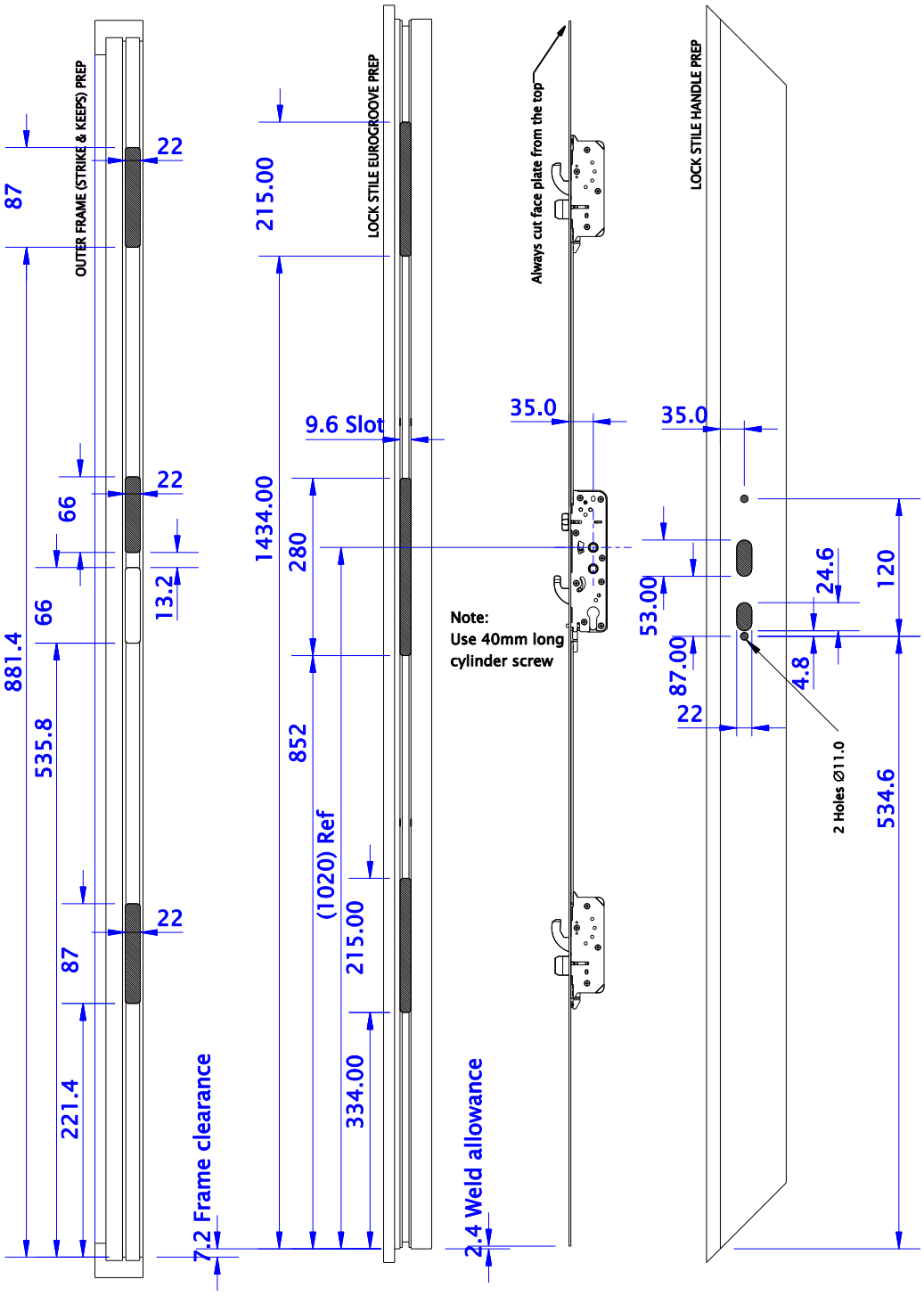
Application: Doors with head & cill shoot bolts
Millenco Hook Lock 550 crs
Mk23 Striker and keep set



Millenco Hardware Ltd

Secured By Design

Application: Doors with head & cill shoot bolts
Millenco Hook Lock 550 crs
Mk24 Striker and keep set



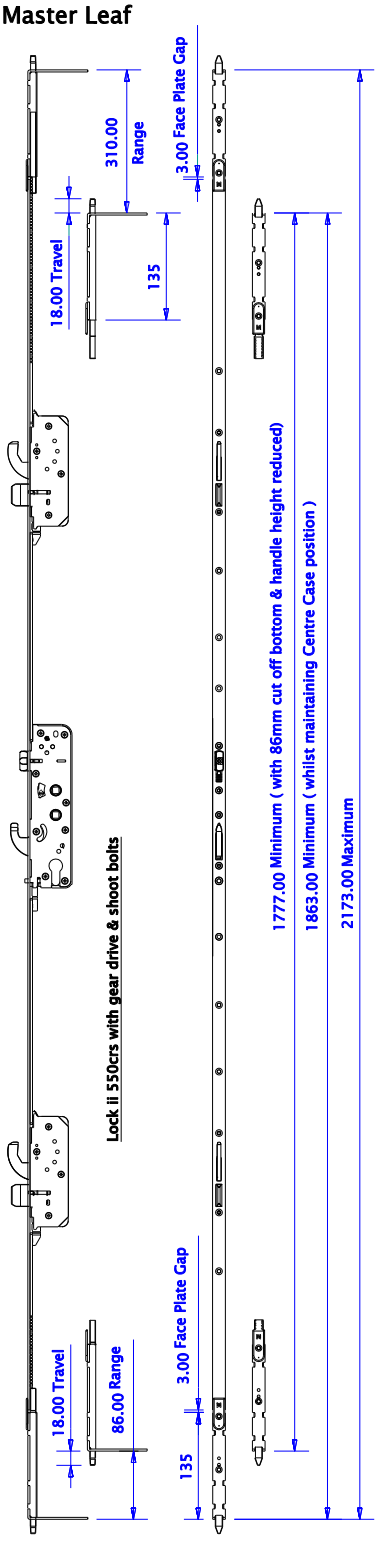
Millenco Hardware Ltd

Secured By Design

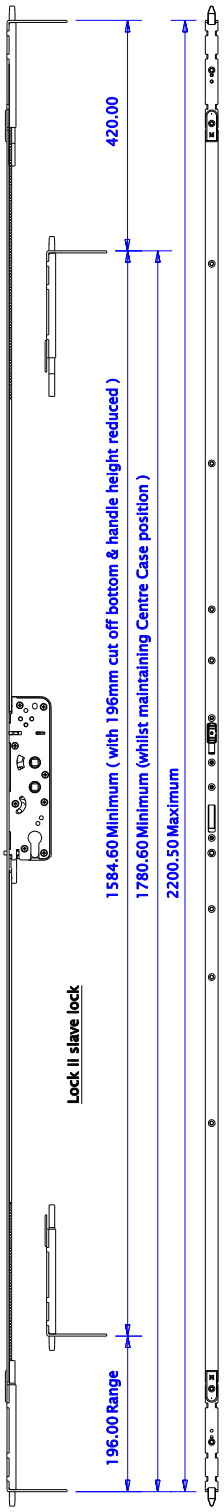
Application: French door

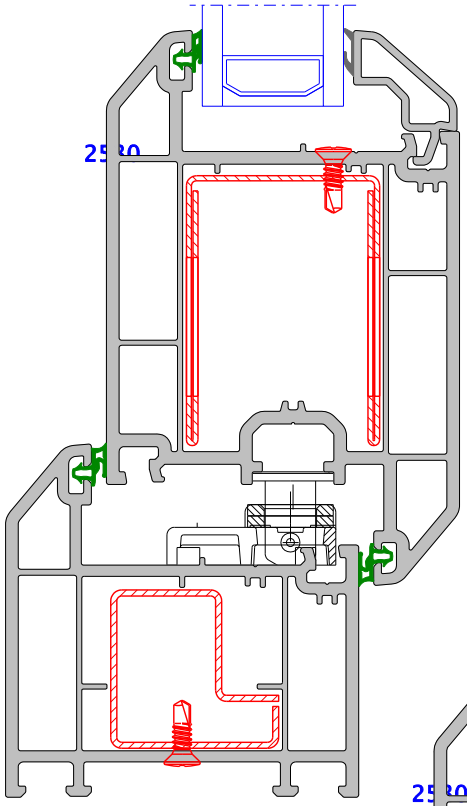
Minimum / Maximum Sizes

Master Leaf

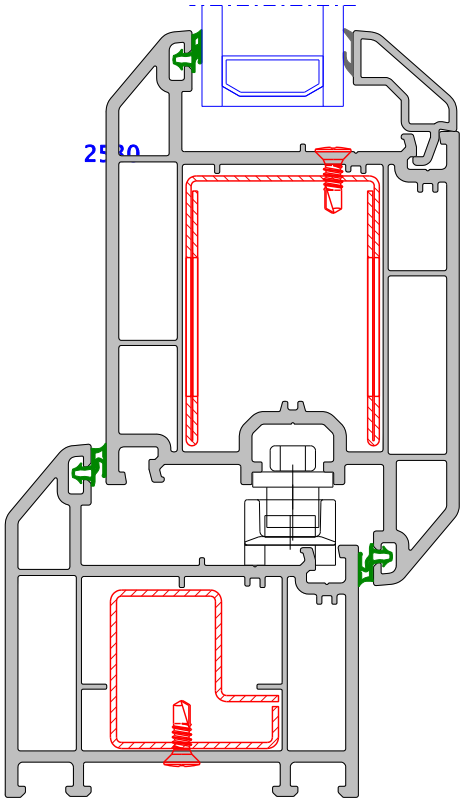


Slave Leaf

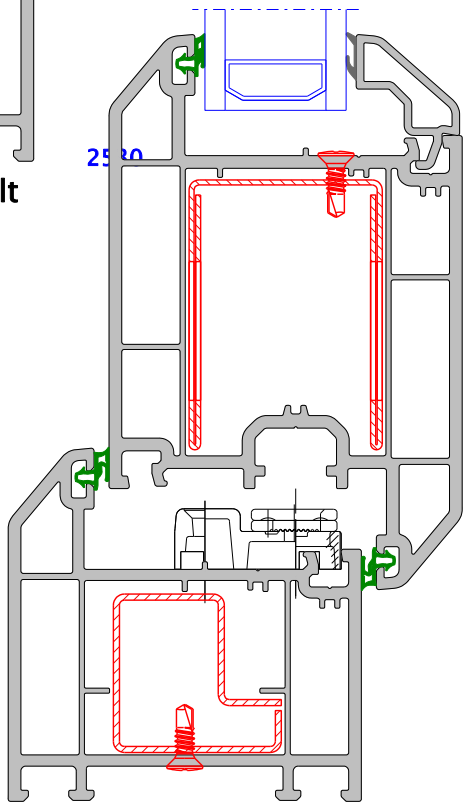




French Door Shootbolt
Strike with 2 Slots
Order No. 202071

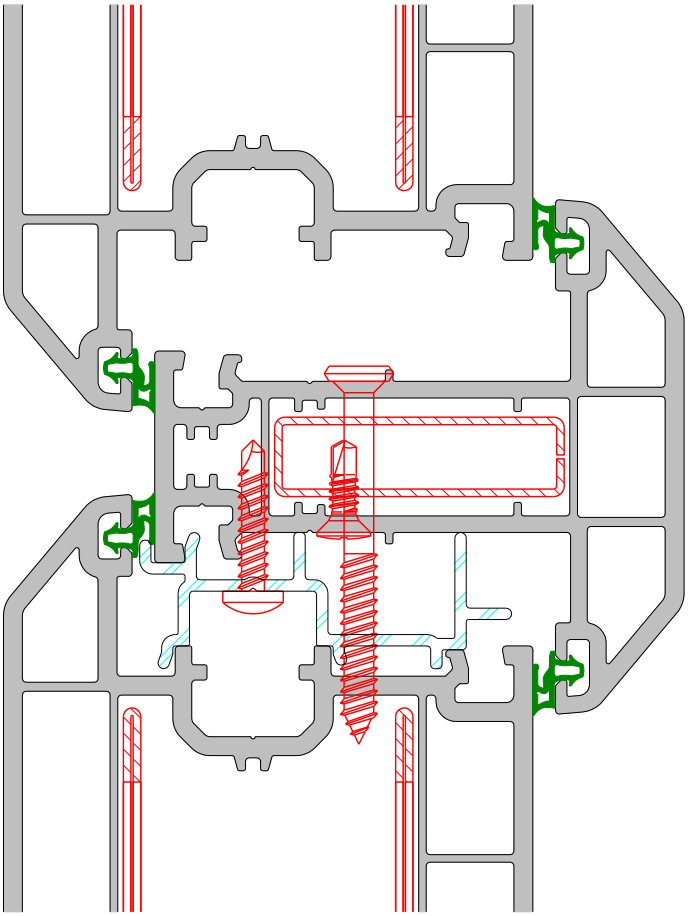


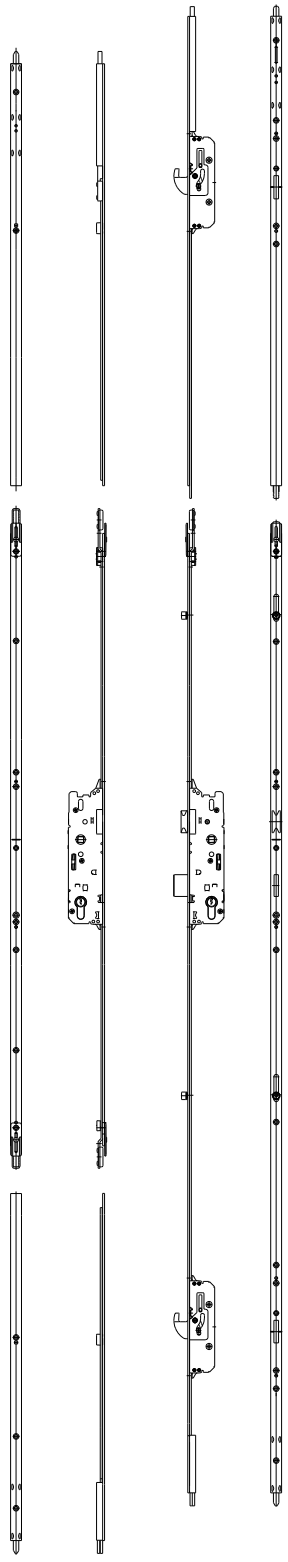
Finger Operated Shootbolt
for French Doors
Order No. 50578



Shootbolt Strike with 1 Slot
For French Doors
Order No. 354046

FUHR MULTISAFE

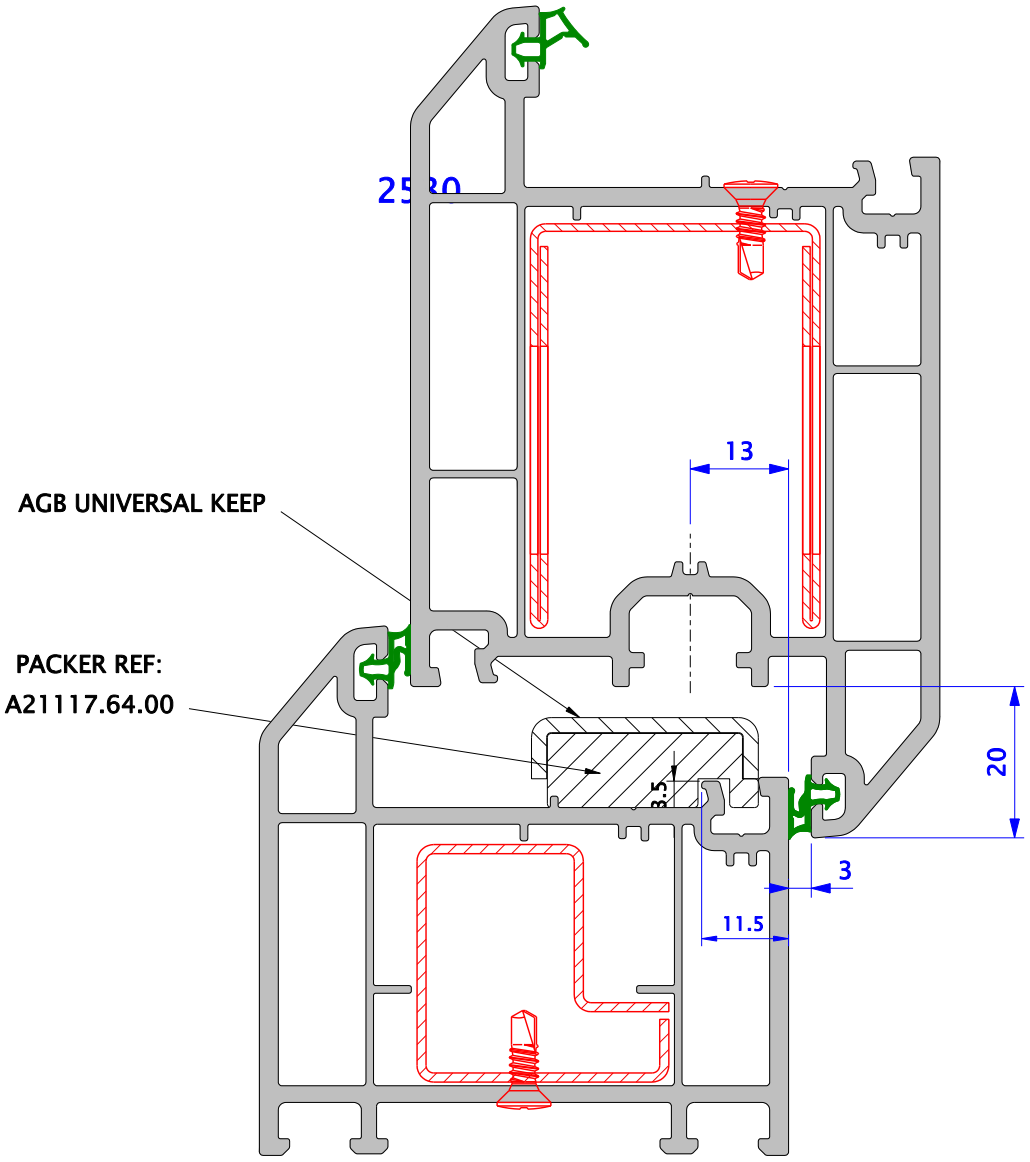


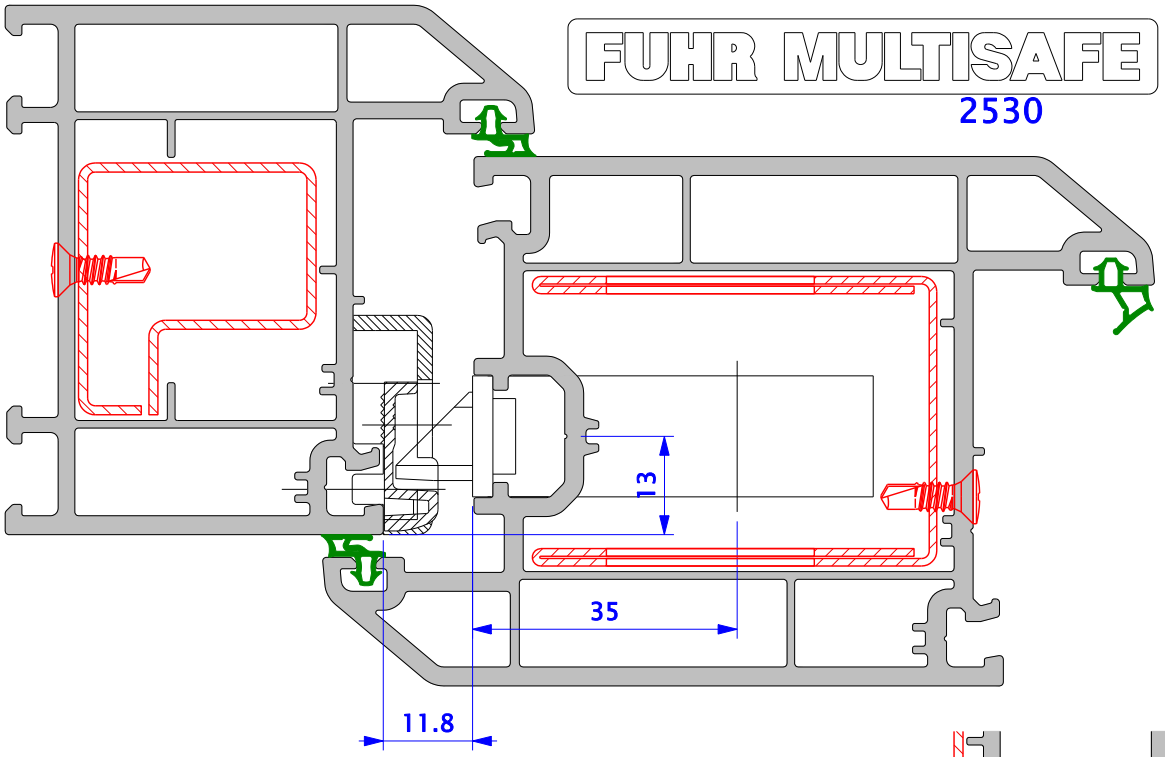


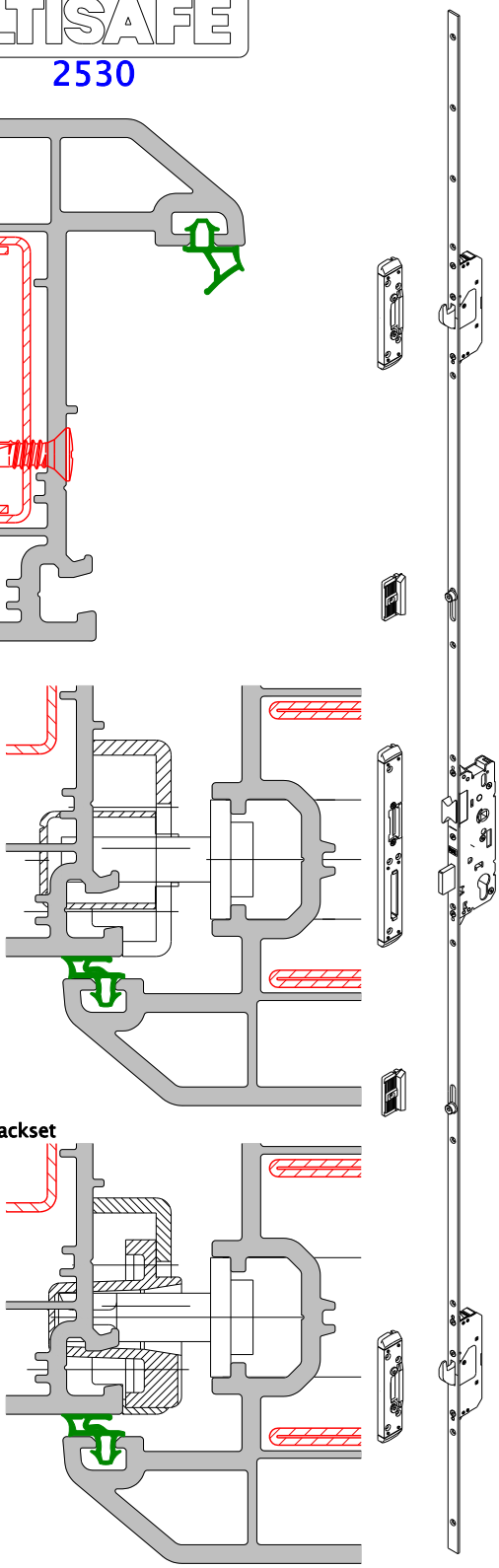
856 & 859 Type 6 Door Lock, latch, deadbolt, 2 hooks, 2 rollers, 2 shootbolts
856V Slave Door Lock complete with 2 shootbolts

Part No.	Product
42.1856.92.364	856 Lever/Lever Bottom Section
42.1859.92.365	859 Split Spindle Bottom Section
42.1600.93.664	Top Extension
42.1857.92.355	856V Centre Section
42.1600.93.609	Top Shootbolt
42.2600.93.659	Bottom Shootbolt
42.4011.55.812	55812 Left Hand Latch Plate
42.4012.55.812	55812 Right Hand Latch Plate
42.4001.55.813	55813 Hook Plate
42.4002.55.677	55677 Roller Plate
42.4003.54.126	54126 Double Shootbolt Plate
42.4004.84.285	84285 Underplate for 54126


AGB


AGB UNIVERSAL KEEP
PACKER REF:
A21117.64.00
13
20
3
11.5
3.5





FUHR 856 LEVER OPERATED LOCK OPTIONS

080856F135 Latch, Deadbolt & 4 roller cams. 35mm backset
080856F235 Latch, Deadbolt, 2 roller cams & 2 mushroom cams. 35mm backset
080856F335 Latch, Deadbolt, 2 roller cams & 2 hookbolts. 35mm backset
080856F435 Latch, Deadbolt & 4 hookbolts. 35mm backset
080856F835 Latch, Deadbolt, 2 roller cams & 2 roundbolts. 35mm backset
080856G335 Latch, Deadbolt, 2 hookbolts & serrations top & bottom. 35mm backset
080856AR335 Latch, Deadbolt, 2 rollercams, 2 hookbolts & access restrictor. 35mm backset

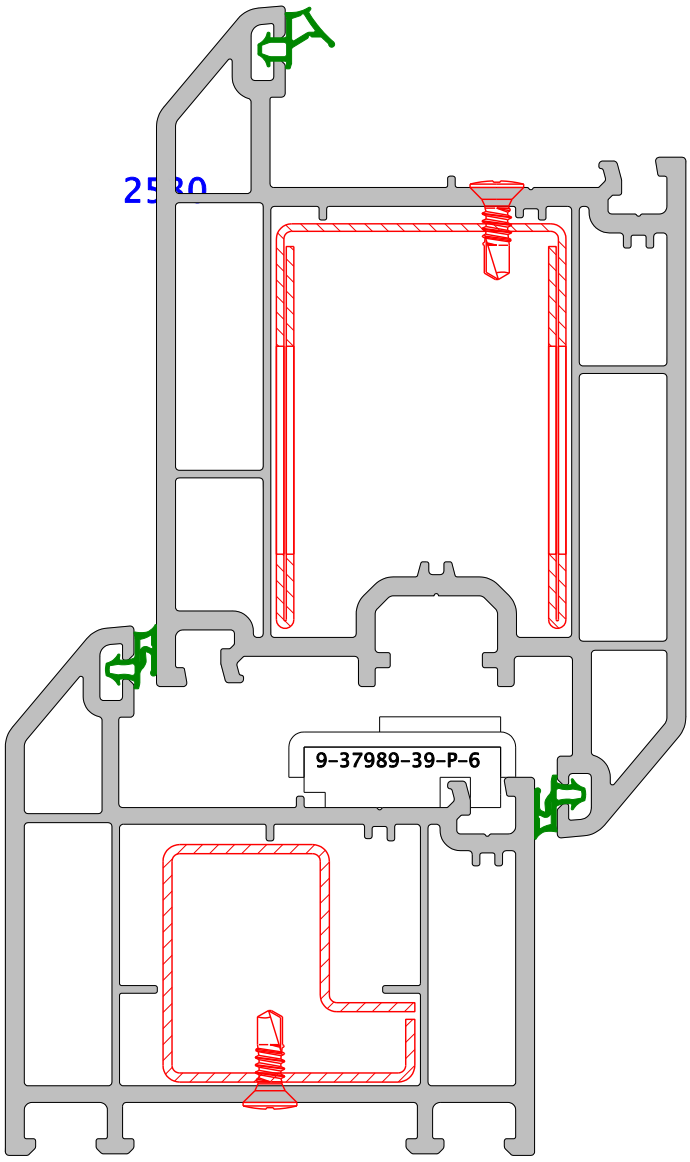
FUHR 859 SPLIT SPINDLE LOCK OPTIONS

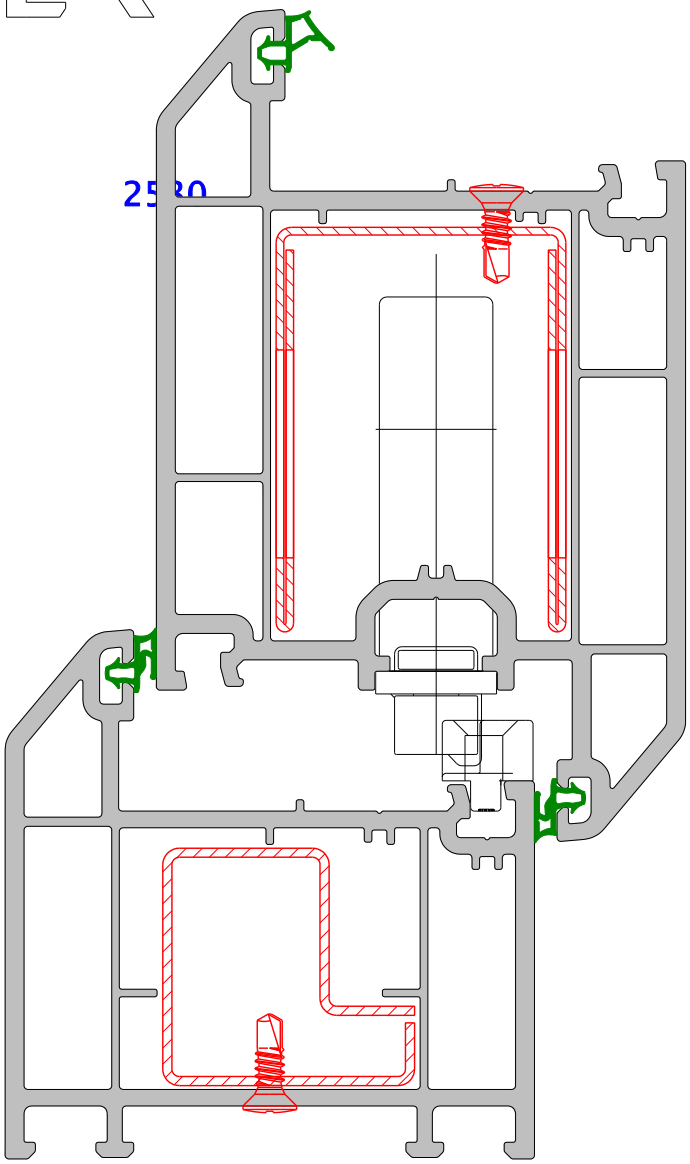
080859F335 Latch, Deadbolt, 2 roller cams, 2 hookbolts & daylatch. 35mm backset
080859F435 Latch, Deadbolt & 4 hookbolts. 35mm backset
080858S335 Latch, Deadbolt, 2 roller cams, 2 hookbolts & serrations top & bottom. 35mm backset
080859AR335 Latch, Deadbolt, 2 roller cams, 2 hookbolts & access restrictor. 35mm backset

FUHR STRIKER PLATES

080155812L Adjustable latch & deadbolt plate left hand
080155812R Adjustable latch & deadbolt plate right hand
080155677 Roller Plate
080155817 Mushroom Plate
080155813 Adjustable security hookbolt plate
080155815 Roundbolt Plate
080155820 Adjustable roundbolt plate
080155819L Access restrictor plate left hand
080155819R Access restrictor plate right hand

GU FERCO



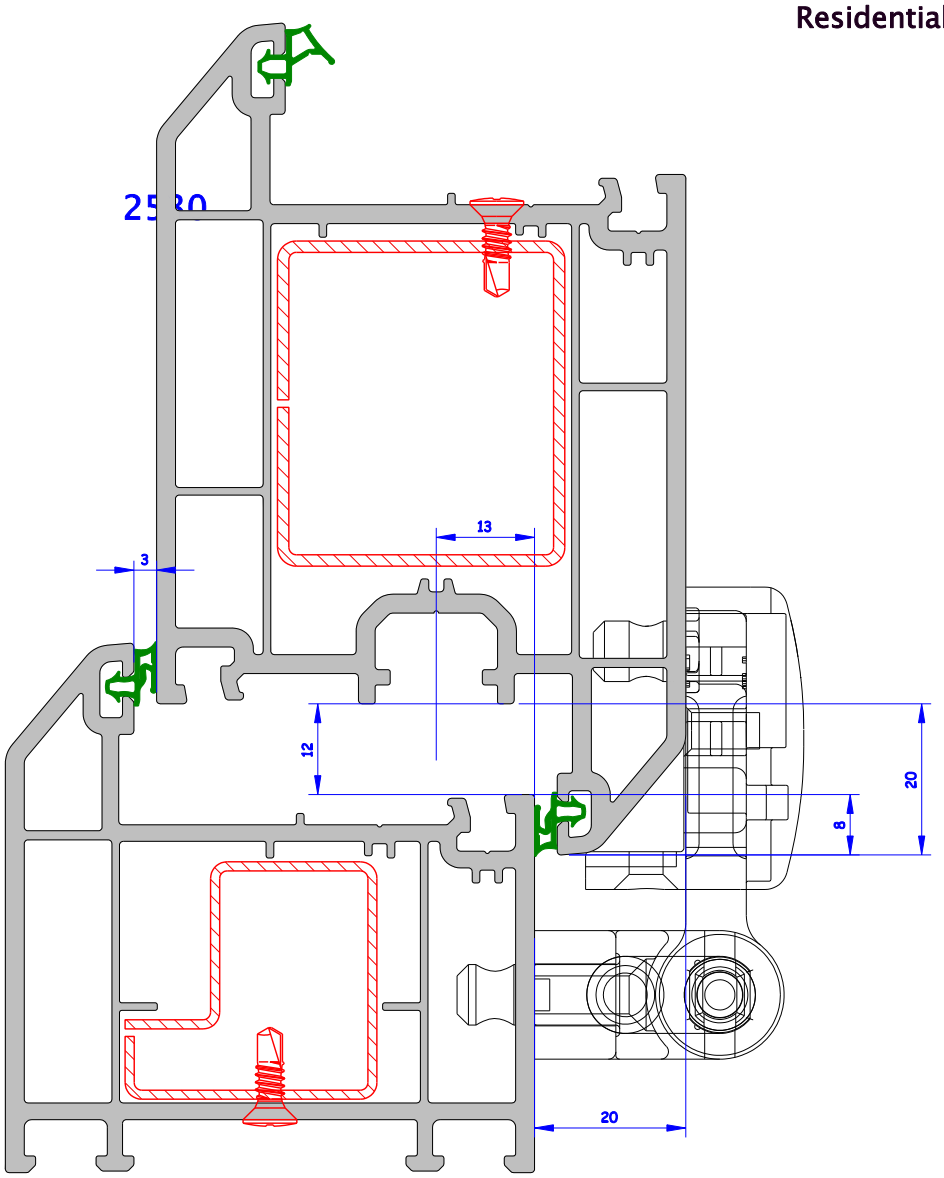


OUTER: 2532,2533.

SASH: 2530,2531.

HARDWARE:

Packer for Mila individual keeps:	Pt. No. 13-420113
Packer for Mila Uni-keeps:	Pt. No. 40-421640
K.F.V. Series keeps:	----.857 (alt .967)
Roller cam keep no. 3375/1900:	Pt. No. 673375/371900
Cylinder size = 45/50:	Pt. No. 049054
Handle spindle size:	130mm
Eurogroove Axis:	13mm



OUTER: 2532,2533.

SASH: 2530,2531.

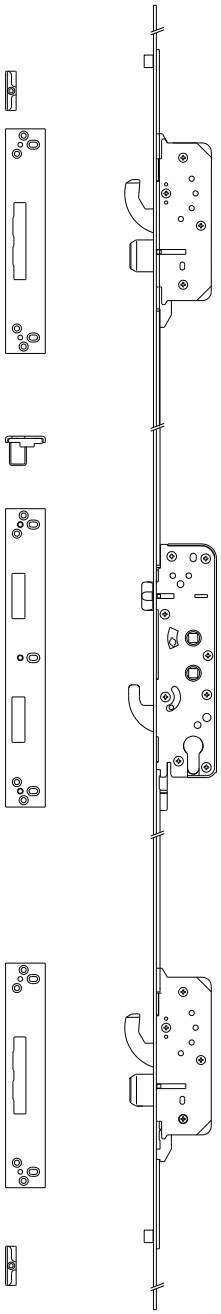
HARDWARE:

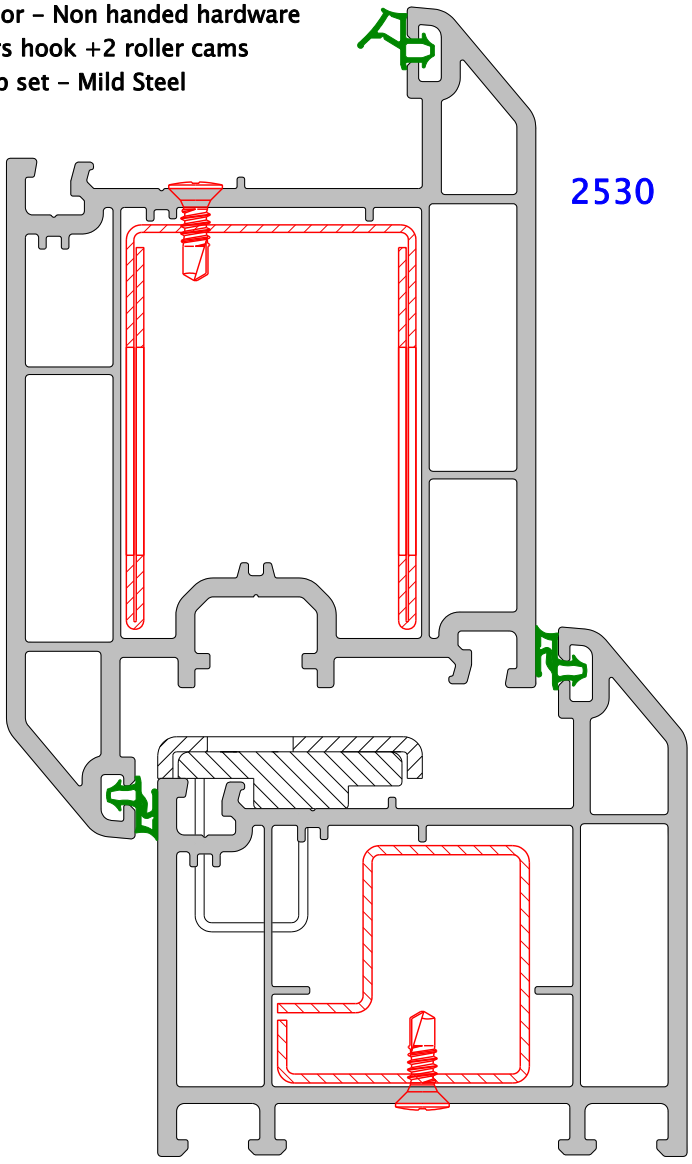
Pendulum Butt hinge:	Pt. No. N/A
Pendulum rebate hinge:	Pt. No. 027076
Sidewinder butt hinge:	Pt. No. N/A
Evolution hinge:	Pt. No. 024332c
Evolution Hingre Packer:	Pt. No. 024480/1
Inspiration hinge 85mm:	Pt. No. 027810
Inspiration Hinge 100mm:	Pt. No. 027840

Millenco Hardware Ltd

Secured By Design

Application: Single door – Non handed hardware
Millenco Lock ii 650crs hook +2 roller cams
Mk23 Striker and keep set – Mild Steel



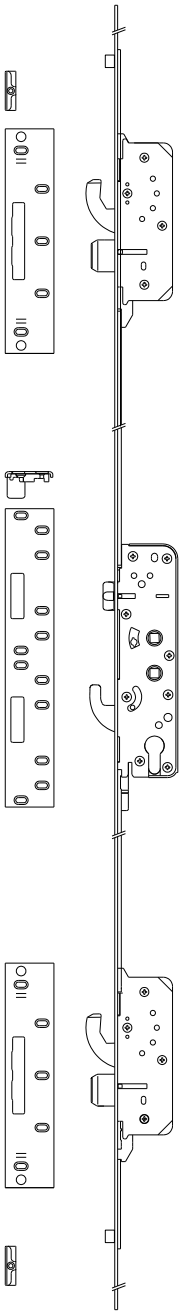


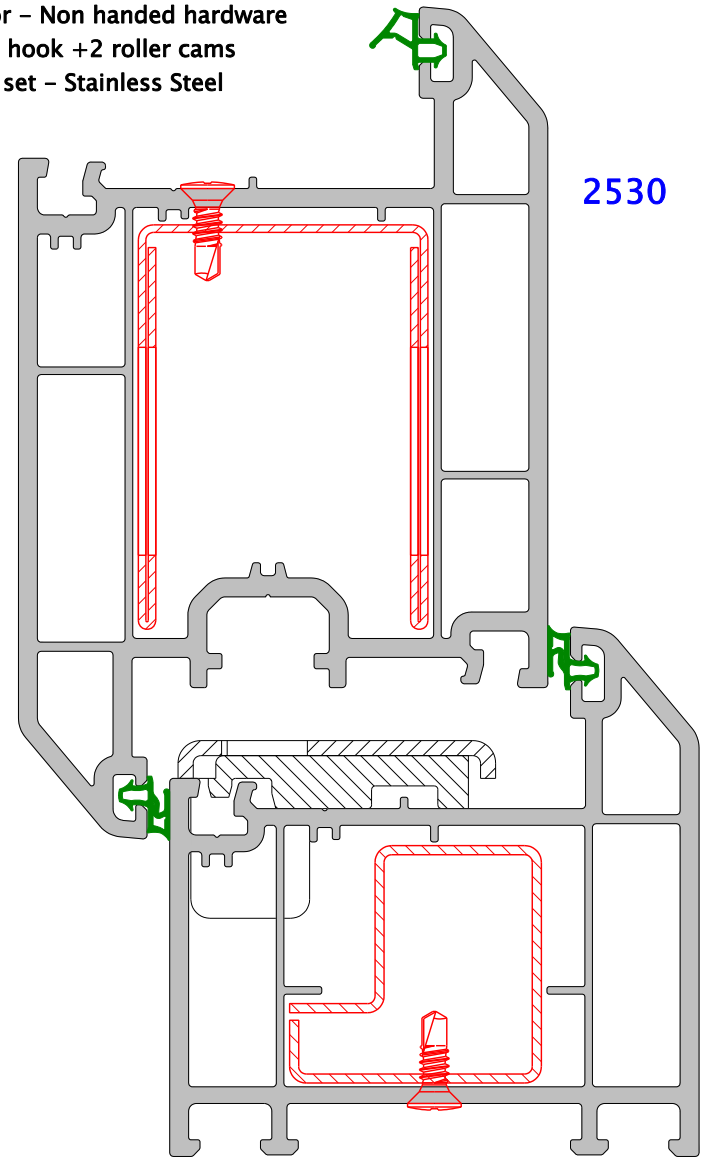
SECTION SHOWING MK3 STRIKER LOCATION

Millenco Hardware Ltd

Secured By Design

Application: Single door – Non handed hardware
Millenco Lock ii 650crs hook +2 roller cams
Mk24 Striker and keep set – Stainless Steel



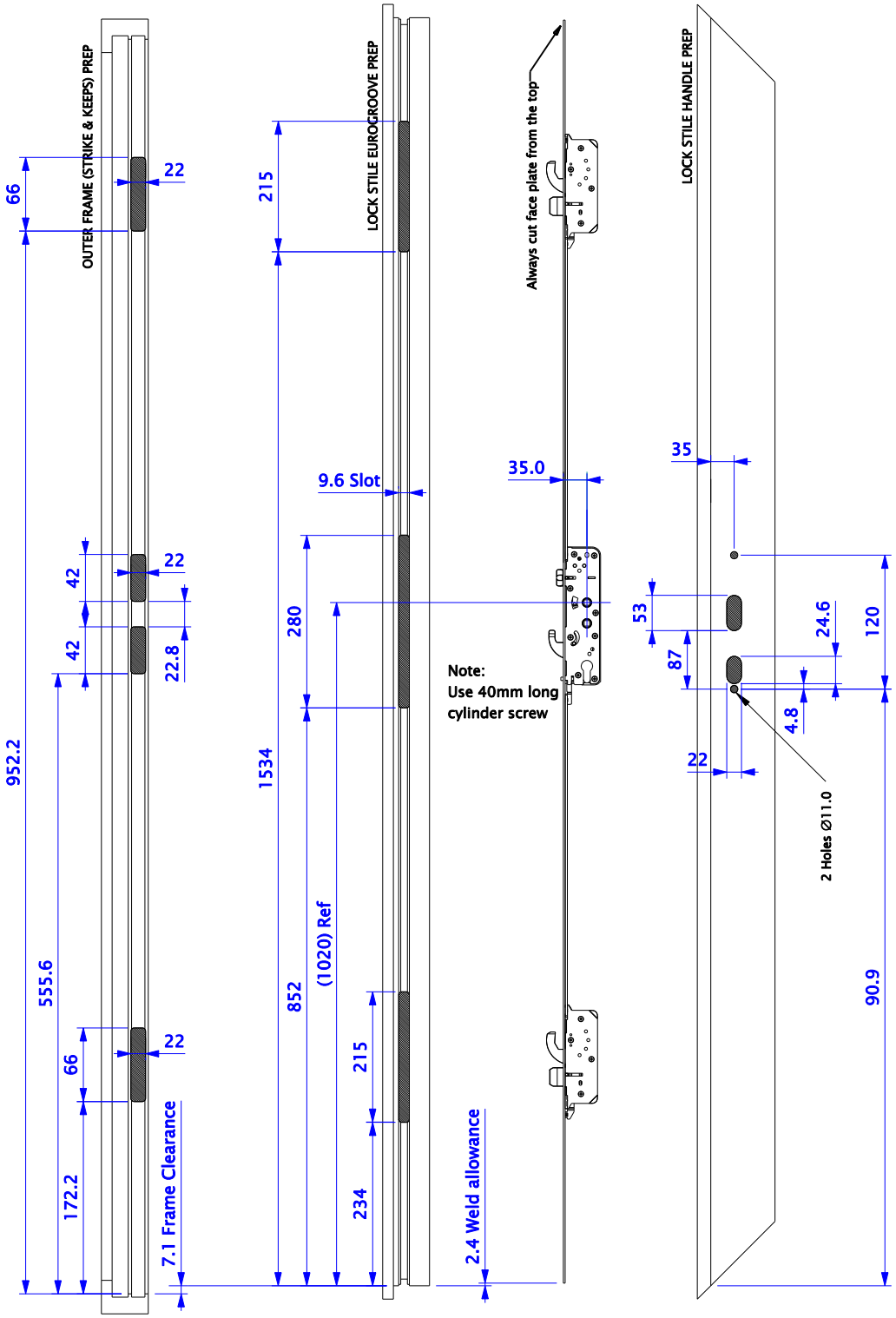


SECTION SHOWING MK4 STRIKER LOCATION

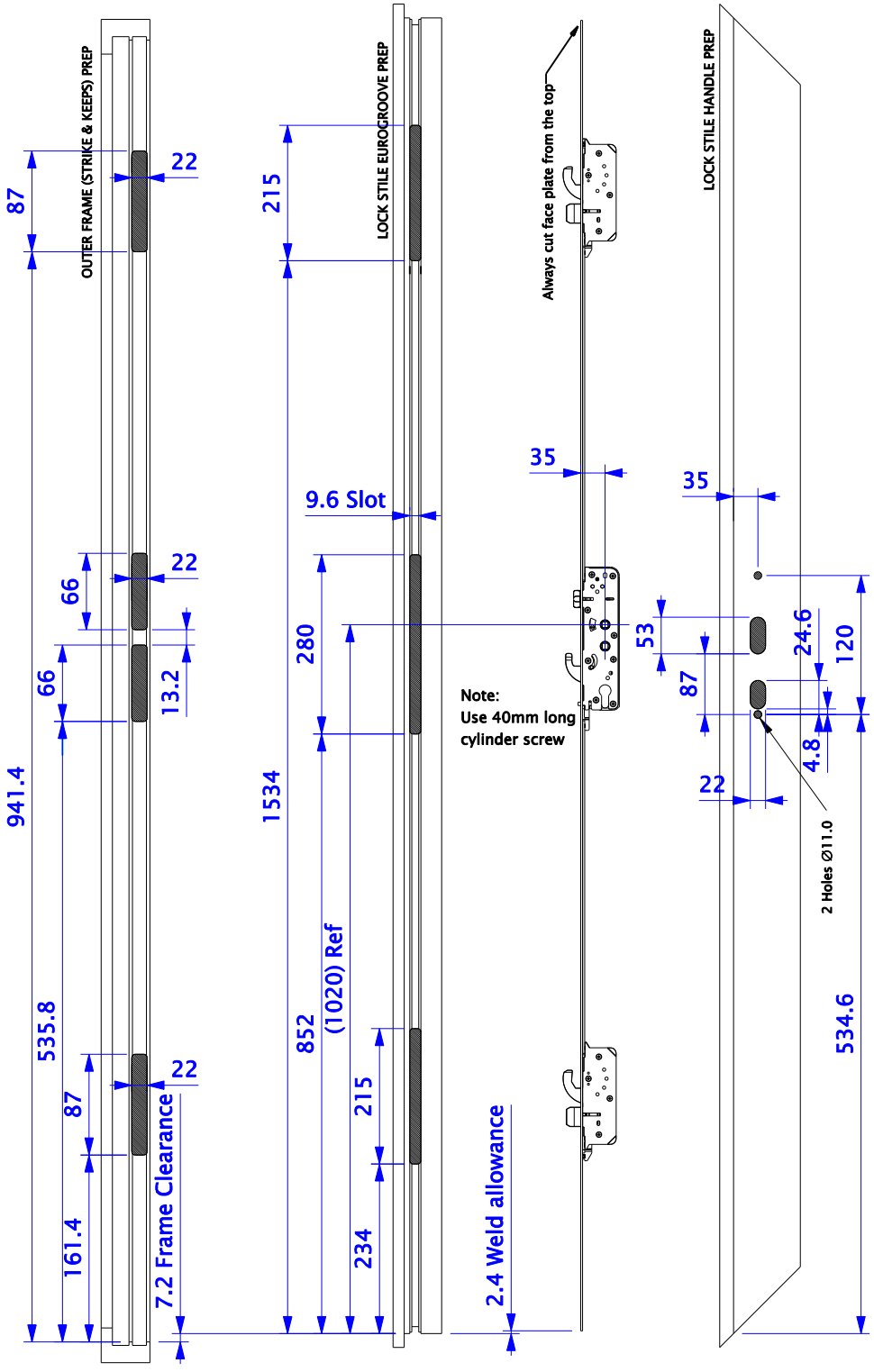
Millenco Hardware Ltd

Secured By Design

Application: Single door
Millenco Hook Lock 650 crs
Mk23 Striker and keep set



Application: Single door
Millenco Hook Lock 650 crs
Mk24 Striker and keep set

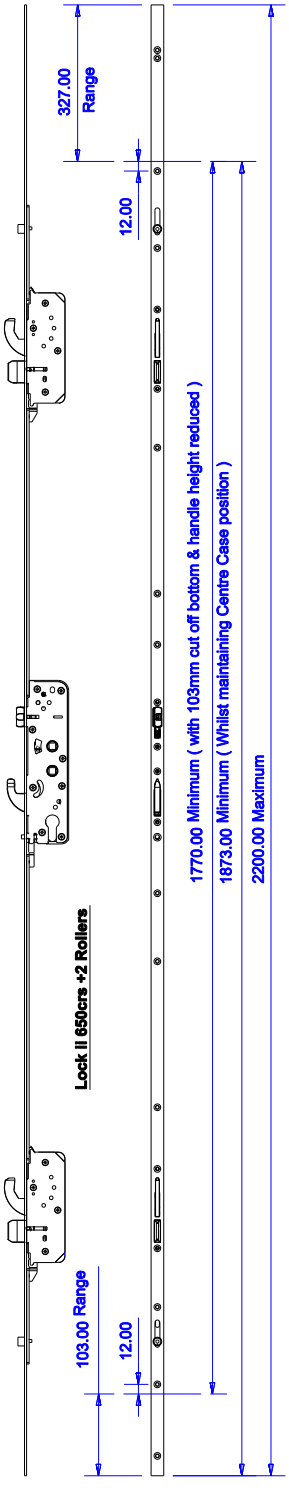


Millenco Hardware Ltd

Secured By Design

Application: Single door

Minimum / Maximum Sizes

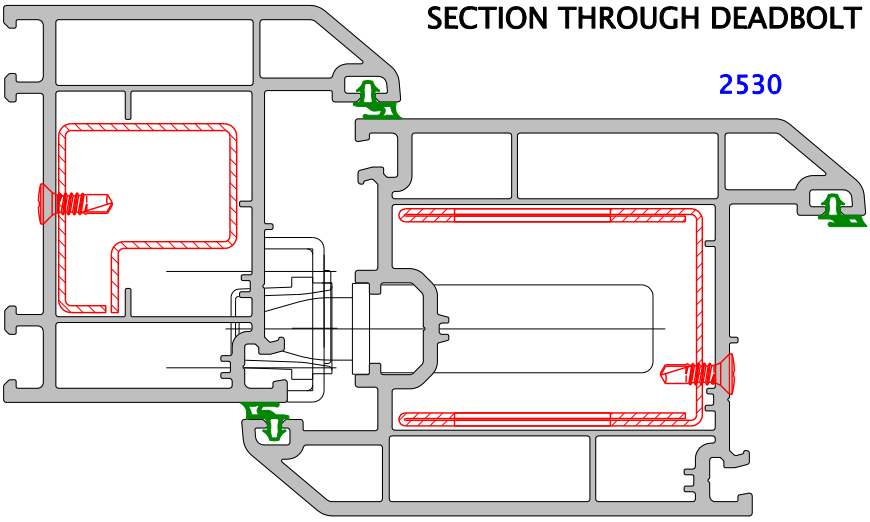


HARDWARE

Residential Doors

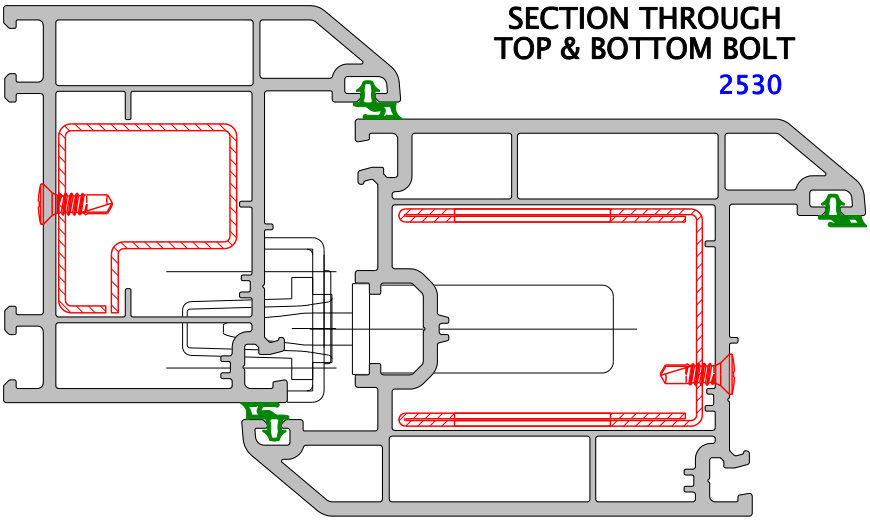
SECTION THROUGH DEADBOLT

2530



SECTION THROUGH TOP & BOTTOM BOLT

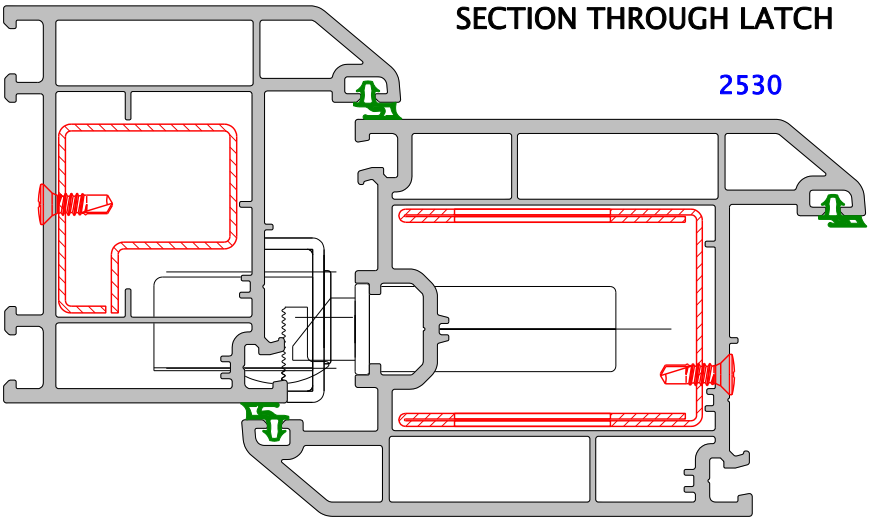
2530



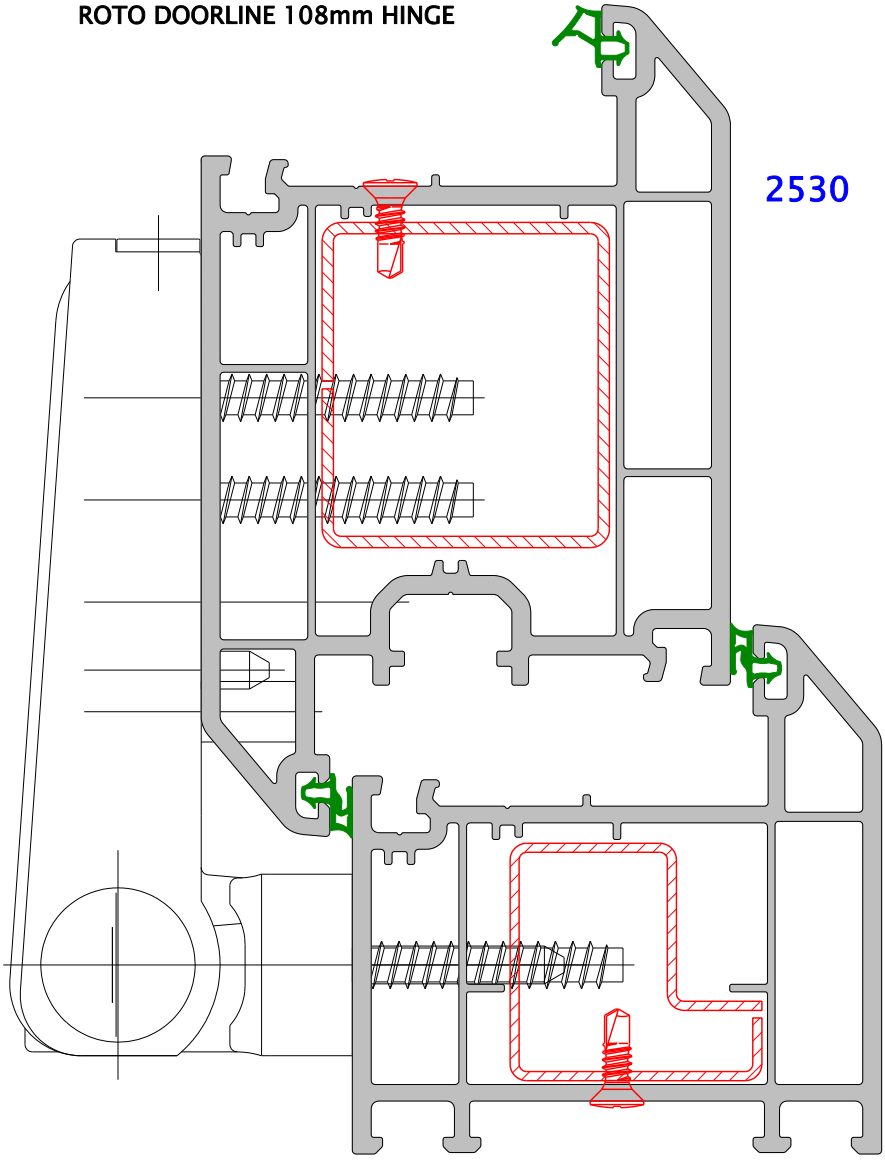
Description	Part Number
35mm backset door lock	292 695
One piece latch & deadbolt plate	223 070L
	223 071R
Claw Striker	223 072
Lever/pad handles	
Silver handle	322 923
Gold handle	322 924
Black handle	322 926
White handle	322 925
Lever/lever handles	
Silver handle	322 918
Gold handle	322 919
Black handle	322 920
White handle	322 921

SECTION THROUGH LATCH

2530

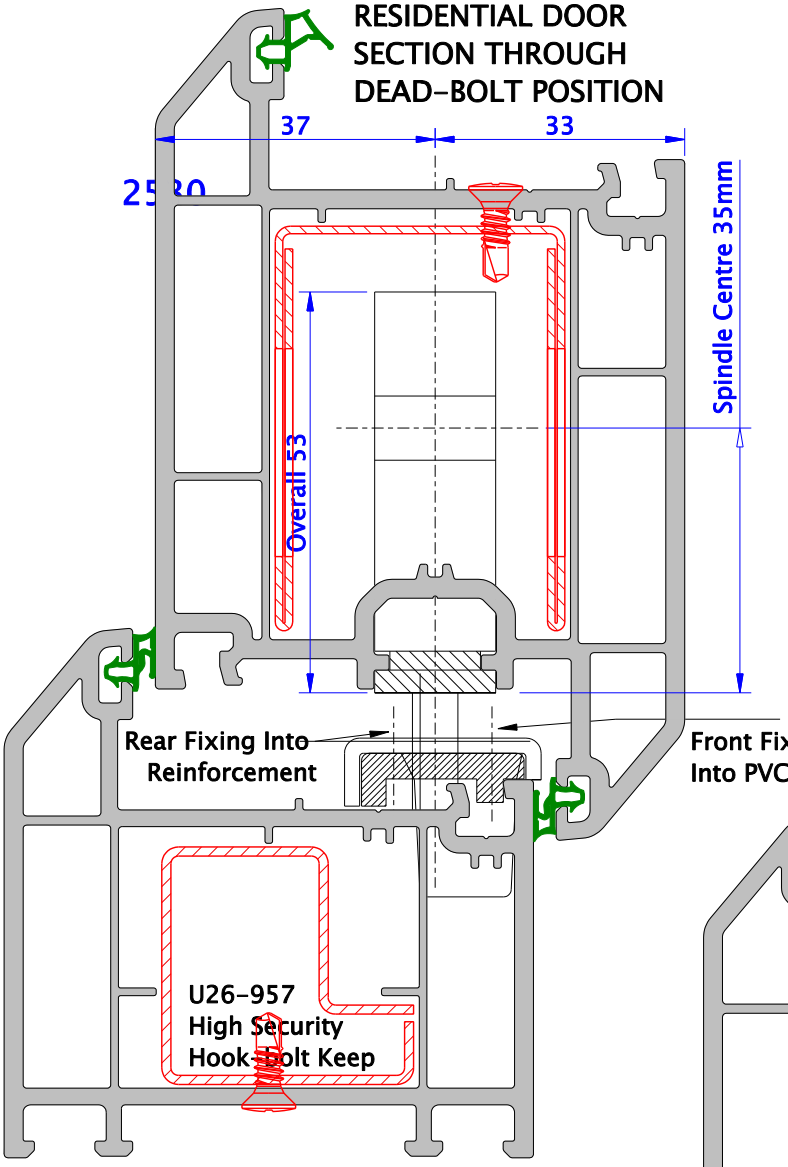


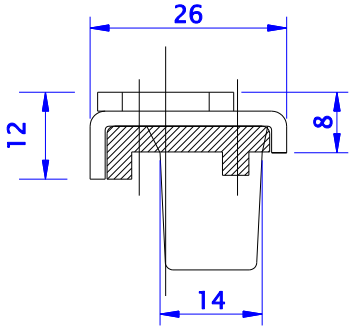
ROTO DOORLINE 108mm HINGE



WINK HAUS
Residential Doors

RESIDENTIAL DOOR
SECTION THROUGH
DEAD-BOLT POSITION

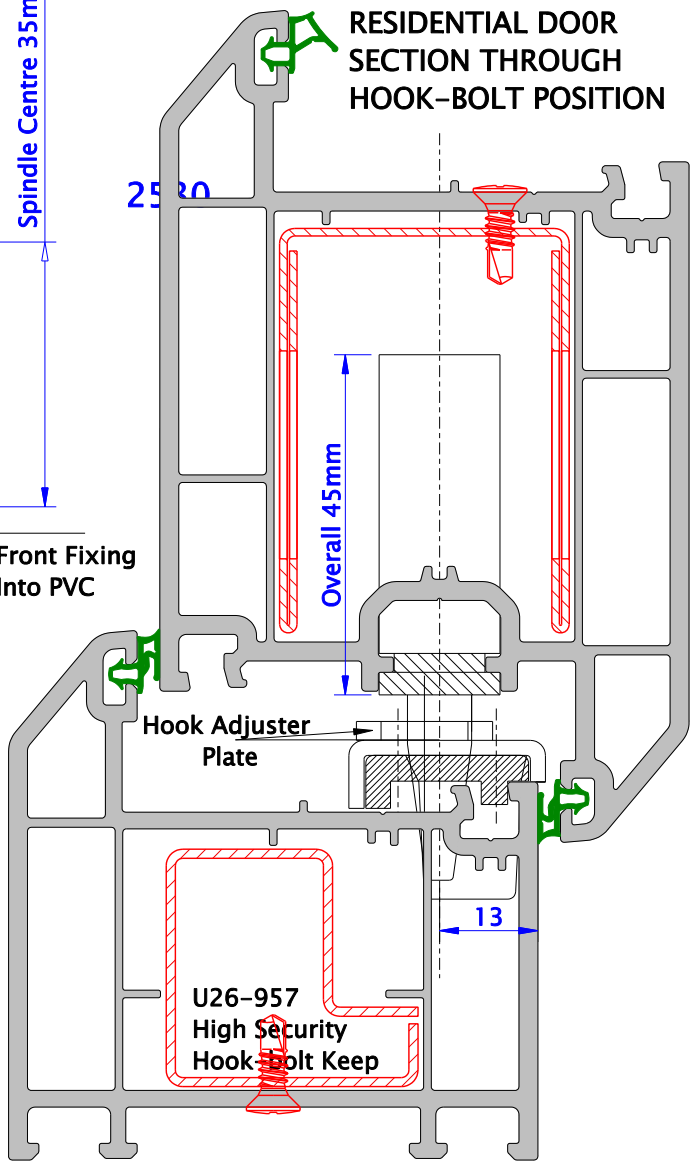




U26-957 Keep
Typical Details

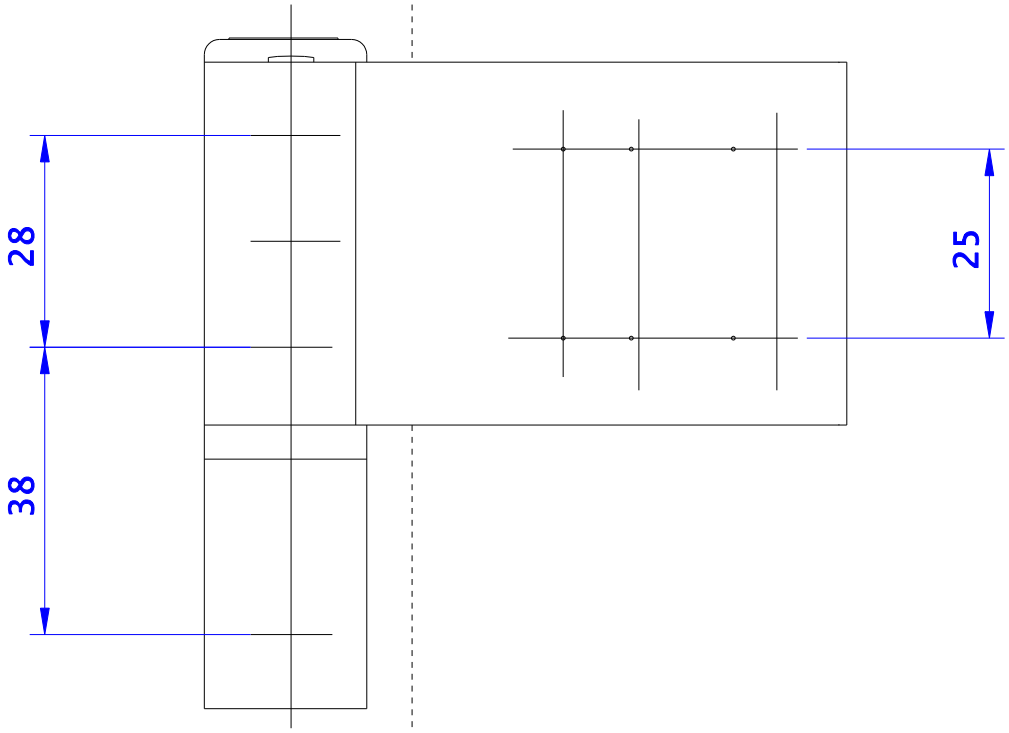
Section through Deceuninck 2500 Series Residential Door with Winkhaus High Security Lock & Keeps

RESIDENTIAL DOOR
SECTION THROUGH
HOOK-BOLT POSITION



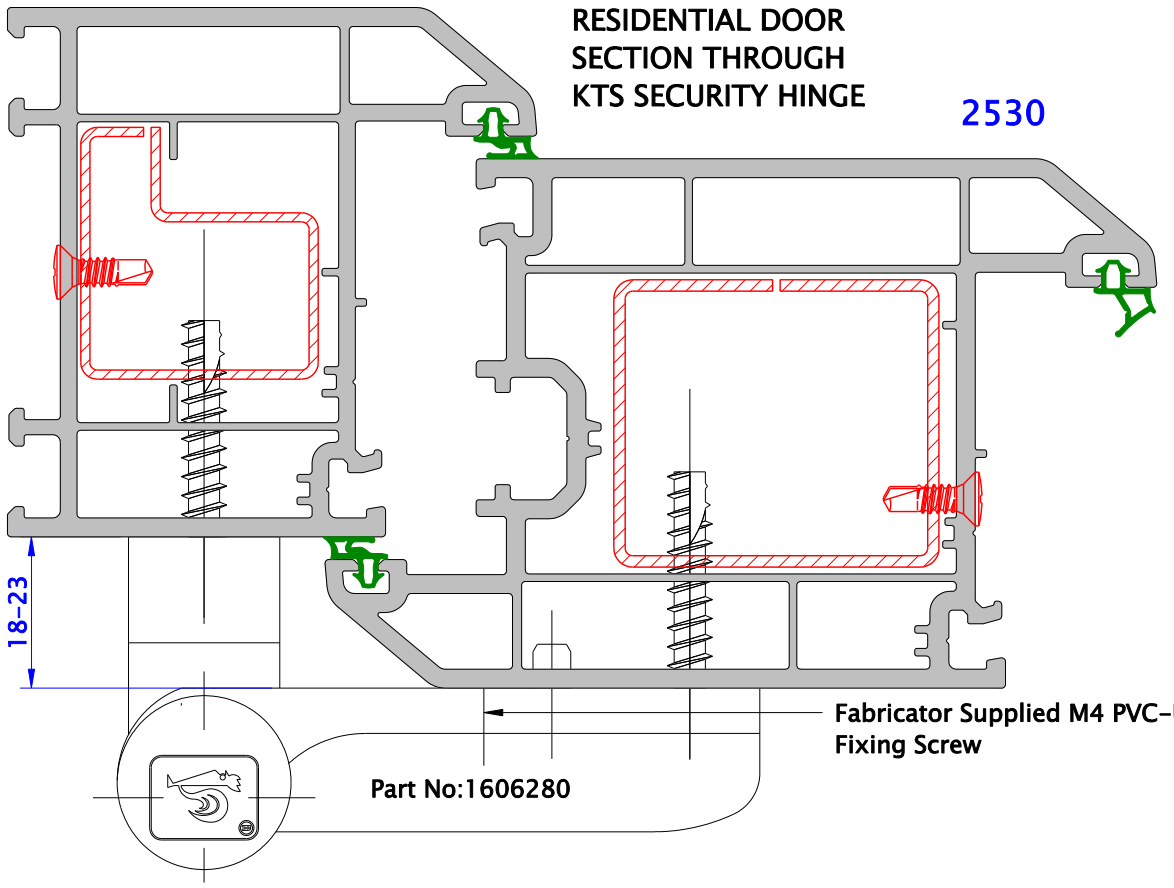
Euro-Cylinder Details

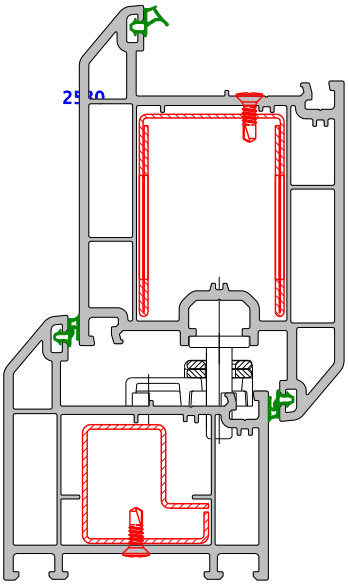
Code	Size	Description
X103401	45/50	Double Cyl Nickel
X113401	45/50	Double Cyl Brass



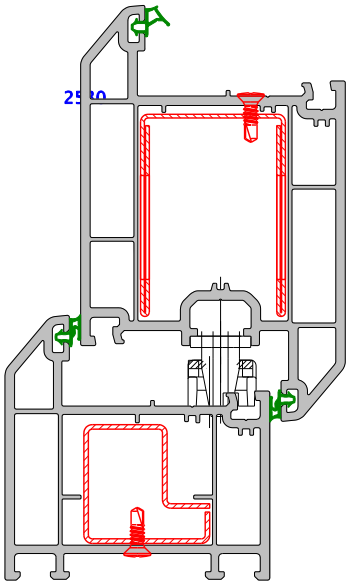
RESIDENTIAL DOOR
SECTION THROUGH
KTS SECURITY HINGE

2530

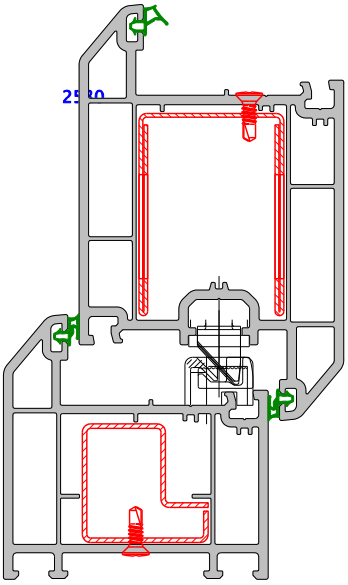




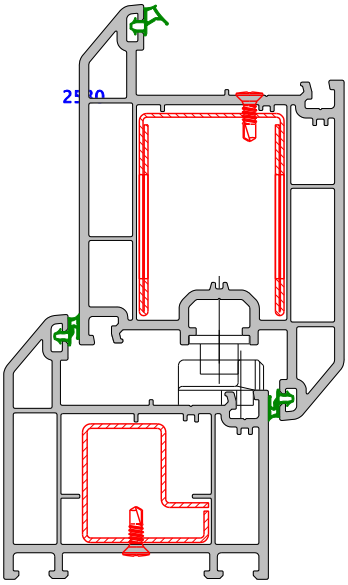
Hook Bolt Striker Plate
Order No. 29949



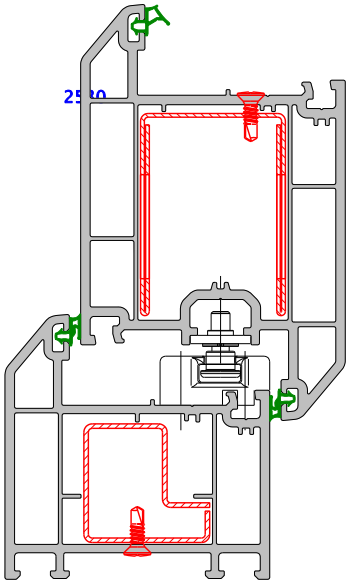
Finger Bolt Striker Plate
Order No. 221300



Door Lock Latch Plate
Rh Order No. 26982
Lh Order No. 26983



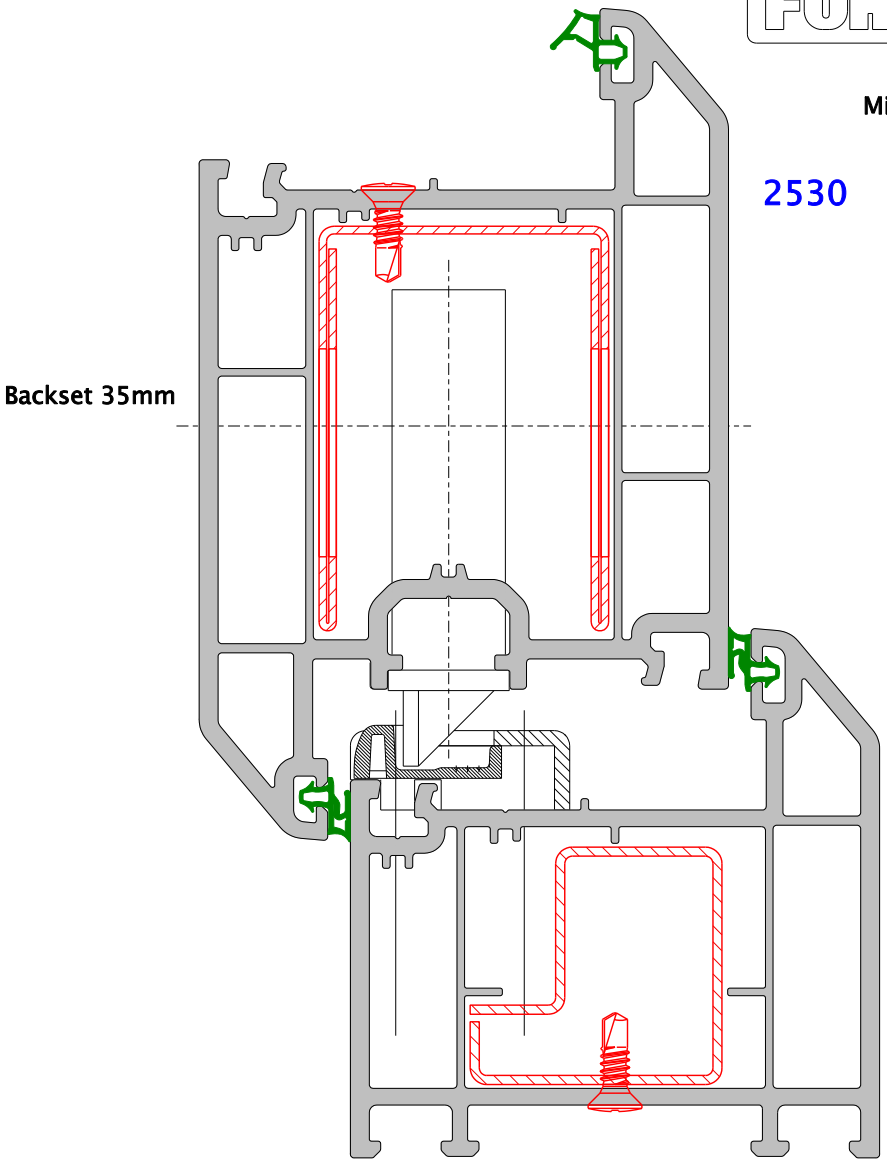
Standard Striker Plate
Order No. 34071



i.S. Mushroom Strike
Order No. 96470

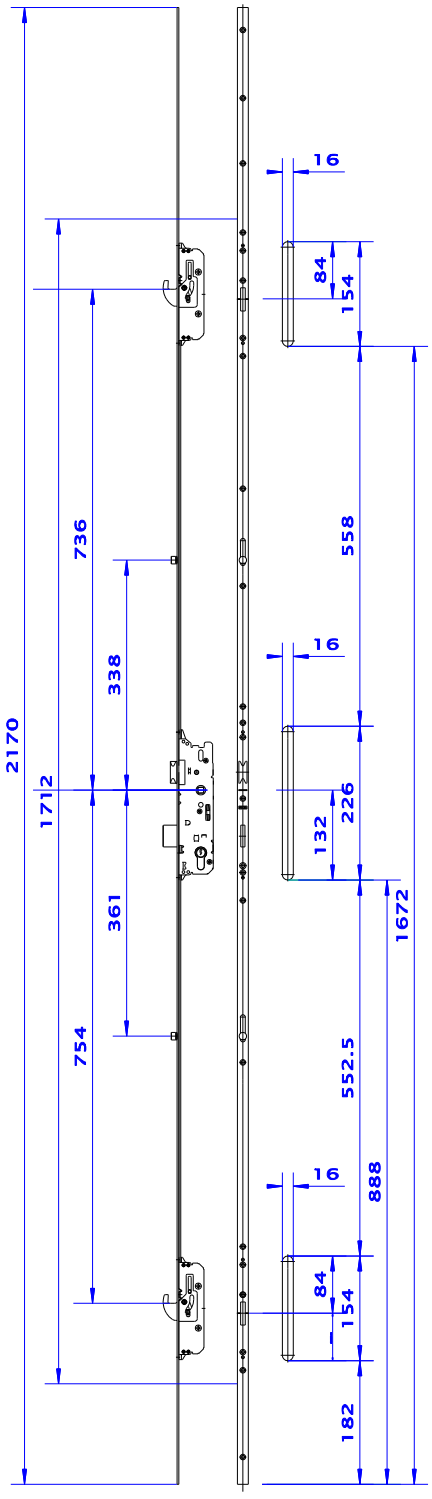
Carl F

FUHR MULTISAFE



856 & 859 Type 3 Door Lock, latch, deadbolt, 2 hooks, 2 rollers

Minimum Rebate Size 1830mm



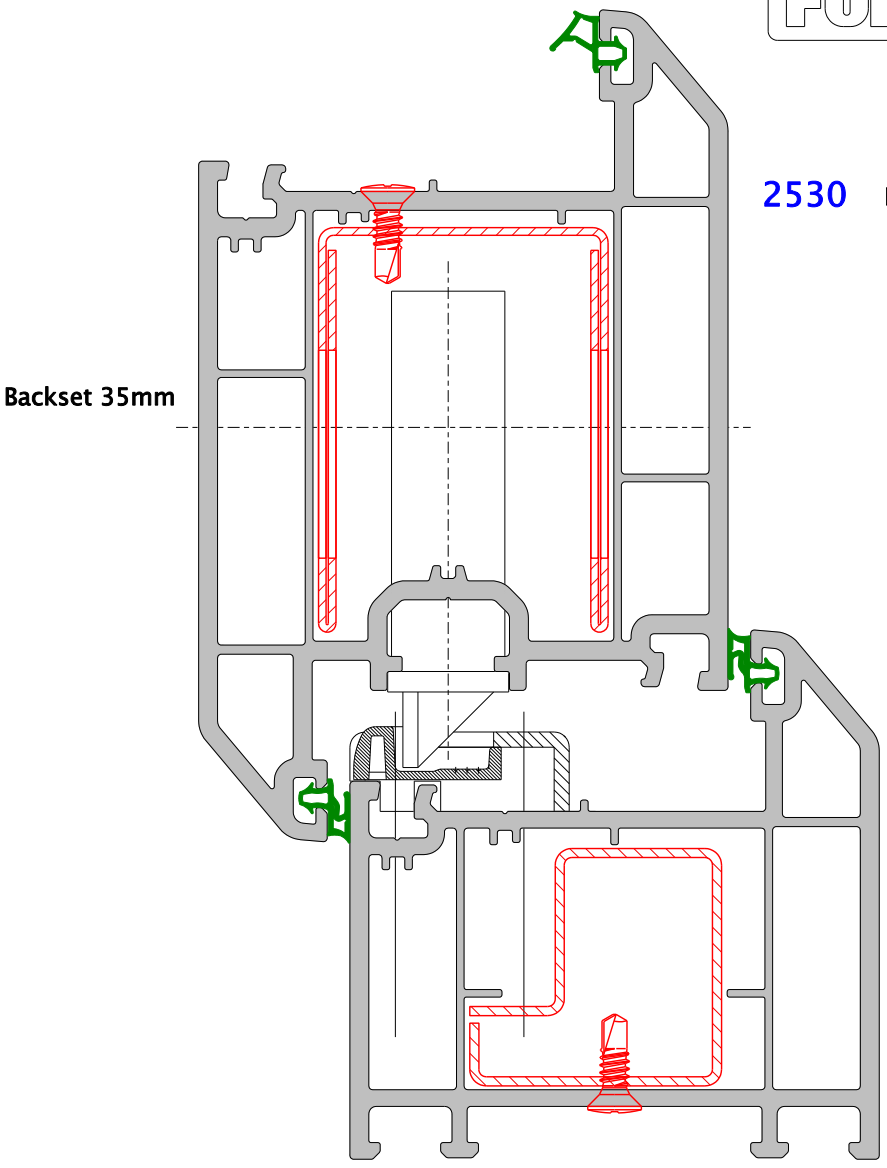
Part No.	Product
42.1856.92.353	856 Lever/Lever Lock
42.1859.92.353	859 Split Spindle Lock
42.4011.55.812	55812 Left Hand Latch Plate
42.4012.55.812	55812 Right Hand Latch Plate
42.4001.55.813	55813 Hook Plate
42.4002.55.677	55677 Roller Plate
42.4411.56.652	56652 One Piece Keep Left Hand
42.4412.56.652	56652 One Piece Keep Right Hand

Carl F

FUHR MULTISAFE

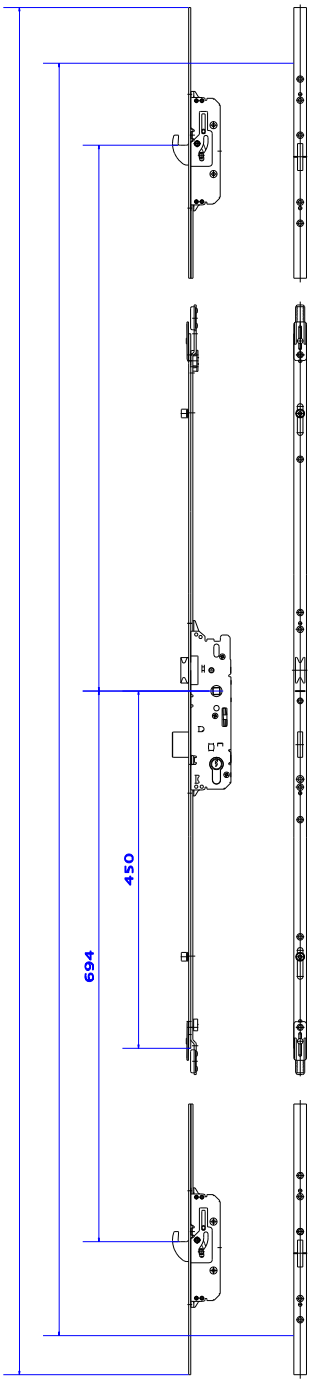
Short Door

2530 Minimum Rebate Size 1530mm

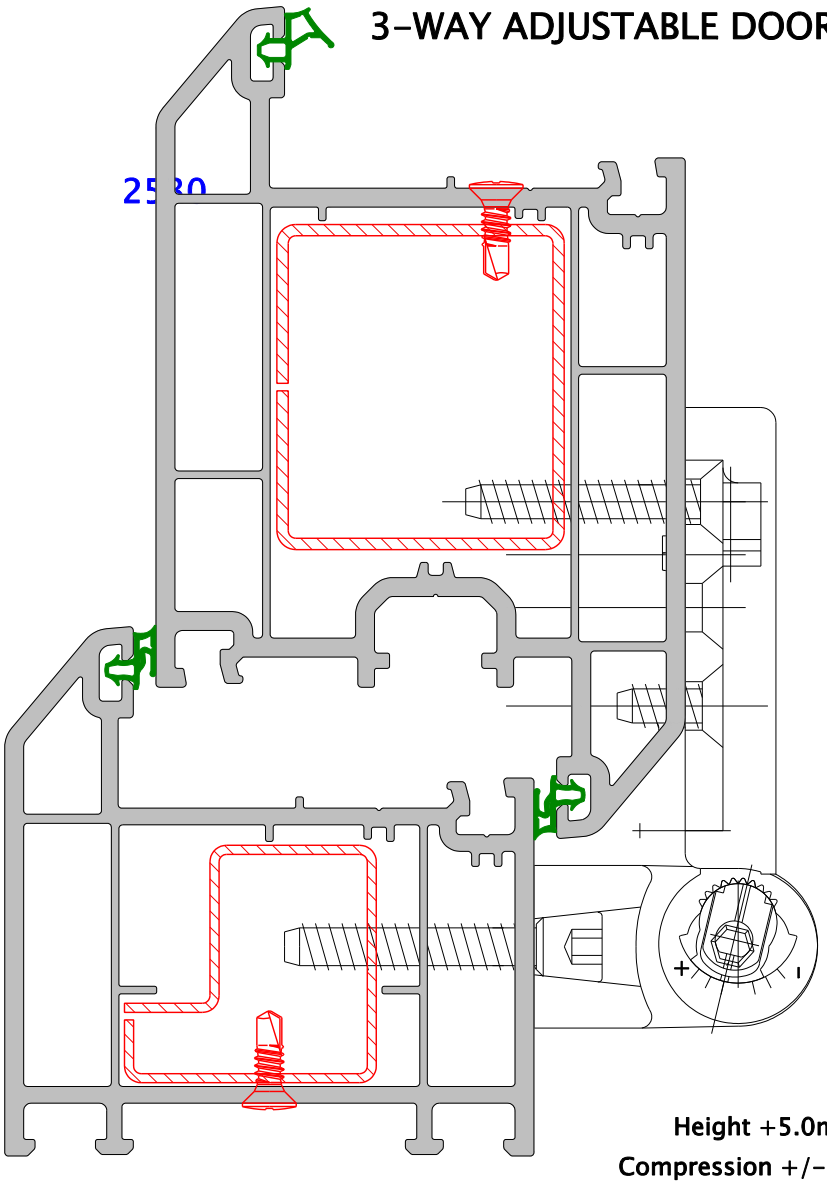


856 & 859 Centre Section, 900mm long with rollers, latch & deadbolt

Part No.	Product
42.1857.92.356	856 Lever/Lever Centre Section
42.1859.92.356	859 Split Spindle Centre Section
42.1600.93.006	Top Hook Extension
42.2600.93.633	Bottom Hook Extension
42.4011.55.812	55812 Left Hand Latch Plate
42.4012.55.812	55812 Right Hand Latch Plate
42.4001.55.813	55813 Hook Plate
42.4002.55.677	55677 Roller Plate



3-WAY ADJUSTABLE DOOR HINGE



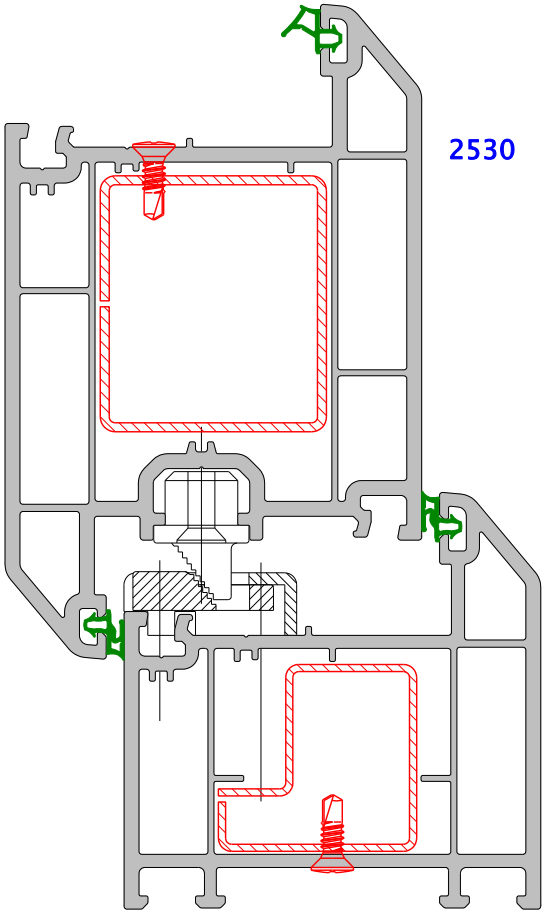
Height +5.0mm
Compression +/- 2.0mm
Lateral +/- 5.0mm

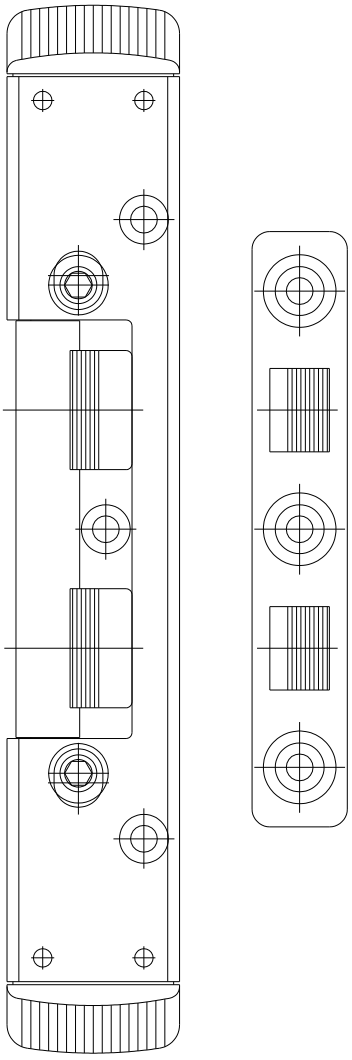
Part No.	Product
42.7300.30.125	K2125 White Flag Hinge
42.7300.32.125	K2125 Brown Flag Hinge
42.7300.81.125	K2125 Gold Flag Hinge

42.7300.00.001	K2125 Hinge Jig
42.7300.00.009	K2125 Telescopic Multi-Jig

Carl F

FUHR MULTISAFE





Dog Bolt – Frame and Sash.
No routing required

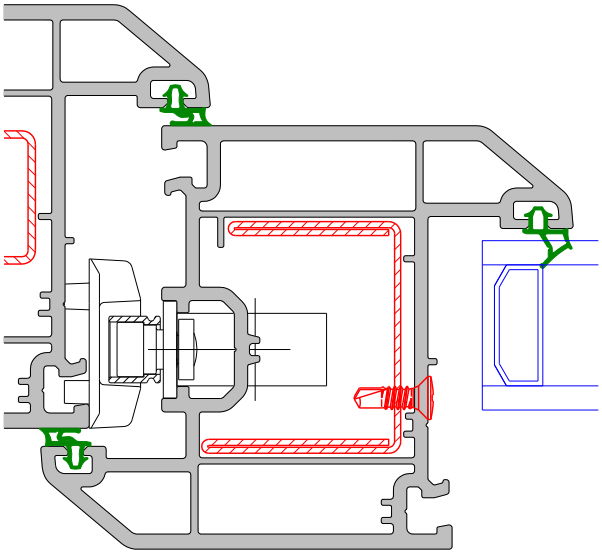
Part No.	Product
42.2005.50.009	50009 Sash Plate
42.2005.50.574	50574 Frame Plate

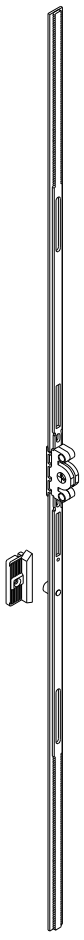
Groupco
Quality Door and Window Fittings

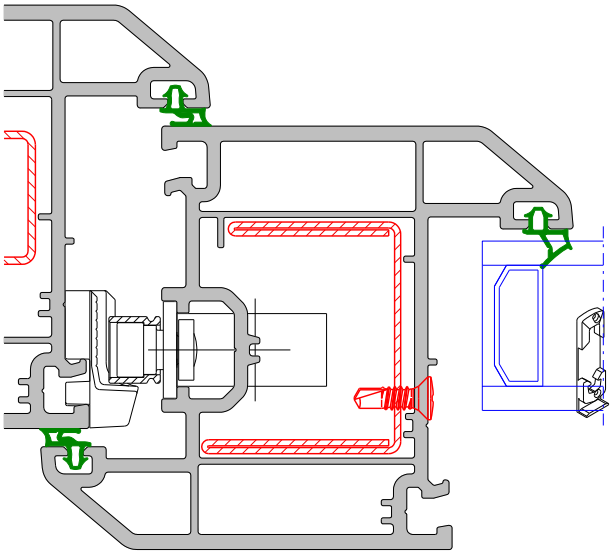
HARDWARE

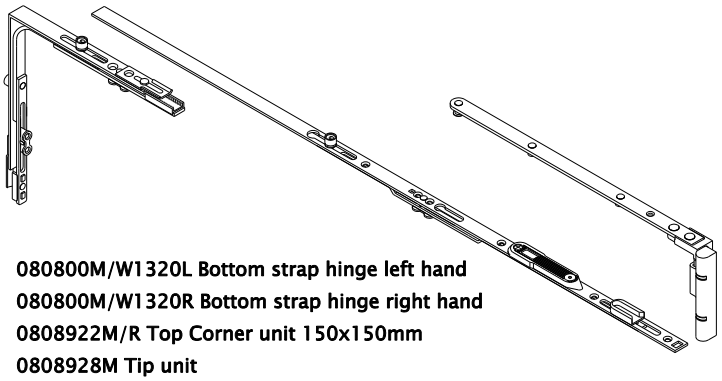
Tilt & Turn

FUHR

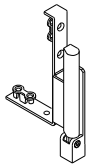


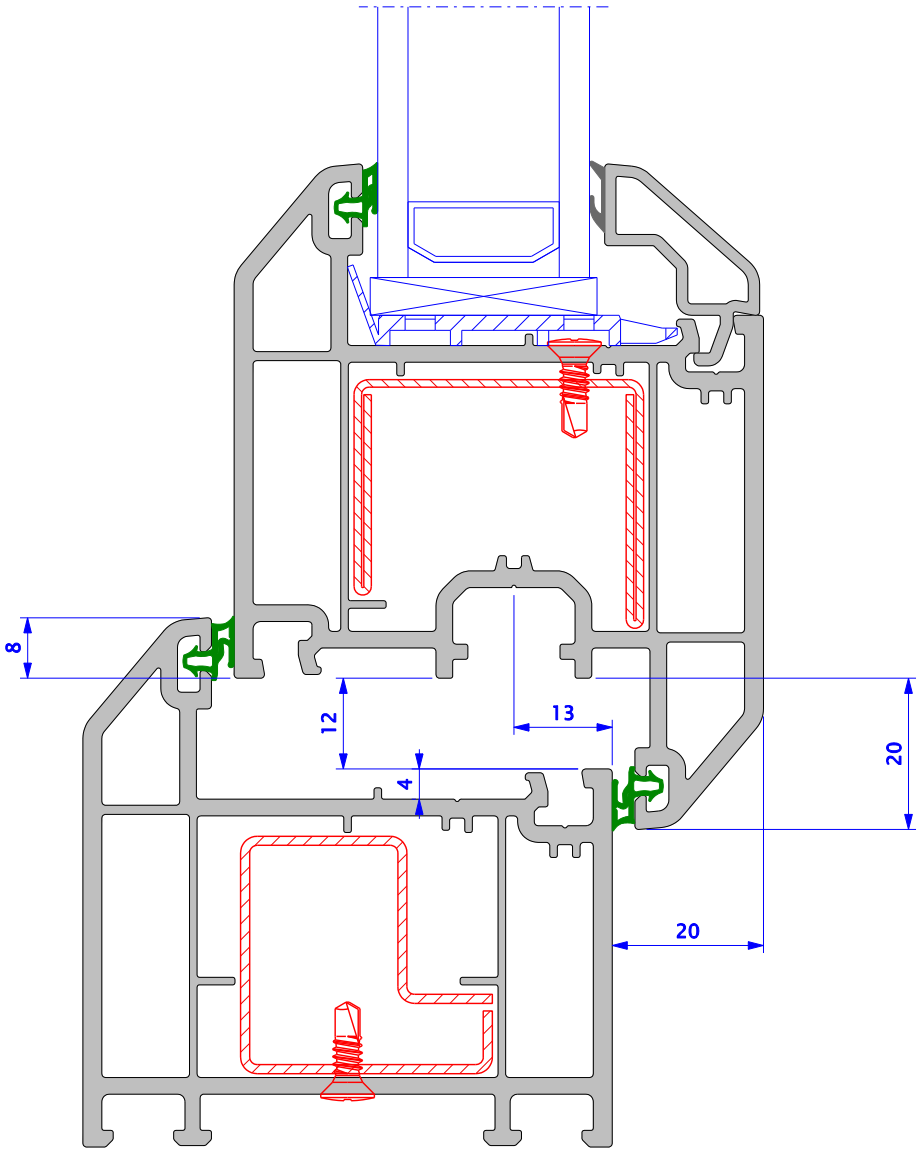






080800M/W1320L Bottom strap hinge left hand
080800M/W1320R Bottom strap hinge right hand
0808922M/R Top Corner unit 150x150mm
0808928M Tip unit
080507040M GR40T top stay. Rebate width 280-470mm
080507060M GR60T top stay. Rebate width 471-620mm
080507090M GR90T top stay. Rebate width 621-750mm
080507090RM GR90RT top stay. Rebate width 751-920mm
080507120M GR120T top stay. Rebate width 921-1220mm
080507150M GR150T top stay. Rebate width 1221-1520mm
0805705M/1 AR13/20 top stay arm to suit GR40T
0805705M/2 AR13/20 top stay arm to suit GR60T
0805705M/3 AR13/20 top stay arm to suit GR90/120T
0805705M/4 AR13/20 top stay arm to suit GR150T
0808964M Antislam device to suit GR40T
0808965M Antislam device to suit GR60T-GR150T
080857200M Bottom bolt DE200T. Rebate width 280-750mm
080857400M Bottom bolt DE400T. Rebate width 751-1000mm
080857600M Bottom bolt DE600T. Rebate width 1001-1300mm
080857800M Bottom bolt DE800T. Rebate width 1301-1520mm
08089015M1 570 espag. 15mm backset. Rebate height 566-870mm
08089015M3 700R espag, 15mm backset. Rebate height 871-1000mm
08089015M4 1000 espag, 15mm backset. Rebate height 1001-1300mm
08089015M5 1300 espag, 15mm backset. Rebate height 1301-1600mm
08089015M6 1600 espag, 15mm backset. Rebate height 1601-1900mm
08089015M7 1900 espag, 15mm backset. Rebate height 1901-2200mm
0808949M/L Mishandling device left hand
0808949M/R Mishandling device right hand
0808932M/2 Side bolt DE400. Rebate height to 1000mm
0808932M/3 Side Bolt DE600. Rebate height 1001-1300mm
0808932M/4 Side bolt DE800. Rebate height 1301-1900mm
0808935M 600mm side bolt extension. Rebate height 1901-2200mm
080155677 Roller plate
080155817 Mushroom plate
080184138 Tip plate
080149713 Tip plate profile packer





OUTER: 2532,2533.

SASH: 2537.

HARDWARE:

Siegenia:

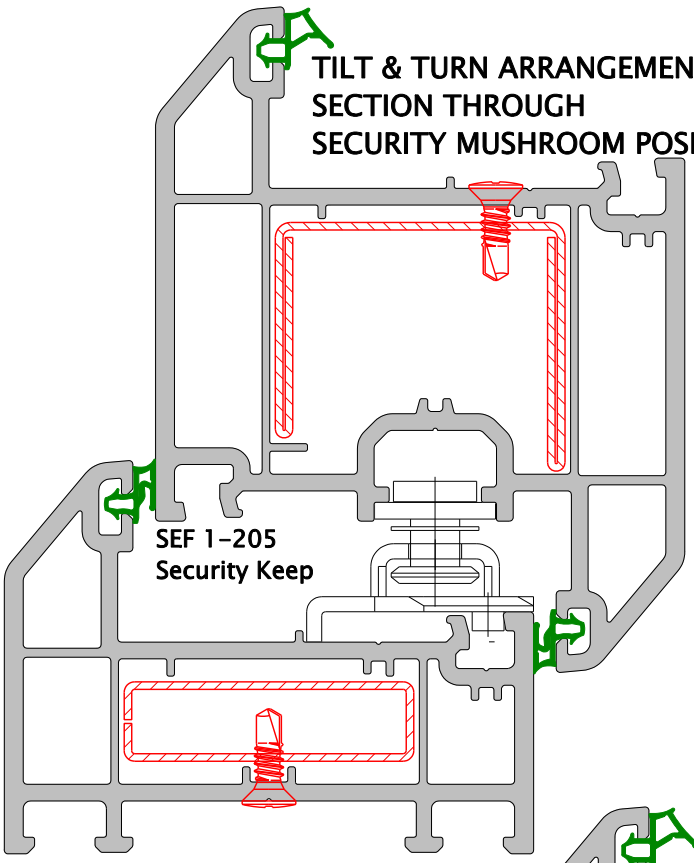
Roller cam keep No. 3375:	Pt. No. 673375
T.B.T. keep No. 608:	Pt. No. 264608
Stay Angle 20/13:	Pt. No. 351532
Rebated corner hinge 20/13:	Pt. No. 310548-552

Mila Garant 'C':

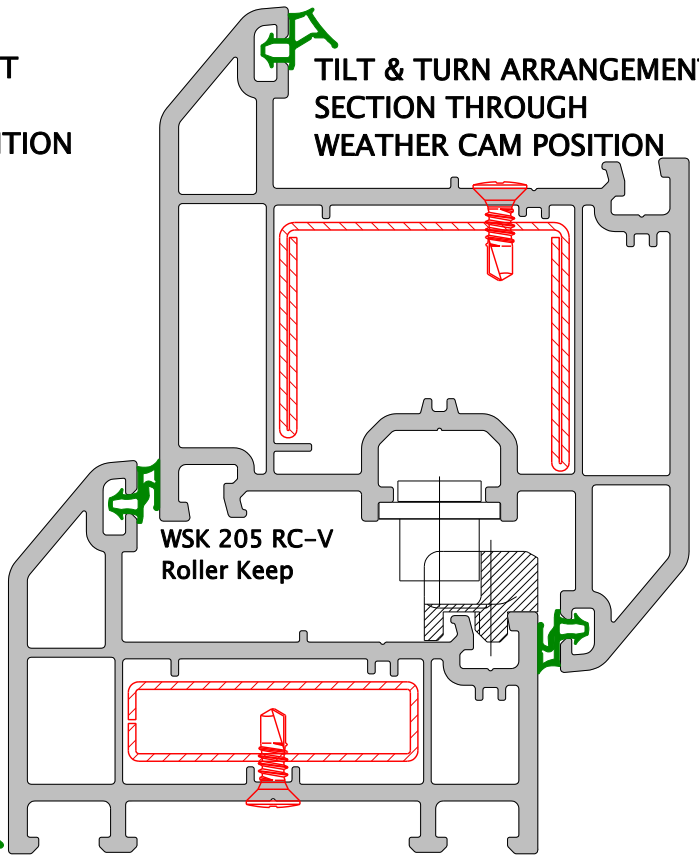
Roller cam keep No. 3375:	Pt. No. 673375
T.B.T. Keep No. 5410:	Pt. No. 675410
Base plate No.50/4:	Pt. No. 610506-507
Stay plate No.50/4:	Pt. No. 650832-833
Base plate packer 2mm:	Pt. No. 618002

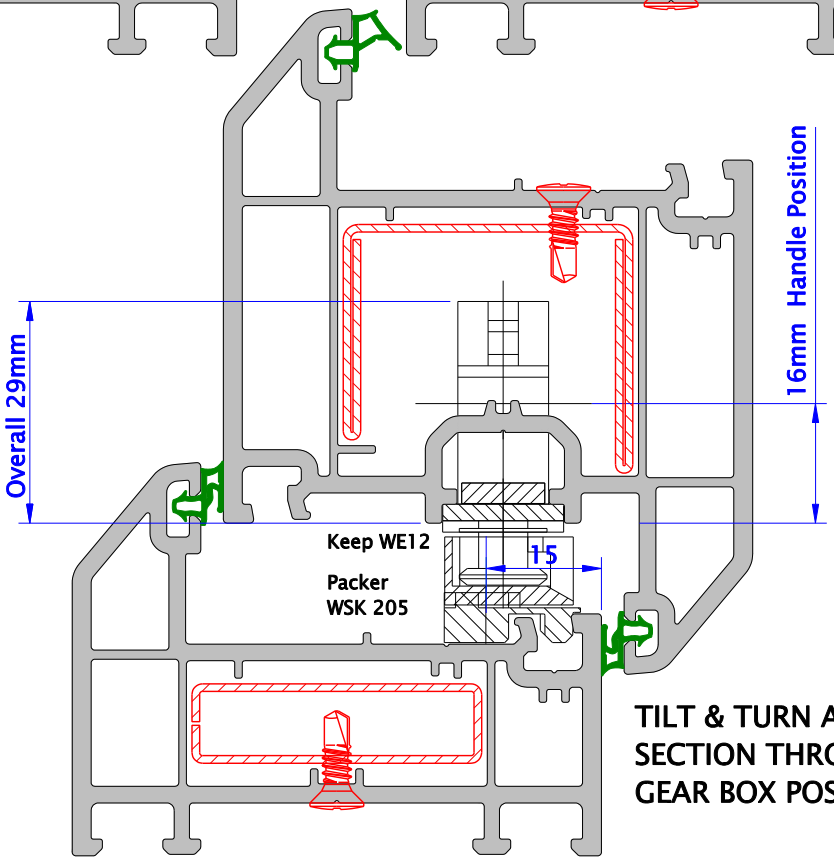
WINK HAUS

TILT & TURN ARRANGEMENT
SECTION THROUGH
SECURITY MUSHROOM POSITION



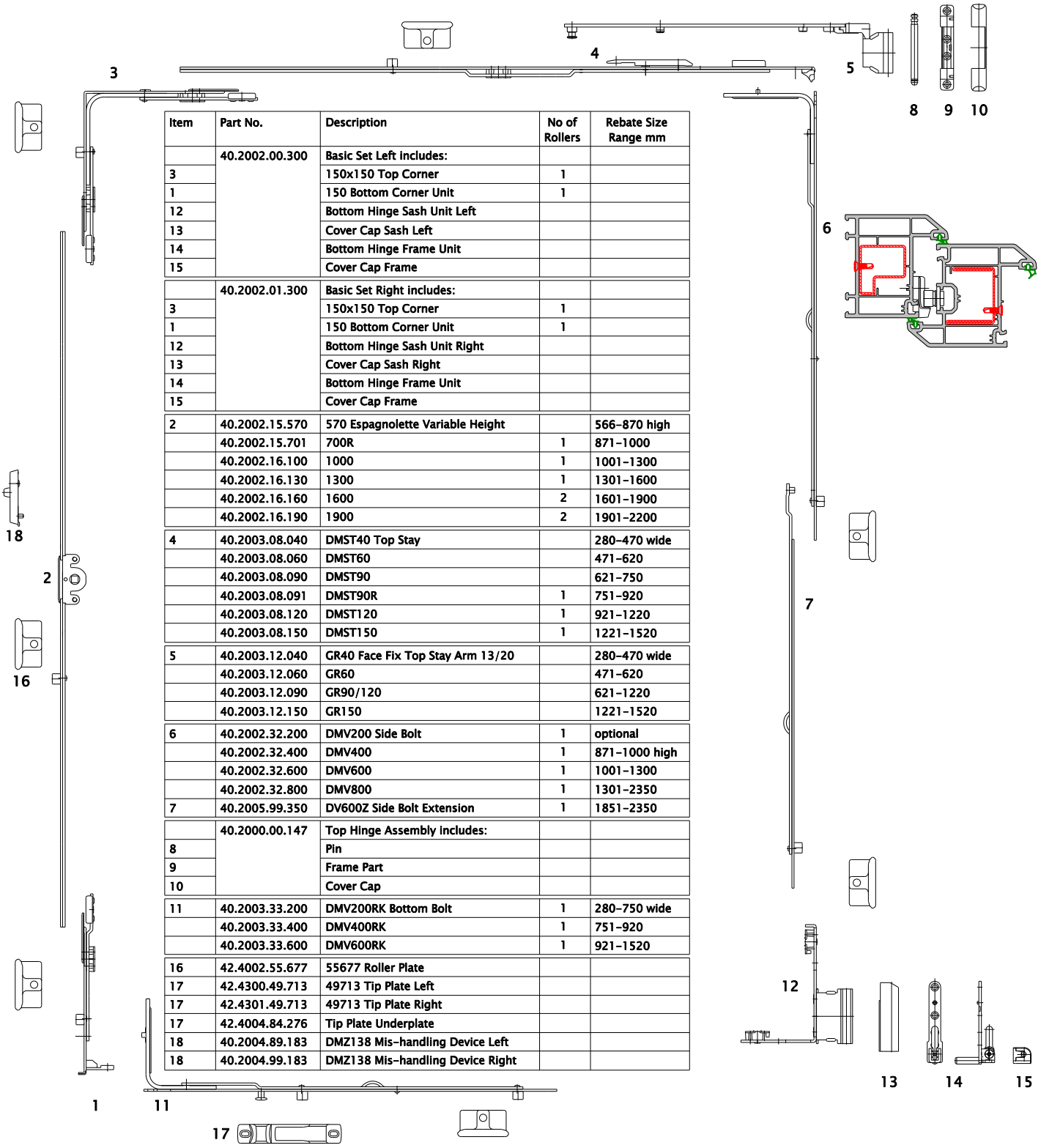
TILT & TURN ARRANGEMENT
SECTION THROUGH
WEATHER CAM POSITION





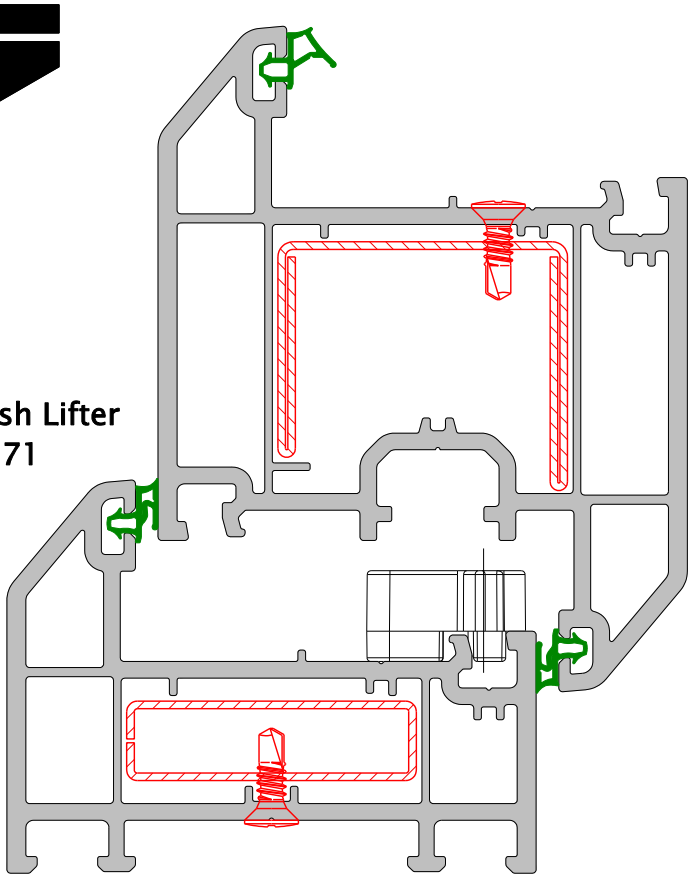
TILT & TURN ARRANGEMENT
SECTION THROUGH
GEAR BOX POSITION

FUHR MULTISAFE

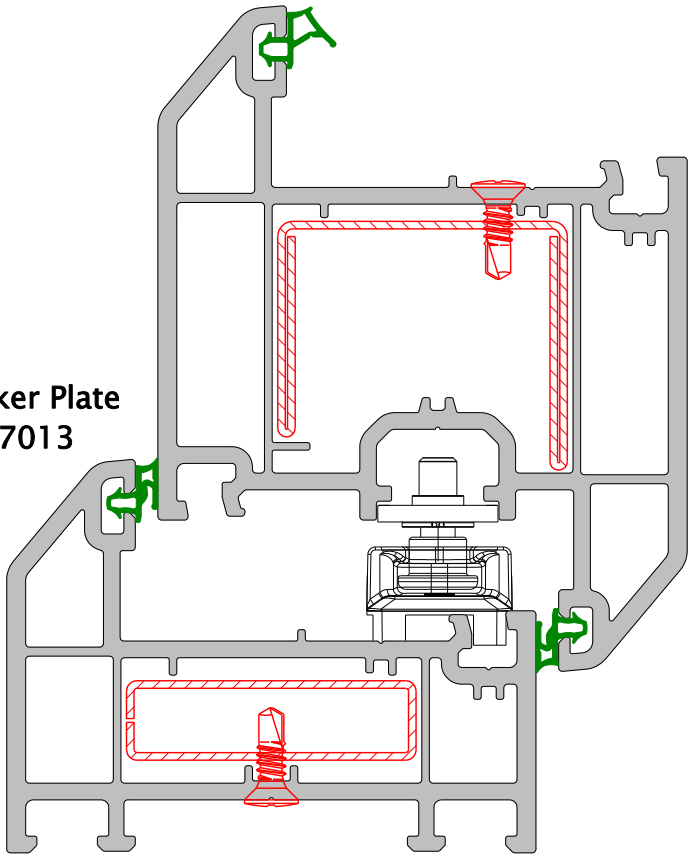


Item	Part No.	Description	No of Rollers	Rebate Size Range mm
	40.2002.00.300	Basic Set Left includes:		
3		150x150 Top Corner	1	
1		150 Bottom Corner Unit	1	
12		Bottom Hinge Sash Unit Left		
13		Cover Cap Sash Left		
14		Bottom Hinge Frame Unit		
15		Cover Cap Frame		
	40.2002.01.300	Basic Set Right includes:		
3		150x150 Top Corner	1	
1		150 Bottom Corner Unit	1	
12		Bottom Hinge Sash Unit Right		
13		Cover Cap Sash Right		
14		Bottom Hinge Frame Unit		
15		Cover Cap Frame		
2	40.2002.15.570	570 Espagnolette Variable Height		566-870 high
	40.2002.15.701	700R	1	871-1000
	40.2002.16.100	1000	1	1001-1300
	40.2002.16.130	1300	1	1301-1600
	40.2002.16.160	1600	2	1601-1900
	40.2002.16.190	1900	2	1901-2200
4	40.2003.08.040	DMST40 Top Stay		280-470 wide
	40.2003.08.060	DMST60		471-620
	40.2003.08.090	DMST90		621-750
	40.2003.08.091	DMST90R	1	751-920
	40.2003.08.120	DMST120	1	921-1220
	40.2003.08.150	DMST150	1	1221-1520
5	40.2003.12.040	GR40 Face Fix Top Stay Arm 13/20		280-470 wide
	40.2003.12.060	GR60		471-620
	40.2003.12.090	GR90/120		621-1220
	40.2003.12.150	GR150		1221-1520
6	40.2002.32.200	DMV200 Side Bolt	1	optional
	40.2002.32.400	DMV400	1	871-1000 high
	40.2002.32.600	DMV600	1	1001-1300
	40.2002.32.800	DMV800	1	1301-2350
7	40.2005.99.350	DV600Z Side Bolt Extension	1	1851-2350
	40.2000.00.147	Top Hinge Assembly includes:		
8		Pin		
9		Frame Part		
10		Cover Cap		
11	40.2003.33.200	DMV200RK Bottom Bolt	1	280-750 wide
	40.2003.33.400	DMV400RK	1	751-920
	40.2003.33.600	DMV600RK	1	921-1520
16	42.4002.55.677	55677 Roller Plate		
17	42.4300.49.713	49713 Tip Plate Left		
17	42.4301.49.713	49713 Tip Plate Right		
17	42.4004.84.276	Tip Plate Underplate		
18	40.2004.89.183	DMZ138 Mis-handling Device Left		
18	40.2004.99.183	DMZ138 Mis-handling Device Right		

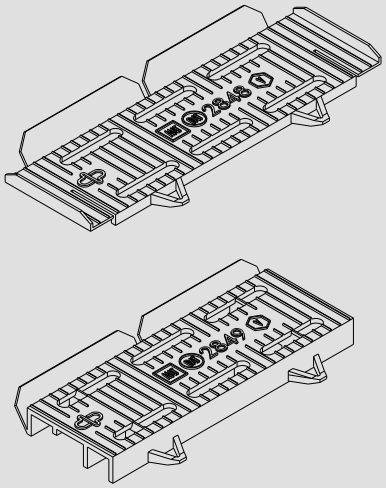
TREND TBT Sash Lifter
Order No. 95171



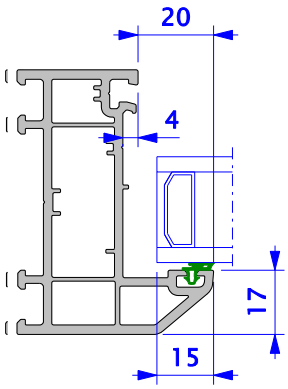
i.S. TBT Striker Plate
Order No. 97013

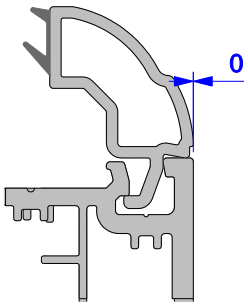


GLAZING TABLE

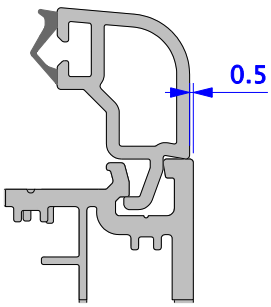


DECORATIVE	CHAMFERED	RETRO	CONTEMPORARY	STANDARD	
				3137	5 6
				3037	7 8
				3139	9 10
				3039	11 12
				3120	17 18
		3031	3032	3020	19 20
				3022	21 22
		3033	3034	3024	23 24
		3126		3026	25 26
	2540	3027	3029	3028	27 28
2840		3130		3030	30 31
		3132			32 33
			3036		34 35
			3134	3124	36 37
				3038	40 41



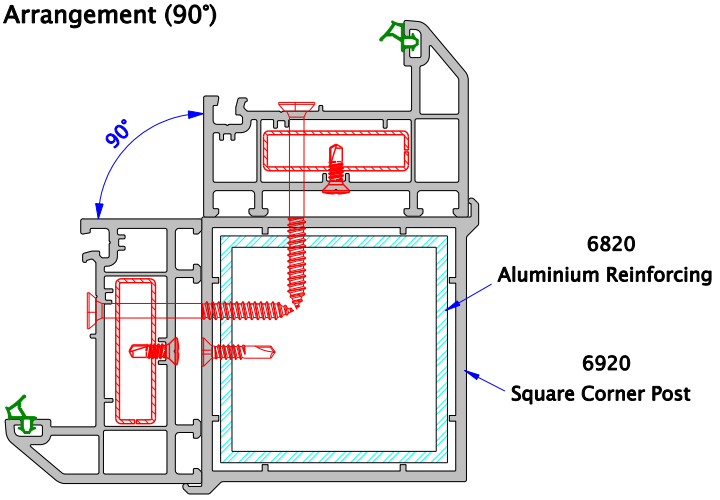


Decorative

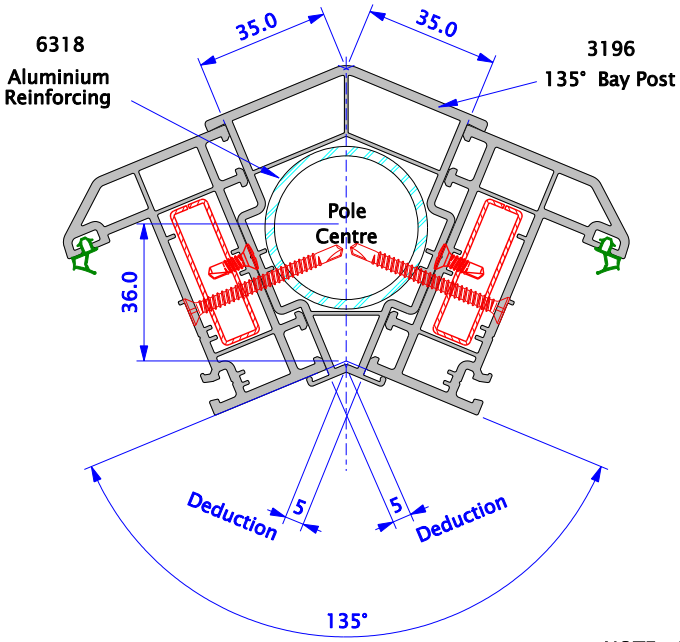


Standard
Contemporary
Retro
Chamfered

Fixed Angle Bay Arrangement (90°)

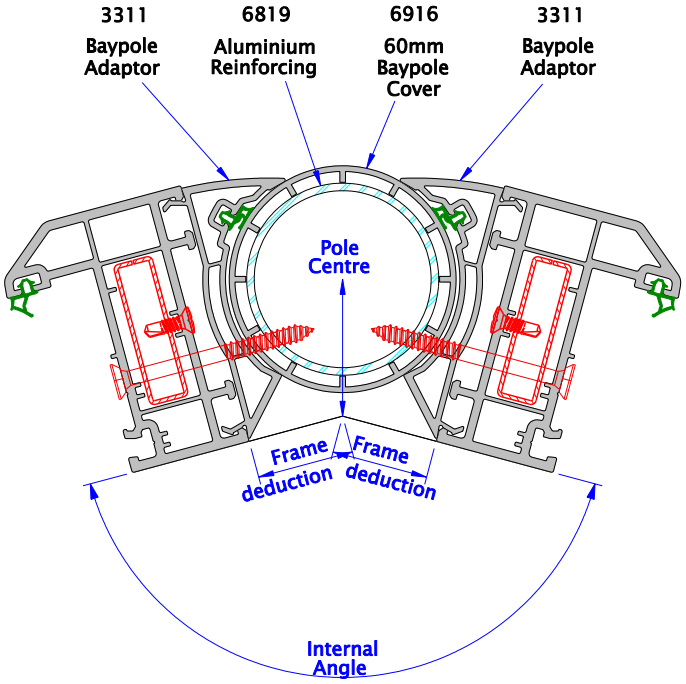


Fixed Angle Bay Arrangement (135°)

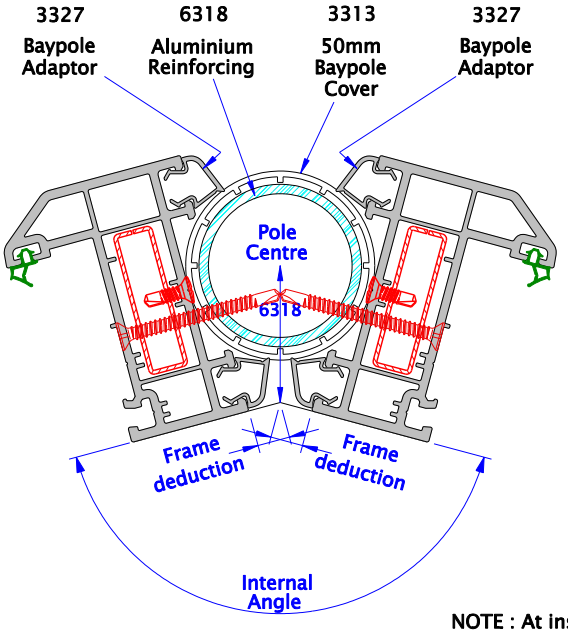


NOTE : At installation, ALL joints must be silicone sealed against the ingress of water

Variable Angle Bay Arrangement (180° – 90°)

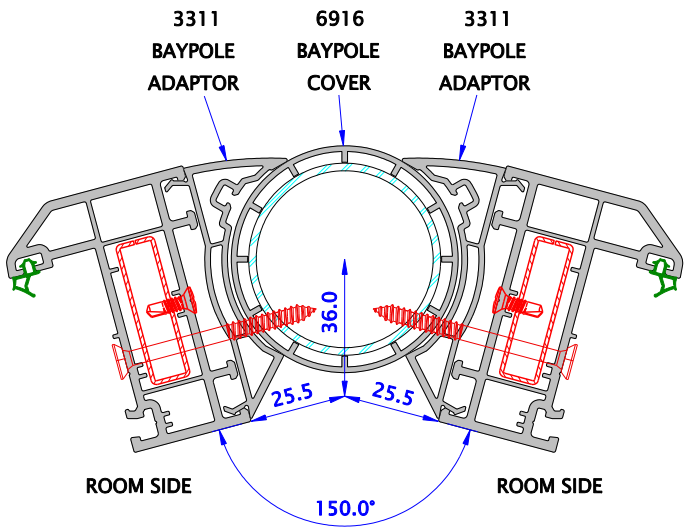


Variable Angle Bay Arrangement (180° – 136°)



NOTE : At installation, ALL joints must be silicone sealed against the ingress of water

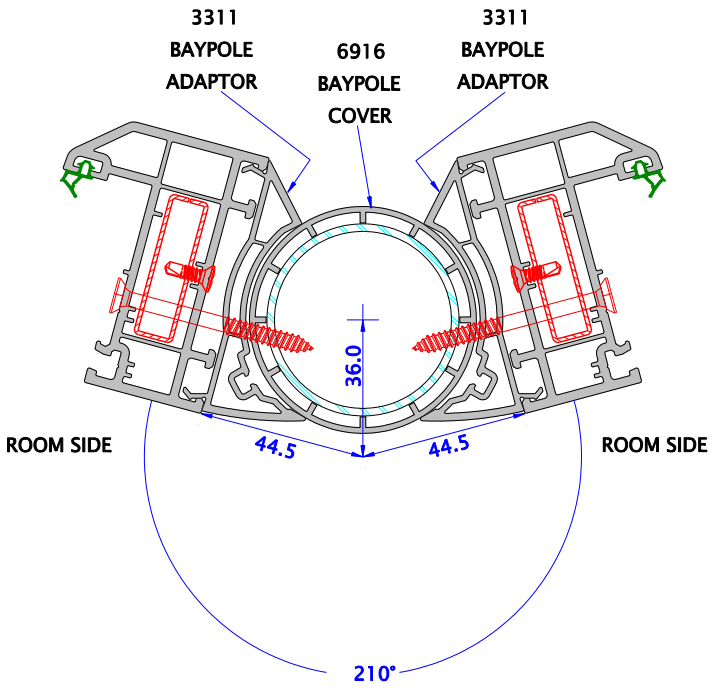
USING 3311 BAYPOLE ADAPTOR WITH 6916 60mm BAYPOLE COVER



EXAMPLE SHOWN AT 150° INTERNAL CILL ANGLE
WITH A FRAME DEDUCTION OF 25.5mm AND
A POLE CENTRE OF 36.0mm

INTERNAL CILL ANGLE	FRAME DEDUCTION	POLE CENTRE
180	35.0	35.0
178	34.5	35.0
176	34.0	35.0
174	33.0	35.0
172	32.5	35.0
170	32.0	35.0
168	31.5	35.0
166	30.5	35.5
164	30.0	35.5
162	29.5	35.5
160	29.0	35.5
158	28.0	35.5
156	27.5	36.0
154	27.0	36.0
152	26.5	36.0
150	25.5	36.0
148	25.0	36.5
146	24.5	36.5
144	23.5	37.0
142	23.0	37.0
140	22.5	37.5
138	21.5	37.5
136	21.0	38.0
134	20.0	38.0
132	19.5	38.5
130	18.5	38.5
128	18.0	39.0
126	17.0	39.5
124	16.5	39.5
122	15.5	40.0
120	15.0	40.5
118	14.0	41.0
116	13.0	41.5
114	12.5	41.5
112	11.5	42.0
110	10.5	42.5
108	9.5	43.5
106	8.5	44.0
104	7.5	44.5
102	6.5	45.0
100	5.5	45.5
98	4.5	46.5
96	3.5	47.0
94	2.5	48.0
92	1	49.0
90	0	49.5

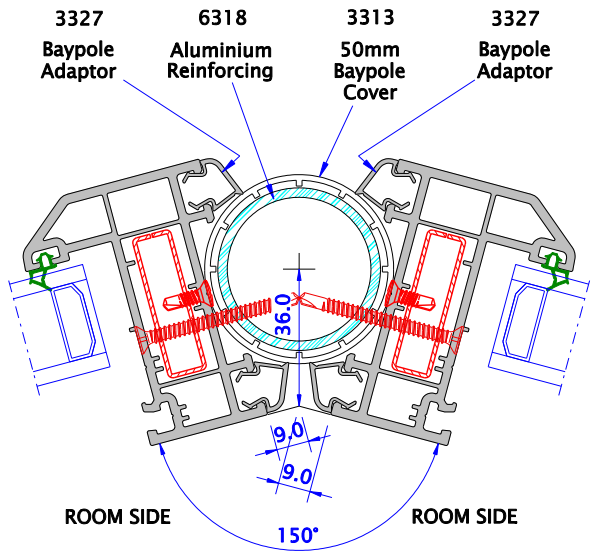
USING 3311 BAYPOLE ADAPTOR WITH 6916 60mm BAYPOLE COVER



EXAMPLE SHOWN AT 210° INTERNAL CILL ANGLE
WITH A FRAME DEDUCTION OF 44.5mm AND
A POLE CENTRE OF 36.0mm

INTERNAL CILL ANGLE	FRAME DEDUCTION	POLE CENTRE
180	35.0	35.0
182	35.5	35.0
184	36.0	35.0
186	37.0	35.0
188	37.5	35.0
190	38.0	35.0
192	38.5	35.0
194	39.0	35.5
196	40.0	35.5
198	40.5	35.5
200	41.0	35.5
202	42.0	35.5
204	42.5	36.0
206	43.0	36.0
208	44.0	36.0
210	44.5	36.0
212	45.0	36.5
214	46.0	36.5
216	46.5	37.0
218	47.0	37.0
220	48.0	37.5
222	48.5	37.5
224	49.0	38.0
226	50.0	38.0
228	50.5	38.5
230	51.0	38.5
232	52.0	39.0
234	53.0	39.5
236	53.5	39.5
238	54.5	40.0
240	55.0	40.5
242	56.0	41.0
244	57.0	41.5
246	58.0	41.5
248	58.5	42.0
250	59.5	42.5
252	60.5	43.5
254	61.0	44.0
256	62.0	44.5
258	63.0	45.0
260	64.0	45.5
262	65.5	46.5
264	66.5	47.0
266	67.5	48.0
268	69.0	49.0
270	70.0	49.5

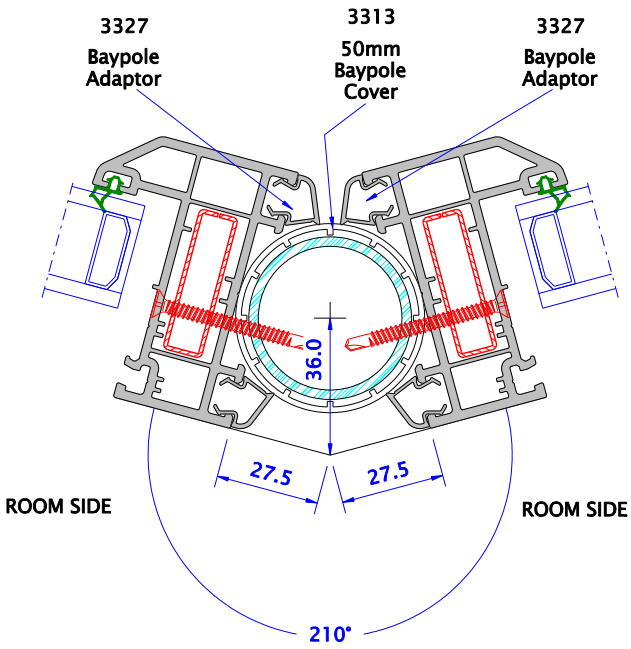
USING 3327 BAYPOLE ADAPTOR WITH 3313 50mm BAYPOLE COVER



EXAMPLE SHOWN AT 150° INTERNAL CILL ANGLE
WITH A FRAME DEDUCTION OF 9.0mm AND
A POLE CENTRE OF 36.0mm

INTERNAL CILL ANGLE	FRAME DEDUCTION	POLE CENTRE
180	18.0	35.0
178	17.5	35.0
176	17.0	35.0
174	16.0	35.0
172	15.5	35.0
170	15.0	35.0
168	14.5	35.0
166	13.5	35.5
164	13.0	35.5
162	12.5	35.5
160	12.0	35.5
158	11.0	35.5
156	10.5	36.0
154	10.0	36.0
152	9.5	36.0
150	9.0	36.0
148	8.0	36.5
146	7.5	36.5
144	7.0	37.0
142	6.0	37.0
140	5.5	37.5
138	4.5	37.5

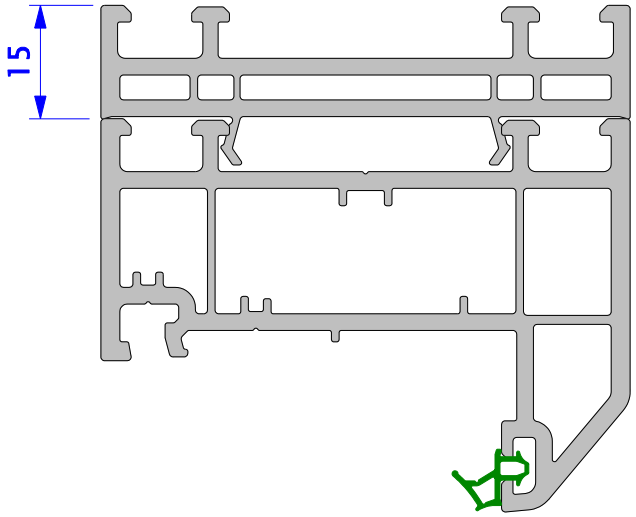
USING 3327 BAYPOLE ADAPTOR WITH 3313 50mm BAYPOLE COVER



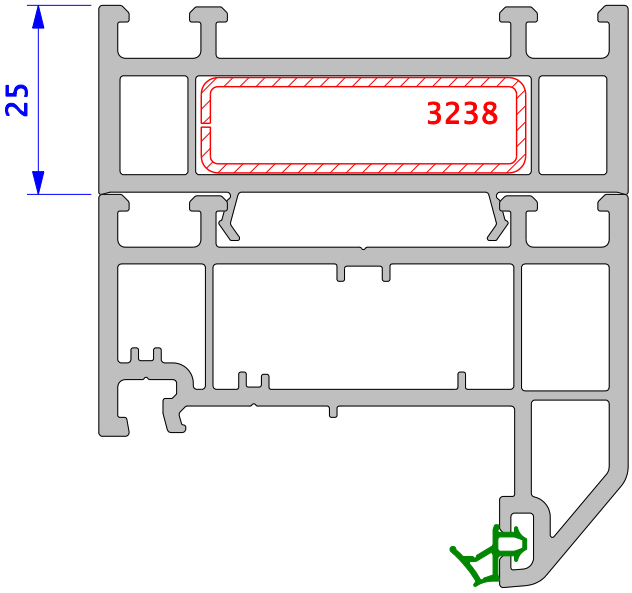
EXAMPLE SHOWN AT 210° INTERNAL CILL ANGLE
WITH A FRAME DEDUCTION OF 27.5mm AND
A POLE CENTRE OF 36.0mm

INTERNAL CILL ANGLE	FRAME DEDUCTION	POLE CENTRE
180	18.0	35.0
182	18.5	35.0
184	19.0	35.0
186	20.0	35.0
188	20.5	35.0
190	21.0	35.0
192	21.5	35.0
194	22.5	35.5
196	23.0	35.5
198	23.5	35.5
200	24.0	35.5
202	25.0	35.5
204	25.5	36.0
206	26.0	36.0
208	27.0	36.0
210	27.5	36.0
212	28.0	36.5
214	29.0	36.5
216	29.5	37.0
218	30.0	37.0
220	31.0	37.5
222	31.5	37.5

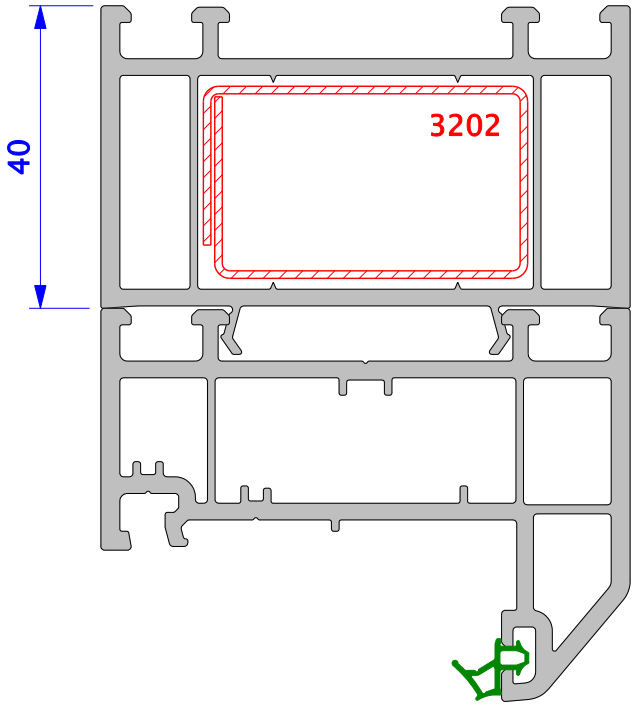
3336 – 15mm



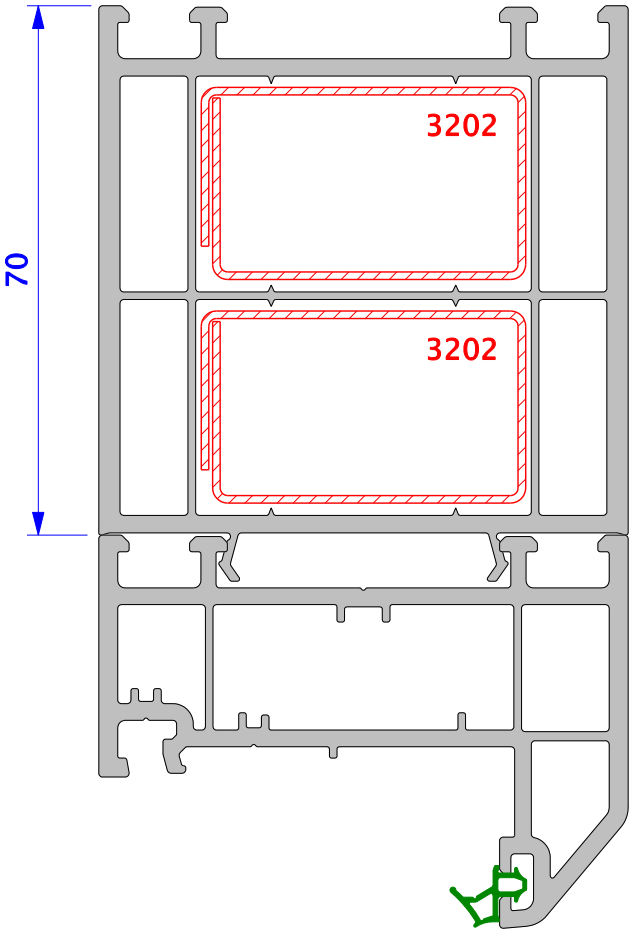
3300 – 25mm



3301 – 40mm

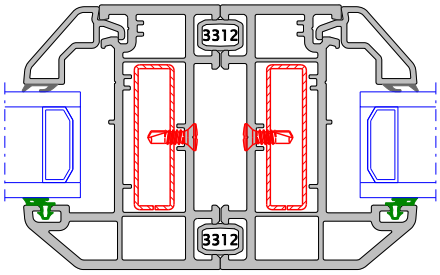


3302 – 70mm

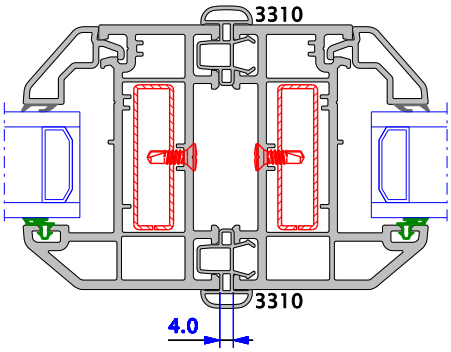


NOTE: At installation,ALL joints must be silicone sealed against the ingress of water.

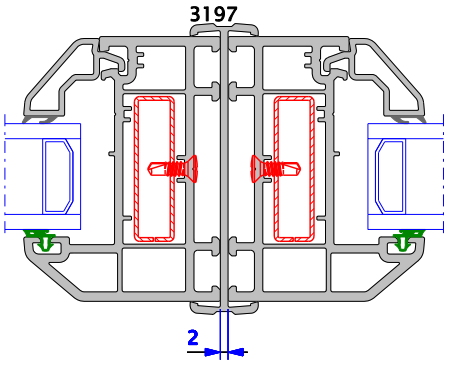
3312
2-Part Concealed Frame To Frame Coupler



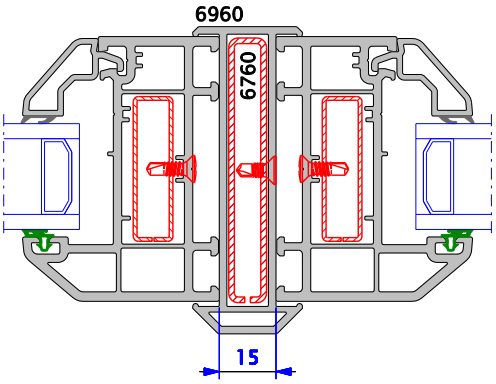
3310
2-Part Overlapping Frame To Frame Coupler



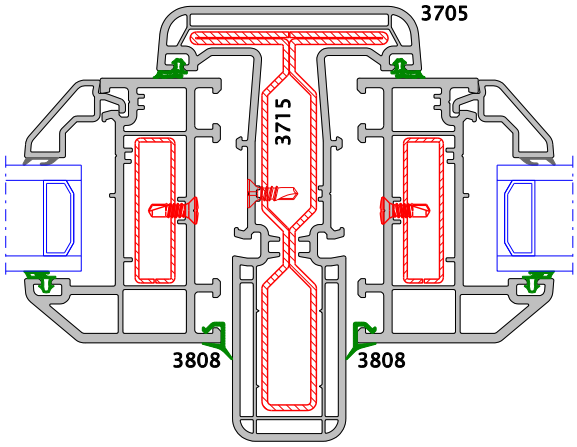
3197
Overlapping Frame To Frame Coupler



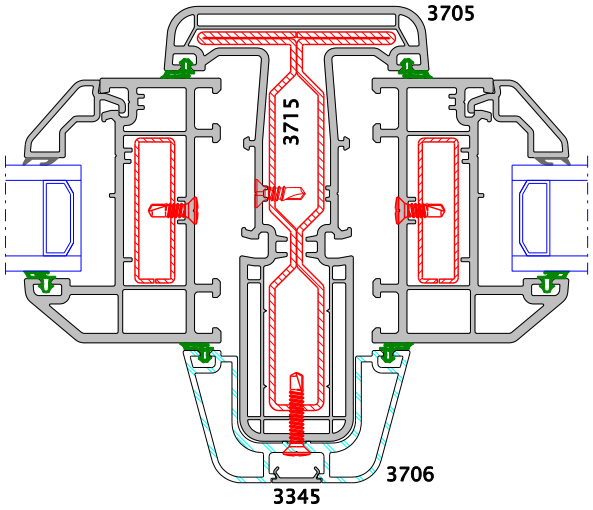
6960
Reinforced Frame to Frame Coupler



3705
Reinforced Frame To Frame Coupler
Option 1 - 3808 Seal



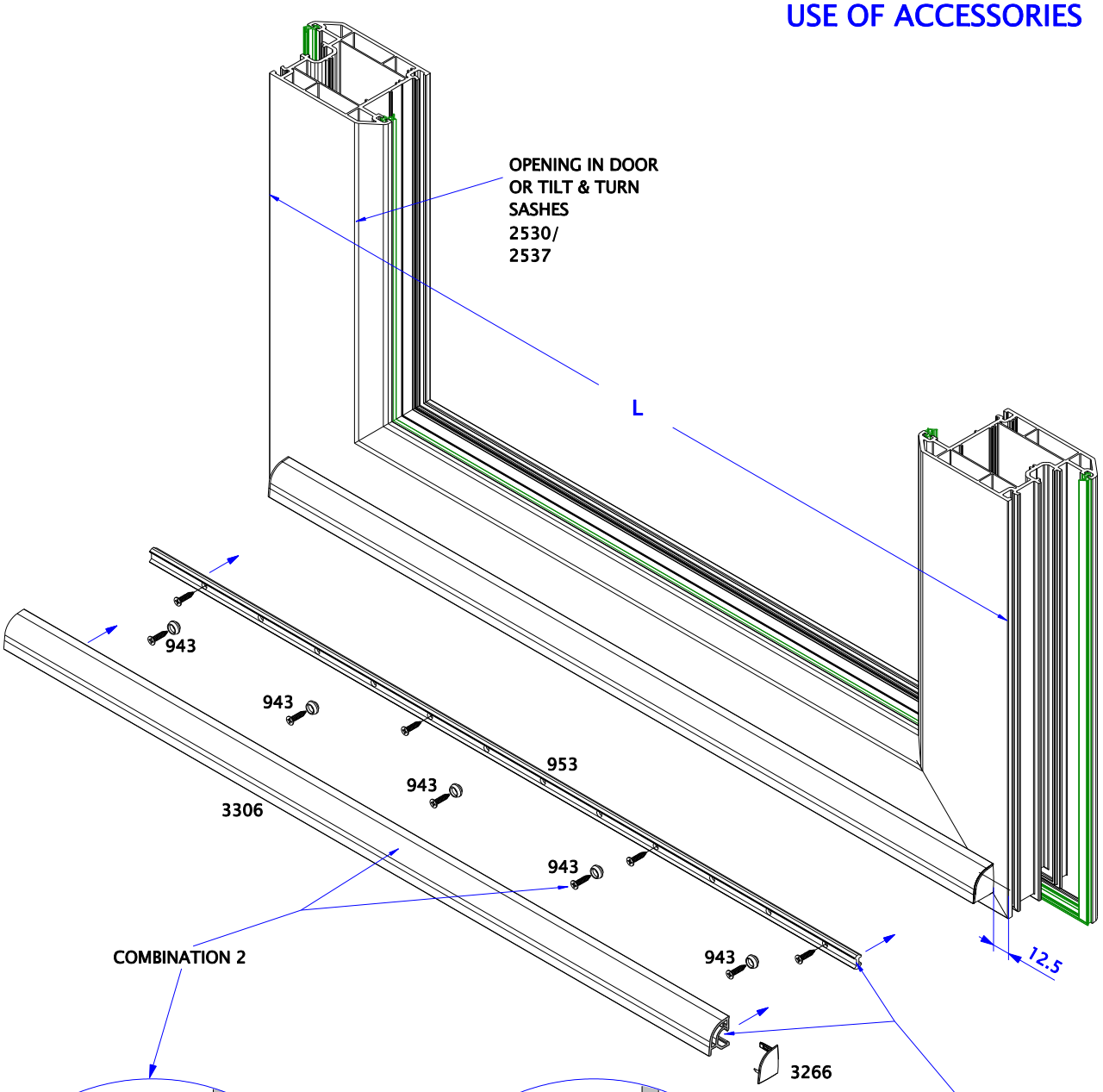
3705
Reinforced Frame To Frame Coupler
Option 2 - 3706 Pressure Plate

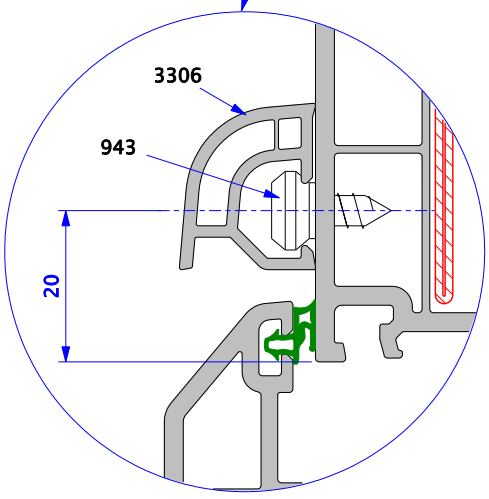


NOTE. We recommended that all relevant exposed joints are sealed on site with silicone against the ingress of water.

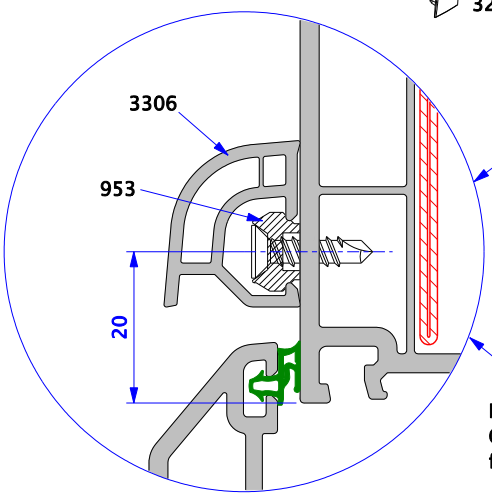
Drip Rails

USE OF ACCESSORIES





USING STUDS
943



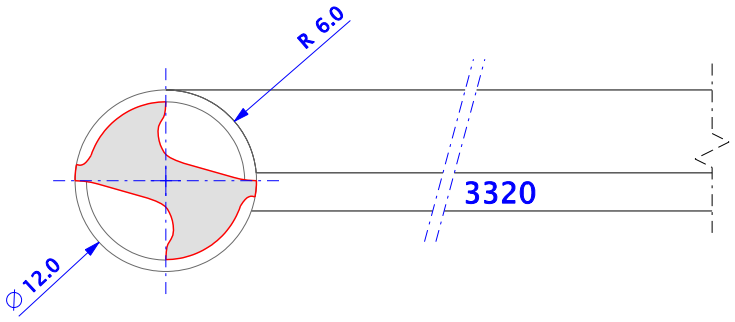
USING ALI RAIL
953

IMPORTANT
Combination 1 should always be used for foiled and coloured profiles.

3306	SHORT LEG SASH SIZE	L -28
943	40 ⊕> 150	150 <-- ⊕ 40
953	25 ⊕ --> 200	200 <-- ⊕ 25

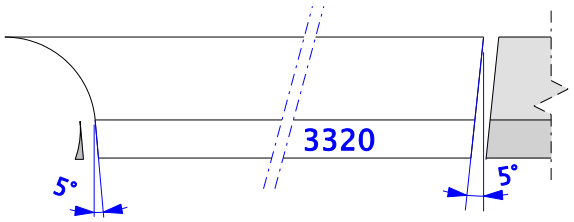
3320 Georgian Bar

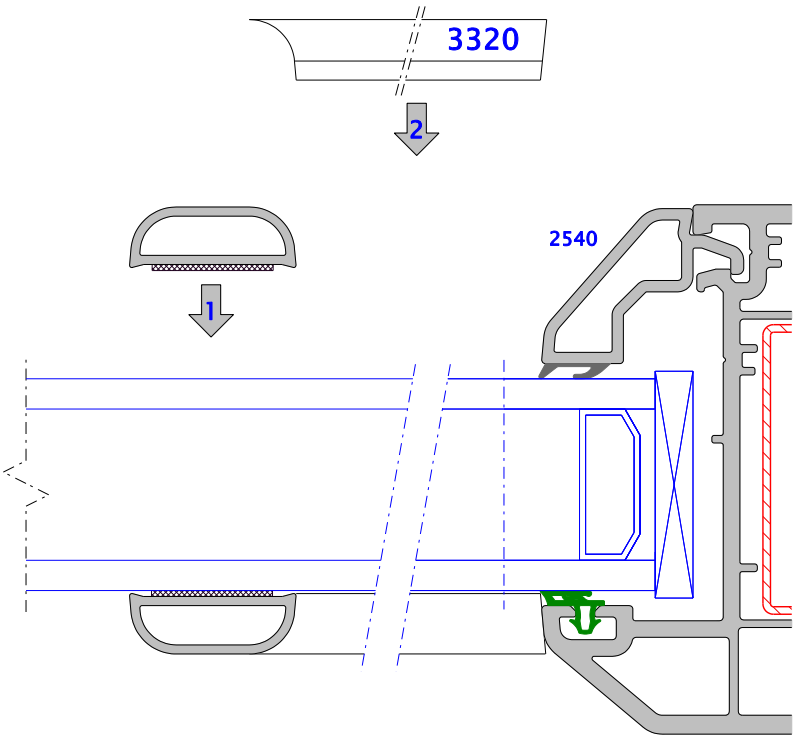
USE OF ACCESSORIES



When using glazing beads other than the one ilustrated below, use the list showing the cut angle relating to each bead.

Bead	Cut Angle
3027	Square Cut
3028	5°
3029	6°
3033	Square Cut
3024	5°
3034	5°





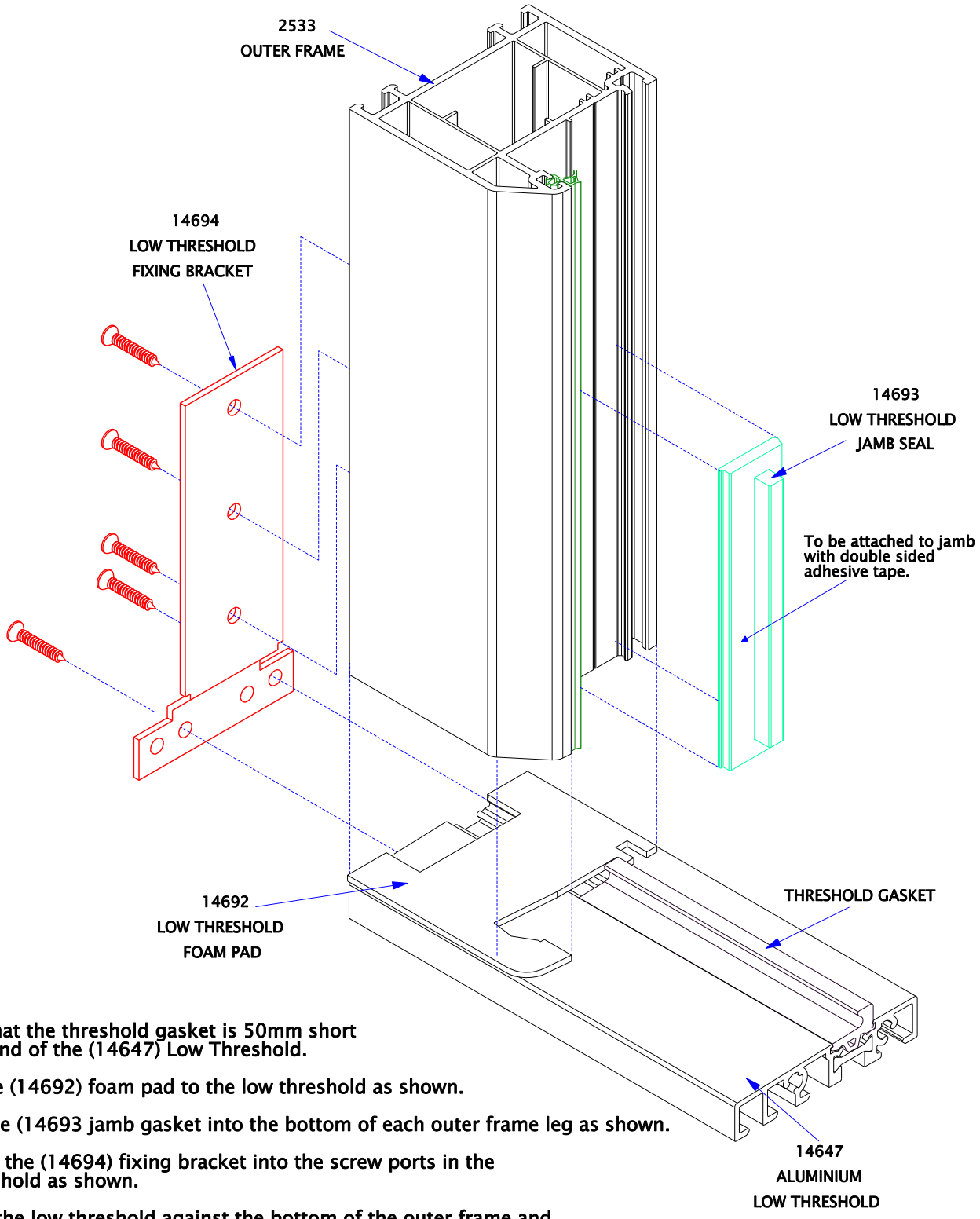
Application

Ensure the glass is clean before applying the georgian bar.

Use a 16.0mm x 1.0mm double sided tape to apply the georgian bar to the glass.

Low Threshold – Open In Outer Frame

For use with single doors only.



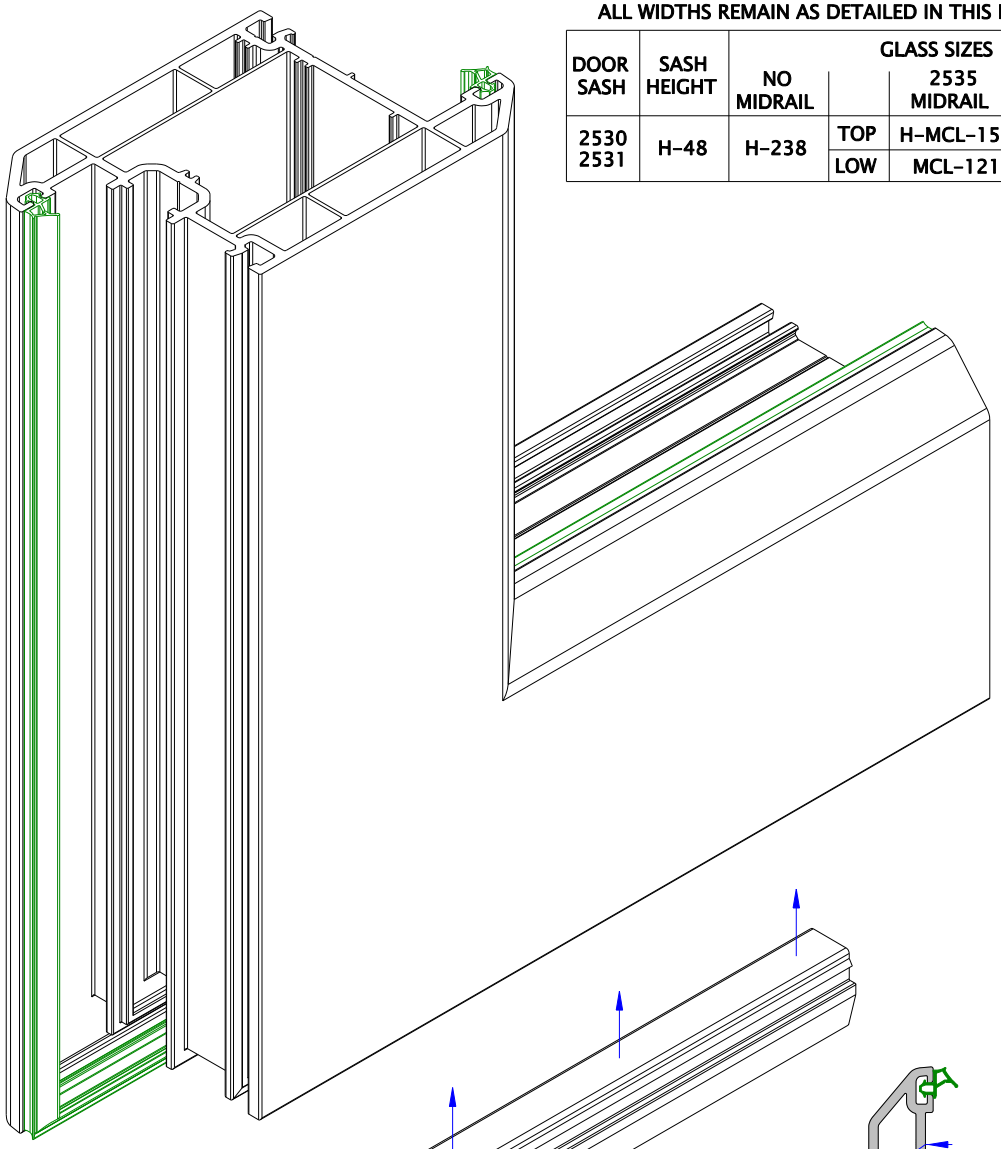
1. Ensure that the threshold gasket is 50mm short at each end of the (14647) Low Threshold.
2. Apply the (14692) foam pad to the low threshold as shown.
3. Attach the (14693 jamb gasket into the bottom of each outer frame leg as shown.
4. Screw fix the (14694) fixing bracket into the screw ports in the low threshold as shown.
5. Position the low threshold against the bottom of the outer frame and apply hand pressure to compress the foam pad, screw fix through the holes in the fixing bracket into the outer frame as shown.
6. Trim away excess from foam pad around chamfer on frame up stand.

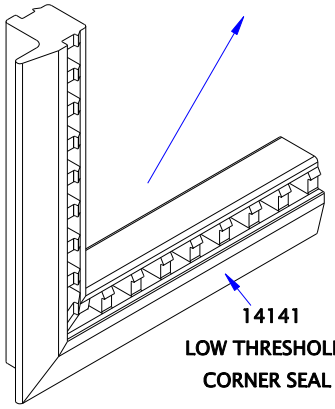
For use with single doors only

CUTTING EQUATIONS - ALL SIZES ARE NETT

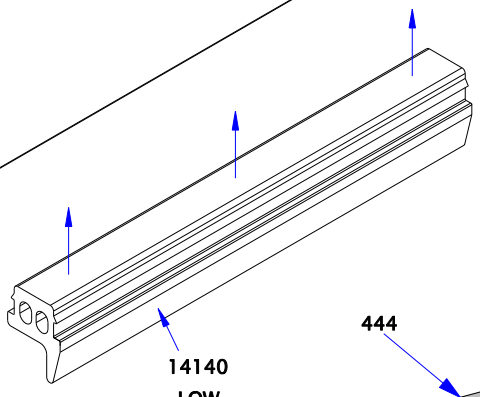
ALL WIDTHS REMAIN AS DETAILED IN THIS MANUAL

DOOR SASH	SASH HEIGHT	GLASS SIZES			
		NO MIDRAIL		2535 MIDRAIL	2531 MIDRAIL
2530 2531	H-48	H-238	TOP	H-MCL-157	H-MCL-177
			LOW	MCL-121	MCL-141





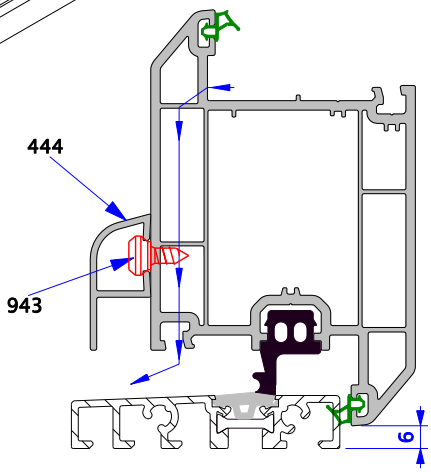
14141
LOW THRESHOLD
CORNER SEAL



14140
LOW
THRESHOLD
GASKET

1. Insert the 14141 threshold corner seals into the bottom corners of the door sash as shown.

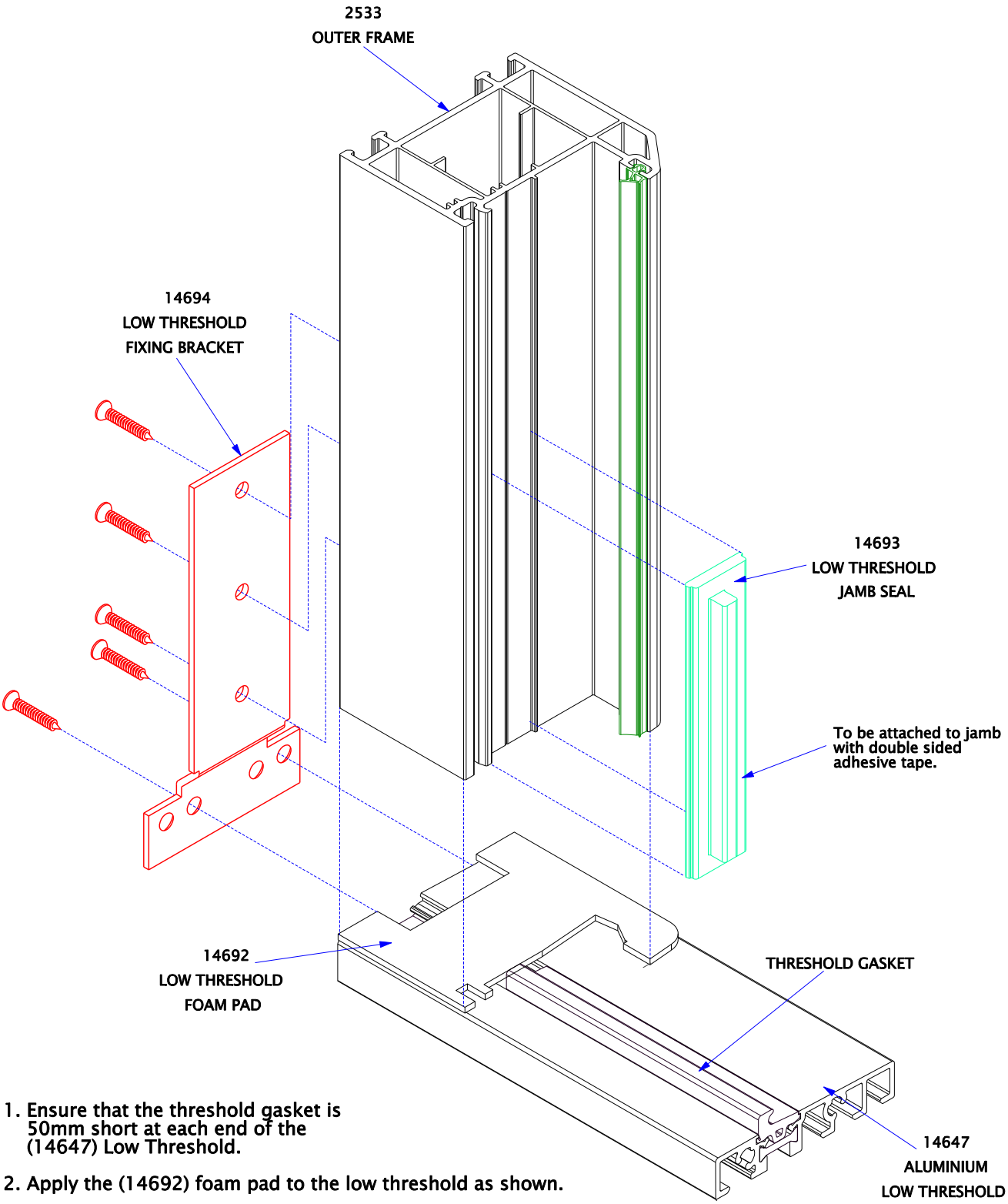
2. Measure between the two inserted corner seals , cut the 14140 threshold gasket to size and insert into the bottom of the door sash as shown.



CROSS-SECTION
THROUGH ASSEMBLY

Low Threshold - Open Out Outer Frame

For use with single doors only.



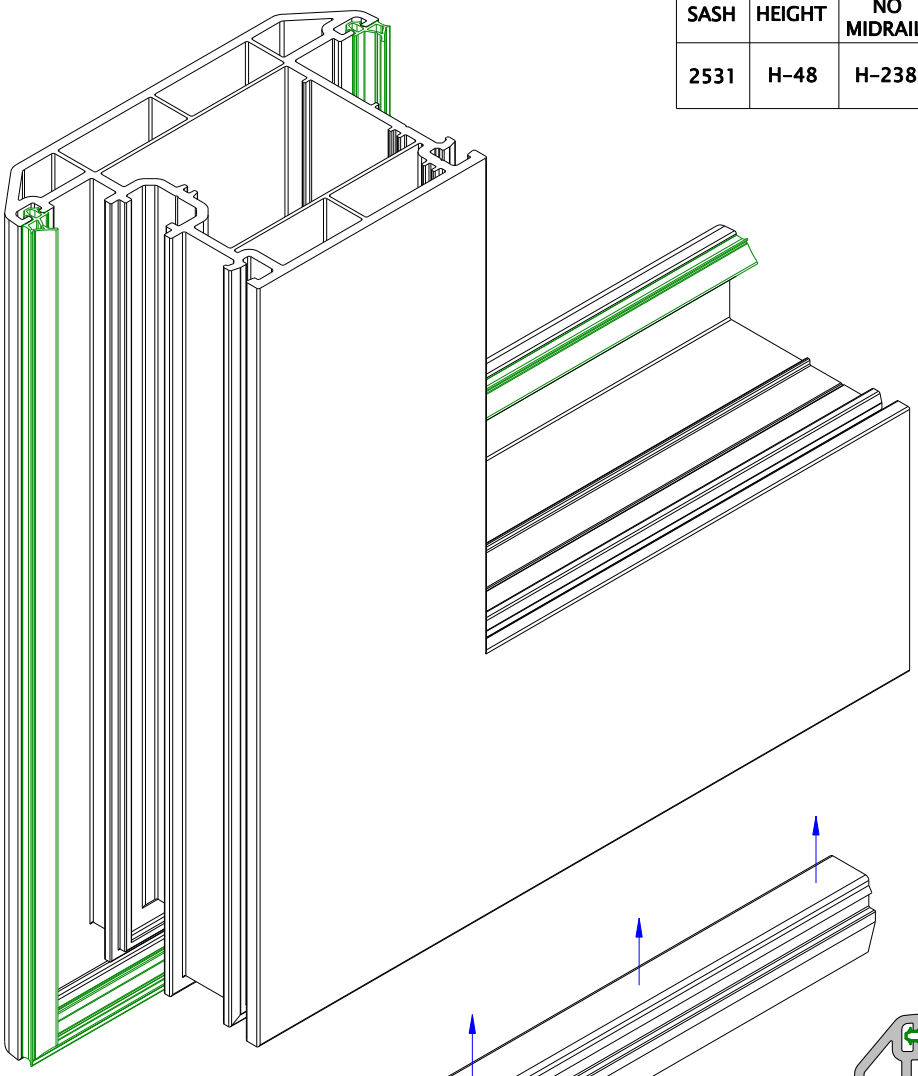
1. Ensure that the threshold gasket is 50mm short at each end of the (14647) Low Threshold.
2. Apply the (14692) foam pad to the low threshold as shown.
3. Attach the (14693 jamb gasket into the bottom of each outer frame leg as shown.
4. Screw fix the (14694) fixing bracket into the screw ports in the low threshold as shown.
5. Position the low threshold against the bottom of the outer frame and apply hand pressure to compress the foam pad, screw fix through the holes in the fixing bracket into the outer frame as shown.
6. Trim away excess from foam pad around chamfer on frame up stand.

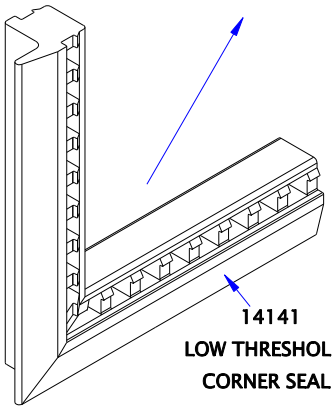
USE OF ACCESSORIES

For use with single doors only.

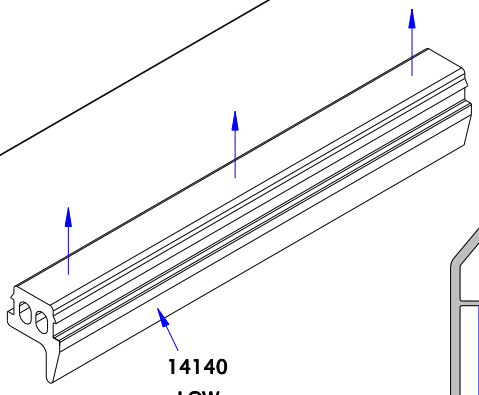
CUTTING EQUATIONS - ALL SIZES ARE NETT
ALL WIDTHS REMAIN AS DETAILED IN THIS MANUAL

DOOR SASH	SASH HEIGHT	NO MIDRAIL	GLASS SIZES	2535 MIDRAIL	2531 MIDRAIL
2531	H-48	H-238	TOP	H-MCL-157	H-MCL-177
			LOW	MCL-121	MCL-141





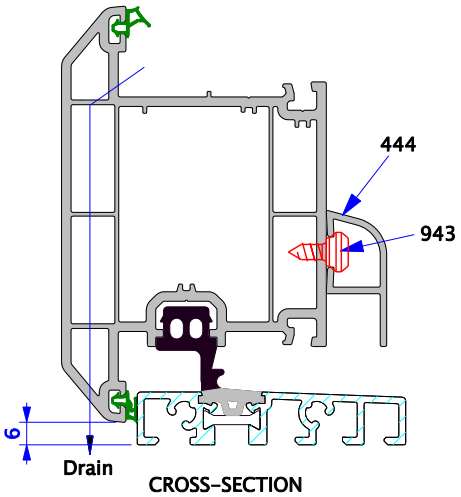
14141
LOW THRESHOLD
CORNER SEAL



14140
LOW
THRESHOLD
GASKET

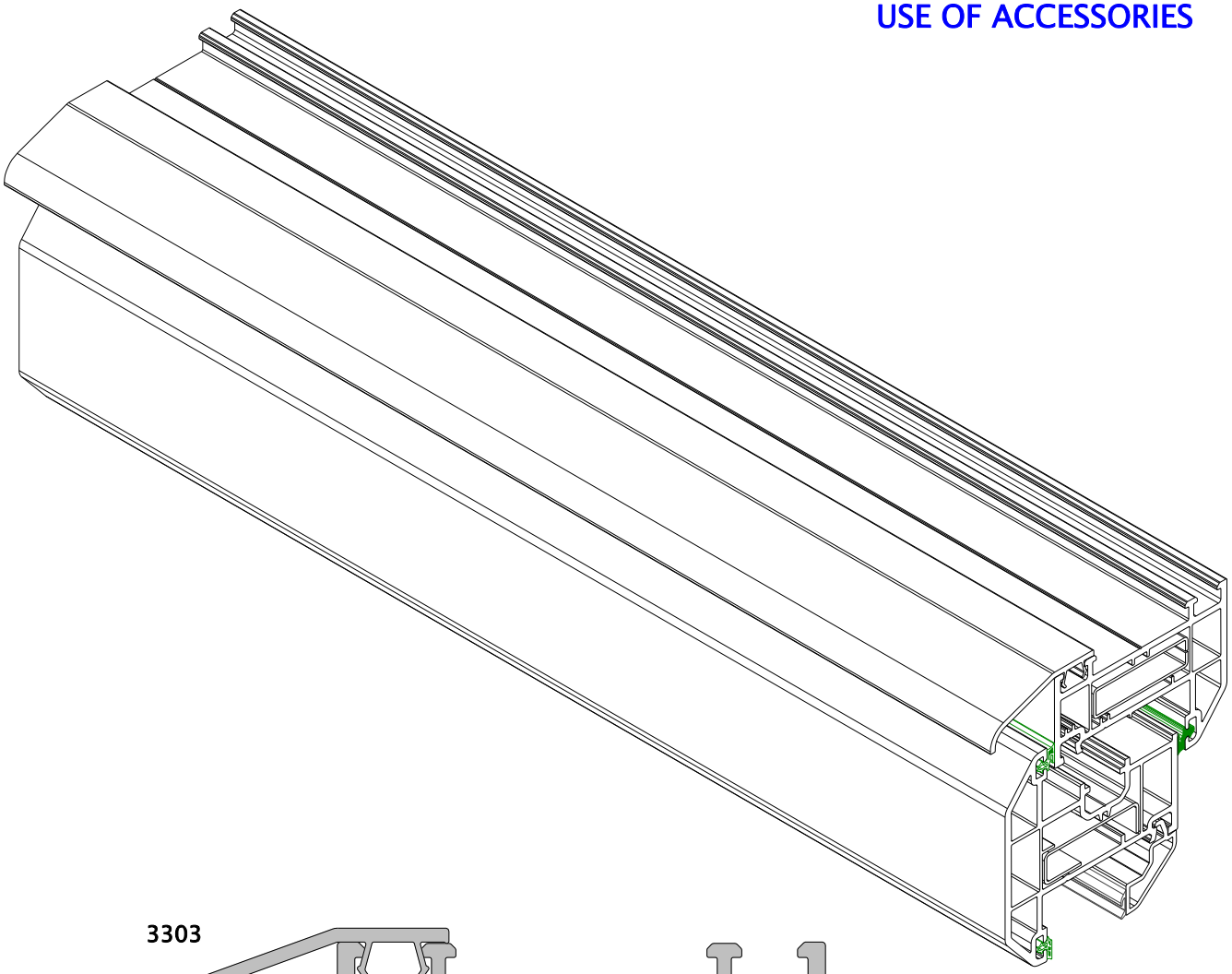
1. Insert the 14141 threshold corner seals into the bottom corners of the door sash as shown.

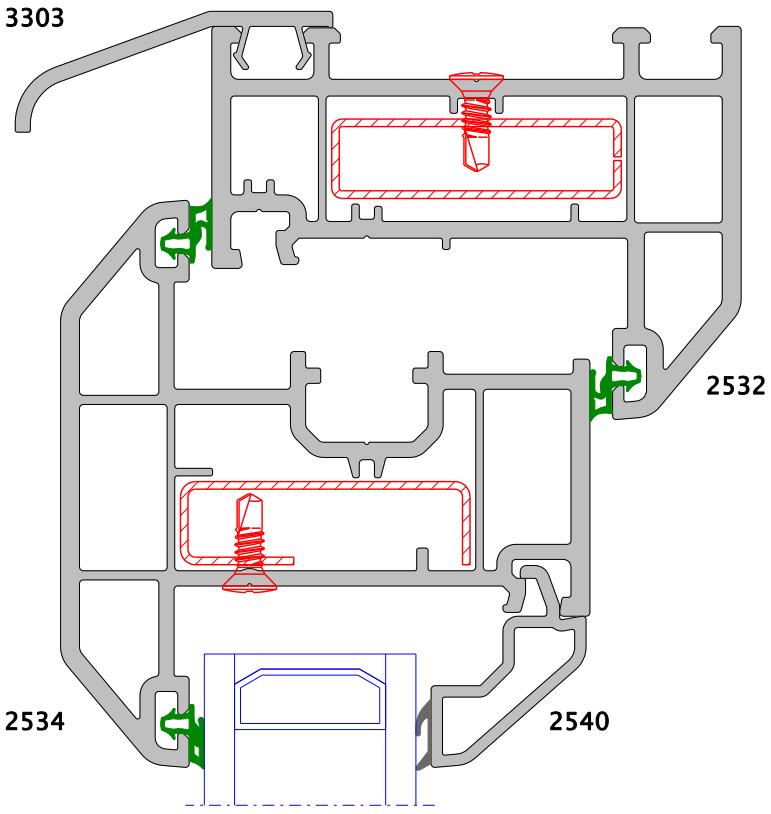
2. Measure between the two inserted corner seals , cut the 14140 threshold gasket to size and insert into the bottom of the door sash as shown.



CROSS-SECTION
THROUGH ASSEMBLY

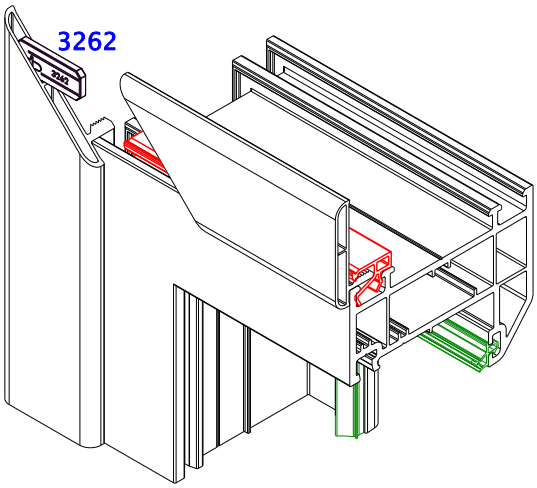
3303 Clip-On Head Drip

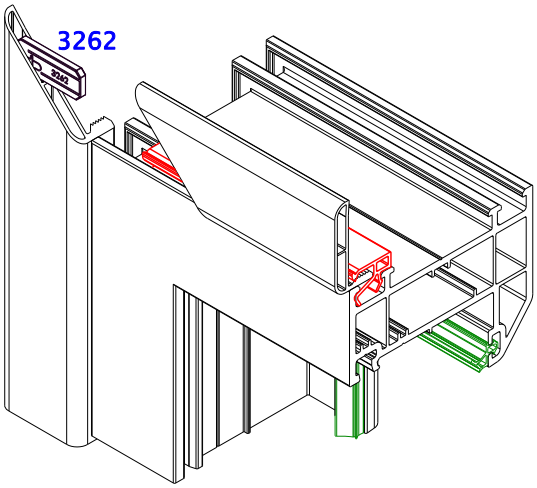


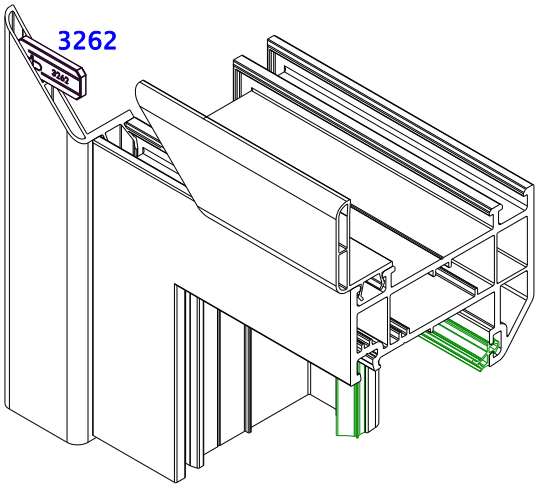


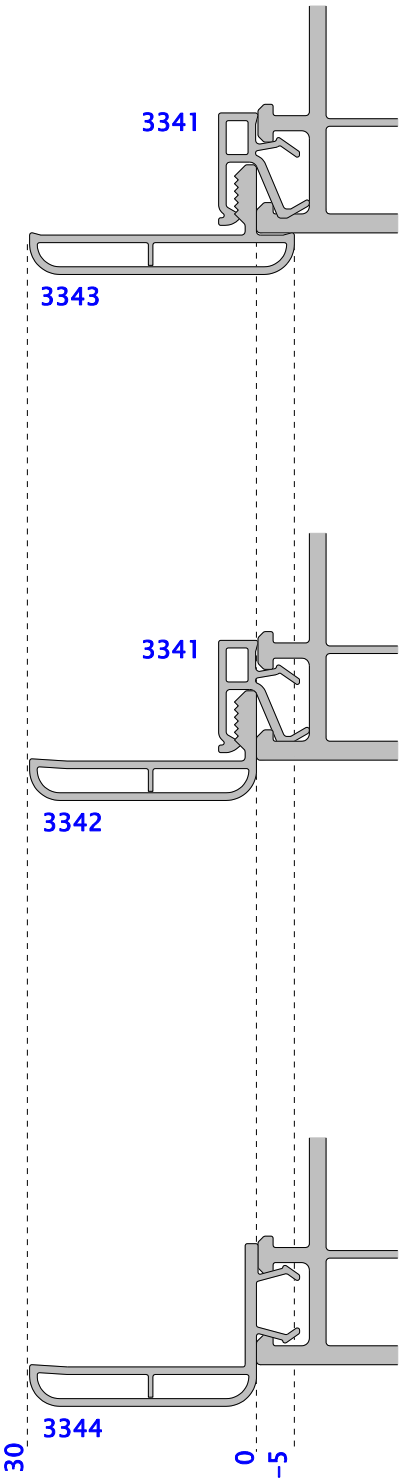
Finishing Profiles

USE OF ACCESSORIES





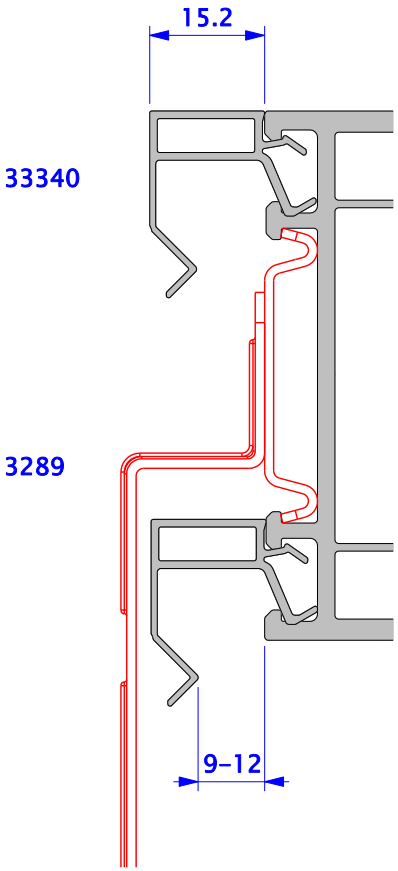


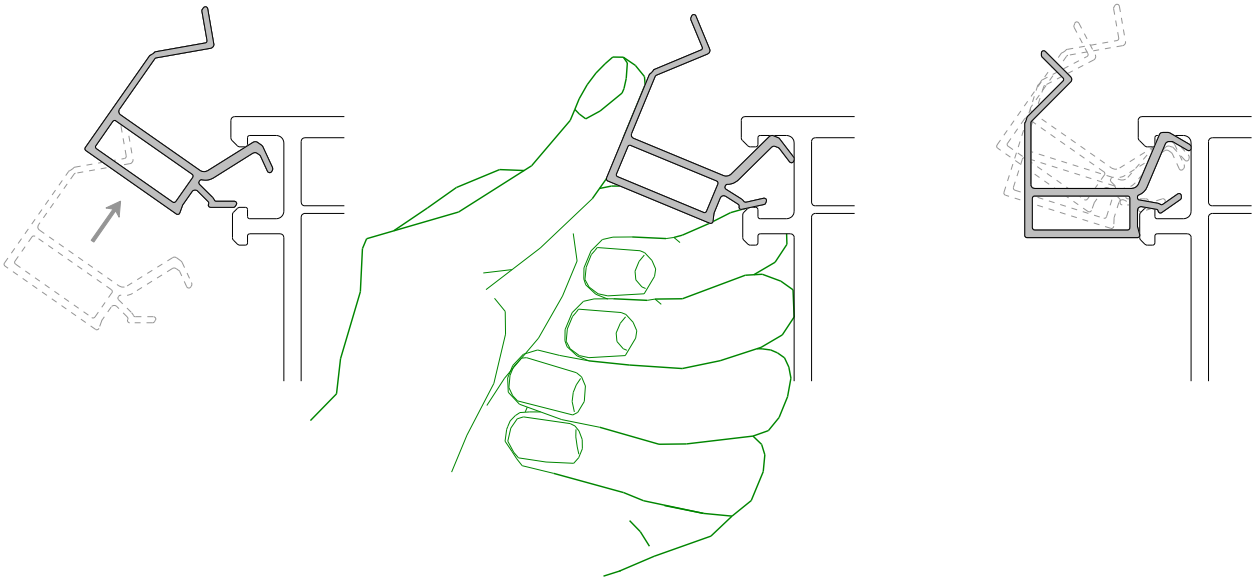


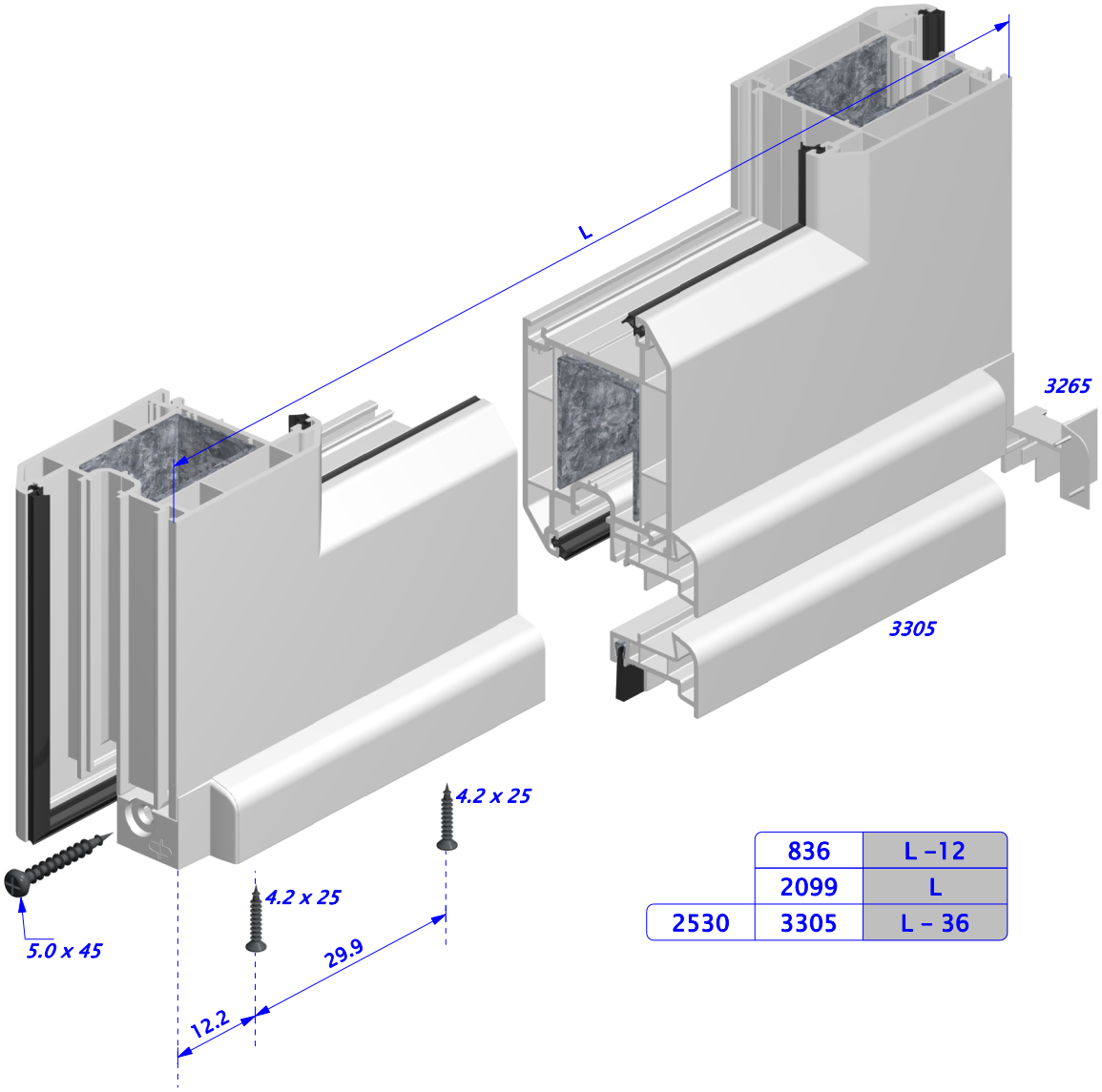
NOTE: At installation,ALL joints must be silicone sealed against the ingress of water.

Assembly of 3340

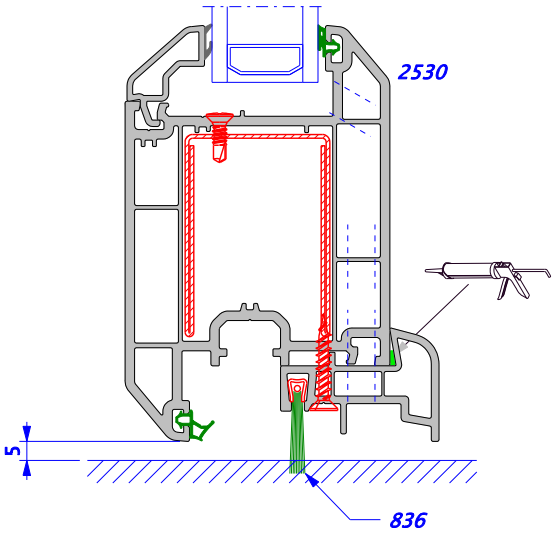
USE OF ACCESSORIES

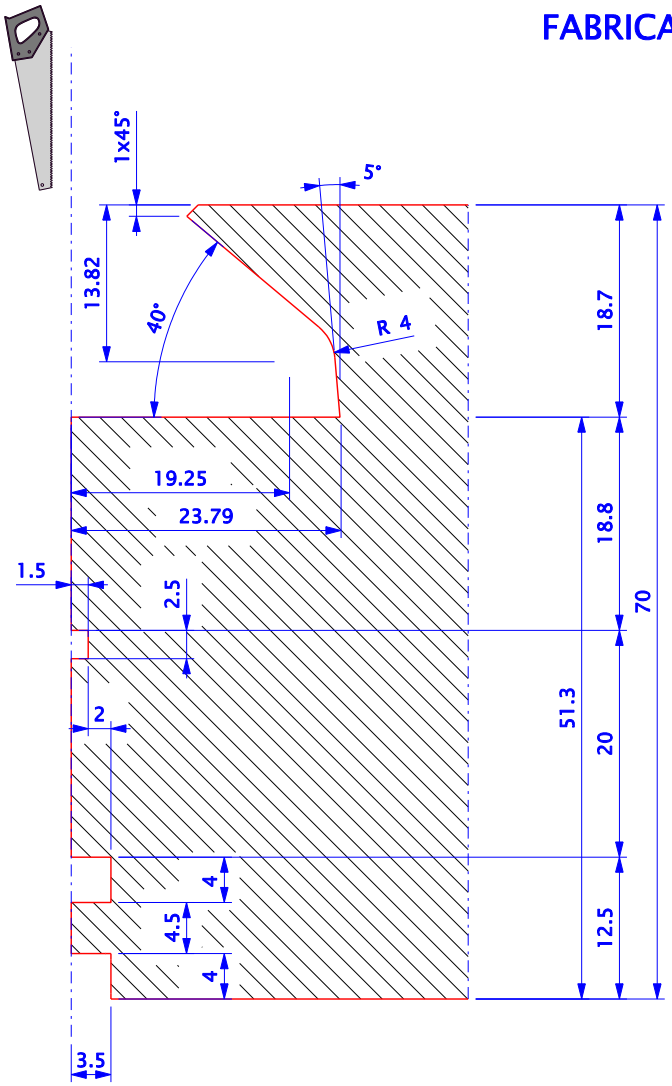


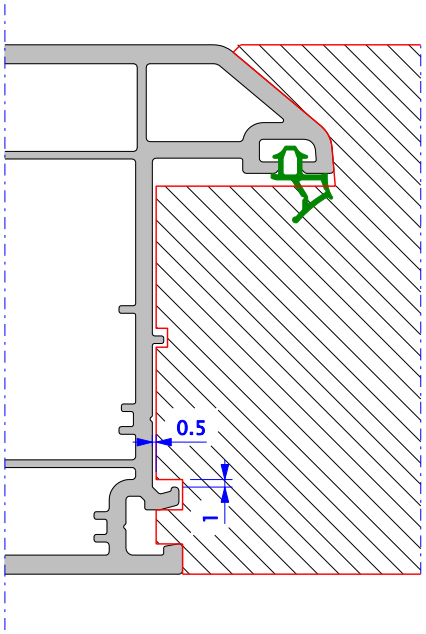




	836	L -12
	2099	L
2530	3305	L - 36

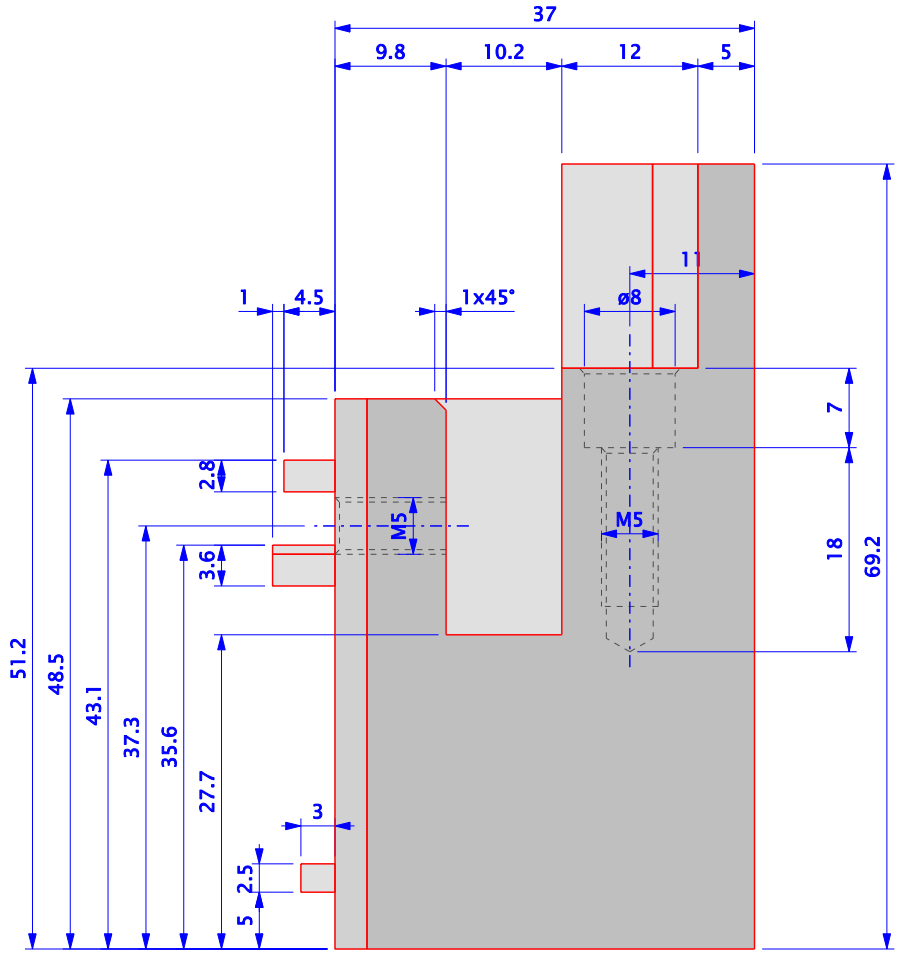


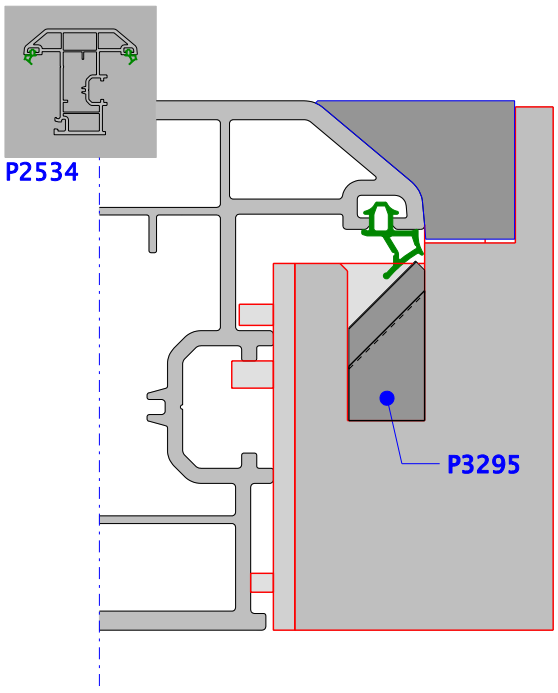

1x45°
5°
13.82
40°
R 4
18.7
19.25
23.79
18.8
70
1.5
2.5
51.3
20
2
4
4.5
12.5
4
3.5

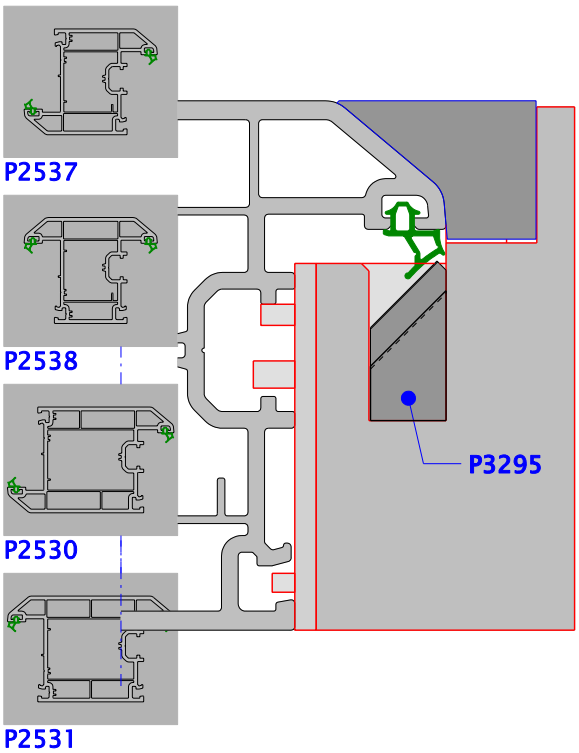

0.5
1

Welding support blocks

P2530/P2531/P2534/P2537/2538

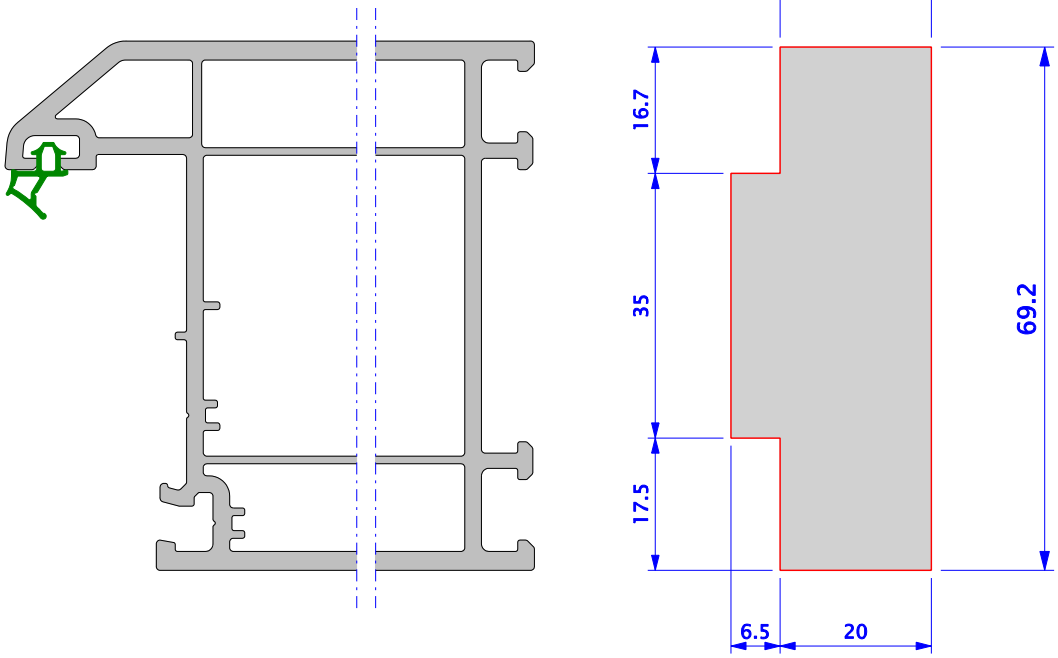






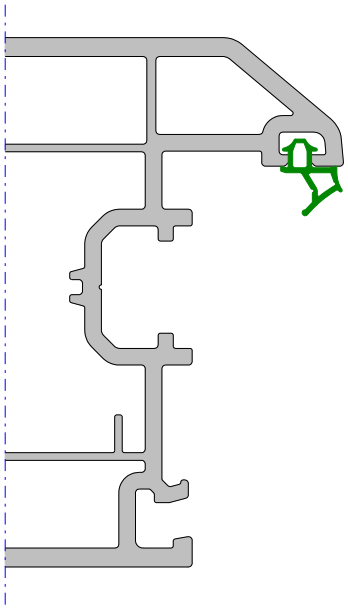
Welding support blocks

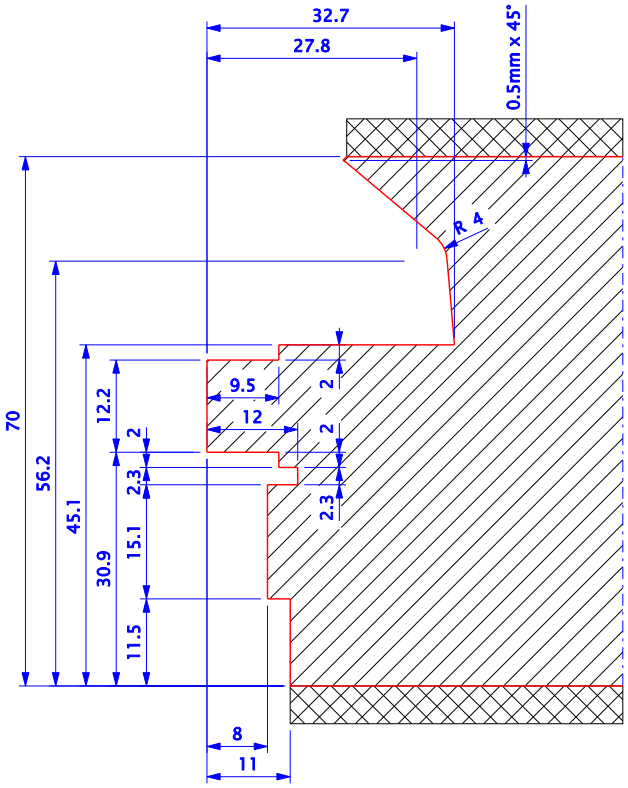
Frame – 2532/2533



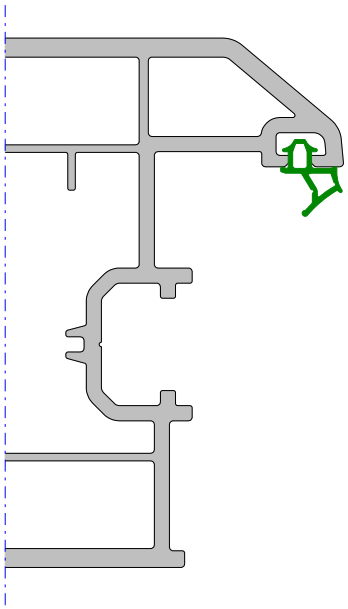
N.B: Dimensions given below are not for the compound angles created when welded into a 90° corner.

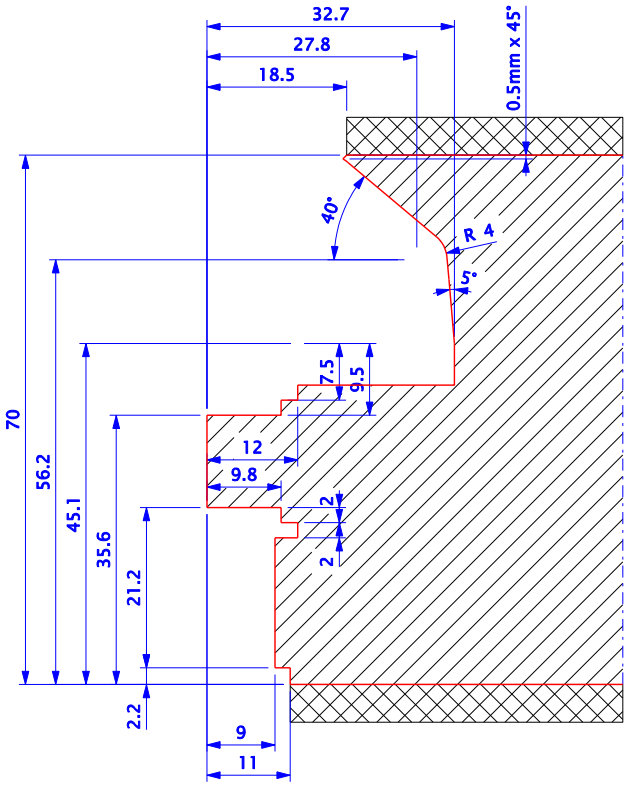
Sash - 2530/2531/2537/2538





T sash - 2534

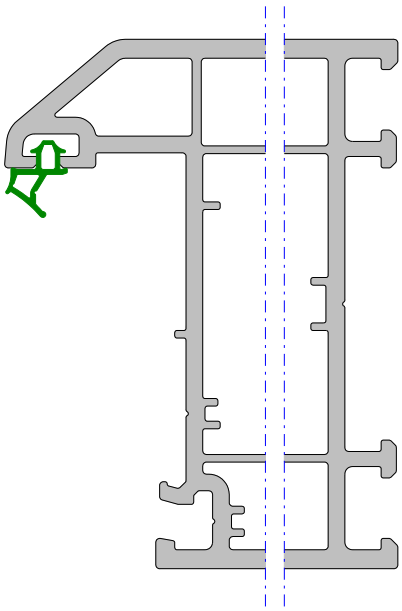


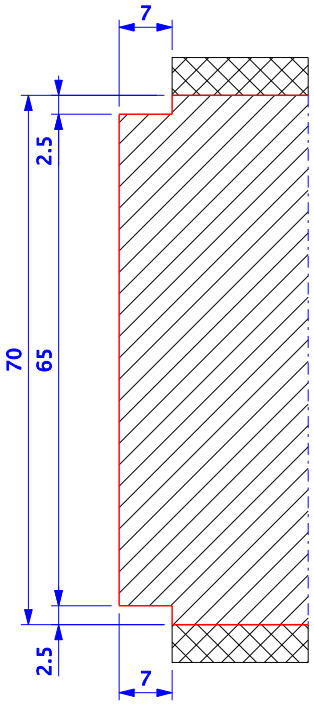


Corner cleaning

Frame – 2532/2533

N.B: Dimensions given below are not for the compound angles created hen welded into a 90° corner.

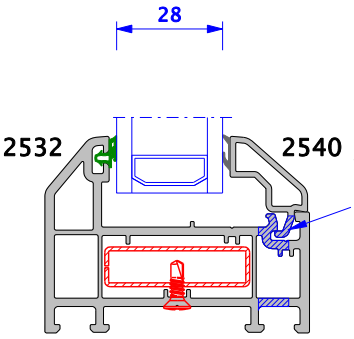




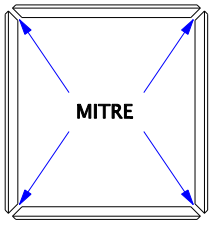
Glazing bead support for saw

2540

Guide lines below show typical detail for 28mm glazing beads.

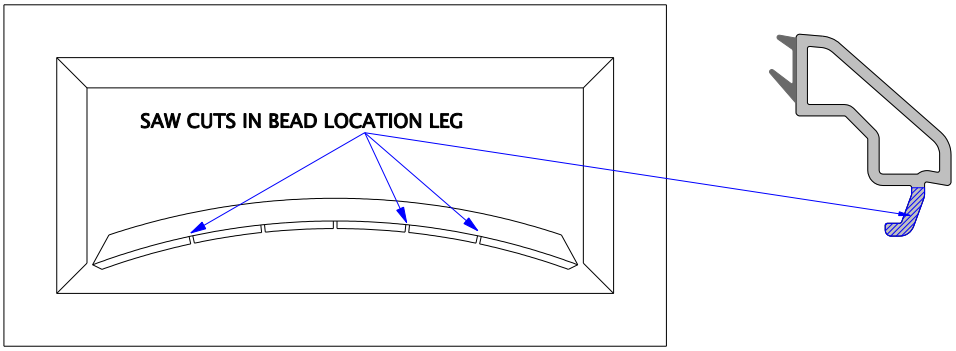


When beading externally beaded frames it is necessary to remove the bead location leg in the vicinity of the drainage slots.

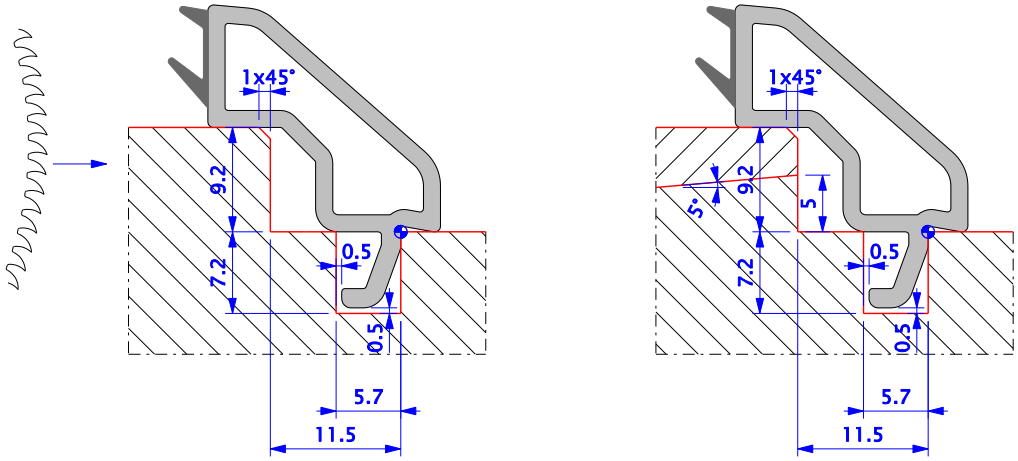


When beading rectangular frames it is always best to leave one of the longest beads until last because this will need to be bent to allow location into the frame, and the longer the bead the easier it will bend.

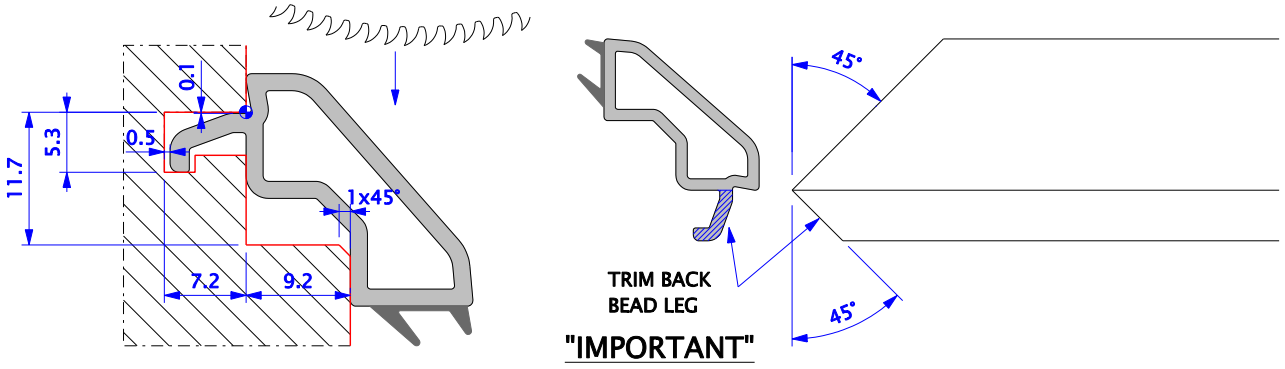
When beading smaller frames it may be necessary to put a series of saw cuts into the last beads location leg, this will allow the bead to bend and make insertion into the frame much easier.



OUT STROKE SAW

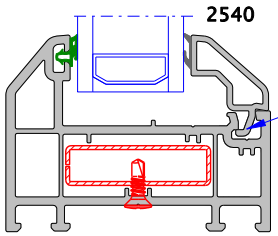


DOWN STROKE SAW

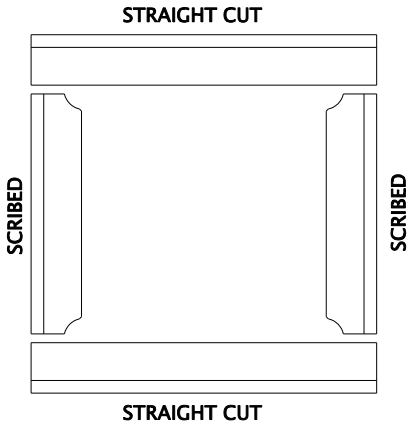


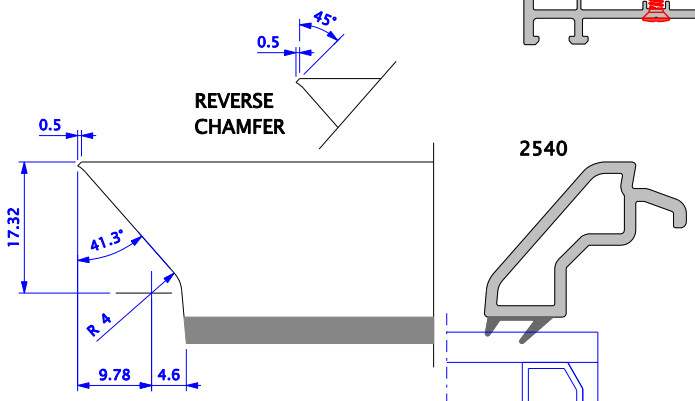
Beading (Square Cut & Scribed)

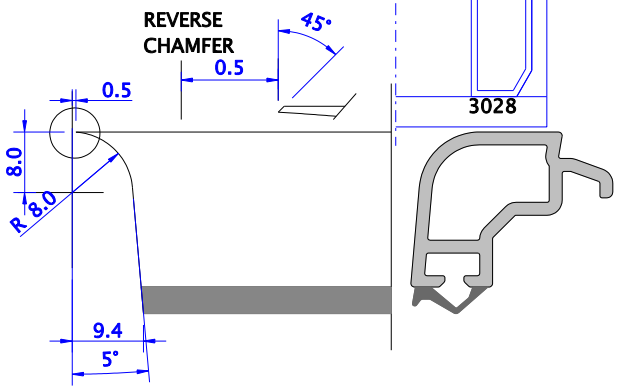
FABRICATION TOOLS

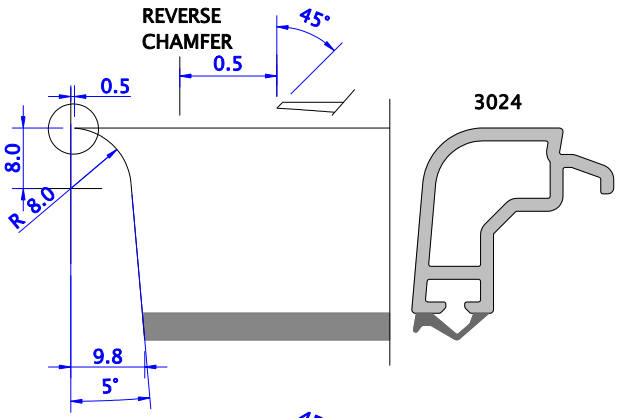


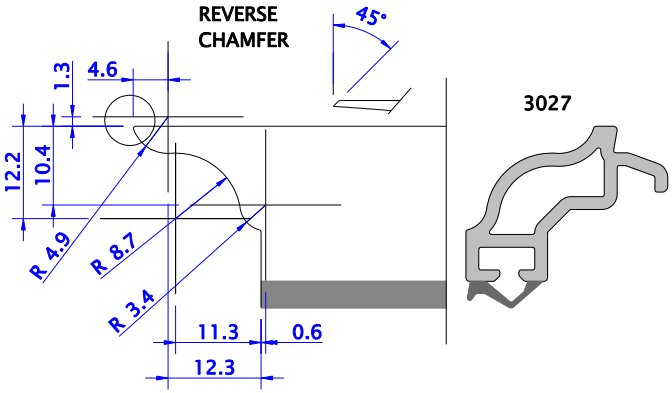
When beading externally beaded frames it is necessary to remove the bead location leg in the vicinity of the drainage slots.

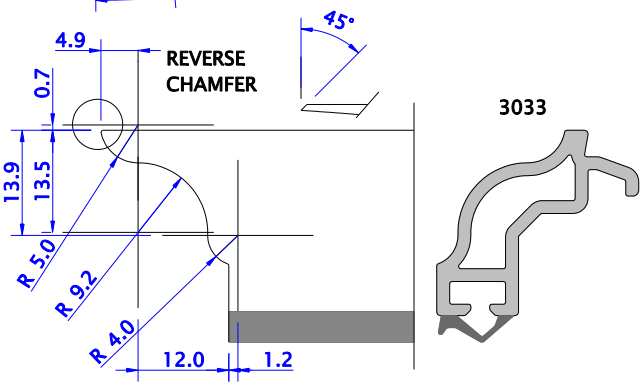


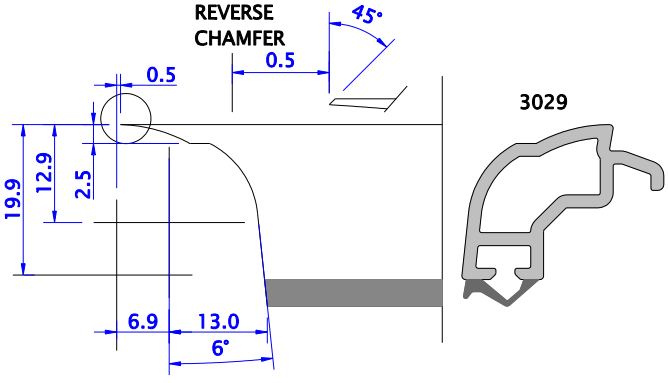


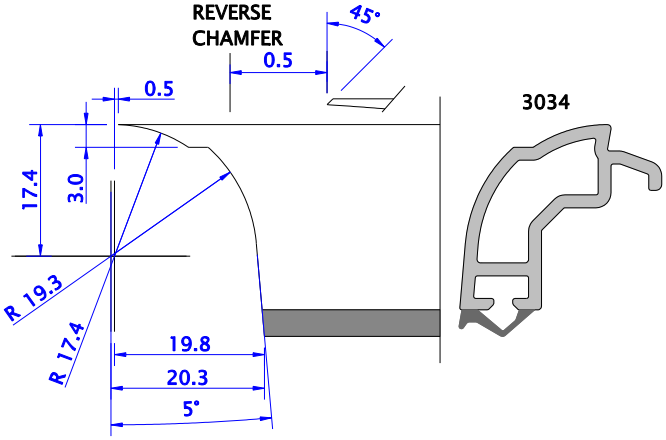




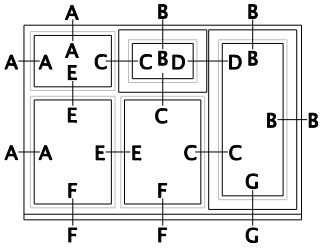






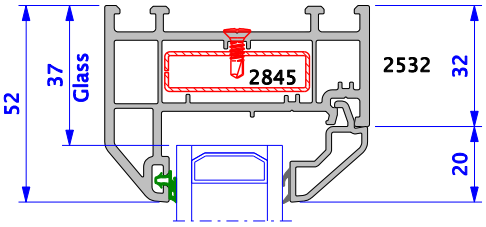


Internally Beaded Casement
Small Outer Frame

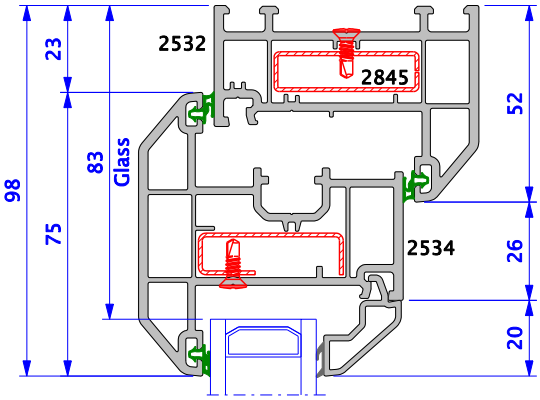


SECTIONS

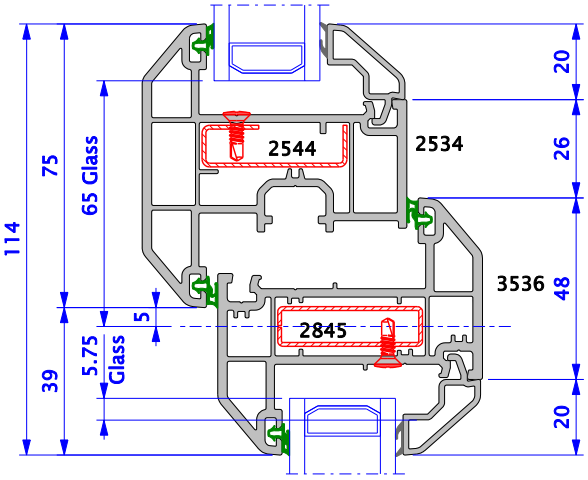
Section A–A



Section B–B



Section C–C



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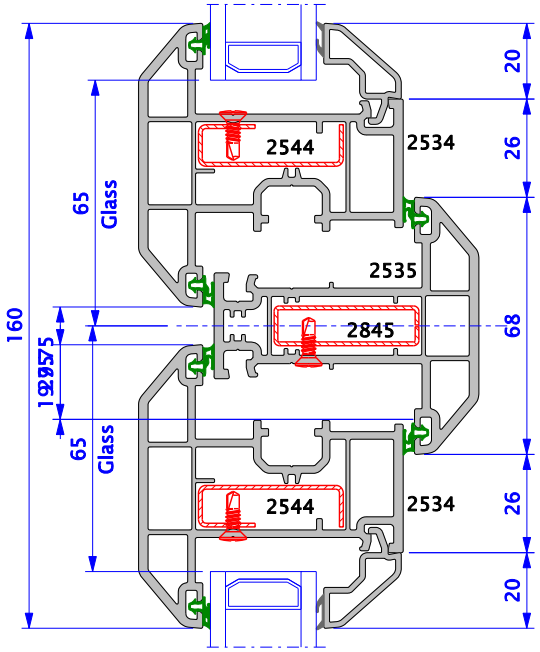

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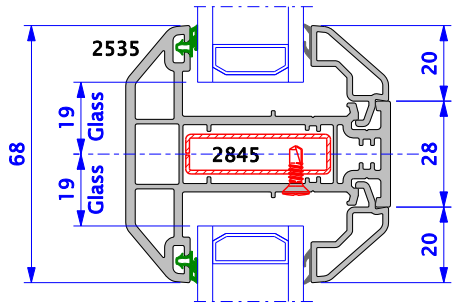

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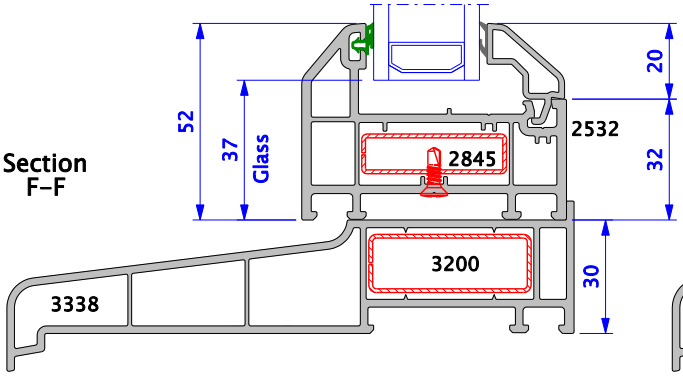

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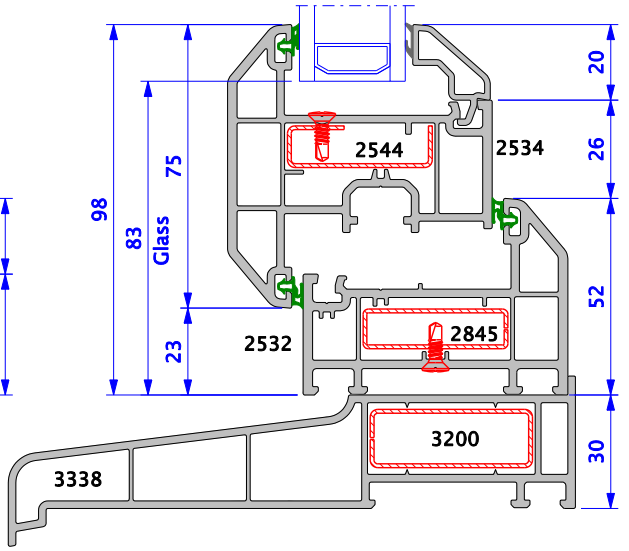
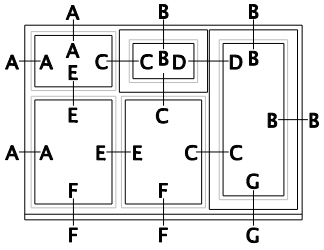
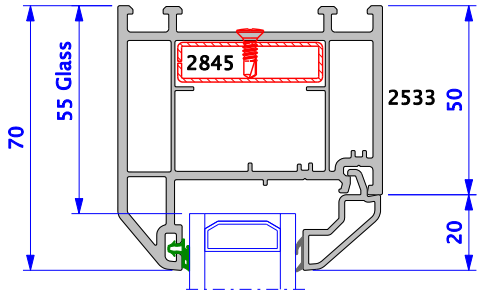


Internally Beaded Casement
Large Outer Frame

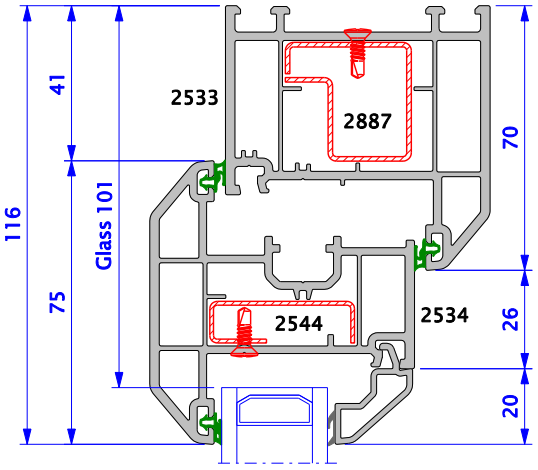


SECTIONS

Section A–A



Section B–B



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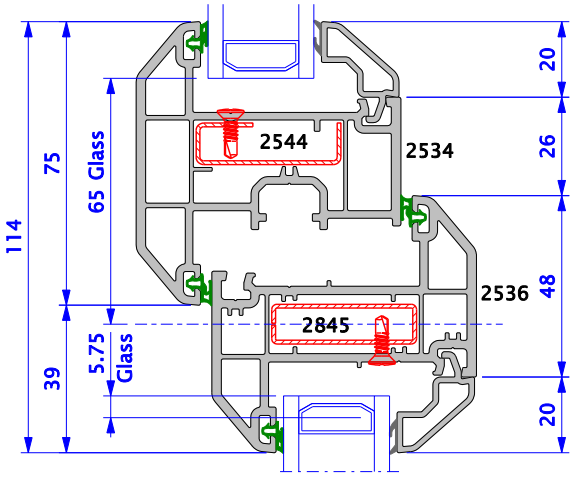
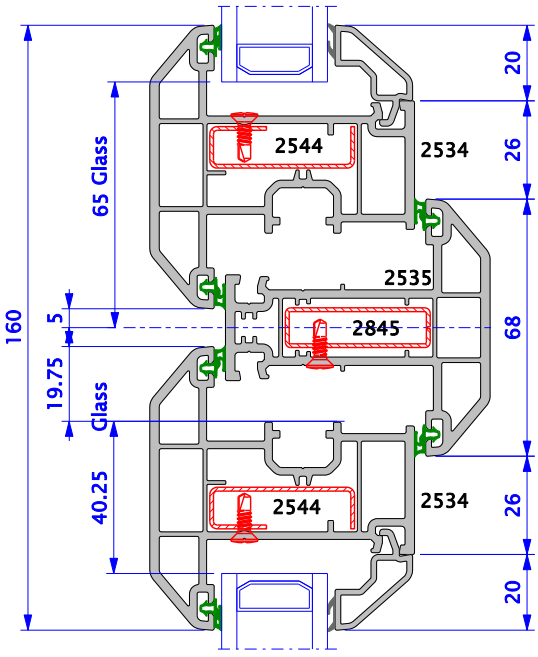


Section D–D



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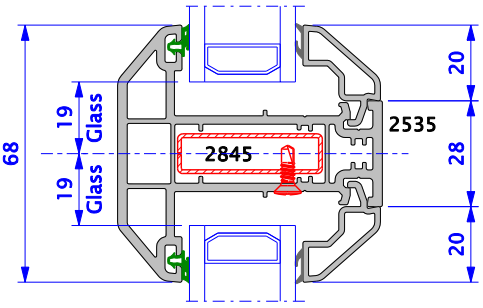
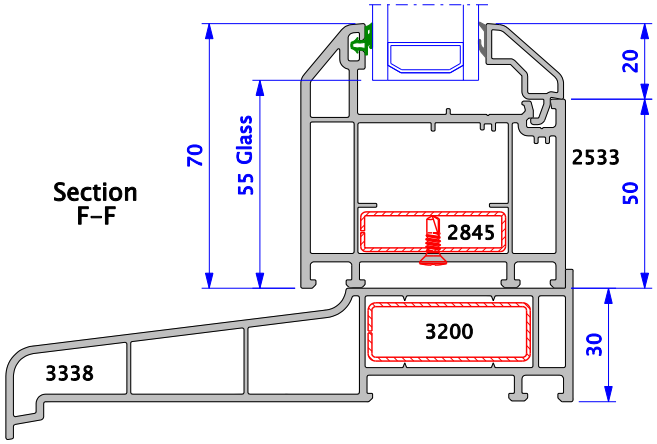
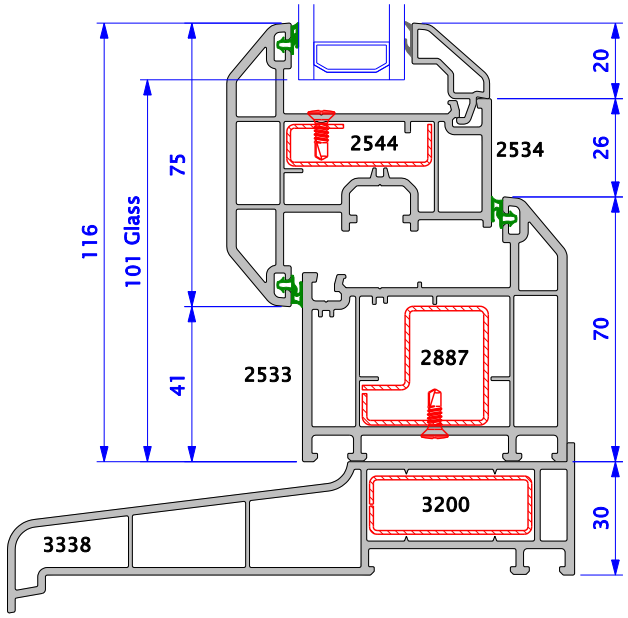


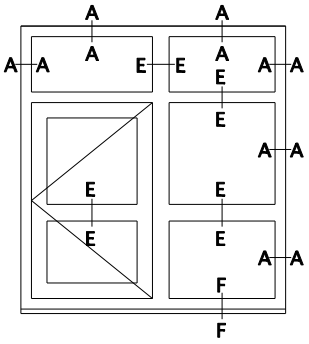
Section F–F



Section G–G

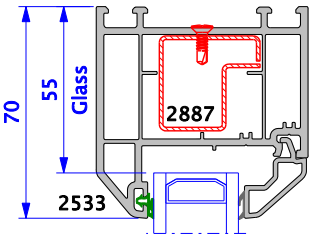


Open-In Doors (Fixed Sections)

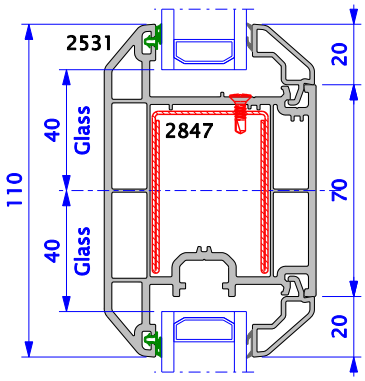


SECTIONS

Section
A-A



Section
E-E



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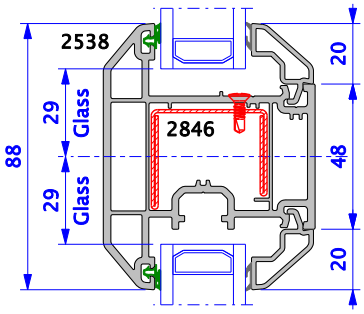
E-E



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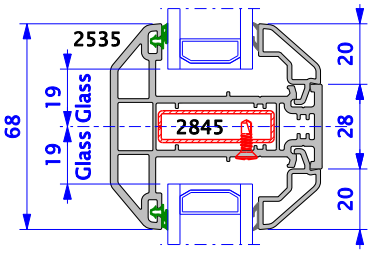
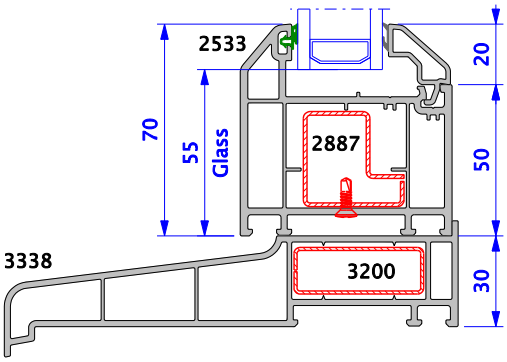
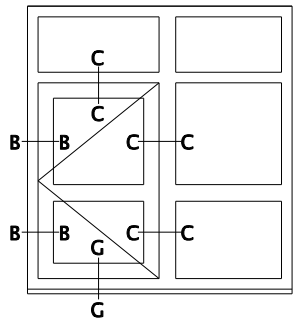


Section
F-F

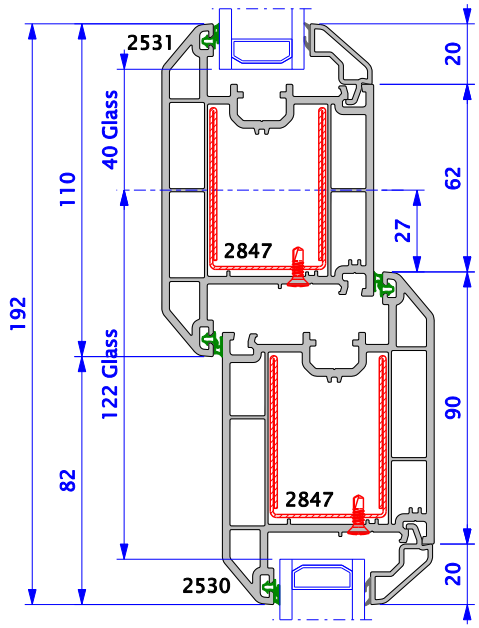


Open-In Doors (Sash Sections)



SECTIONS

Section C-C



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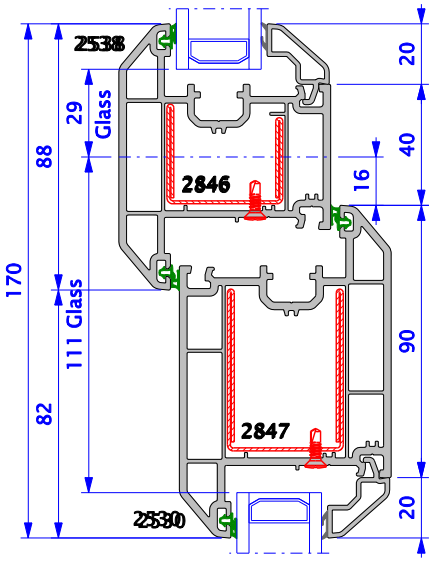

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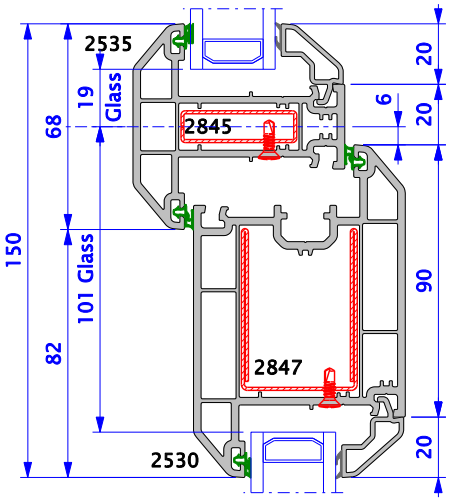

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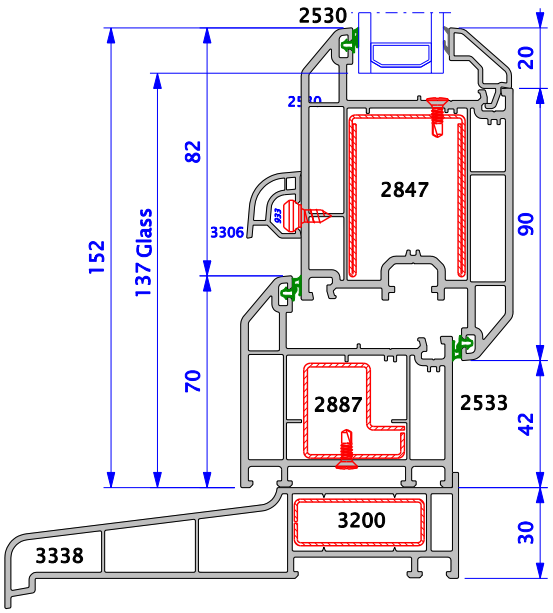

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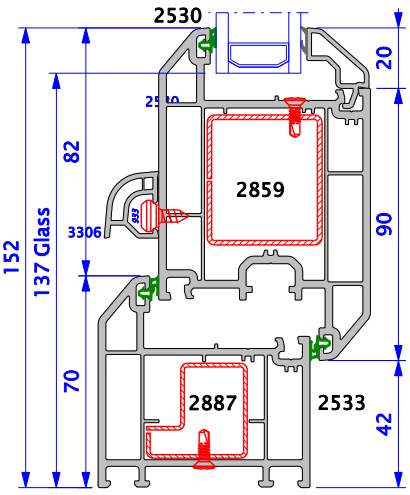

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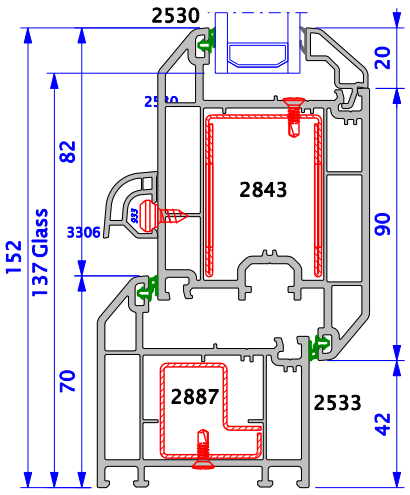
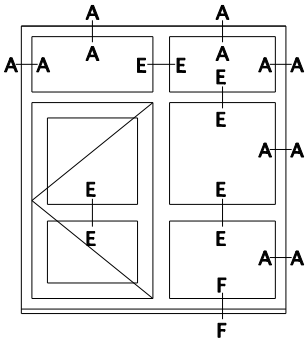


Hinge Side

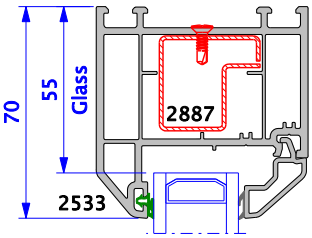
Lock Side

Open-Out Doors (Fixed Sections)

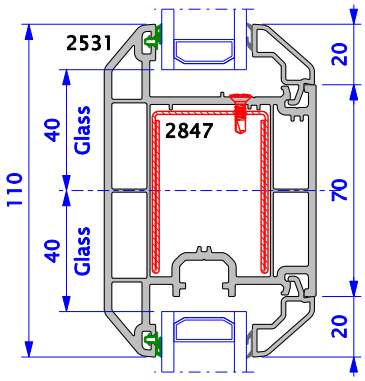


SECTIONS

Section
A-A



Section
E-E



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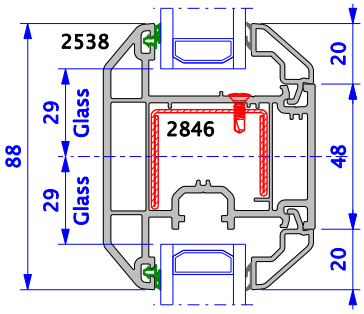
E-E



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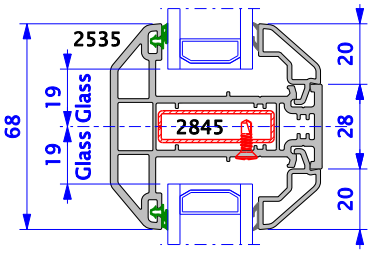
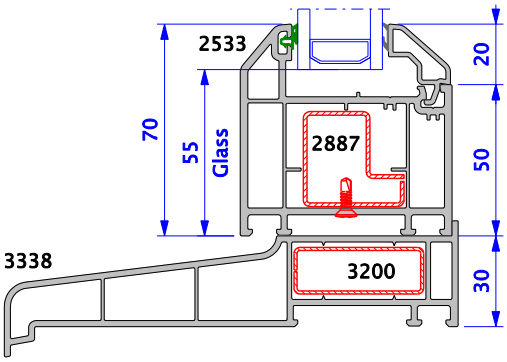
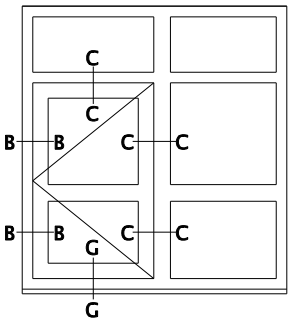
E-E



Section
F-F

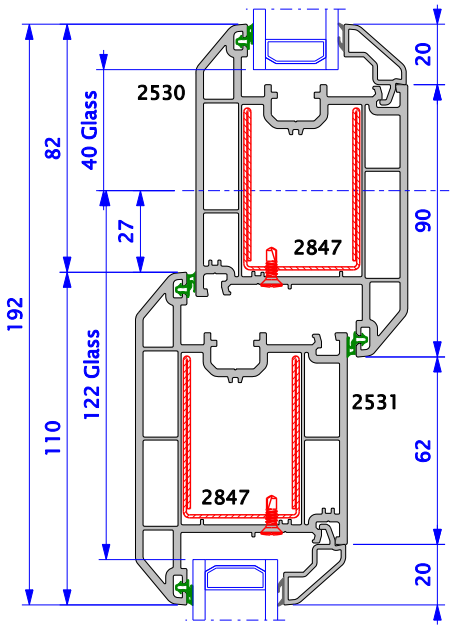


Open-Out Doors (Sash Sections)



SECTIONS

Section C-C



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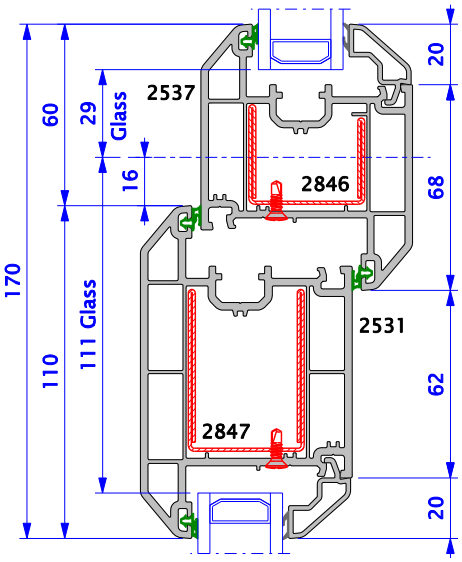

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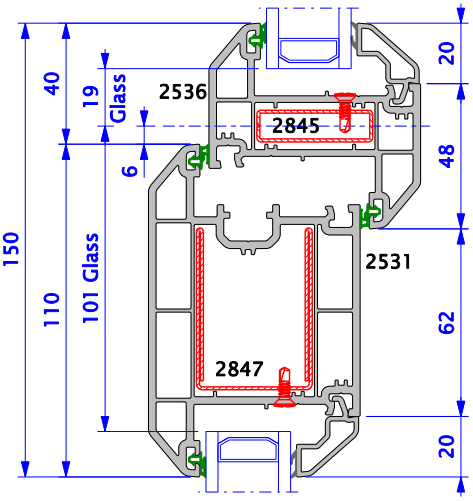
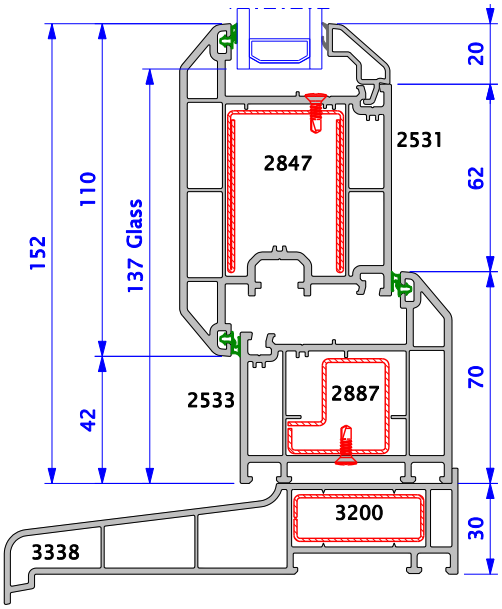
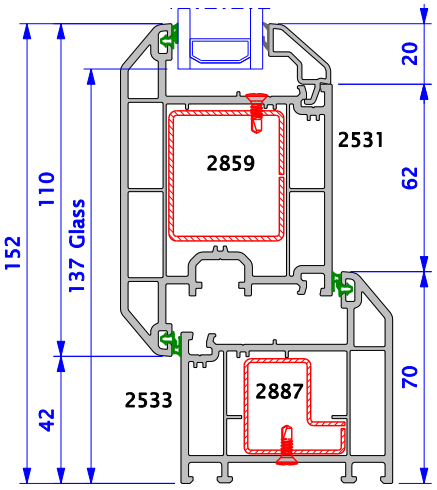


Section G-G



Section B-B



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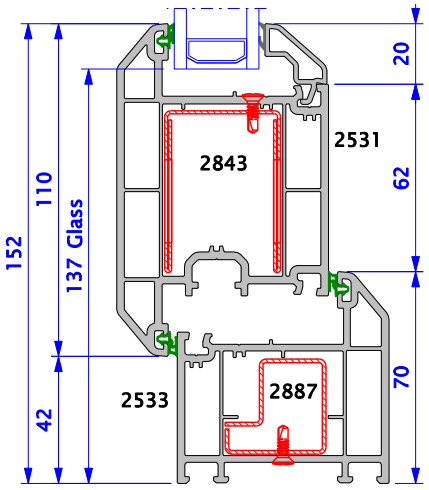
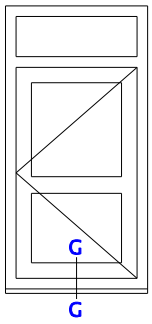
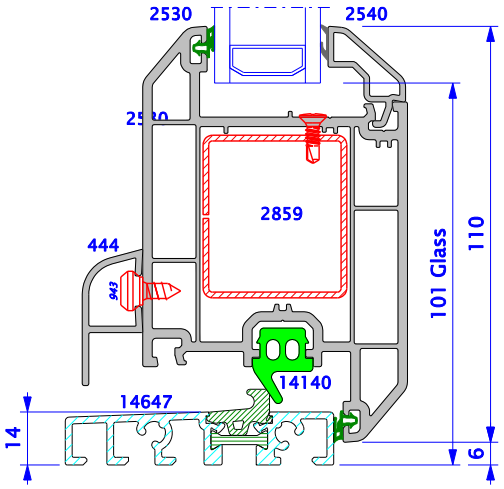


Hinge Side

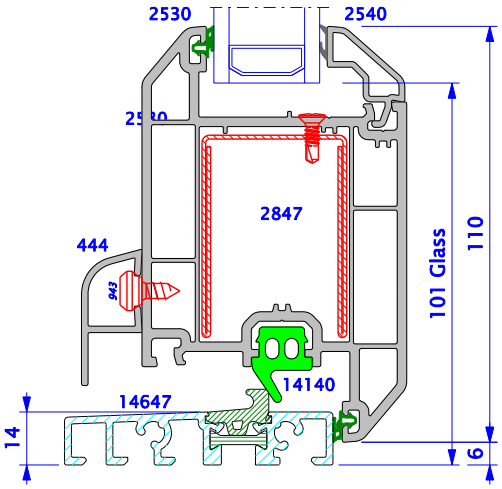
Lock Side



Open-In

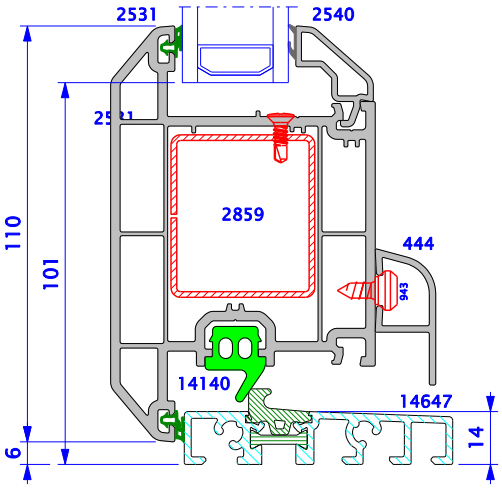


Reinforcement Option A

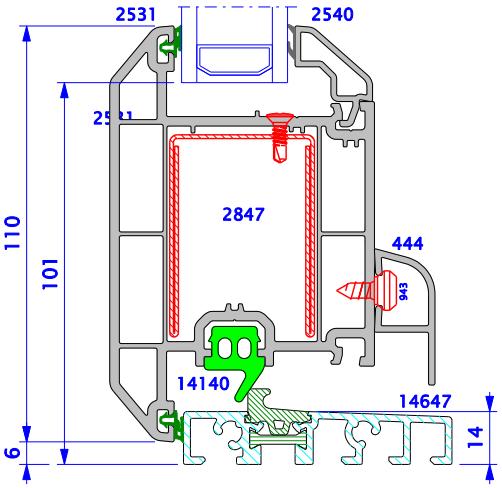


Reinforcement Option B

Open-Out



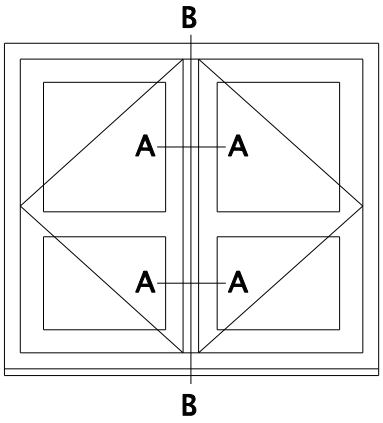
Reinforcement Option A



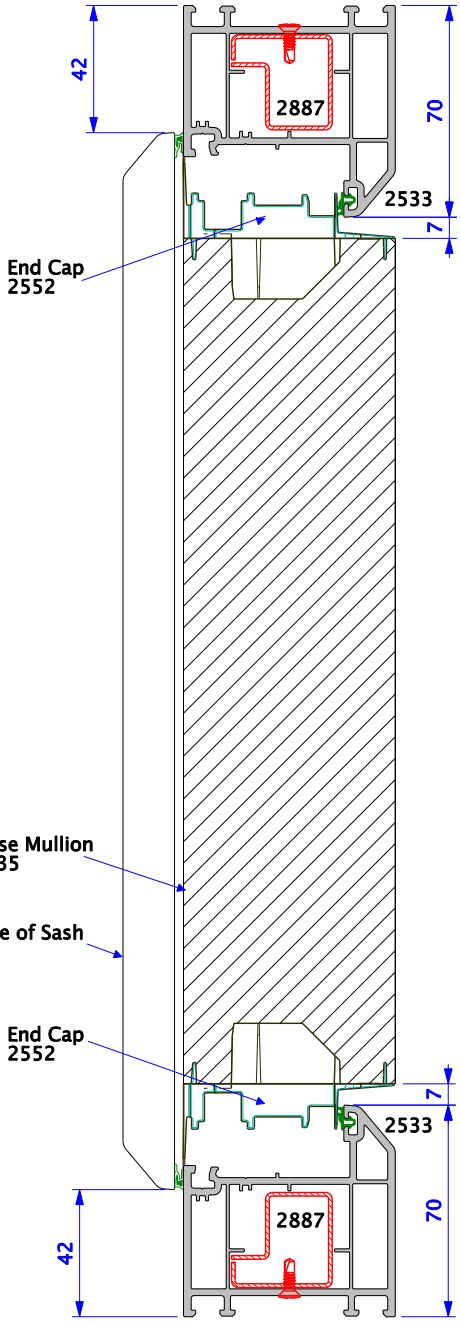
Reinforcement Option B

Double Doors
Large Sash

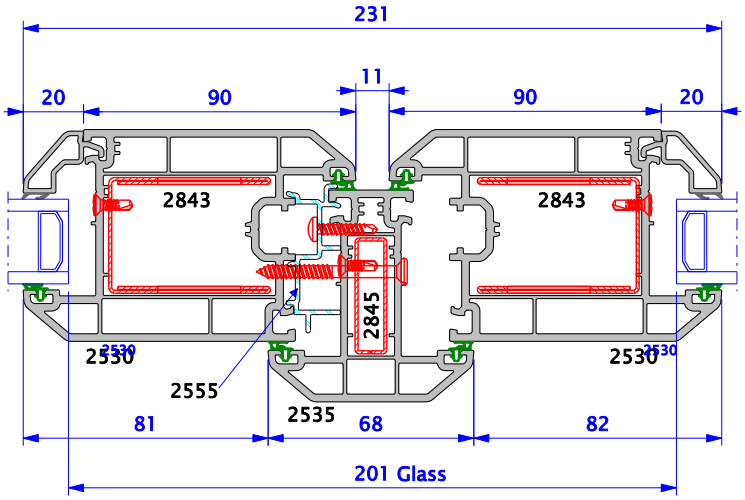
SECTIONS



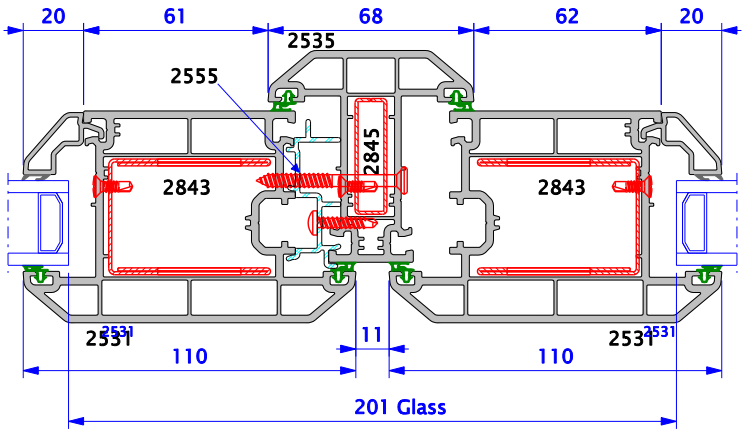
Section
B–B



Section
A–A

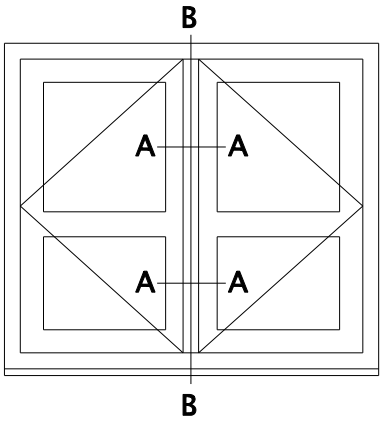


Section
A–A

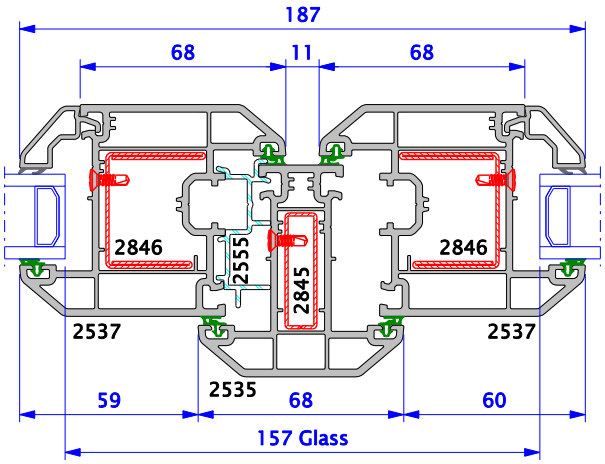


Double Doors
Intermediate Sash

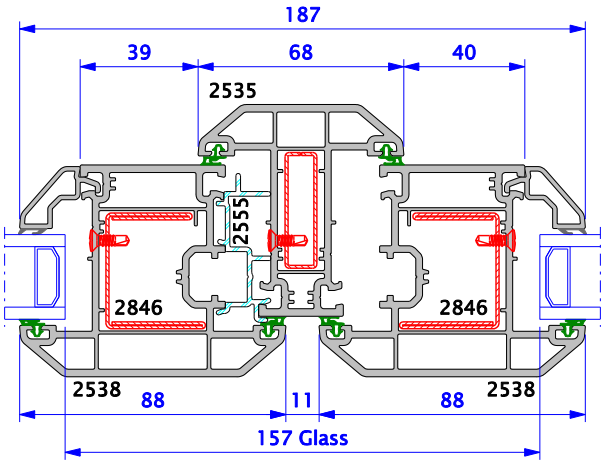
SECTIONS



Section
A–A



Section
A–A



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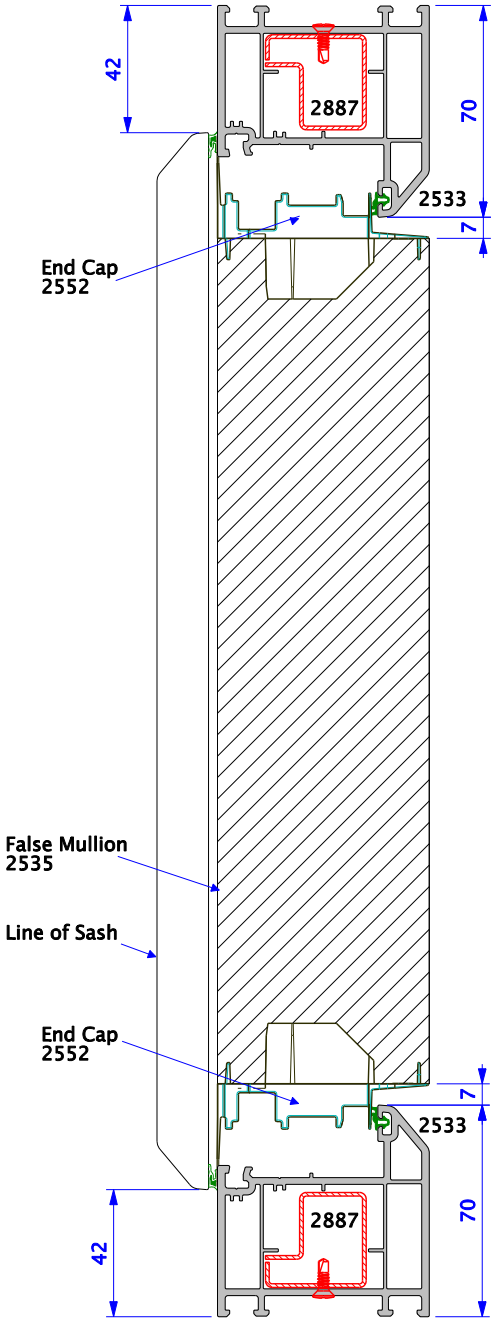
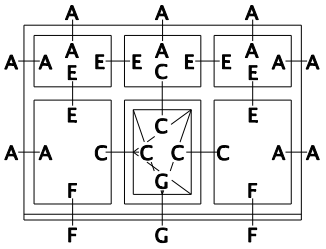
B–B

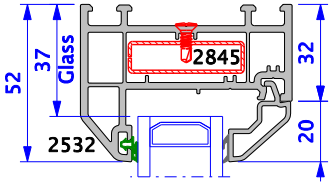


Tilt & Turn
Small Outer Frame



SECTIONS

Section A–A



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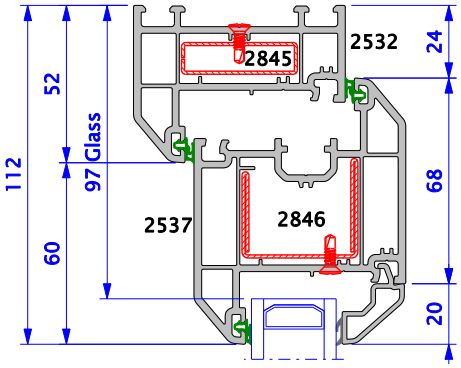

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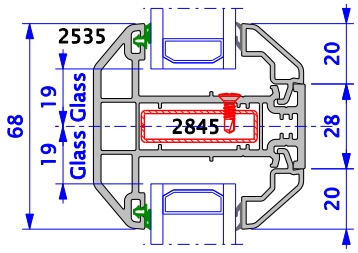

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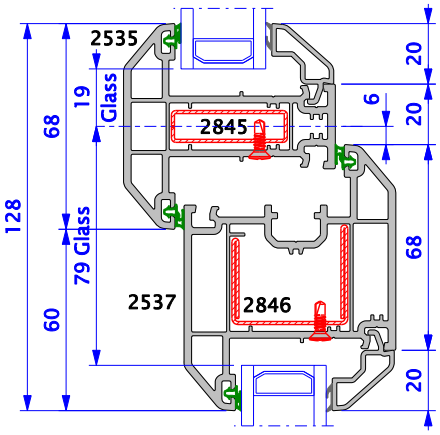
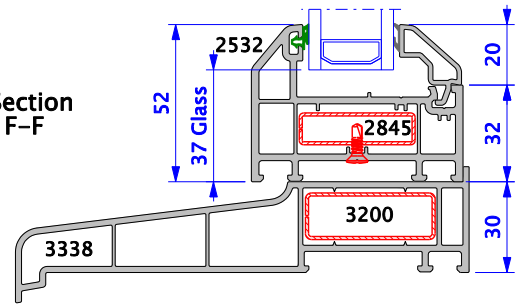
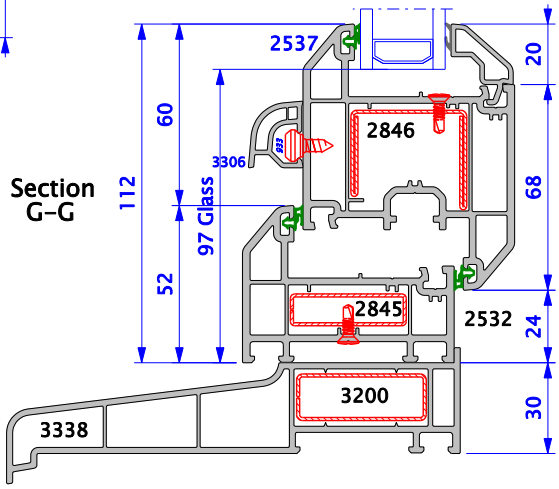


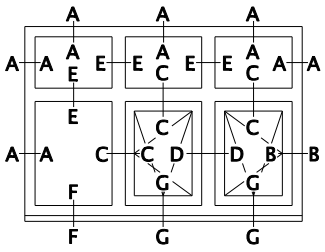
Section F–F



Section G–G

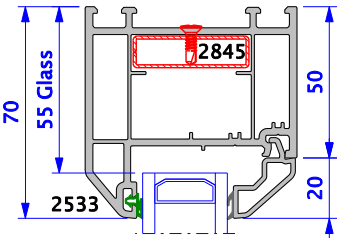


Tilt & Turn_Large Outer Frame

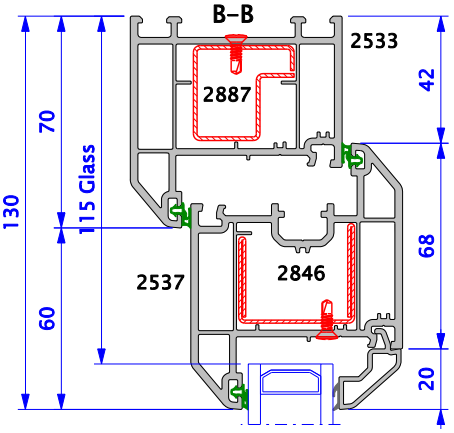


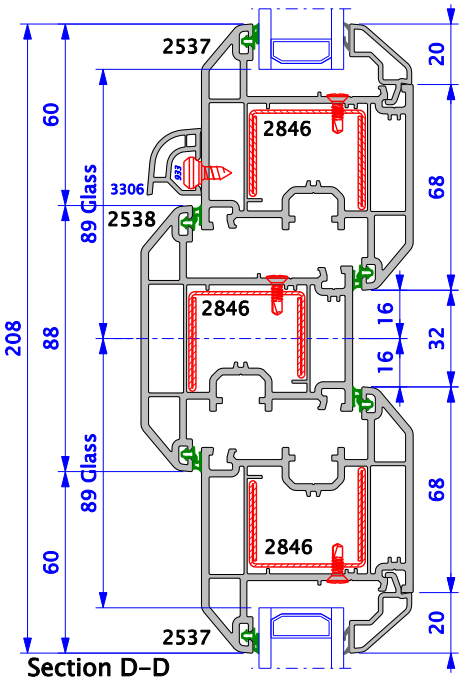
SECTIONS

Section A–A

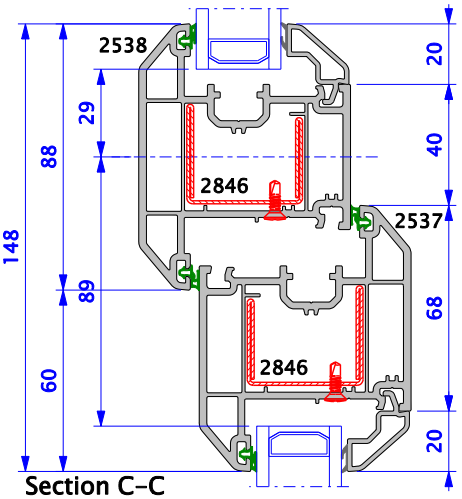


Section B–B



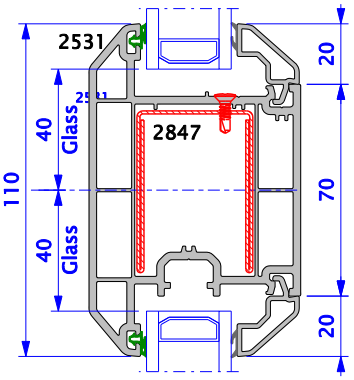


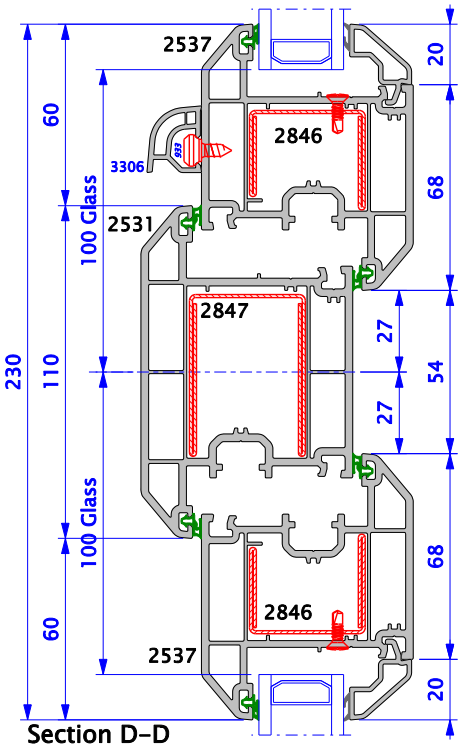
Section D–D



Section C–C

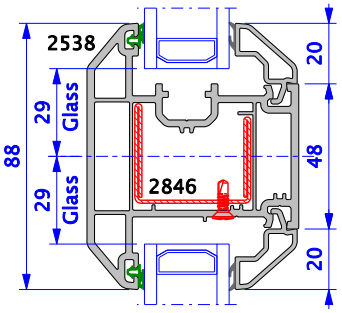
Section E–E



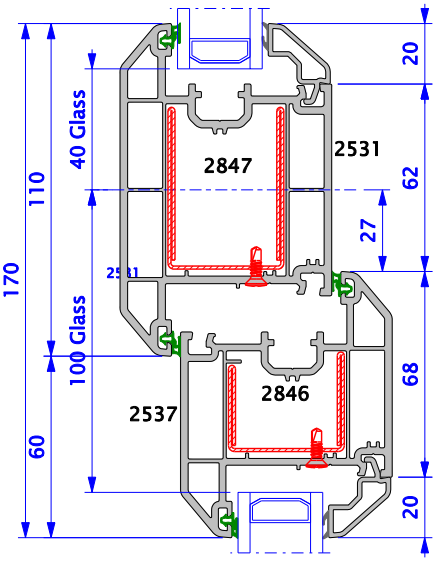


Section D–D

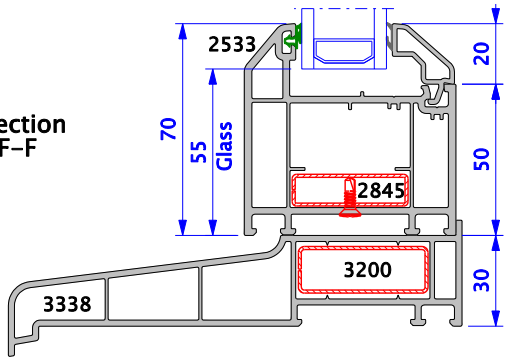
Section E–E



Section C–C



Section F–F



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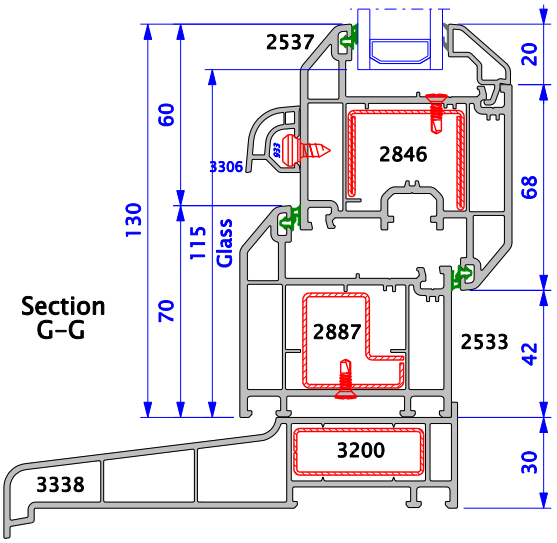
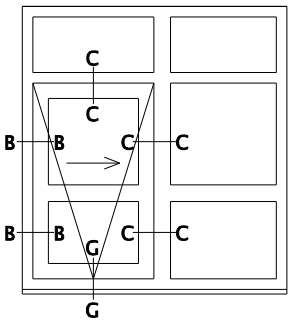


Tilt & Slide Patio

SECTIONS



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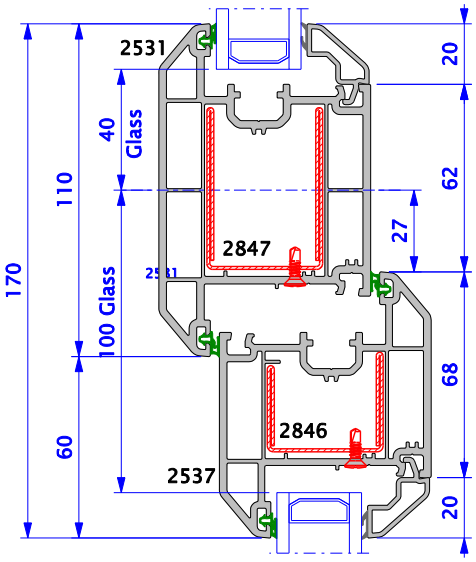

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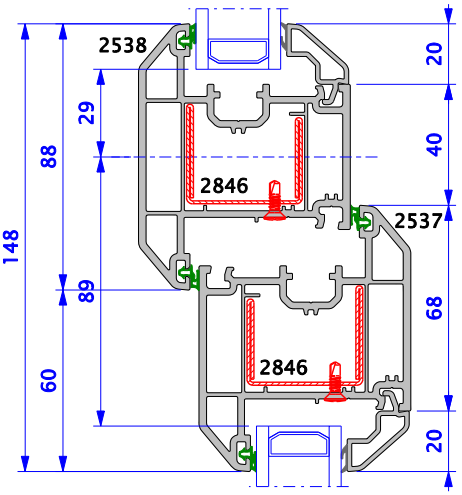

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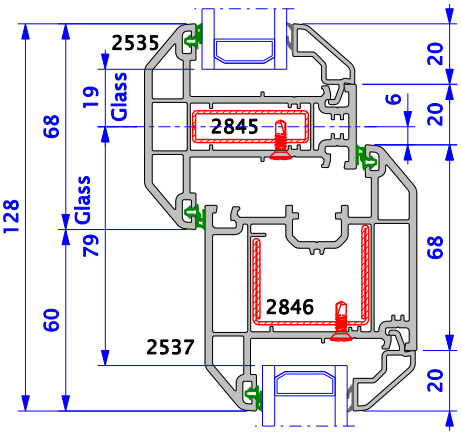

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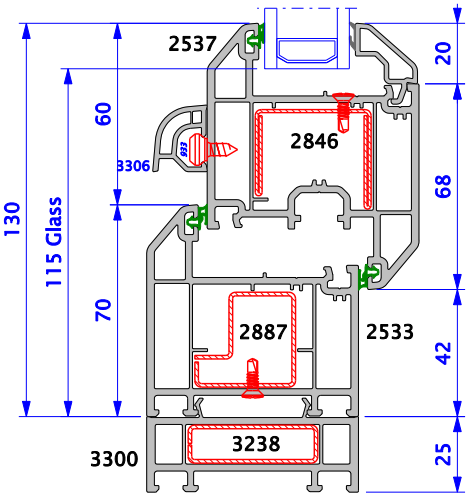

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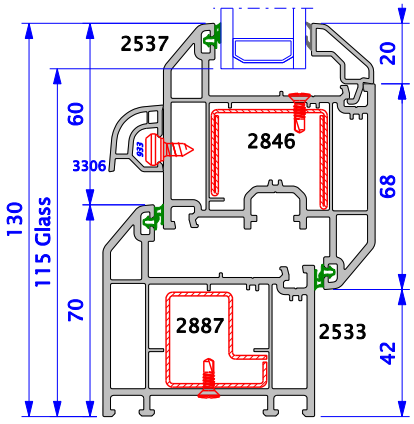
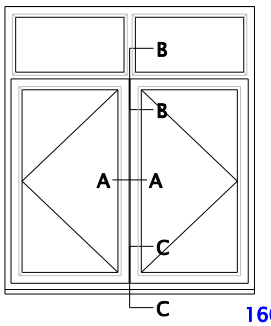


Lock Side

SECTIONS



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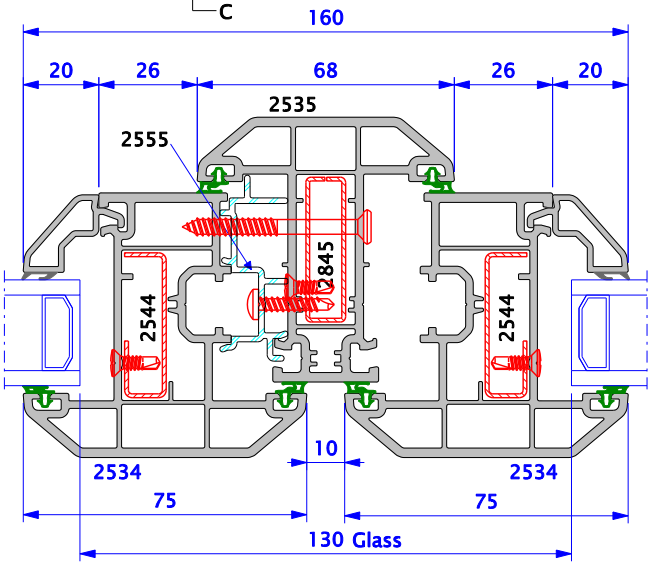

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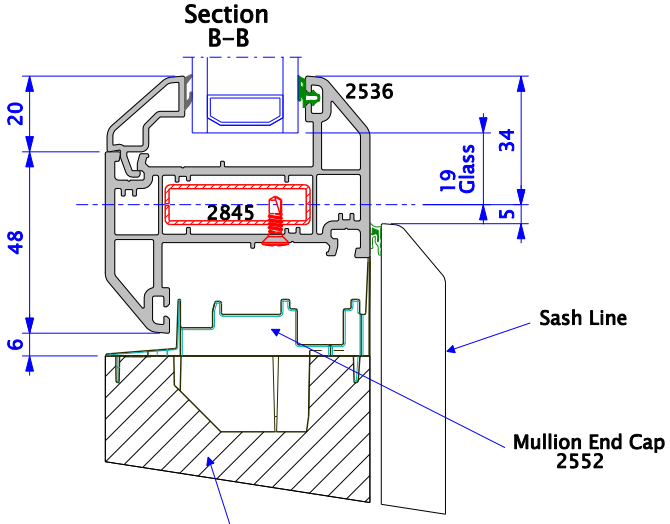

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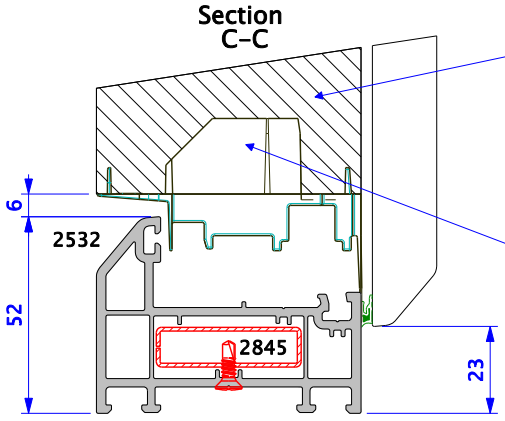
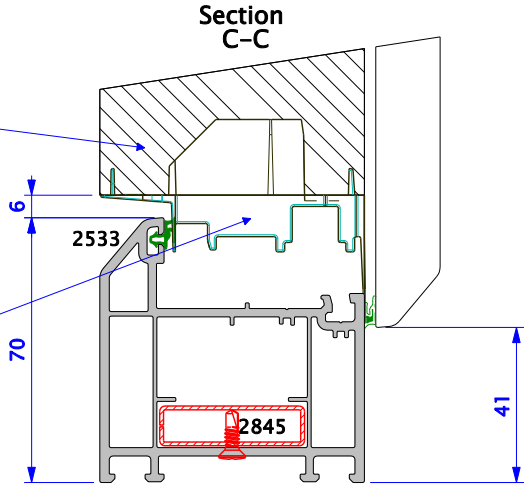


False Mullion 2535

Mullion End Cap 2552

Section C–C



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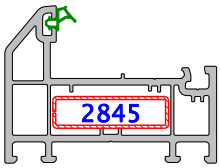

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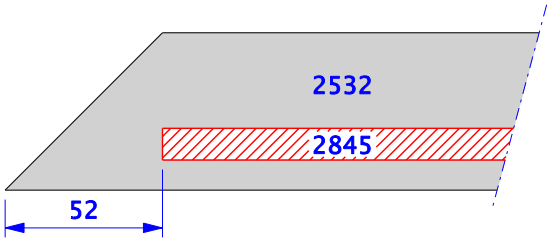

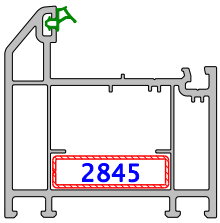

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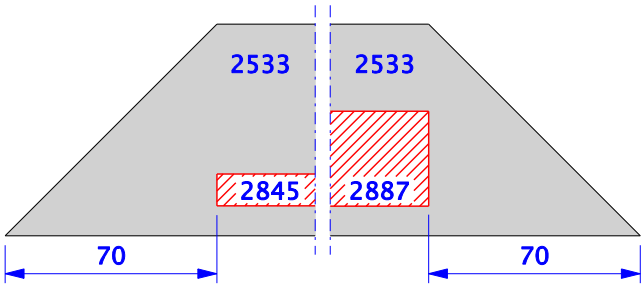

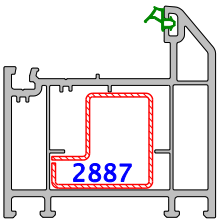

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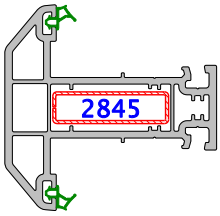

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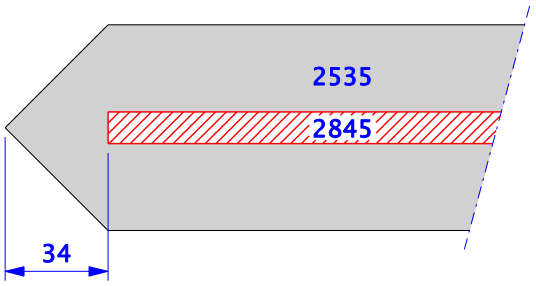

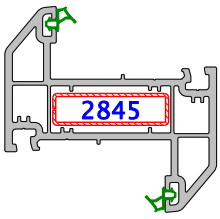

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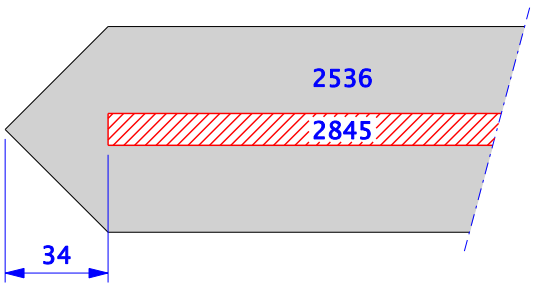

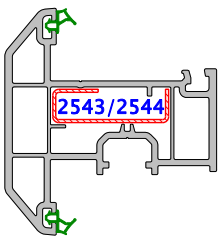

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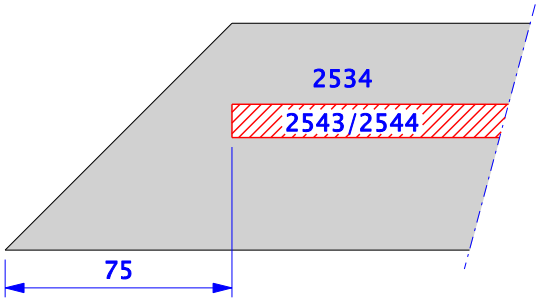
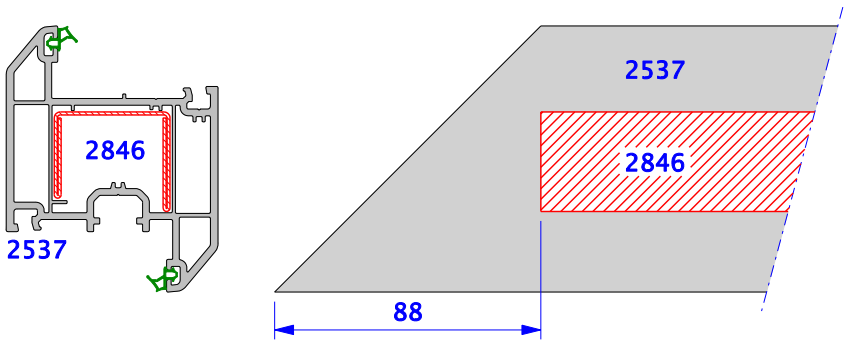
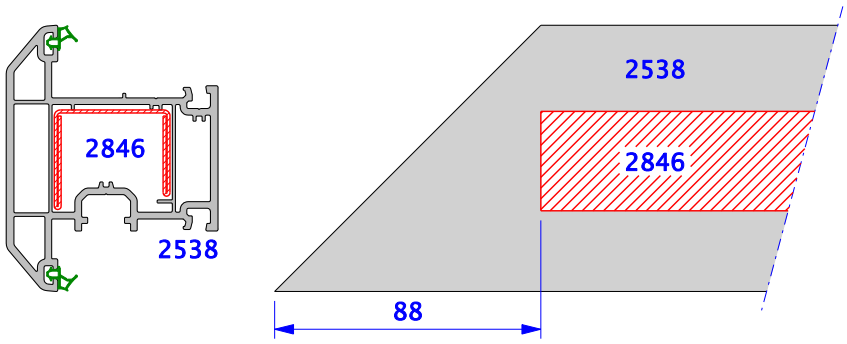
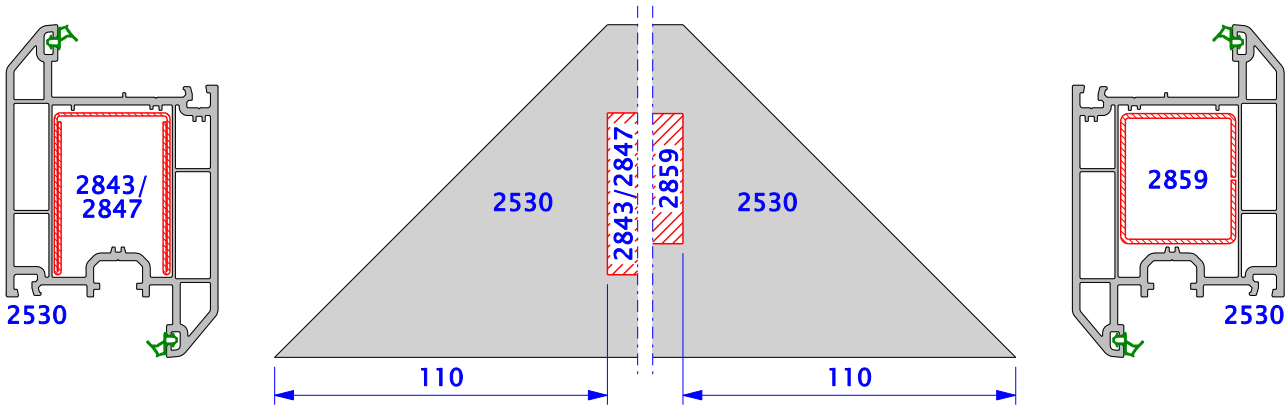


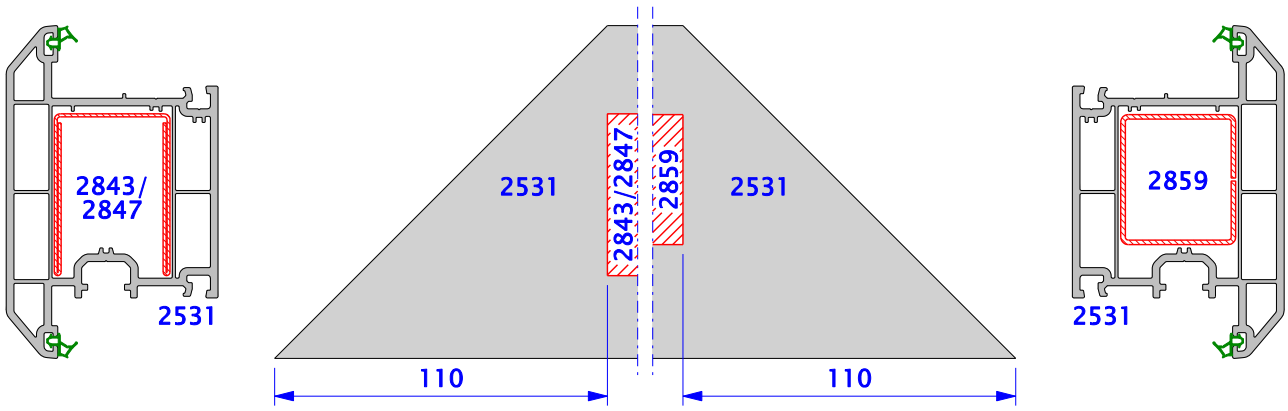
Reinforcing

CUTTING SIZES

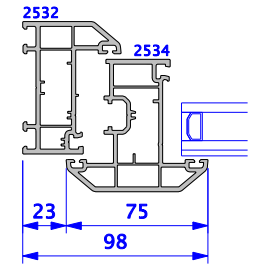


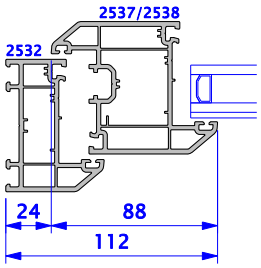


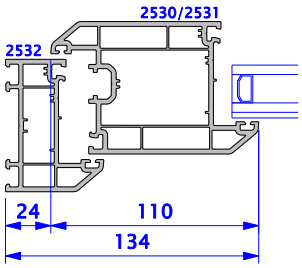


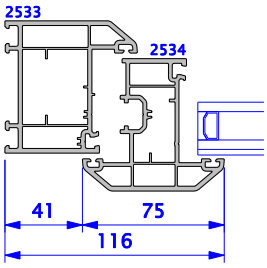


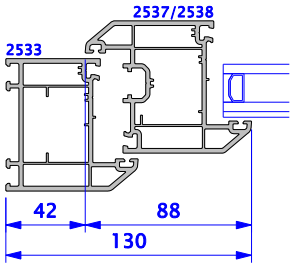
CUTTING SIZES

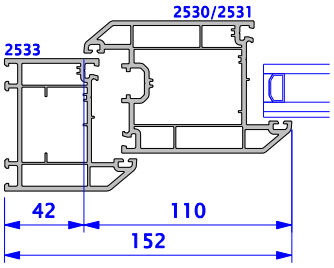


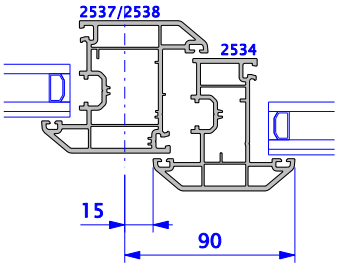


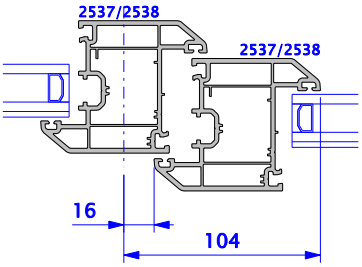


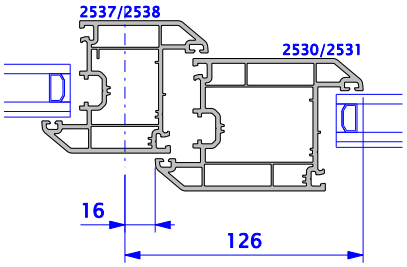


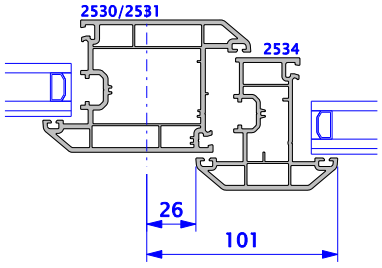


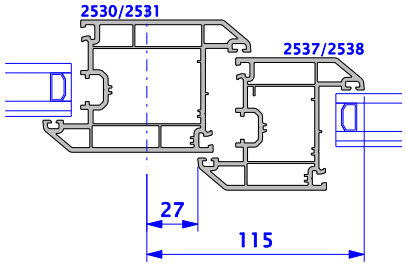


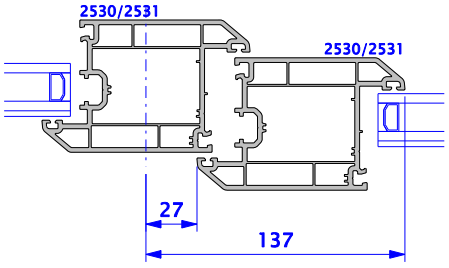


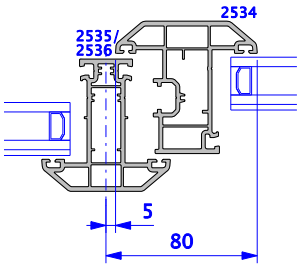


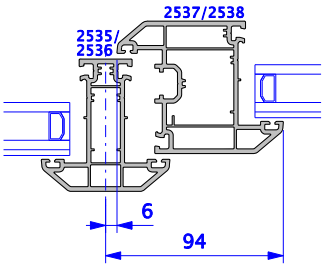


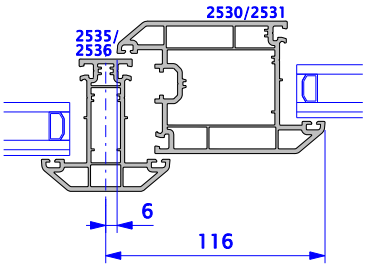






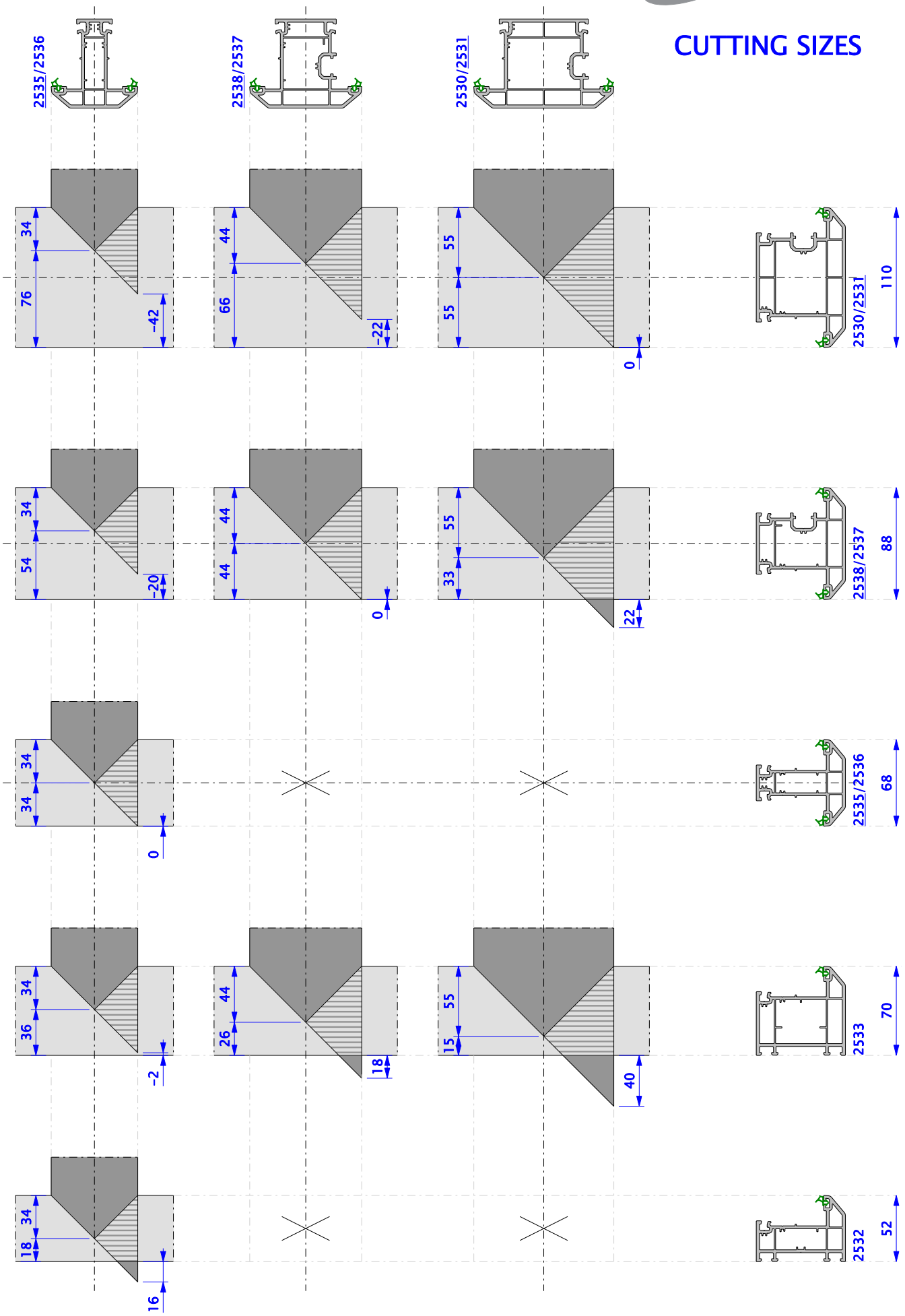






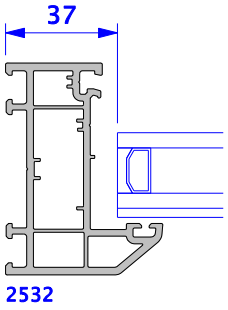
Transom/Mullion

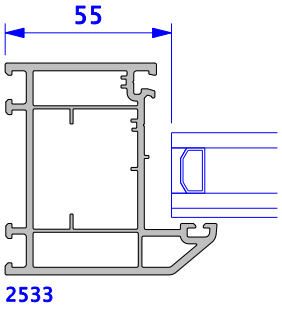
CUTTING SIZES

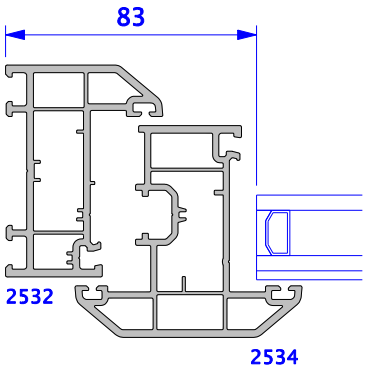


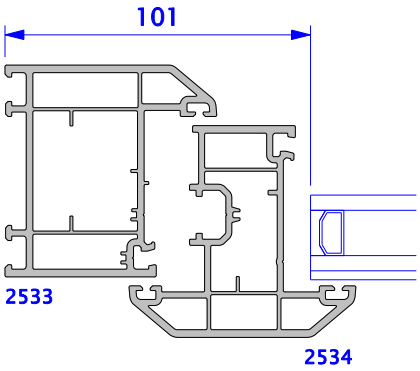
GLASS DISPLACEMENTS

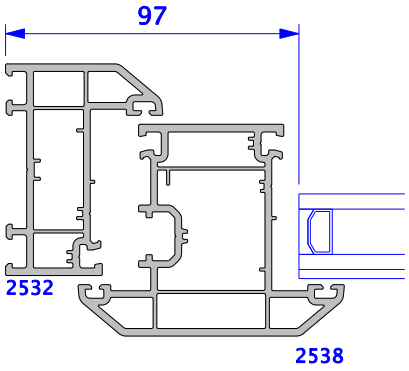
Frame

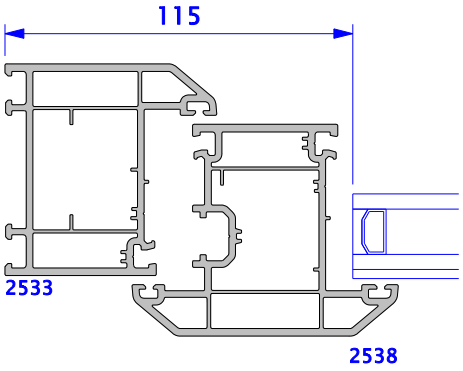


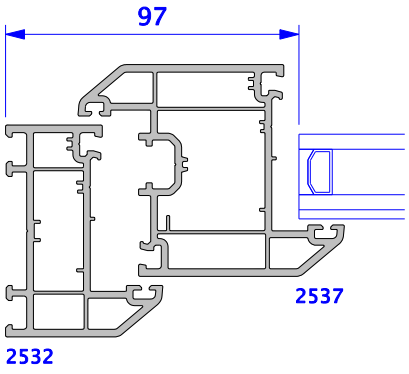


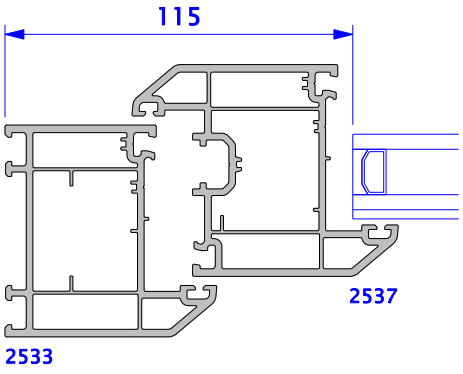


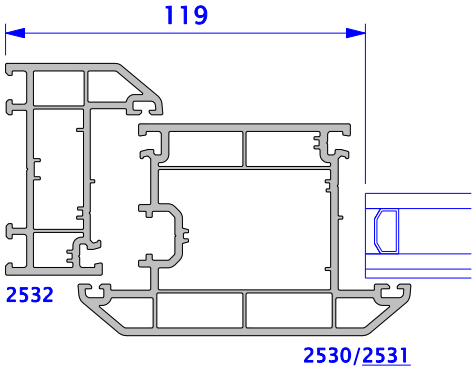


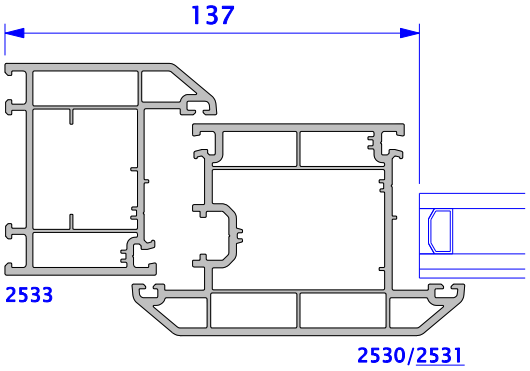




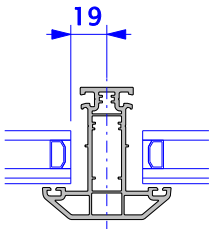


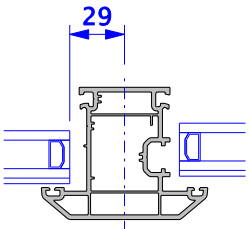


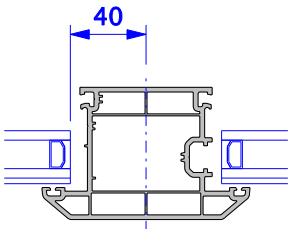


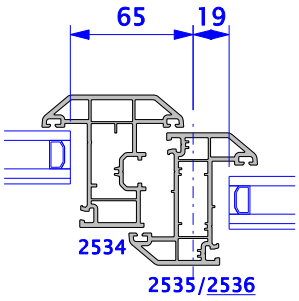


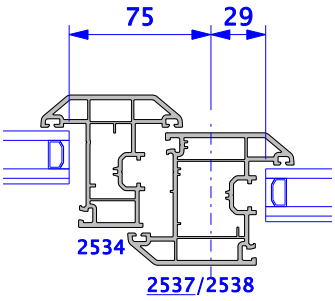
GLASS DISPLACEMENTS

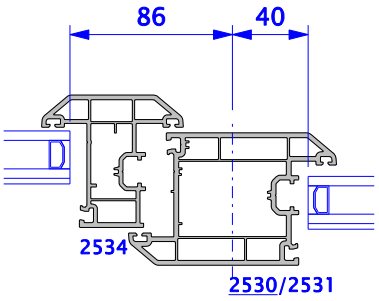


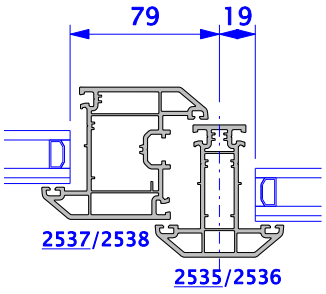


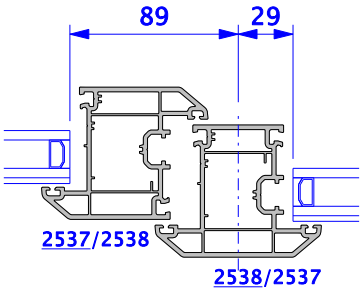


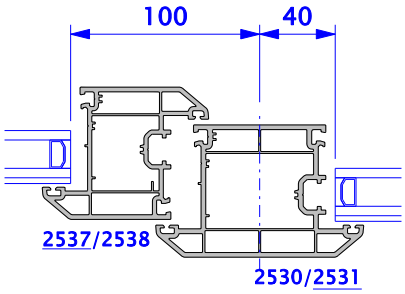


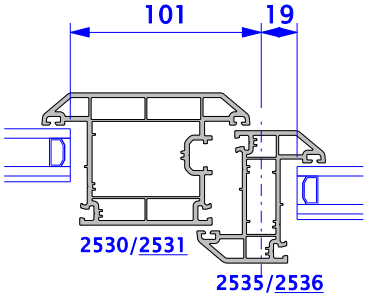


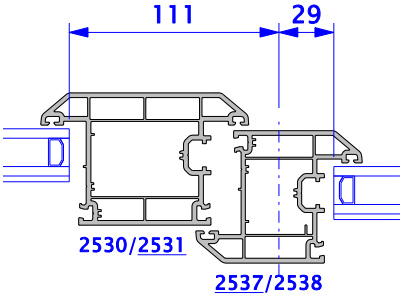


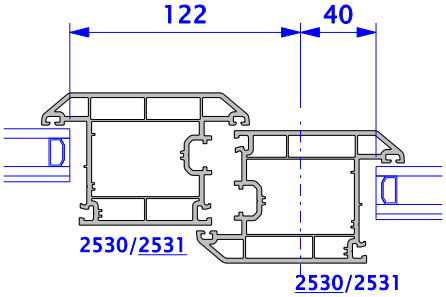








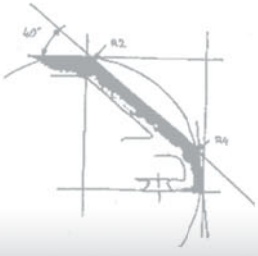




2500 chamfered

INSTALLATION

GENERAL GUIDELINES
INSTALLATION DETAILS



deceuninck

Check the structure around the openings for any defects such as cracked mortar joints and that suitable lintels are in place. Report any defects to the customer in writing and agree on the method of proceeding.

NOTE. PVCU windows and doors are not designed to be load bearing

Check the openings for any service cables (e.g. TV Aerial cables or telephone lines), mark these on the survey and agree with customer on the method of handling.

Determine the exposure category of the site and ensure that the replacement windows and doors are suitable.

Ensure compliance with Building Regulations as these affect replacement products. Particular attention is drawn to the requirements of Approved Documents L (Conservation of Energy), M (Access) and N (safety). Also, the fitting of replacement windows and doors should not worsen the existing provision in respect of Approved Documents F (Ventilation) and B (Egress). Photographic evidence of existing windows and doors should be considered in respect of queries raised by FENSA inspectors etc.

Ensure there are no obstructions, either internally or externally, that will prevent the new windows or doors from functioning correctly (e.g. external rainwater pipes or internal taps).

Check that the design of product falls within the following recommended maximum size range:

Product	Maximum Width (mm)	Maximum Height (mm)
Top hung casement sash	1200	1200
Side hung casement sash	700	1400
Tilt & Turn sash	1500	1500
Single hinged door	1000	2100
Double opening door	2000	2100
Tilt & Slide Patio sash	1000	2200
French window sashes	700	1400

The majority of sizes stated above are based on actual performance tests (refer to section 4.4 for full details and guidelines on maximum sizes for multi-lights and exposure categories).

Reference to be made to the hardware supplier to confirm suitability of selected components for the sizes intended.

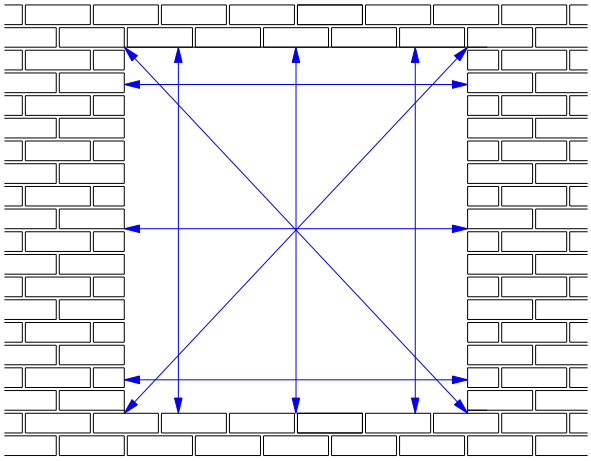


FIG 1

Take measurement of the width,height and diagonals as shown in Fig 1. The smallest measurement taken determines the tight overall width & height sizes.

The deductions shown in Table 1. should then be made all round the perimeter to allow for expansion and contraction, dependant on the size and finish of the new frames.
The sizes left are the manufacturing sizes for the new frames.

Determine if projecting sub-cills are to be fitted and where included ensure that a minimum projection of 25mm is provided beyond the structure.

Measure internal reveal sizes and compare with external opening sizes to ensure that opening lights are not impeded; this is important for inward opening doors and tilt & turn windows in particular. The thickness of external rendering should be checked for clearance of outward opening lights.

The survey should also determine the installation method to be used (e.g. through the frame fixing or with lugs) and ensure compliance with system designer and industry recommendations.

Width/Height of opening	White PVCU	Non White PVCU
Up to 1.5m	5mm	7.5mm
1.5m to 3.0m	5mm	7.5mm
3.0m* to 4.5m	7.5mm	11.0mm
Over 4.5m*	10.0mm	14.0mm

Table 1.

Deductions shown are per side not total.

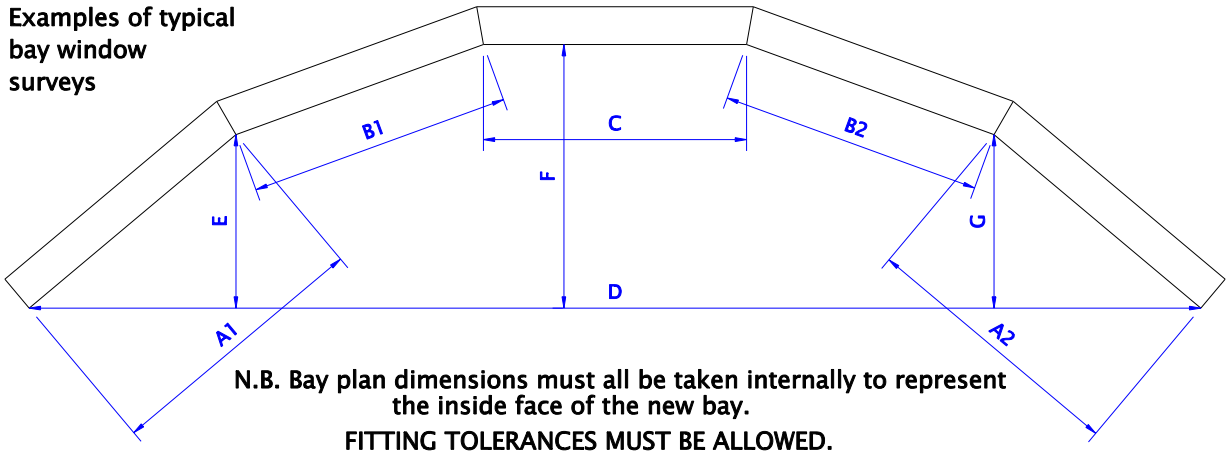
* Frames over 3.0m should idealy be coupled.

When surveying a bay window, make a note of the materials above the window (e.g. brickwork, hanging tiles, tiled roof, etc) as structural bay windows are required to have jacking poles to prevent any structural movement above the bay window. (Refer to section 3.2 Page 04 for details)

We recommend that for all bay window installations, the advice of a structural engineer is sought, to determine if the installation is load bearing.

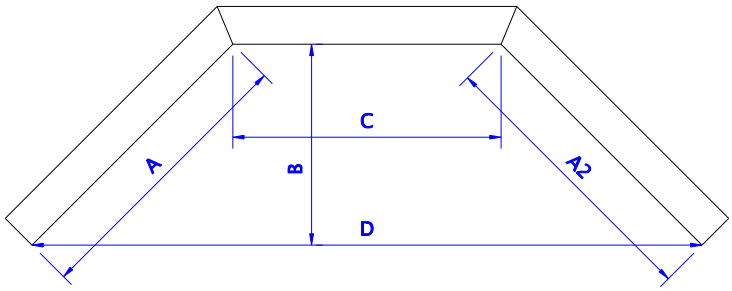
When surveying a bay window, internal cill dimensions are required although fitting tolerances and trimming allowances must be taken into account.

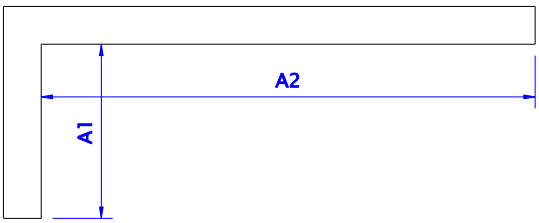
Examples of typical bay window surveys

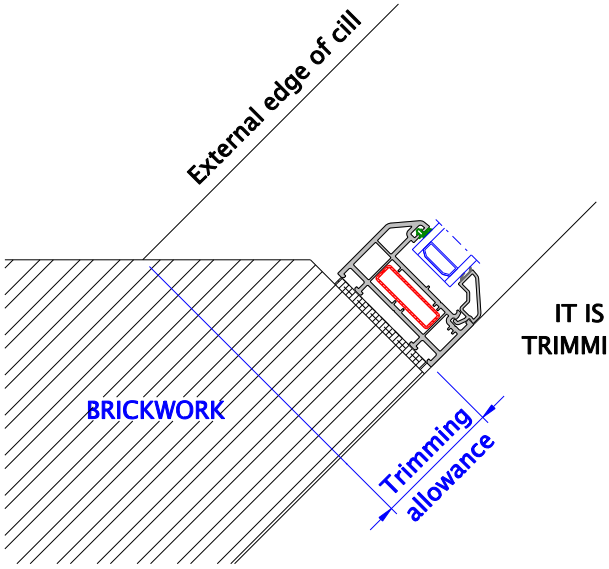


N.B. Bay plan dimensions must all be taken internally to represent the inside face of the new bay.

FITTING TOLERANCES MUST BE ALLOWED.







IT IS ESSENTIAL THAT SUFFICIENT TRIMMING ALLOWANCE IS ACCOUNTED FOR ON THE SURVEY

Transportation

When transporting glazed or unglazed frames, they should be firmly secured in an upright position on clean resilient packing. This will help prevent scratching of the surface of the profile. Frames stored on site should be treated in the same way and should be carried securely and placed in position without heavy impact. PVCu has a high resistance to weather, corrosion, and most materials found on building sites. However, as PVCu frames are delivered to the installer in a "completely finished" condition, care taken in transport, storage and handling will prove beneficial, thus ensuring a good installed appearance and customer satisfaction.

The protective tape on the PVCU frame(s) should be removed on completion of the installation, prior to final cleaning.

Protection

CEMENT, PLASTER AND SAND will not effect the properties of PVCu and may be easily cleaned from the surface – though care should be taken to avoid scratching. They may block drainage channels and so these should be checked and cleaned carefully before handover. Cement and plaster will corrode and spoil the action of gear and fittings so they should be cleaned off immediately.

TAR AND BITUMEN may stain the surface of white PVCu and contact should be avoided during storage and installation

SILICONE SEALANTS generally will have no effect on PVCu and may be used with confidence. However, mastic and sealant systems which include solvent based primers must not be used. If you are in doubt, consult the sealant supplier.

- Before removal of existing windows, it is of extreme importance that the following points are checked:-

  1. Check the structure around the opening for any defects such as cracked mortar joints and report any defects in writing to the customer before proceeding.
  2. Check the new windows have not been damaged in transit and that they have been manufactured in accordance with the customers original order.
  3. Check that the measurements of the new windows are correct so that they will fit into the aperture once the existing windows have been removed.

- Move any items of furniture away from the window aperture in order to avoid damage whilst removing the existing window or installing the new window.
- Cover carpets and soft furnishings with dust sheets so as to minimise the possibility of damage and to facilitate the "cleaning-up operation" after the installation.
- Using a craft knife or similar, score around the perimeter of the existing frame on the inside, where the plaster or wall decoration meets the frame. In most cases this will minimise damage.
- Remove all opening sashes and glass from the main frame
- Saw through any mullions or transoms and break these out of the main frame.
- Saw through verticals of main frame as far as possible without causing damage to internal reveals or structure.
- Protecting plaster and renderings with a bearing block, use a levering bar between the structure and the main vertical frame, to carefully lever the verticals inwards, and then complete the saw cut. Remove the vertical members completely from the aperture.
- Using the same procedure, remove the horizontal members of the outer frame from the aperture.
- Clean the aperture and remove where possible any mastic from the structure.
- Remove all debris from the site.
- Removal of sub-cills

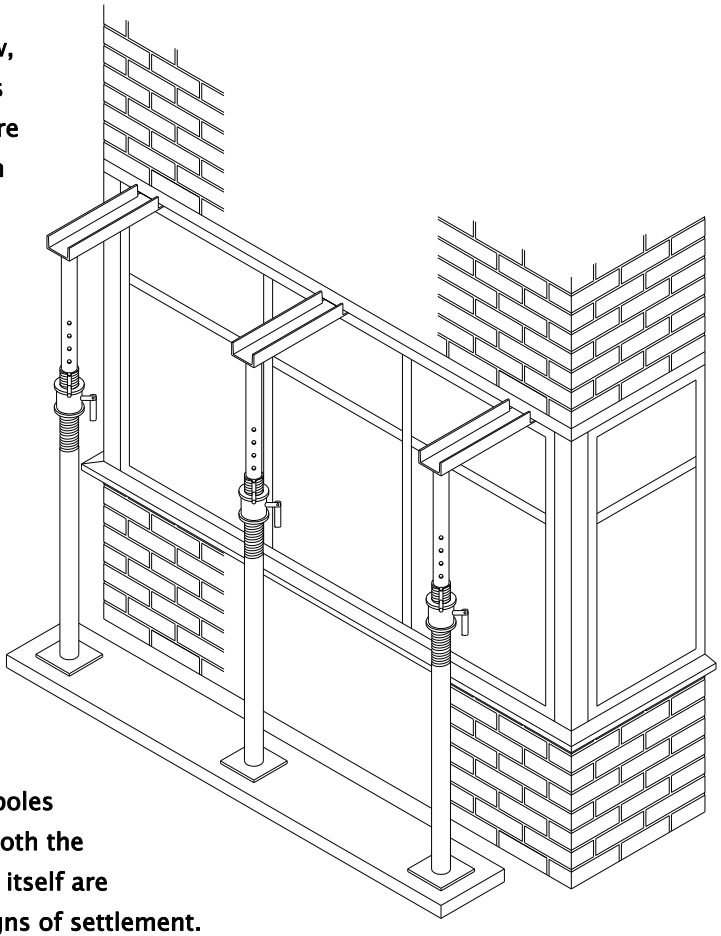
  Sub-cills - and sometimes heads, windowboards and mullions are often `horned' into the fabric of the aperture. This may conceal damp proof courses and lead to difficulties in removal. Great care must be taken when cutting and levering these items to reduce damage to plaster, renders and brickwork to a minimum. If the DPC is damaged, then it must be replaced.

- Removal of `Box-Sash' windows

  Most box-sash windows pre-date cavity walls, and are built into the internal reveals of solid brickwork. The sashes are removed fully glazed.

  1. Remove the mitred beading from around the frame.
  2. Cut the sash cords to release the weights.
  3. Remove the bottom sash, then take off the parting bead and take out top sash.
  4. Cut the outer frame from the aperture, leaving the horns in the structure.
  5. Remove the counterweights from the sash box.
  6. Remove the sub-cill, if this is not part of the outer frame.

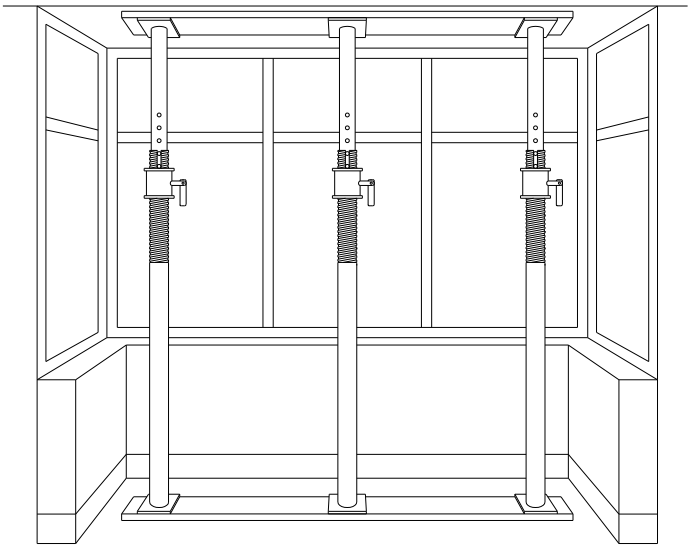
In order to maintain the structural integrity when replacing a bay window, it is essential that temporary supports are used. Care must be taken to ensure that they are placed in such a position to support all the super-structure without causing damage to ceilings or floors. In some cases temporary supports are needed both internally and externally



After supporting the bay structure the windows should be removed carefully, ensuring that the minimum of damage is caused to the reveals, plaster finishings and trims. Any trims that will be re-used should be carefully checked for defects such as rotting, and appropriate action should be taken

It is recommended that load bearing poles are removed one at a time, and that both the temporary supports and the structure itself are closely monitored to check for any signs of settlement.

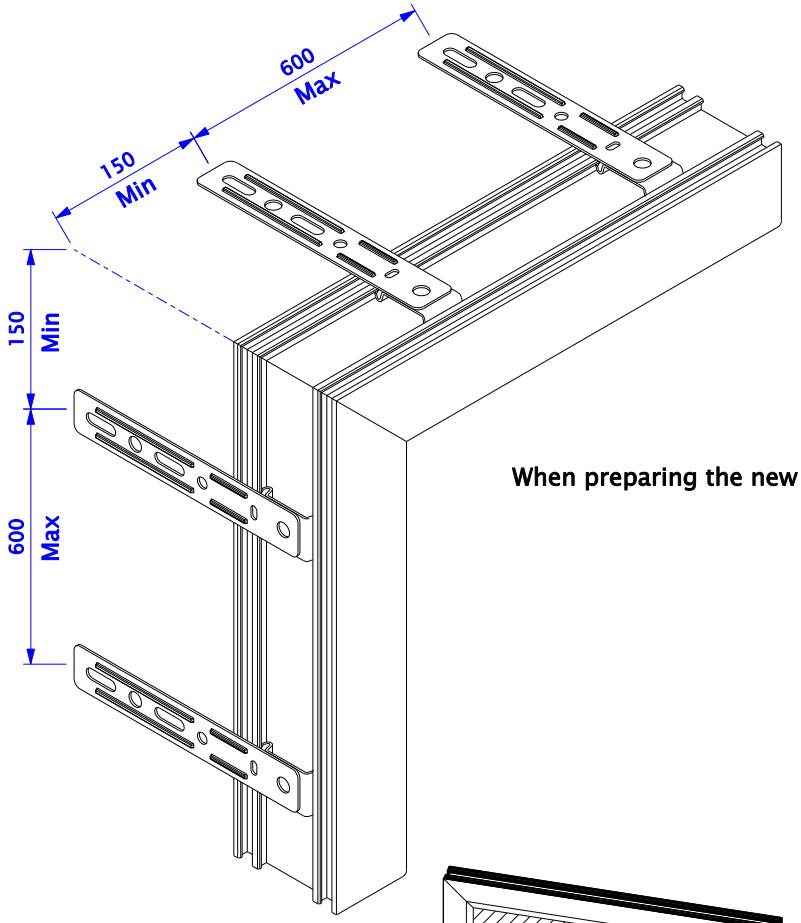
Any heavy furniture in the upper floor bay area should be cleared before removing the old bay window.



Changes to the building regulations make it necessary to use jacking poles on structural bays. Checks should be made with your local building control department or seek the services of a structural engineer if you have any uncertainty regarding this area of an installation

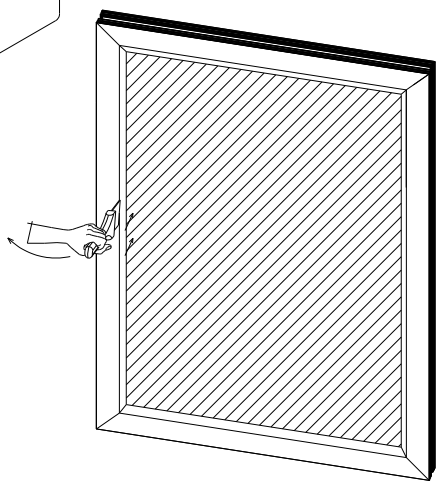
For details on jacking poles see section 3.2, page 4.

New Frame Preparation



When preparing the new frame, the following points should be followed :-

If you are using fixing brackets, these should be firmly attached to the outer frame, starting at no less than 150mm from the corners and at no more than 600mm centres.



If you are to screw through the main outer frame into the structure, then the glass in the appropriate fixed light must be removed.
If the window is too heavy for convenient handling, the glass units may have to be removed.
Choosing one of the longest beads first, push a sharp chisel or rigid putty knife into the bead/ frame joint at approximately the centre point.
Apply force to lift the bead up and out.
Starting at the end of the next bead, the remainder can now easily be removed.
Make a note of the positions of each bead to ensure correct poitioning later.
Carefully remove the glass unit, taking care not to disturb the packers. When windows are received unglazed see section 5.6, page 1 for glazing block positions. Store any glass you have removed safely away from where you are working.

With sash windows it may be more convenient to remove the sash or sashes. To remove the sash from the frame, open the sash to its full extent and keep fully supported. Carefully remove the screws from the friction stays on either the sash or frame. Refitting is the reverse of this procedure. It is important to ensure that the screws locate into the original fixing holes. Finally, check for squareness of vent in frame aperture.

If a cill is required and has been supplied separately from the window, then it must now be attached. If the cill is to be fixed to the window frame with screws, always screw from the underside of the cill into the frame. It is important that fixings do not penetrate drainage channels.

1. Offer the window into the aperture, bedding in the appropriate manner as illustrated on the following page, temporarily wedging it into position making sure it is level & plumb. Ensure perimeter clearances are retained by using appropriate fixing packers. Mechanical fixings should be made through the packers. The packers themselves must be made of a non-degradable material (e.g. plastic).
2. Fix the window into the aperture using either fixing brackets or by drilling and fixing through the outer frame. Fixing locations should be no closer than 150mm from corners and intermediate transoms/mullion joints and at max. 600mm centres elsewhere (see Fig 1.)
Windows over 1800mm wide should be fixed centrally at both head and cill.
A minimum of 2 fixings per jamb must be achieved.
THe use of polyurethane foam is permitted where it is impractical to achieve mechanical fixing in the normal way. The manufacturers guidelines must be followed for application. Foam fixing will not be accepted as a sole means of fixing a frame.

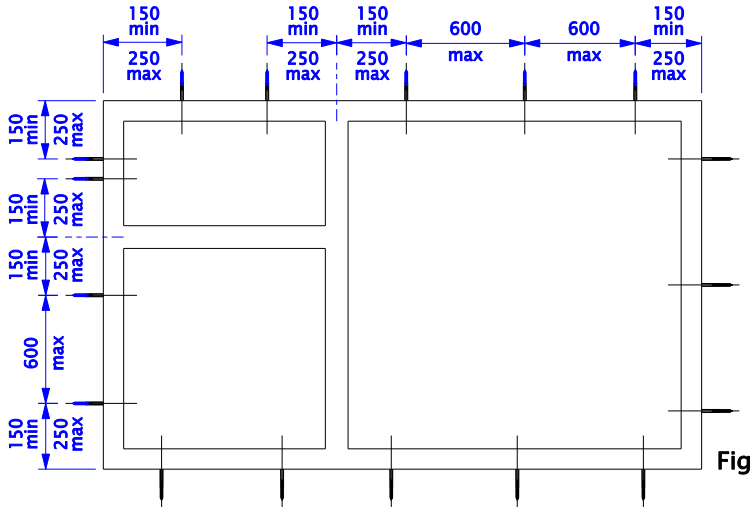


Fig 1.

3. If it is necessary to fix through the bottom member of the outer frame, where water can collect, adequate sealing over screw heads is recommended. Where possible, fixing brackets should be used for this application.
4. Re-fit any of the glass units you have removed, making sure they are sitting on the necessary glazing blocks. (Refer section 5.6 Page 1).
5. Re-fit the glazing beads taking extreme care not to damage the glass.
6. Re-fit sash or sashes you have removed. See section 3.1, page 7.
7. Check the window for correct operation before proceeding with the mastic seal or making good.

DRAINAGE

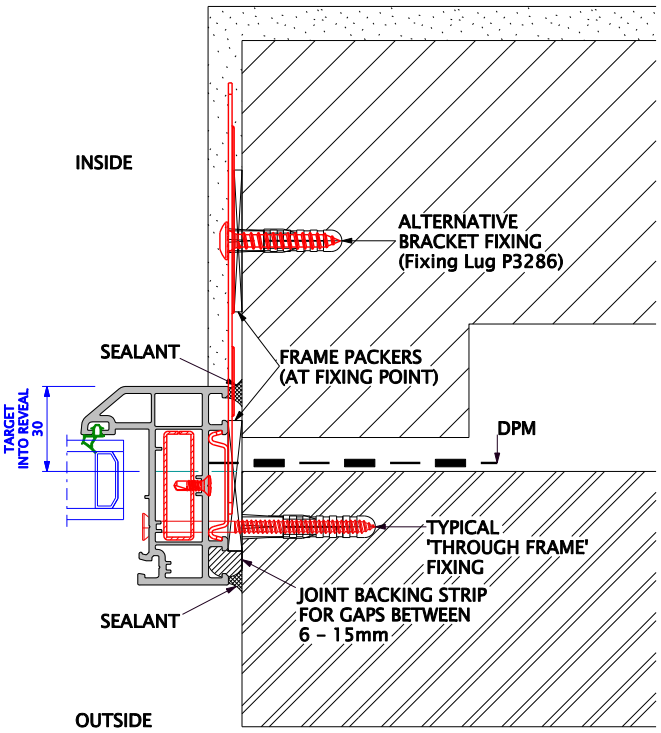
It is essential that our recommendations for securing the glass in place are followed. Specifically, care must be taken to ensure that glazing blocks or spacers do not obstruct drainage of the water from the glazing rebate.

The details contained in "Limiting thermal bridging and air leakage : Robust Construction details for dwellings and similar buildings" (TSO 2001) are applicable to new build applications under Building Regulations (Approved Document L) but also make good practice on replacement work where possible.

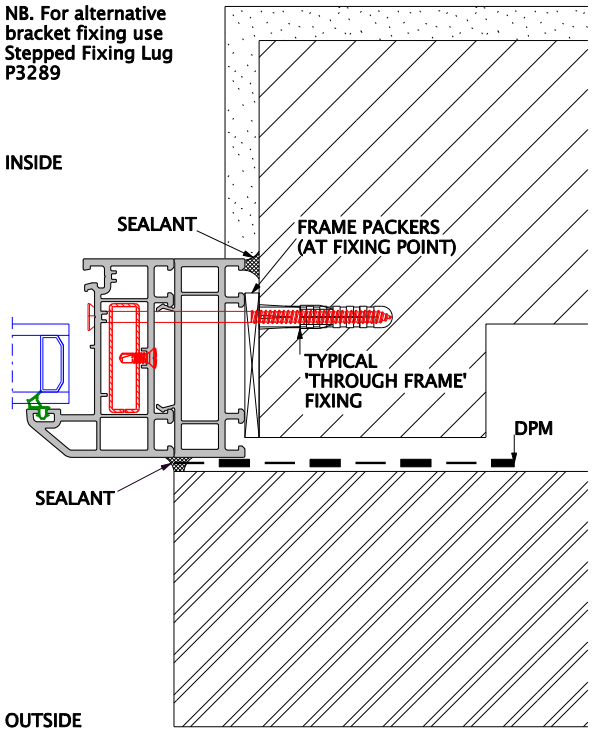
Frame fixings should penetrate a minimum of 25mm into timber and 40mm into plugged brick or block work. Separate fixing details apply when fixing to timber kit framing, steelwork and thin gauge metal pressings. In all situations the facility for PVC U frames to expand and contract must be provided.

Details shown on following page provide further examples of fixing PVCU frames.

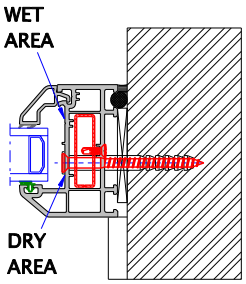
Typical Jamb Detail:
Section through flush reveal:



Typical Jamb Detail:
Section through stepped/rebated reveal:

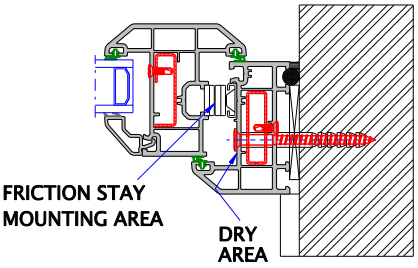


INSTALLATION DETAIL



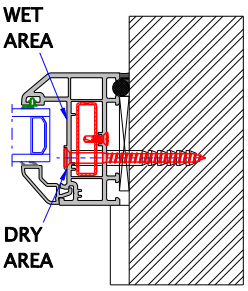
EXTERNAL BEAD FIXED

Typical through the frame fixing showing screw in dry area.
Typical for all externally beaded fixed glass situations.



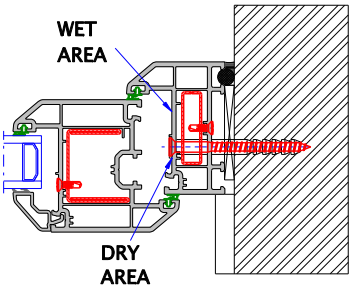
OPEN OUT

Typical through the frame fixing showing screw in dry area.
Typical for all opening out windows avoiding the friction stay mounting area and for residential doors which open outwards.



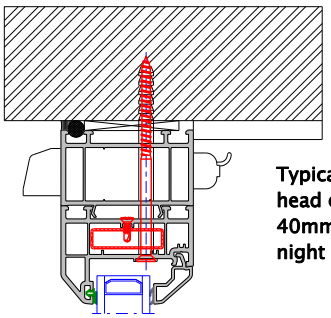
INTERNAL BEAD FIXED

Typical through the frame fixing showing screw in dry area.
Typical for all internally beaded fixed glass situations.

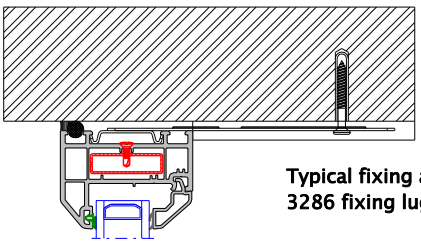


OPEN IN

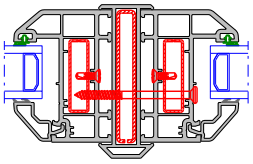
Typical through the frame fixing showing screw in dry area.
Typical for opening in windows such as tilt & turn also for residential doors which open inwards.



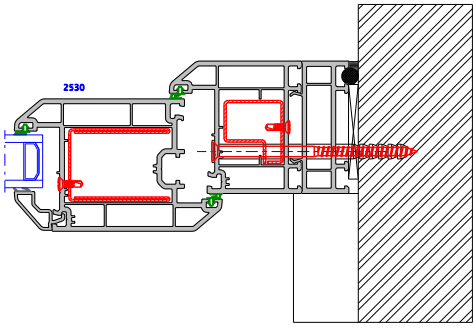
Typical fixing through the head example shows 3301 40mm add-on used for a night ventilation arrangement



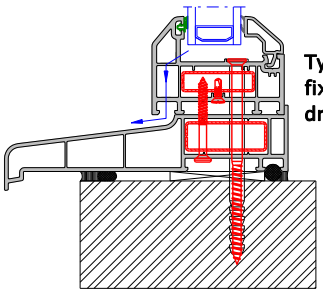
Typical fixing at head using 3286 fixing lugs.



Typical arrangement of frame to frame coupling example shows two 2535 outerframes coupled with 6960 overlaping coupler.



Typical fixing with deep plaster line roomside using 3300 25mm add-on Hinge side shown



Typical through the frame fixing showing screw in dry area.

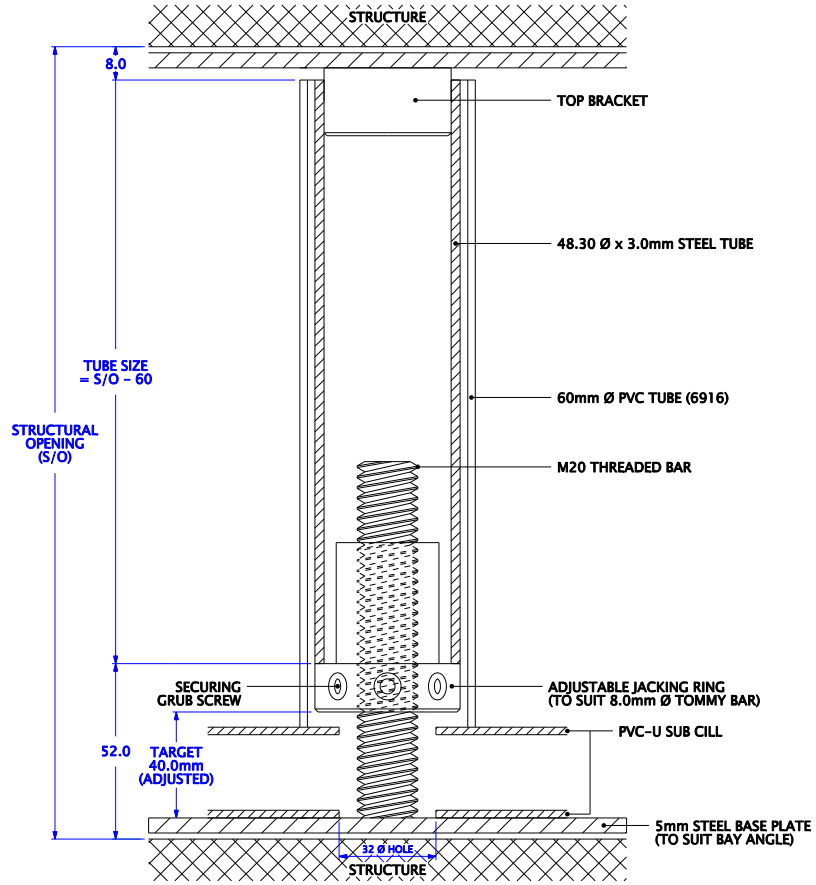
It is expected that bay windows will shortly come under Building Regulations at least with regard to structural integrity. Currently FENSA inspectors will check that provision has been made for suitable corner posts to suit load bearing situations. Future requirements may well see demands for calculations on loads applicable and how these are met by the bay system used.

Deceuninck have teamed up with specialist supplier Nicholls & Cooke of Southampton to develop a range of adjustable structural jacking corner post designs to suit the 2500 Series for both splayed and square bay types.

For splayed bays two options exist – one using 6916 PVC tube with 3311 frame adaptor and the second uses the smaller 3313 tube with 3327 clip in adaptors to provide an option with slimmer sightlines. For square bays 6920 PVC tube is used. In all situations Deceuninck have opted to use seam welded galvanized steel tubing for the structural element to maximise load bearing. Standard aluminium bay tubes are unlikely to have the required mechanical strength.

Bearing Plates:
Bearing plates should be made from steel with a minimum thickness of 3mm, or aluminium with a minimum thickness of 5mm.
The area of the bearing plate should be a minimum of 1800 sq.mm.
Provision must be made to prevent the plate moving relative to the bay pole.
The bearing plate must completely cover the end of the bay pole.

Further details of the system can be found in a separate publication "Manual for the construction of the Nicholls & Cooke Structural Bay System for the Deceuninck 2500 System".



Site glazing to be completed as required. The contractor must utilize the glazing methods described within this technical manual. The location of glazing packers to be suitable for each application. Glass units must be installed clear of designated 'wet' areas in the framing and be packed to prevent opening lights from dropping.

On completion of glazing, and the attachment of any special fittings, the contractor will check the correct functioning of all windows and doors installed making adjustments where necessary.

The contractor will be reponsible for cleaning the framing and glass with approved agents. The protective tape on the framing should then be removed.

The contractor will carefully point an approved low modulus silicone sealant to the joint gap between frame and structure on the outside (Fig 1.). Care should be taken not to seal the drainage path for such as metal lintels.
The 'Robust Detailing' methods referred to in Approved Document B of the Building Regulations stipulate that and additional seal line is also placed to the inside gap between frame and structure on new build applications. The use of backing strips for gaps between 6mm – 15mm should be adopted, and the sealant manufacturers guidelines followed (Fig 2.).

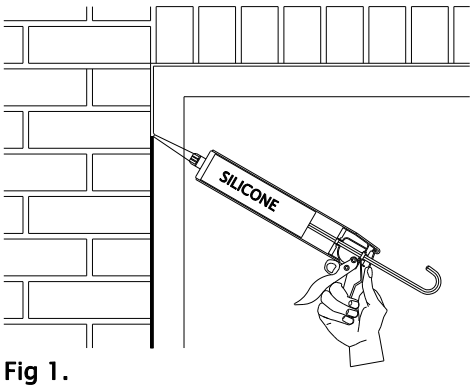


Fig 1.

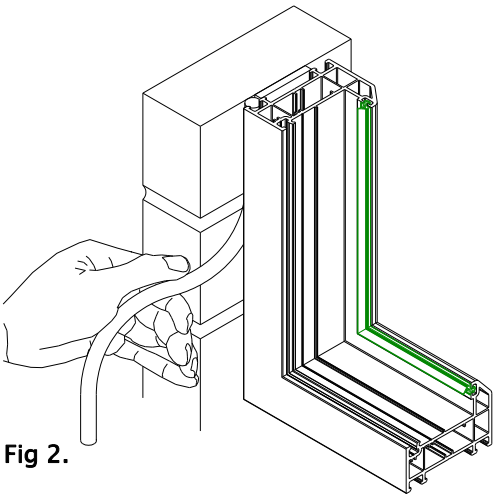
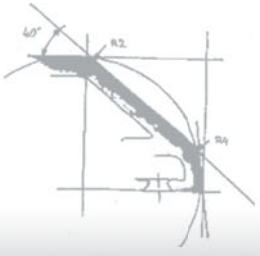


Fig 2.

2500 chamfered

PERFORMANCE

CALCULATION OF WIND PRESSURE
REINFORCEMENT GUIDELINES
THERMAL PERFORMANCE
CERTIFICATES

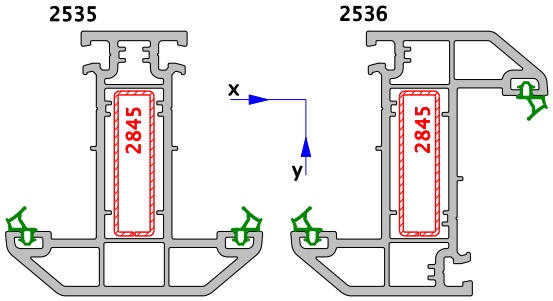


deceuninck

Transoms & Mullions

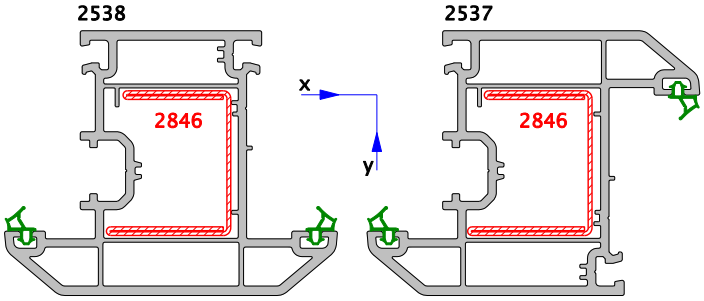
The calculated Ei values in this section are the true inertia values adjusted with the modulus of elastisity of materials used within our various section, values used are as follows:-

Material	Modulus
PVCU	2,500
Steel	205,000



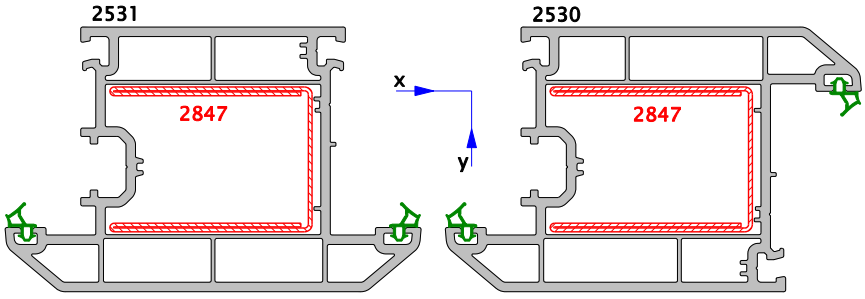
Combined Ei Values

Profile	Reinforcing	Eix Value (x 10^9)	Eiy Value (x 10^9)
2535	None	1.07	0.44
2535	+ 2845	4.06	0.81
2536	None	1.13	0.44
2536	+ 2845	4.12	0.81



Combined Ei Values

Profile	Reinforcing	Eix Value (x 10^9)	Eiy Value (x 10^9)
2538	None	1.41	1.14
2538	+ 2846	10.00	4.28
2537	None	1.46	1.14
2537	+ 2846	10.03	4.28



Combined Ei Values

Profile	Reinforcing	Eix Value (x 10^9)	Eiy Value (x 10^9)
2531	None	1.85	2.55
2531	+ 2847	16.41	16.57
2530	None	1.90	1.55
2530	+ 2847	16.46	15.57

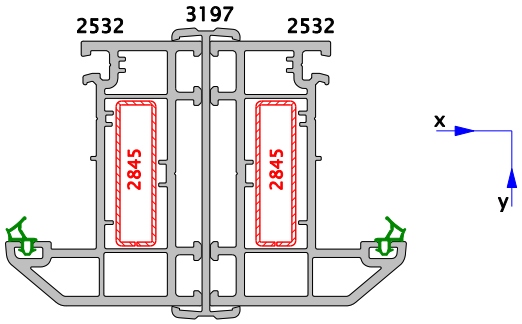
NOTE:-THE POSITIONING OF REINFORCEMENT SCREWS SHOULD BE NO GREATER THAN 300mm CENTRES AND A MAXIMUM OF 100mm IN FROM EACH END.

Coupled Sections

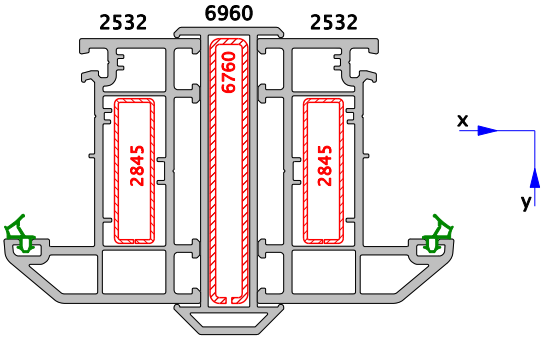
The calculated Ei values in this section are the true inertia values adjusted with the modulus of elastisity of materials used within our various section, values used are as follows:-

Material	Modulus
PVCU	2,500
Steel	205,000

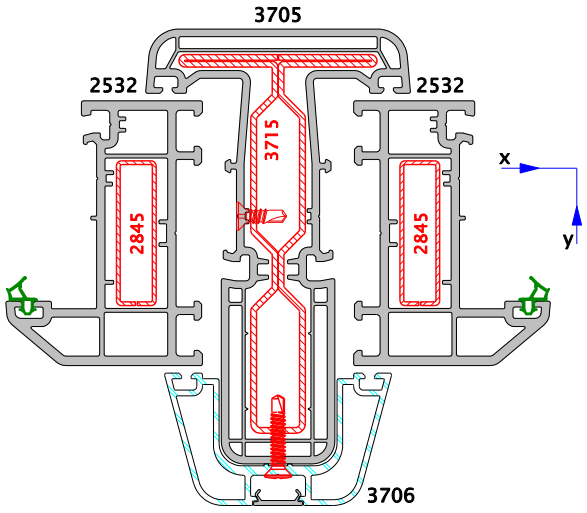
COUPLED SECTIONS MUST BE SECURED TOGETHER AT MAXIMUM 300mm CENTRES



Profiles	Coupler	Reinforcings	Eix Value (x 10 ⁹)	Eiy Value (x 10 ⁹)
2532 x 2	3197	2845 x 2	7.92	0.96



Profiles	Coupler	Reinforcings	Eix Value (x 10 ⁹)	Eiy Value (x 10 ⁹)
2532 x 2	6960	2845x2 & 6760	29.77	1.8



Profiles	Coupler	Reinforcings	Eix Value (x 10 ⁹)	Eiy Value (x 10 ⁹)
2532 x 2	3705	2845x2 & 3715	124.64	10.7

Note
3706 Pressure Plate not included in combined Ei calculation as this profile is optional.
Please contact the Deceuninck Technical Dept for further information.

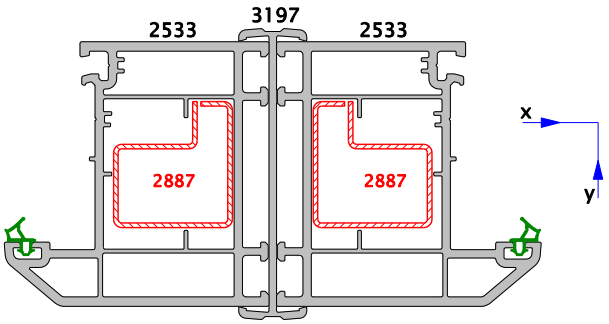
NOTE:-THE POSITIONING OF REINFORCEMENT SCREWS SHOULD BE NO GREATER THAN 300mm CENTRES AND A MAXIMUM OF 100mm IN FROM EACH END.

Coupled Sections

The calculated Ei values in this section are the true inertia values adjusted with the modulus of elastisity of materials used within our various section, values used are as follows:-

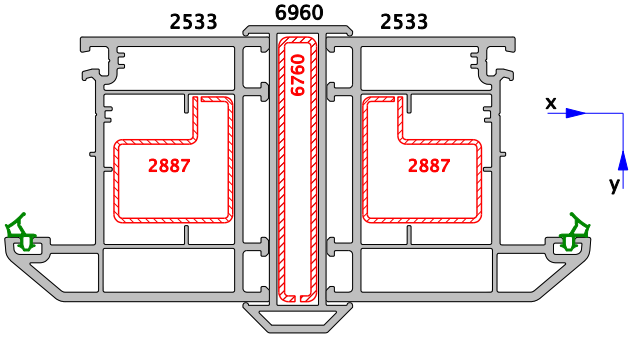
Material	Modulus
PVCU	2,500
Steel	205,000

COUPLED SECTIONS MUST BE SECURED TOGETHER AT MAXIMUM 300mm CENTRES



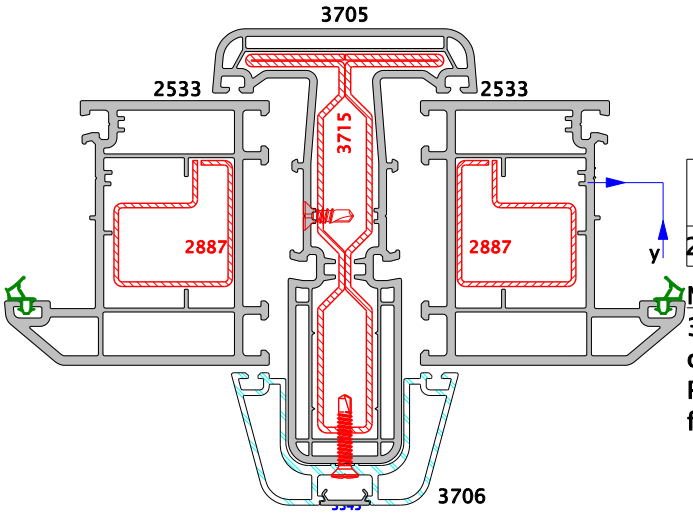
Combined Ei Values

Profiles	Coupler	Reinforcings	Eix Value (x 10^9)	Eiy Value (x 10^9)
2533 x 2	3197	2887 x 2	10.3	9.4



Combined Ei Values

Profiles	Coupler	Reinforcings	Eix Value (x 10^9)	Eiy Value (x 10^9)
2533 x 2	6960	2887x2/6760	31.76	10.23



Combined Ei Values

Profiles	Coupler	Reinforcings	Eix Value (x 10^9)	Eiy Value (x 10^9)
2533 x 2	3705	2887x2/3715	126.63	19.13

Note

3706 Pressure Plate not included in combined Ei calculation as this profile is optional.
Please contact the Deceuninck Technical Dept for further information.

NOTE:-THE POSITIONING OF REINFORCEMENT SCREWS SHOULD BE NO GREATER THAN 300mm CENTRES AND A MAXIMUM OF 100mm IN FROM EACH END.

WIND LOADING

Requests for wind loading / exposure category calculations for windows and doors to the above standard can be dealt with in the following way:

1) Standard Method

Based upon BS 6399, this provides conservative safe results with a minimum of site data required and is particularly suited to smaller projects.
The following data must be supplied:

a) Site Post Code
b) Height to the top of the structure (eaves or ridge) containing the highest window
c) Details of individual window sizes and styles
d) Colour / finish of the PVC-U profile being used

The programme used will determine the 'Effective Wind Load' for the site to which a safe 'Net Pressure Co-Efficient' factor would be applied in accordance with BS 6375:2004 to provide a maximum wind load value for the windows. The reinforcing requirements of individual windows can then be assessed.

For wind load calculations in line with BS 6399 methods detailed on this page and/or window/scheme design service, please use the blank calculation request form on the following page.
Completed forms should be forwarded for the attention of the Technical Dept:

Fax. 01249 810921
Email. mark.castle@deceuninck.com

PLEASE ENSURE ALL RELEVANT DATA IS SUPPLIED

Data for Wind Load Calculation

Requested by: .....

Client Ref: .....

Date: ...../...../.....

Project Postcode: .....

Height of Building Eaves: .....

Proposed Window Detail(s): (Please identify style, overall size and break sizes)

(Please use additional page or your own survey sheet should the space provided not be sufficient to show all window/door styles)

Data for Scheme Design (If this service is required, please tick relevant boxes)

Finish: White ☐ Foiled/Decoroc ☐ Note. Coloured profile will require full reinforcement

Glazing Size: 24 mm ☐ 28 mm ☐ Other ☐ (Please specify) .....

Glazing Bead Style: Chamfered ☐ Retro ☐ Contemporary ☐ Standard ☐

Sash Style: Chamfered ☐

BS 8213 Compliance: Will window cleaning be carried out by resident? Yes ☐ No ☐
(If no, a letter confirming this should be supplied by the contractor)

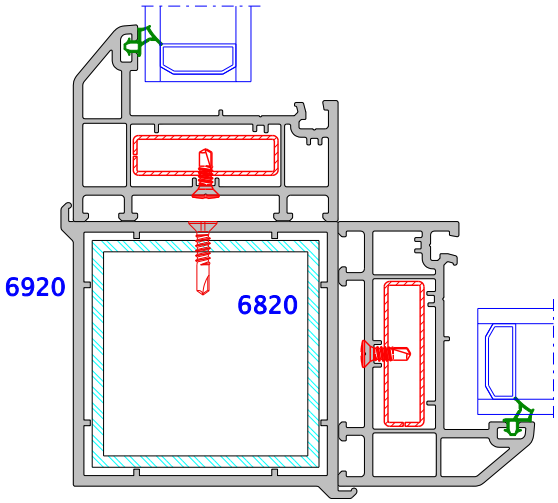
Data for Deceuninck Records

Project Size Rating: A < 25 ☐ B < 100 ☐ C ≥ 100 ☐
(Total No. of windows/doors involved)

NOTE. For calculation to 'Directional/Hybrid method', please also supply the following building details:

- Plan with overall sizes and orientation of the front face (North facing = 0°)
- Elevation(s) with overall height and location of windows

This form must be completed in full to enable an accurate and complete calculation to be made.



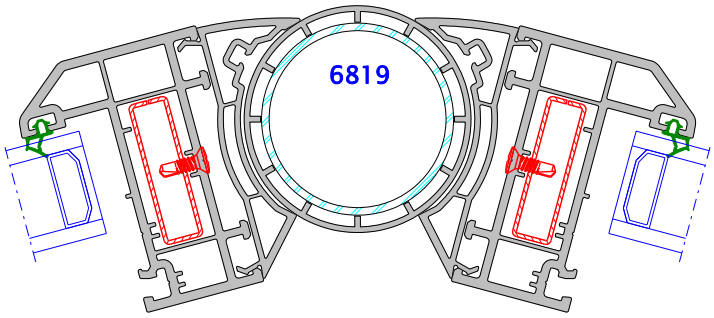
Typical configuration using 6820 Square Bay Post

The table below represents the MAXIMUM loadings for 6820 Square bay post.
These figures must be read in conjunction with the following pages :-

Section 3.1, page 3
Section 3.1, page 6
Section 3.2, page 4

BAY POST 6820	
Height of pole in mm	Maximum load (kN)
1000	47.2
1100	47.0
1200	45.1
1300	43.7
1400	42.4
1500	40.6
1600	38.9
1700	37.2
1800	37.0
1900	35.5
2000	33.8
2100	28.7

We recommend that for all bay window installations, the advice of a structural engineer is sought to determine if the installation is load bearing. If the bay installation IS load bearing, the engineer will be able to determine the load.



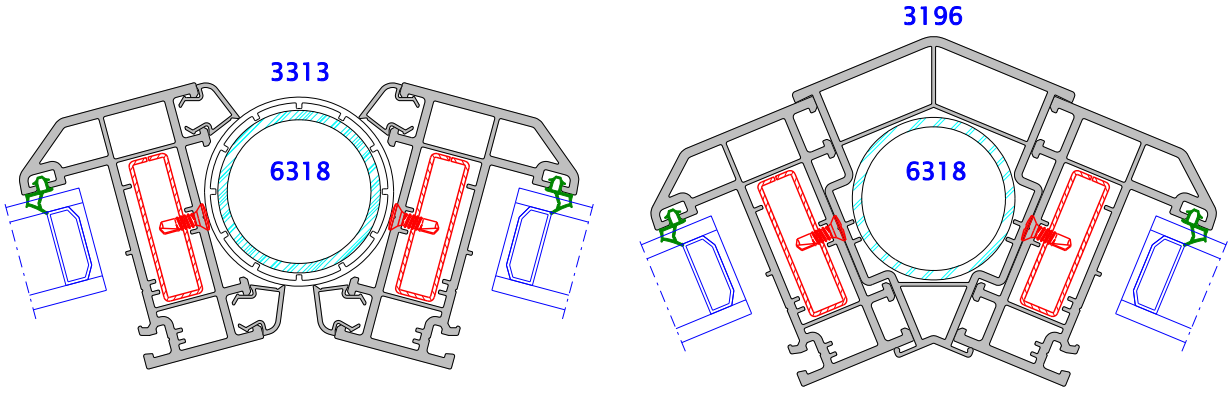
Typical configuration using 6819 Bay Pole

The table below represents the MAXIMUM loadings for 6819 ∅ 50.8 bay pole.
These figures must be read in conjunction with the following pages :-

Section 3.1, page 3
Section 3.1, page 6
Section 3.2, page 4

BAY POLE 6819	
Height of pole in mm	Maximum load (kN)
1000	19.0
1100	18.2
1200	17.5
1300	16.7
1400	15.9
1500	15.2
1600	11.7
1700	10.4
1800	9.7
1900	8.9
2000	8.1
2100	7.4

We recommend that for all bay window installations, the advice of a structural engineer is sought to determine if the installation is load bearing. If the bay installation IS load bearing, the engineer will be able to determine the load.



Typical configurations using 6318 Bay Pole

The table below represents the MAXIMUM loadings for 6318 ∅ 43.0mm bay pole.
These figures must be read in conjunction with the following pages :-

Section 3.1, page 3
Section 3.1, page 6
Section 3.2, page 4

BAY POLE 6318	
Height of pole in mm	Maximum load (kN)
1000	18.1
1100	17.3
1200	15.7
1300	13.4
1400	10.8
1500	10.0
1600	9.2
1700	7.6
1800	7.0
1900	6.4
2000	5.7
2100	5.4

We recommend that for all bay window installations, the advice of a structural engineer is sought to determine if the installation is load bearing. If the bay installation IS load bearing, the engineer will be able to determine the load.

Specification

■ STEEL REINFORCING

Is roll formed band-galvanised sheet steel of the type DIN EN 10 142 Fe P02 G.
Corrosion resistance in accordance with DIN EN 10147.

■ ALUMINIUM REINFORCING

Extrusions are extruded from 6060-T6 or 6063, complying with the recommendations of BS 1474.

Regulations

NOTE :- THESE REGULATIONS ARE TO BE USED ONLY FOR THE MANUFACTURE OF WINDOWS THAT DO NOT REQUIRE A SPECIFIED WIND LOADING RATING.
FOR DETAILS OF MAXIMUM TRANSOM/MULLION LENGTHS IN WINDOWS WHICH DO REQUIRE WIND LOAD RATINGS, SEE SECTION 4.1, PAGES 1-5.

PVCu Profile	Regulation
Small Outer Frame 2532 Large Outer Frame 2533	For window frames surrounded by brickwork/masonry reinforce where width or height exceeds 2000mm. For combination frames not surrounded by brick/ masonry, reinforce all members exceeding 1200mm.
Internal Sash 2534	Where width or height exceeds 1000mm.
"Z" Frame 2536 "T" Frame 2535	Where width or height exceeds 1000mm.
Door Sash 2530 Doors Sash/Midrail 2531	Regardless of whether the profile is being used as a sash or a transom/mullion/midrail, reinforce where width or height exceeds 1000mm.
Tilt & Turn Sash 2537 Intermediate 'T' Sash 2538	Where width or height exceeds 1000mm.

■ IMPORTANT NOTES

All reinforcement cut lengths must be a minimum of 85% of the cut length of the P.V.C.u. profile, and must be inserted in one continuous length, not multiples of short pieces.
All coloured or woodgrain profiles must be fully reinforced, regardless of span, as this is an aid to heat transfer as well as support.
The positioning of reinforcement retaining screws should be no greater than 300mm centres and a maximum of 100mm in from each end.

For enhanced security Deceuninck recommend that all hardware is fixed to reinforcement

Dimensions based on overall frame size

Product	Maximum Width (mm)	Maximum Height (mm)	Maximum Perimeter (mm)
Fixed Light	2000	2000	8000
Top hung casement sash	1200	1200	-
Side hung casement sash	700	1400	-
Multilight casement window *	2400	2400	7600
Tilt & Turn sash	1200	1350	-
Multilight tilt & turn window **	3000	3000	9000
French window	1200	1200	-
Single opening door	1000	2100	-
Double opening door	2000	2400	-
Tilt & Slide Patio	2410	2200	-

* Maximum transom/mullion length including frame 1450mm
** Maximum transom/mullion length including frame 1500mm using 2859 reinforcement

Note.
All maximum size dimensions are based on BS7412 test sample results at the BSI:

Single Casement – Locally reinforced outer frame & fully reinforced sash members
Single Tilt & Turn – Fully reinforced sash
Multilight Casement – Fully reinforced sash members and transom/mullions where applicable using 2845 reinforcement.
Multilight Tilt Turn – Fully reinforced
All Door types – Fully reinforced

Thermal Performance

The 2006 revision to Approved Document L 'Conservation of fuel & power' is split into 4 parts came into effect on the 6th April 2006. A summary of requirements is listed for each: -

ADL1A - new dwellings:

* Based on Dwelling Emissions Rate (DER) not exceeding Target Emissions Rate (TER) - SAP calculation method.
* Max area rated U value 2.2 W/m2K (unchanged)
* No solar overheating
* Measured air permeability
* Owner to be given operating instructions

ADL1B - existing dwellings: -

a) Replacement windows
* Max whole window U value 2.0 W/m2K
* BRFC Rating of Band E min.
* Centre pane glass U value of 1.20 W/m2K

b) Extensions
* Max whole window U value 1.80 W/m2K (max 25% window area)
* BFRC Rating of Band D (max 25% window area)
* Centre pane glass U value of 1.20 W/m2K (max 25% window area)
* Trade offs possible

c) Conservatories
* No specific changes < 30m2
* Max whole window U value 2.0 W/m2K
* BFRC Rating of Band D min.
* Centre pane glass U value of 1.20 W/m2K

ADL2A - existing buildings (not dwellings)

* Buildings Emission Rate (BER) must not exceed Target Emission Rate (TER) - SBEM software calculations used
* Max whole window U value 2.20 W/m2K
* No solar overheating
* Measured air permeability
* Owner to be given operating instructions

ADL2B - existing buildings (not dwellings)

a) Replacement windows
* Max area rated U value 2.2 W/m2K
* BFRC Rating of Band E min. (domestic in character)
* Centre pane glass U value of 1.20 W/m2K

b) Extensions
* Extensions over 100m2 to comply with ADL2A
* Max whole window U value 1.80 W/m2K
* BFRC Rating of Band D (domestic in character)
* Centre pane glass U value of 1.20 W/m2K
* Trade offs possible

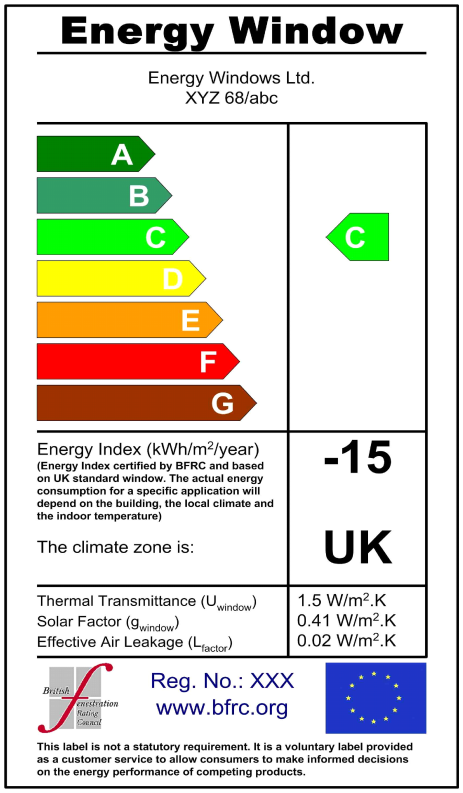
c) Conservatories
* Max whole window U value 2.0 W/m2K
* BFRC Rating of Band E min.
* Centre pane glass U value of 1.20 W/m2K

Notes

* Energy Rating for certain building categories has been introduced for the first time as a means of demonstrating compliance with Building Regulations. Please refer to the following page for details of the scheme.

Energy Rating

- Energy Rating of whole windows and doors is an additional means of demonstrating compliance with Building Regulations – refer appropriate sections of Approved Document L of the Building Regulations (effective 6th April 2006)
- The scheme operates a system of Banding of Energy Rating values from A to G where Band A is the most thermally efficient.
- Deceuninck products have been simulated for energy efficiancy in accordance with standard EN 10077 – 2: 2003 and ratings have been obtained in Bands E through to A.
  Movement between Bands is most easily achieved by varying the specification of the glass unit.
- The higher energy efficient Bands C and above normally require the use of 'warm edge' spacer bar technology within the glass unit.
- Windows and doors which have an energy rating in Band C or better, can also carry the Energy Efficiency lable through the best practice in Housing scheme operated through the Energy Saving Trust on behalf of the UK government.



The following table is a guide to understanding how different U values can be achieved by using various methods of manufacture for the double glazed unit.

Table A1 Indicative U-Values (W/m2K) for windows and rooflights with wood or PVCu frames, and doors

	Gap between panes			Adjustment for rooflights in dwellings [3]
	6mm	12mm	16mm or more	
Single glazing		4.8		+0.3
Double glazing (air filled)	3.1	2.8	2.7	
Double glazing (low-E, n=0.2)[1]	2.7	2.3	2.1	
Double glazing (low-E, n=0.15)	2.7	2.2	2.0	
Double glazing (low-E, n=0.1)	2.6	2.1	1.9	
Double glazing (low-E, n=0.05)	2.6	2.0	1.8	
Double glazing (argon filled)[2]	2.9	2.7	2.6	
Double glazing (low-E, n=0.2, argon filled)	2.5	2.1	2.0	
Double glazing (low-E, n=0.1, argon filled)	2.3	1.9	1.8	
Double glazing (low-E, n=0.05, argon filled)	2.3	1.8	1.7	+0.2
Triple glazing	2.4	2.1	2.0	
Triple glazing (low-E, n=0.2)	2.1	1.7	1.6	
Triple glazing (low-E, n=0.1)	2.0	1.6	1.5	
Triple glazing (low-E, n=0.05)	1.9	1.5	1.4	
Triple glazing (argon filled)	2.2	2.0	1.9	
Triple glazing (low-E, n=0.2, argon filled)	1.9	1.6	1.5	
Triple glazing (low-E, n=0.1, argon filled)	1.8	1.4	1.3	
Triple glazing (low-E, n=0.05, argon filled)	1.7	1.4	1.3	
Solid wooden door [4]		3.0		

Notes

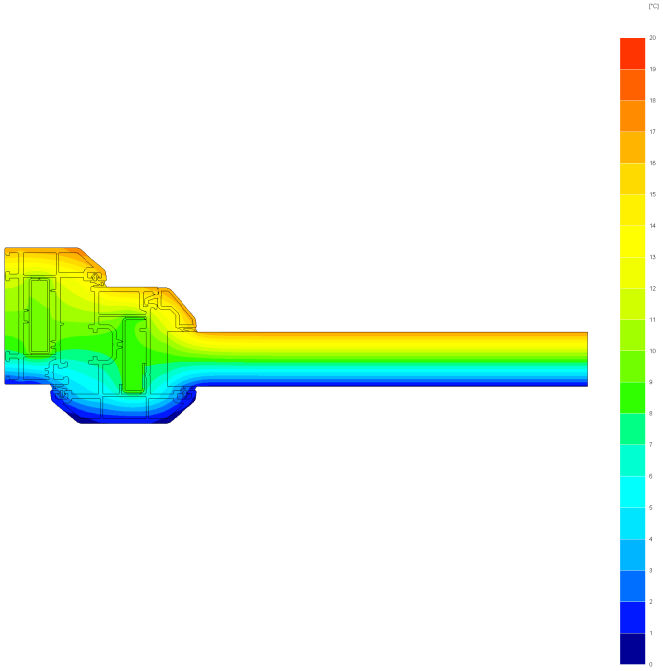
[1] The emissivities quoted are normal emissivities. (Correct emissivity is used in the calculation of glazing U-values) Uncoated glass is assumed to have a normal emissivity of 0.89.

[2] The gas mixture is assumed to consist of 90% argon and 10% air.

[3] No correction needs to be applied to rooflights in buildings other than dwellings.

[4] For doors which are half-glazed the U-value of the door is the average of the appropriate window U-value and that of the non-glazed part of the door (e.g. 3.0W/m^{2}K for a wooden door)

From the table on page 3 of this section we can see that using a combination of a double glazed unit of :-
4/20/4 (Low-E,∈n=0.15) air filled, the Deceuninck 2500 window system complies with the revised legislation.



The U-value of this section is 1.7W/m²K.

Quality Statement

To Deceuninck, our customers represent the key to expansion. As such, we have to do our utmost to be recognised by those customers as a trustworthy partner who consistently delivers quality.

Every member of our company, with his or her specific responsibility and authority, can contribute in an active manner to the continuous quality improvement of our products, processes, services and communication.

In saying this, we are all aware of the importance of the quality notion in the broadest sense of the word.
Setting up a quality system according to the requirements of ISO 9001 is one of the elements destined to contribute to an increasing 'quality consciousness' with every person working within this company.

Quality Management System

The Quality Management System within Deceuninck Ltd. is an integral part to achieving our customer satisfaction. It is our foundation for success, our guide for continuous improvement, and above all a neccessity in gaining international accreditation.

This accreditation, issued by The Lloyds Register, certifies that the Quality Management System of Deceuninck Ltd. has been approved by Lloyds Register Quality Assurance to the Quality Management System Standard ISO 9001:2000.

The Quality Management System is applicable to;
The manuafacture of extruded PVC-U profiles for use in the building industry and for the fabrication of windows and door. Factoring of extruded PVC-U profiles and associated metal reinforcements and fixings for the building industry.

Approval Certificate No. LRQ 0870823

This section outlines the precautions to be taken in handling p.v.c.u. profiles manufactured by Deceuninck.

Deceuninck extruded profiles are manufactured from a p.v.c.u. composition which is a blend of p.v.c.u. and a variety of additives such as stabilisers, fillers, plasticisers, pigments, etc.

■ POTENTIAL HAZARDS

■ Toxicity – Inhalation of monomer

A constituency of P.V.C. is VCM which is a carcinogen. However, the release of VCM into the atmosphere in an extrusion plant only produces trace levels considerably lower than require monitoring. Therefore at fabrication stage, where the only application of heat is at welding, the emission can be considered zero.

■ Toxicity – Inhalation of dust

P.V.C. dust is considered a "nuisance dust" defined as producing no irreversible change in living tissues when exposures are kept under reasonable control, e.g. to a hygiene level standard of 10 mg per cubic metre.

As dust in fabrication can only be produced by dry sanding, then this is the only area where there is an element of risk and suitable face masks should be worn

■ Toxicity – Ingestion

In fabrication the only possibility of ingestion is of dust or saw dust. Any toxic ingredients which may be present in raw material are not readily extracted from the fully compounded material from which dust or saw dust at fabrication level is formed. Therefore such material can again only be termed "nuisance dust" and normal precautions should be taken.

■ Toxicity – Dermatology

P.V.C. is not considered a skin irritant or sensitising agent.

■ Toxicity – Fire – Ignition and burning characteristics

Most p.v.c. compositions, under normal conditions of storage and use, are not flammable, but in common with other organic materials they can be consumed by fire. When p.v.c. products are stored it must be recognised that the packages and pallets themselves are a fire risk and are generally a much more likely route for rapid fire spread.

■ Toxicity – Fire – Decomposition products

The major products of combustion/decomposition of p.v.c. compositions are carbon dioxide, carbon monoxide and hydrogen chloride, additionally, many other minor decomposition products have been identified. Carbon monoxide and hydrogen chloride are toxic with threshold limit values–50 ppm and 5ppm respectively, and inhalation must be avoided. In addition hydrogen chloride is corrosive in the presence of moisture. The nature and proportion of such decomposition products will vary according to the formulation, though there will not normally be additional hazard, toxic or corrosive, to that associated with carbon monoxide and hydrogen chloride.

■ Toxicity – Fire – Decomposition products (continued)

Most available fire extinguishers are effective in fighting fires involving p.v.c., although due note should be taken of the particular situation (e.g. when live electrical equipment is nearby) which may restrict the use of some media. Advice should be sought from the local fire authority as to the most suitable types of extinguisher to be installed. In the event of small localised fire, immediate action should be taken by personnel in the vicinity using available extinguishers. Care should be taken to avoid inhalation of decomposition fumes. When the fire has been extinguished, ventilation should be increased to clear the fumes as quickly as possible.

It is important to advise the fire fighting personnel, including the fire brigade, to wear acid resistant protective clothing and full face masks. The fire brigade should also be notified that p.v.c. compositions are involved. Suitable breathing equipment should be worn by fire fighters exposed to the products of combustion. Qualified medical aid should be sought in the event of anything more than very temporary irritation to the skin, eyes, throat, etc, is experienced. As highly corrosive hydrogen chloride is given off during the combustion of p.v.c., directly affected areas should be cleaned down to remove corrosive decomposition on equipment etc, as soon as possible after the fire has been extinguished.

■ VENTILATION AND EXTRACTION

Good ventilation should be provided in any working area where p.v.c. is handled. Any activity which can lead to dust or fumes being generated should be dealt with by suitable extraction equipment as far as is reasonably practical.

Extra attention should be paid to the provision of adequate extraction when machinery or parts of machinery are being cleaned.

Compressed air should not be used to avoid the generation of dust.

■ RECOMMENDED FIRST AID TREATMENT

■ Inhalation of noxious fumes

The patient should be removed as rapidly as possible into fresh air. Artificial repiration should be applied if necessary. Seek expert medical attention.

■ Eye injuries

Dust or swarf should be flushed from the eye by irrigation with water. Seek expert medical attention

■ Ingestion

Medical attention should be sought immediately

■ General

It is important when summoning medical attention that the doctor or hospital is fully advised in detail of the nature of the product being handled.

Specification

P.V.C.u. profiles are extruded from impact modified unplasticised polyvinyl chloride, tested to BS 2782, profiles are extruded to conform to BS EN 12608.
P.V.C.u. compound has a fire resistance to BS 476, part 7, class 1. P.V.C.u. extruded hollow profile has a fire resistance to BS 476, part 7, class 2.
P.V.C.u. profiles are multi-chambered and have a main wall thickness of between 2.3mm and 3.0mm.
Gaskets are weldable multifunctional triple hardness Thermoplastic Elastomer.
White P.V.C.u. profiles are extruded to RAL No. 9016.

Storage

The profiles are packed in two ways:-
a) Loose packed in polyethylene sleeves.
b) Bulk packed in stillages in polyethylene shrink-wrap
When racked the package should be opened at both ends, to provide vetilation through the profile and prevent condensation.
Profiles should not be stored in the open and protection should be provided from moisture and direct sunlight.
All profiles should be stored fully supported along their length in a flat and straight condition. Uneven support over long periods will lead to sagging and distortion of the profiles.
To avoid damage such as scratching, profiles should be lifted from the stack and NOT dragged along it's full length.
When processed, profiles should be stored at a minimum of 17° c. Profiles stored at lower temperatures should be brought into the work area long enough in advance for the profile to warm through, up to a minmum of 17° c. Welding below the recommended temperature will produce stresses which can lead to cracking.
Stock rotation should be performed on a regular basis to ensure that old profile is not left at the bottom of the stack.

Waste disposal

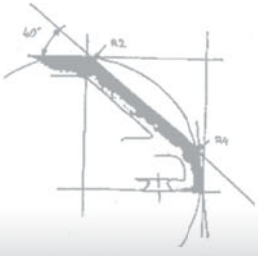
Disposal of waste is controlled by the "pollution prevention and control act 1999". Before disposing of contaminated waste compositions, it is recommended that advice be sought from the waste disposal officer of the local authority concerned.

The information contained in this text is to the best of our knowledge true and accurate. However, since the conditions under which our products are used are beyond our control, recommendations are made without warranty or guarantee. This statement does not affect the statutory rights of a consumer.

GENERAL GUIDELINES

2500 chamfered

WELDING
PROCESSING MECHANICAL JOINTS
INSTALLATION OF GLASS



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WELDING

OBSERVE HEALTH & SAFETY REGULATIONS AT ALL TIMES. USE ANY PROTECTIVE WEAR SUPPLIED TO ENSURE SAFE USE OF MACHINERY FOR YOURSELF AND OTHERS AROUND YOU.

STORAGE

Ensure profiles are stored flat to reduce risks of deformation
Allow profile to aclimatise to the manufacturing enviroment temperature before use

SAW

Ensure bed/back fences are clear of swarf
Check profile sits correctly on blocks/machine bed
Check cut size of profile at regular intervals
Keep working area around saw clean & tidy

PREPARATION

REVERSE BUTT WELDING

Check temperature of heater plate
Ensure back fences are set in-line (180°)
Clean off weld sprue neatly

V NOTCHING

Check setting for V notch depth according to profile being welded-in
Ensure any measured lines are correct (measure twice, cut once)
Ensure rebate shoulder alignment is correct

REINFORCING

Familiarise yourself with the reinforcing guidelines within the technical manual
All reinforcing to be fitted in one continuous length (wherever possible)
Screw fixing/spacings as specified in the technical manual

DRAINAGE

Ensure the correct drainage method is used for the frame type (int/ext bead, etc)
Ensure the area is kept free from swarf

ROUTING

Check handing of sashes and door handles prior to routing

WELDING

Check daily/periodically:-temperature of heater plates, condition of Teflon, cleanliness of Teflon
Change Teflon as required
During the welding process, make physical checks of the welds including dimensional checks

SASHES

Check condition of weld blocks, file off any small burrs that could scratch the sections
Ensure weld blocks are fitted correctly
Check handing to ensure drains are welded correctly

FRAMES

Work out the best method for welding the individual frame to allow for any remaining reinforcing to be inserted during welding
Check measurement of frame sections
Butt up any corresponding V notches to ensure they match up
Ensure all fences are set correctly to support the profile
Check the correct sections have been used
Ensure all sections in the welder are the correct way, i.e. large face/small face up, drainage is correct
Remember, "it's not wrong, 'til it's welded", so double check before starting the welding process
Insert any remaining reinforcing prior to final weld cool-off, i.e. through mid-rail welds, etc.

WELDING

■ CLEANING OFF

Insert reinforcing screws to remaining sections

Check finished frame size is within manufacturing tolerances

Check all grooves are clean

Chip out weld sprue from any internal edges

■ HANGING

Ensure handing of sashes is correct against work sheet specification

Ensure all keeps are fitted in the correct position

Check operation of locking mechanism within the keeps

■ BEADING & QUALITY CONTROL

Check frame for size, square & style, any discrepancies should be reported and rectified

Ensure mitred beads are a snug fit but not too tight as this will damage the ends and make them hard to insert when glazing.

Finally check for smooth operation of all components prior to placing product in the dispatch area

BE AWARE OF COMPANY HEALTH & SAFETY PROCEDURES ALONG WITH OBSERVING COMPANY QUALITY PROCEDURES

WELDING

1. IMPORTANCE OF THE WELDING PROCESS

The joining of the corners is one of the most critical operations when manufacturing windows & doors. This takes place in the welding process, in which a number of parameters influence the quality. A good weld is essential for the strength of the frame and should resist minimal forces. Moreover, the welding is also important for obtaining the correct frame dimensions.

2. THE WELDING CYCLE

After the correct positioning and clamping (clamping pressure) of the profiles, both are pushed against the heating plate (melting pressure) which reaches a controlled temperature. Firstly, a quantity of the material is melted due to the heat transfer and the movement (melting path) of the welding heads. Because the movement is mechanically restricted, a heat transfer will only take place during a fixed time (heating time) in a second stage. Here the heating plate is retracted (interface), after which the profiles are pressed together with a controlled force (assembly pressure) and over a limited distance (assembly path). The profiles are then kept in this position for a controlled time (assembly time).

3. REQUIREMENTS BEFORE WELDING

The profiles must be conditioned for at least 24 hours until the temperature reaches at least 15° C over the entire section. During storage no deformations should take place. This means that the profiles have to be stored horizontally making sure that the distance between the points of support are not longer than 1 metre.
Any packaging should be opened (e.g. at the front), or completely removed to allow any condensation to evaporate. Correct cutting dimensions require special attention when sawing. The saw blade needs to have sufficient and sharp enough cutting teeth, of which the rotation speed and the feed must also be adapted. The welding surface must not be damaged and free from any impurities. It is also imperative to maintain a clean welding surface when inserting the reinforcements, avoiding any dirt build-up caused (e.g. by greasy hands).

4. THE WELDING MACHINE

We can distinguish 2 principles depending on how the tables are moving towards each other. When the motion is perpendicular to the heating plate surface, then we talk about a parallel motion, which is mostly the case for single head welding machines. When using multi-head welding machines the movement is at a 45° angle (to the heating plate surface), this is called a diagonal motion. Most machines are equipped with adjustable restrictor knives in the clamping shoes. The distance of the knives is also decisive for the welding quality. The optimum distance can vary between 1 and 2mm in the end poisition. If the knives are heated, it is very important that the temperature does not exceed 40° C.

5. THE WELDING PROCESS, THE WELDING PARAMETERS

5.1. POSITIONING

Both profiles must be positioned correctly in the machine. This implies that the profiles are level and are completely pushed against the profile support blocks. Adapted support blocks are required to avoid deformation during clamping. The pressure of the clamping shoes onto the profiles needs to be sufficiently high to prevent the movement of profiles during welding.

5.2. MELTING

Heated welding plates are used to heat the profiles. The welding plate is equipped with a thermostat and is covered with a Teflon film on the outside. This avoids profiles sticking to the welding plate when contact is made. The thermostat must be attached in such a way that the heat build-up is spread equally over the entire surface and that a minimum power of 2 W/cm one-sided welding surface is guaranteed. An initial temperature of 255-260° C is required for the compound used. We pass into the melting phase when the profiles are pushed against the heating plate. By controlling the melting pressure we create a melting time of between 10 and 12 seconds. This is the time required by the machine to reach the end of the movement, the so-called melting path. This limited movement is a machine setting.

5.3 HEATING

The material needs to be sufficiently heated in its depth to obtain a good welded joint. In order to achieve this, the profiles are pushed against the heating plates for a further 20 seconds. There is no further movement in this stage.

5.4 REPOSITIONING

Obviously, the removing/release of the welding plate is necessary to obtain a good welded joint of the profiles. The stage, in which this takes place, must be as short as possible. On the other hand this stage should not be forced to quickly. However, if we interrupt the cycle at this point, we obtain a so-called "welding interval". Due to this interval the welding surfaces can be observed and provide us with information concerning the heat transfer.

5.5 ASSEMBLY & COOLING

The profiles must be pushed together to reach the ultimate fusion of the profiles. Here another movement takes place, which can be influenced by the machine setting. The profiles are kept in this position for at least 30 seconds. This period is called the assembly phase or the cooling phase.

5.6 OVERVIEW OF WELDING PARAMETERS

5.6A TEMPERATURE

Heating plate temperature: 255-260° C

5.6B PRESSURE

Clamping pressure: minimum in order to prevent movement of profiles
maximum so that a deformation does not take place
In reality this pressure will vary between 4 and 6 bar.

Melting pressure: Adjusted in order to obtain a melting time between 10 and 12 seconds at 255° C - 260° C heating plate temperature.

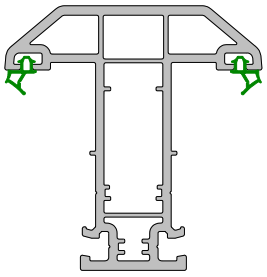
Assembly pressure: Regulated so that the pressure in the weld reaches 0.85N/mm² or between (0.5 and 1.4N/mm²)

5.6C TIME

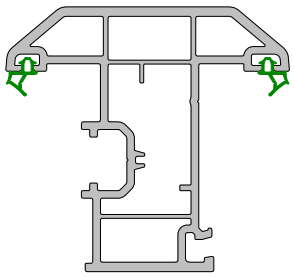
Melting time : 10 to 12 seconds
Heating time : 20 seconds
Cooling time : minimum 30 seconds

5.6D TRAVEL

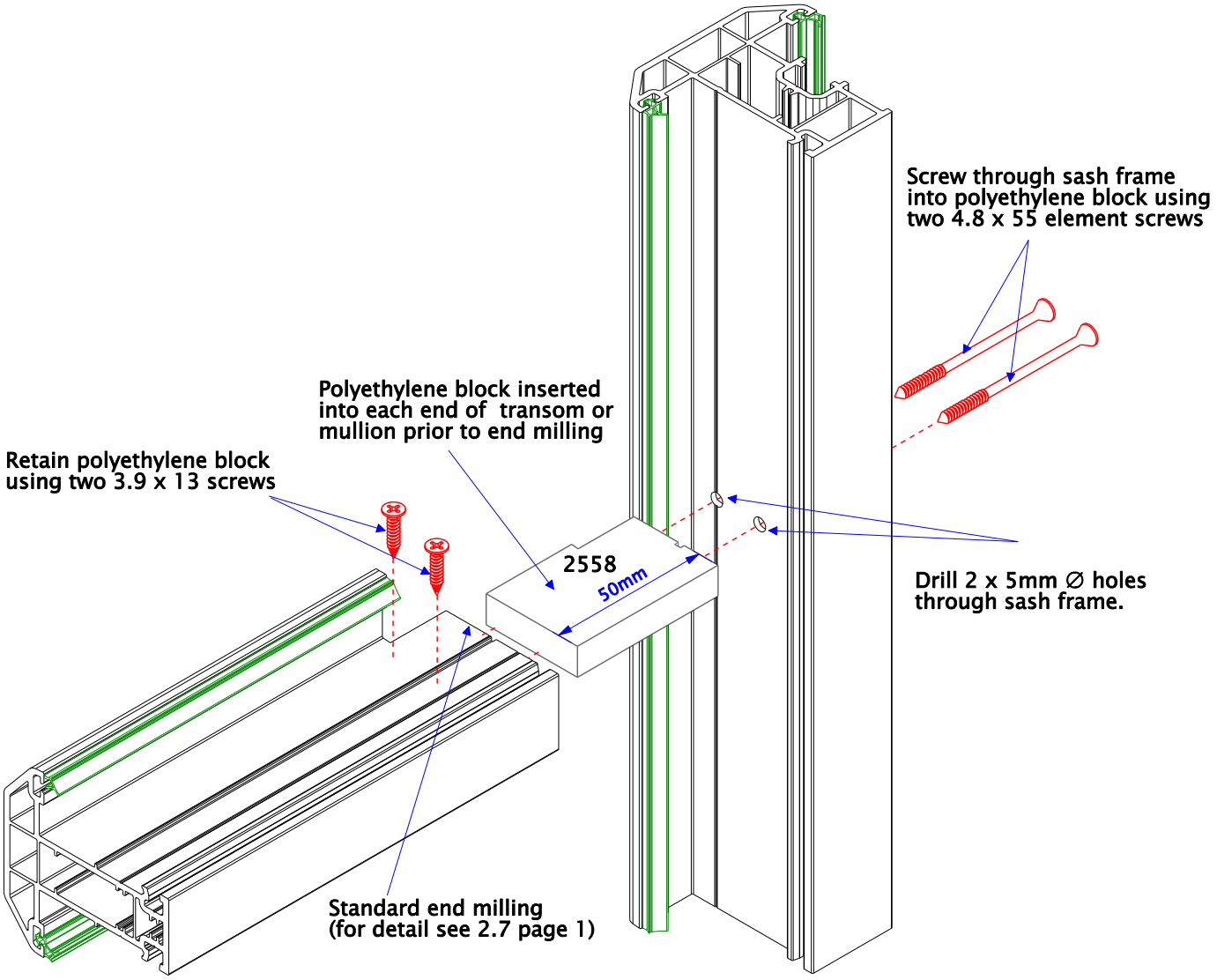
Melting travel : 2/3 total travel
Assembly travel : 1/3 total travel



2535
Transom or mullion



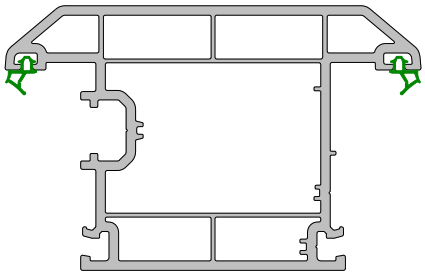
2534
Sash frame



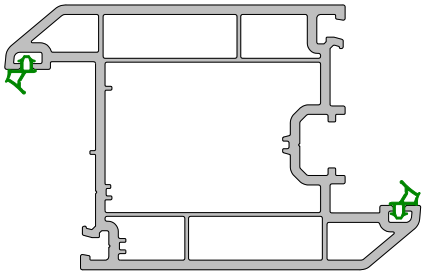
IMPORTANT NOTE:

All mechanical joints should be sealed against the ingress of water, using a good quality silicone sealant.

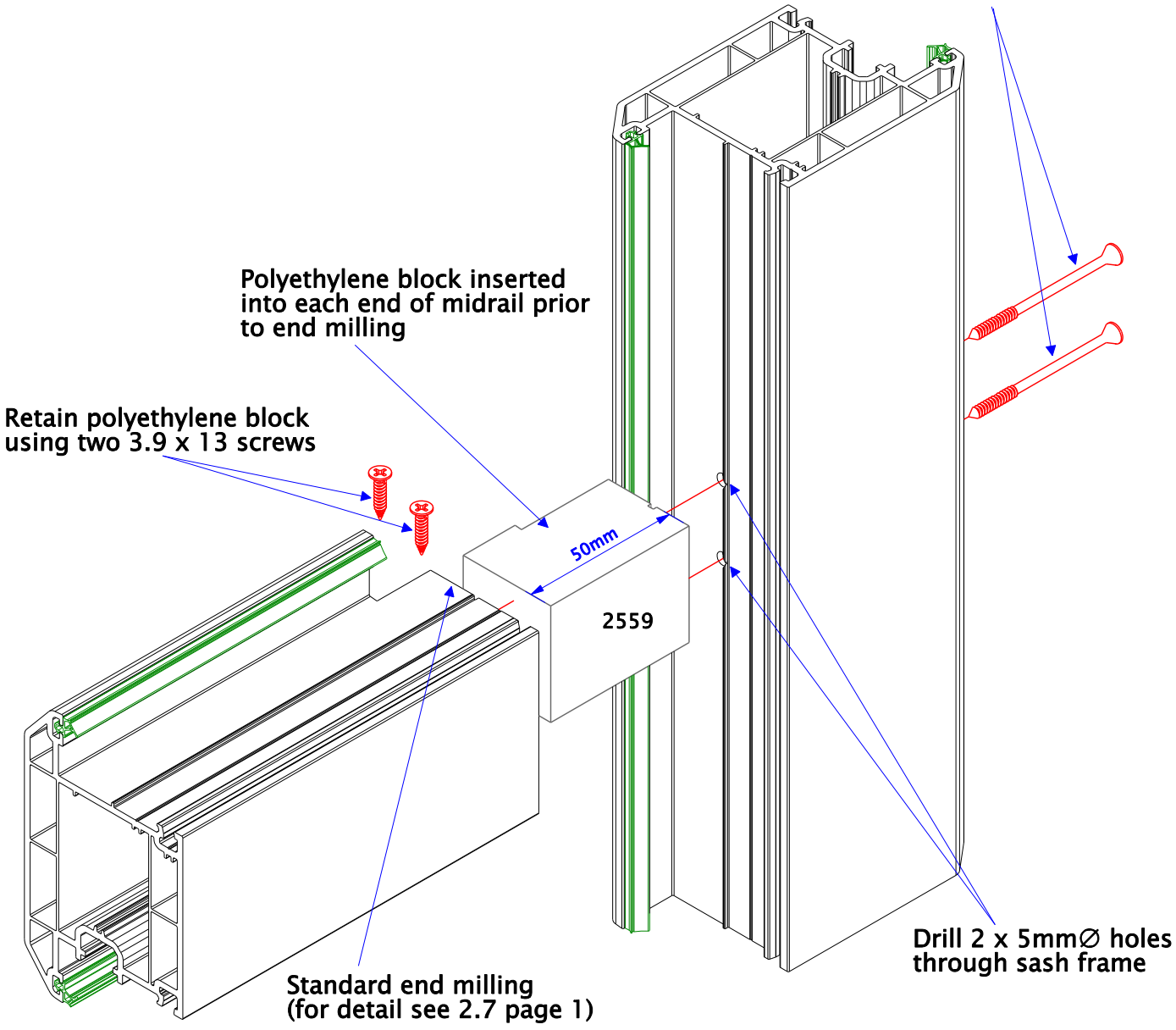
MECHANICAL JOINTS



2531
Midrail



2530
Sash Frame

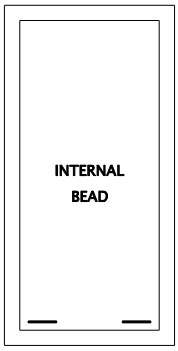


IMPORTANT NOTE:

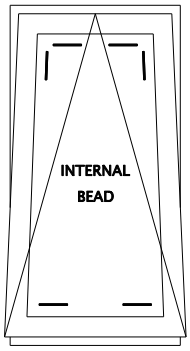
All mechanical joints should be sealed against the ingress of water, using a good quality silicone sealant.

Glazing Packer Positions

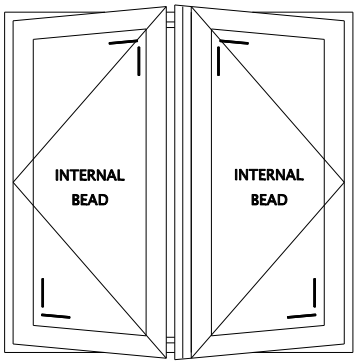
Glazing blocks and packers should be fitted at maximum centres of 500 mm and be a maximum of 150 mm from the corner of the unit, unless otherwise stated.



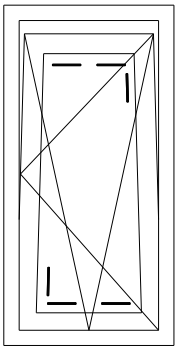
FIXED LIGHTS



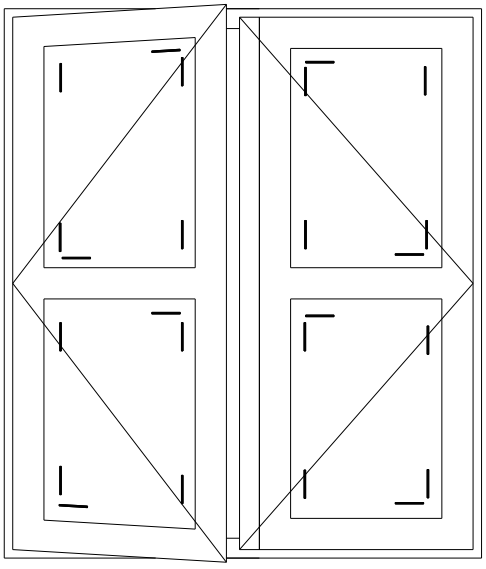
TOP HUNG



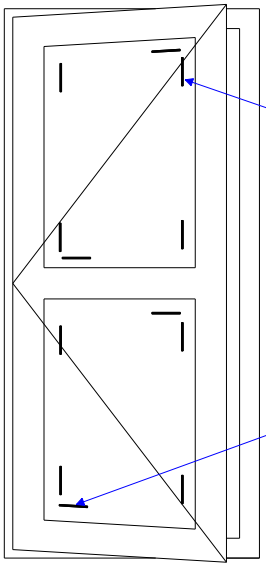
FRENCH WINDOWS



TILT & TURN

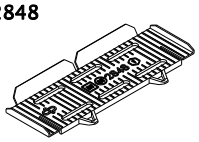


DOUBLE RESIDENTIAL DOORS



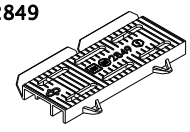
RESIDENTIAL DOORS

2848



To be used at sides only.

2849



To be used at bottom of glass only

Note.
These diagrams are intended as a guideline only.