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### COMAR 5Pi ECO WINDOW

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### COMAR 5Pi ECO WINDOW

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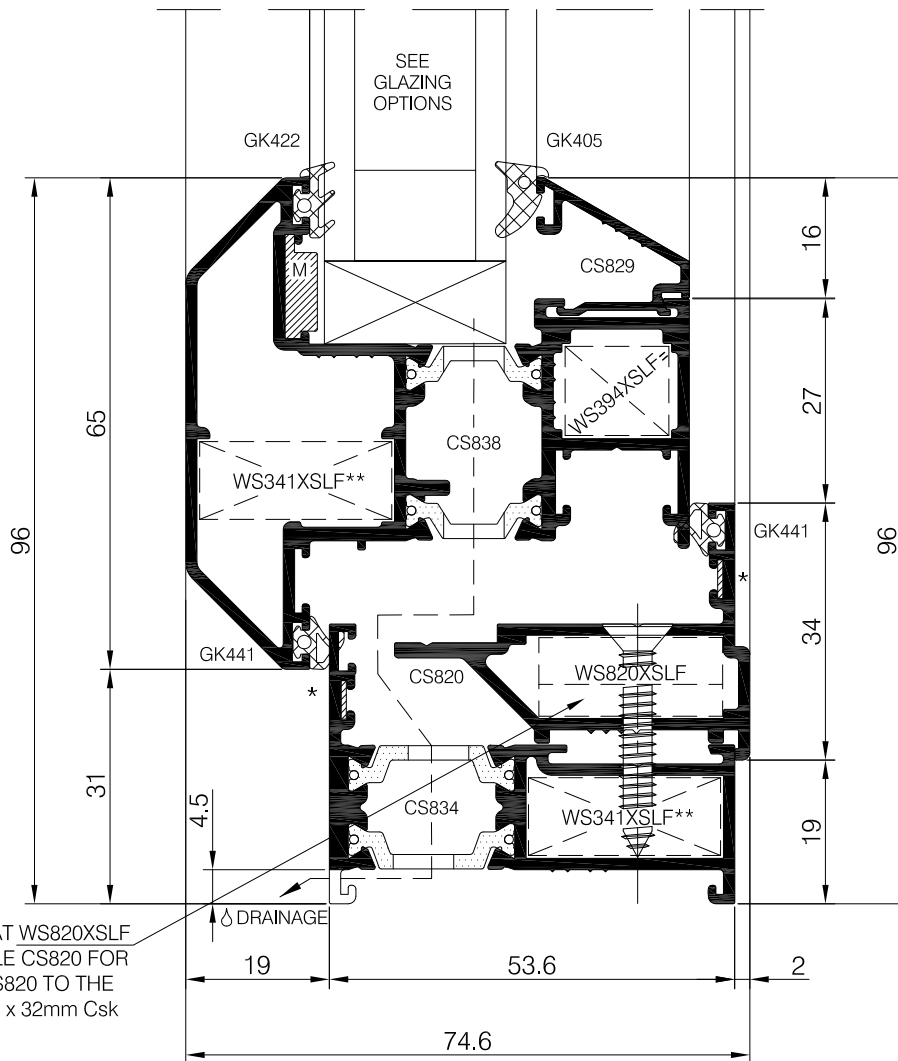
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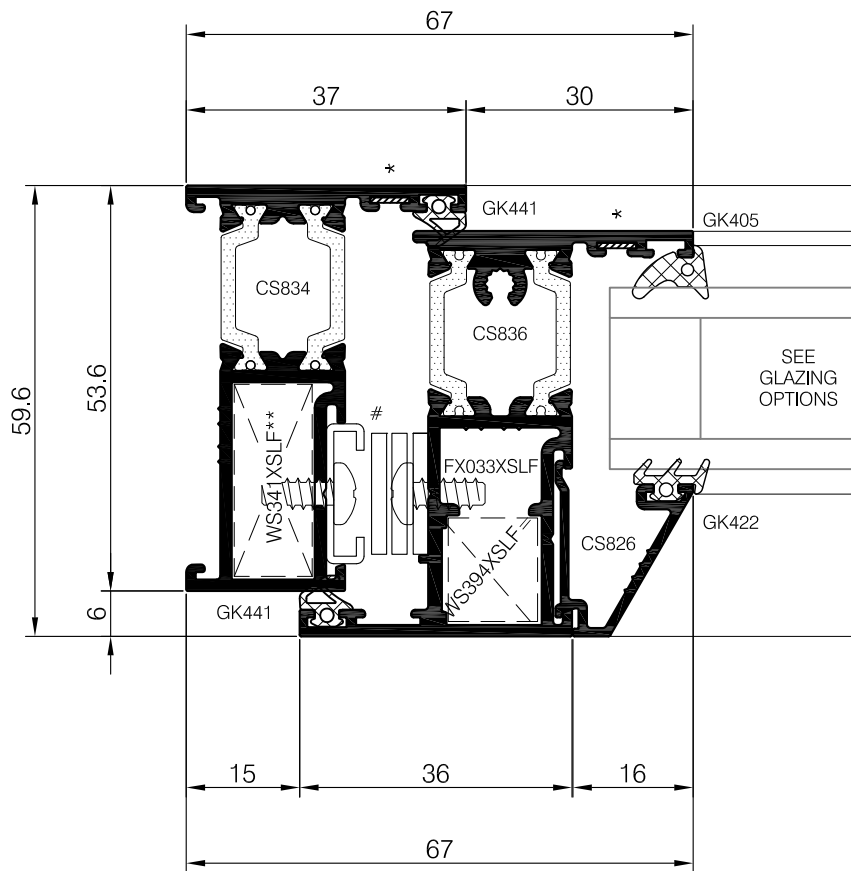


INSERT CRIMPING CLEAT WS820XSLF INTO TRANSFER PROFILE CS820 FOR ALIGNMENT AND FIX CS820 TO THE OUTER FRAME WITH N8 x 32mm Csk SCREWS FX036XSLF

- M DENOTES WS416XSLF
- \* DENOTES WS515XSLF
- Δ FOR DRAINAGE DETAIL
- \*\* OPTIONAL CRIMPING CLEAT
- = OPTIONAL CRIMPING CLEAT
- ALIGNMENT SQUARE
- CHEVRON
- SEE DRAINAGE DETAILS PAGES
- WS846XSLF INSTEAD OF WS341XSLF
- WS847XSLF INSTEAD OF WS394XSLF

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VENT (FLAT)  
COCKSPUR LOCKING

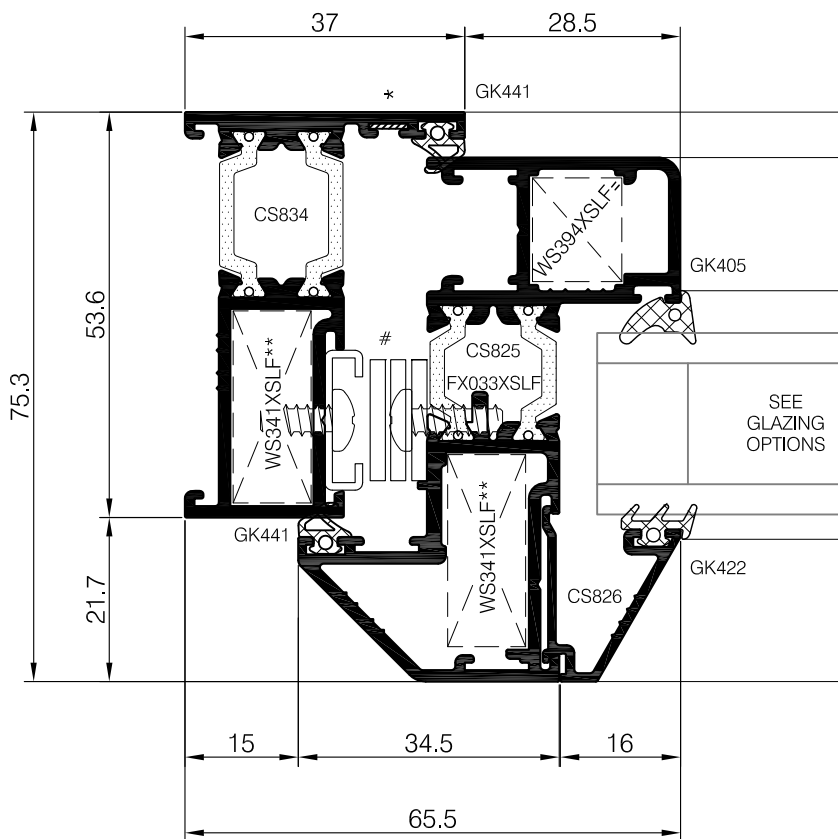


- \* DENOTES WS515XSFLF CHEVRON
- \*\* OPTIONAL CRIMPING CLEAT WS846XSFLF INSTEAD OF WS341XSFLF
- = OPTIONAL CRIMPING CLEAT WS847XSFLF INSTEAD OF WS394XSFLF
- # FOR JIG TOOLING OPTIONS SEE JIG PAGES



SCALE	1:1	© A4
DATE	12/08/2013	
DRAWN	VM/APW (IS)	
DRG. No.	C5-Pi-ECO-3.11 R2	

VENT (FEATURE)  
SHOOTBOLT & COCKSPUR LOCKING

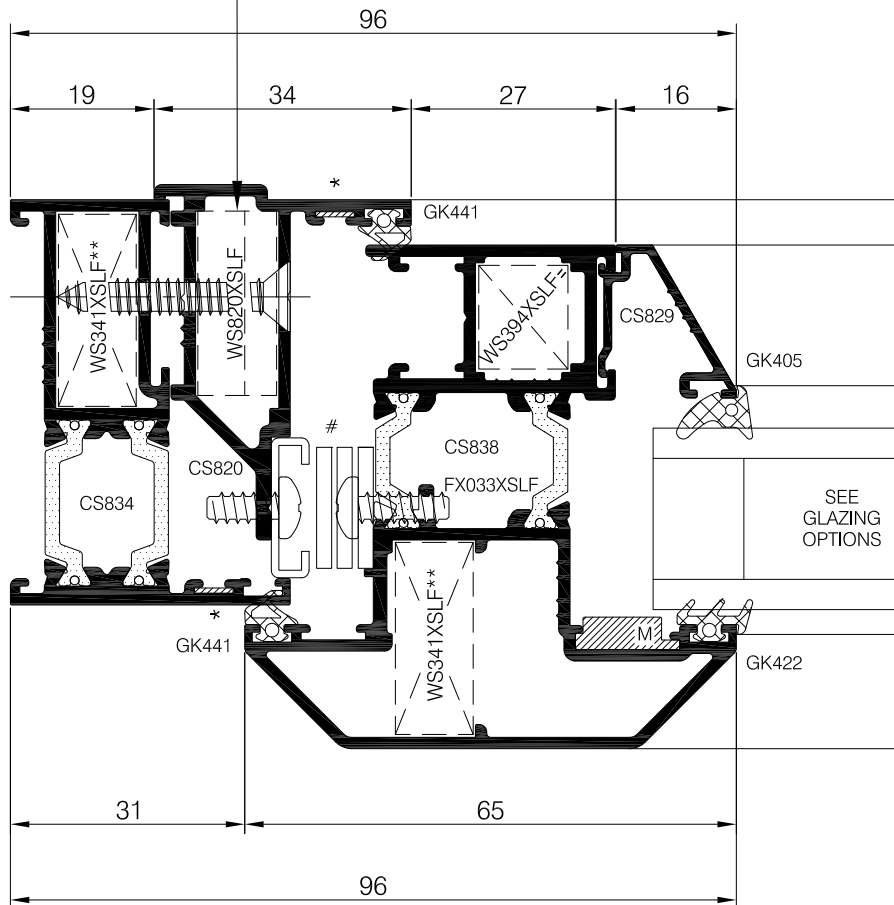


- \* DENOTES WS515XSFL CHEVRON
- \*\* OPTIONAL CRIMPING CLEAT WS846XSFL INSTEAD OF WS341XSFL
- = OPTIONAL CRIMPING CLEAT WS847XSFL INSTEAD OF WS394XSFL
- # FOR JIG TOOLING OPTIONS SEE JIG PAGES



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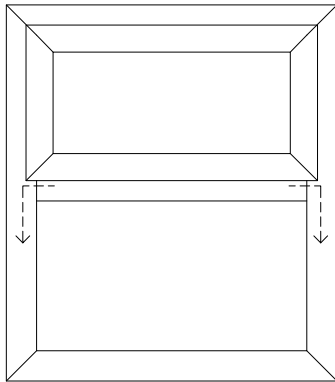
INSERT CRIMPING CLEAT  
WS820XSFLF INTO TRANSFER  
PROFILE CS820 FOR  
ALIGNMENT AND FIX CS820  
TO THE OUTER FRAME WITH  
N8 x 32mm Csk SCREWS



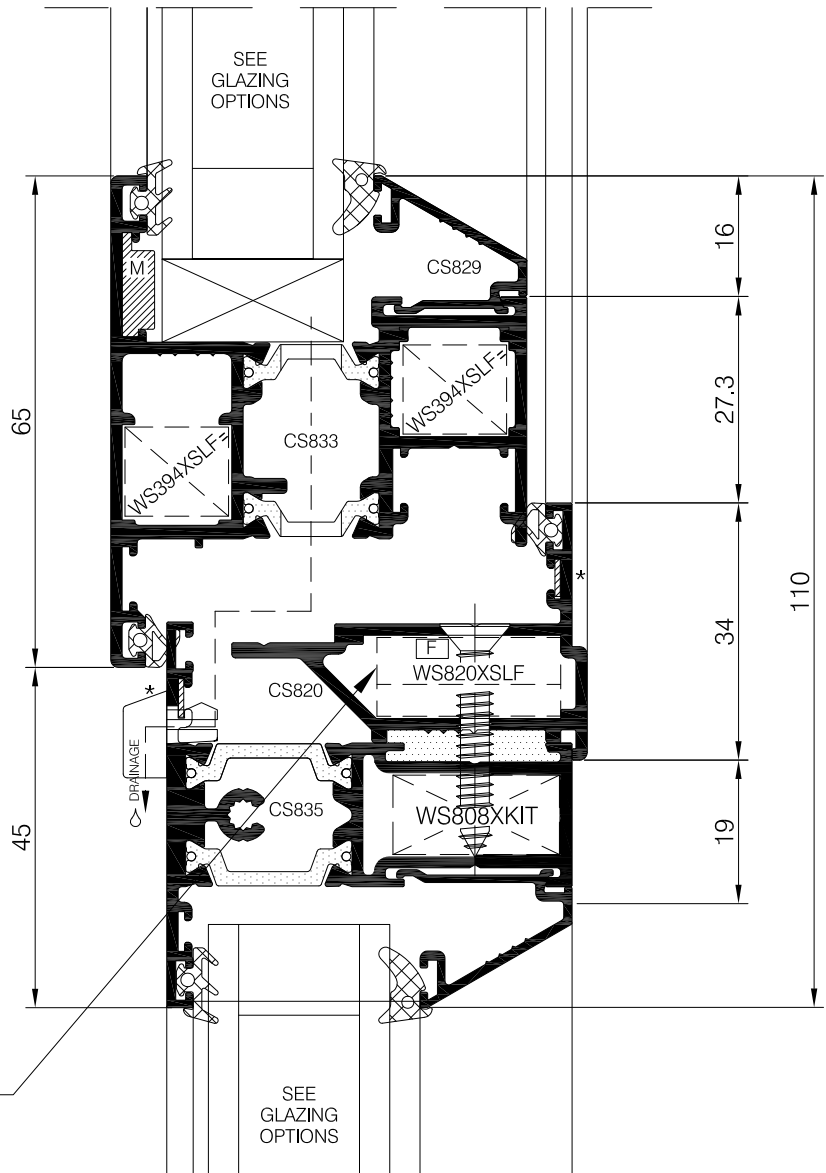
- M DENOTES WS416XSFLF ALIGNMENT SQUARE
- \* DENOTES WS515XSFLF CHEVRON
- \*\* OPTIONAL CRIMPING CLEAT WS846XSFLF INSTEAD OF WS341XSFLF
- = OPTIONAL CRIMPING CLEAT WS847XSFLF INSTEAD OF WS394XSFLF
- # FOR JIG TOOLING OPTIONS SEE JIG PAGES



SCALE	1:1	© A4
DATE	12/08/2013	
DRAWN	VM/APW (IS)	
DRG. No.	C5-Pi-ECO-3.13 R2	



DRAINAGE SHOWN IS OPTIONAL.  
DRAIN TO TRANSOM ENDS IS STANDARD.



INSERT CRIMPING CLEAT  
WS820XSLF INTO TRANSFER  
PROFILE CS820 FOR  
ALIGNMENT AND FIX CS820  
TO THE OUTER FRAME WITH  
CSK SCREWS N8 x 32mm  
FX036XSLF

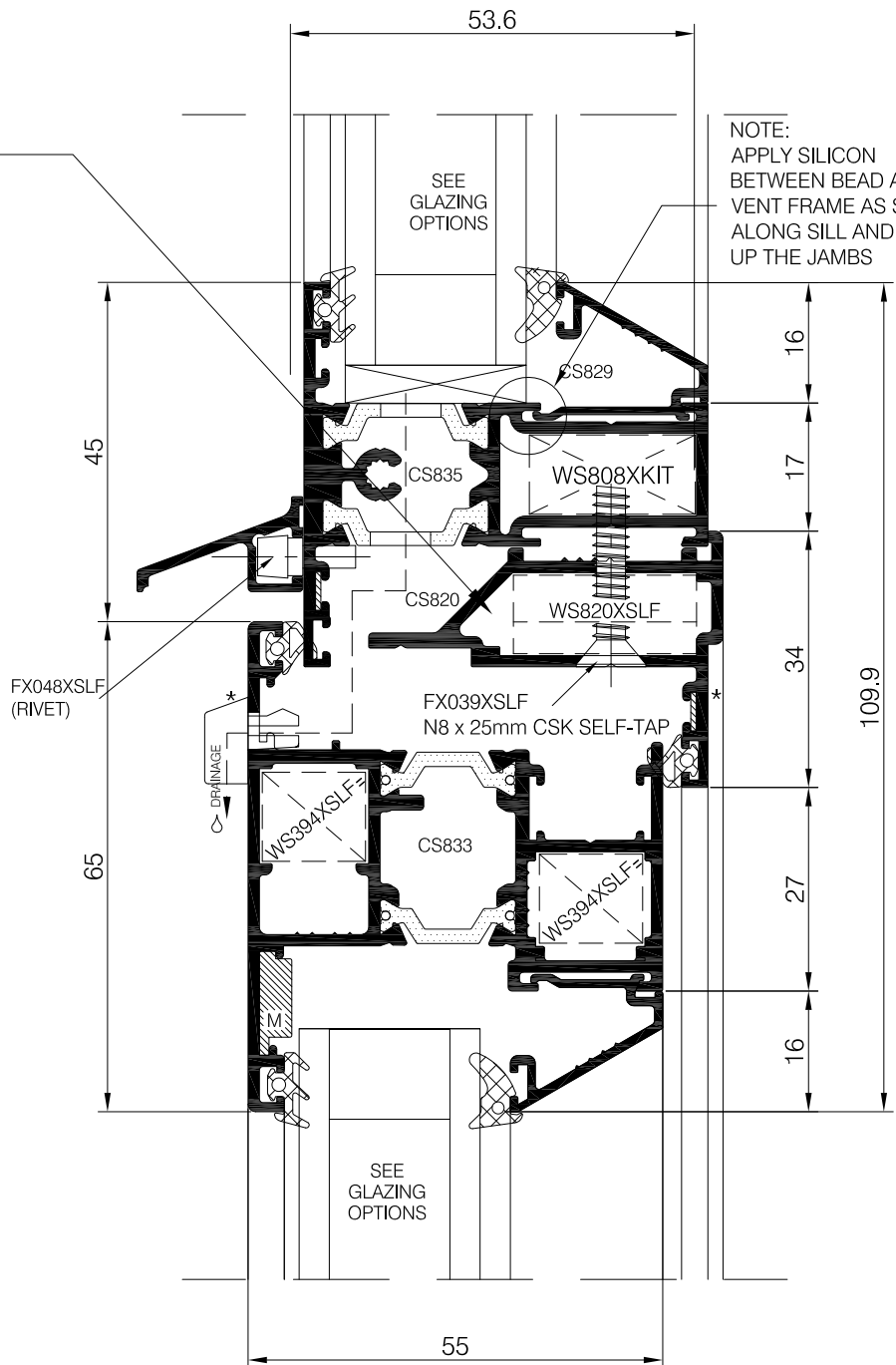
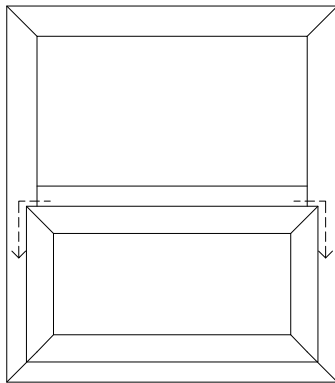
M DENOTES WS416XSLF  
\* DENOTES WS515  
∅ FOR DRAINAGE DETAIL  
= OPTIONAL CRIMPING CLEAT

ALIGNMENT SQUARE  
CHEVRON  
SEE DRAINAGE DETAIL PAGES  
WS847XSLF INSTEAD OF WS394XSLF

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INSERT CRIMPING CLEAT  
WS820XSLF INTO TRANSFER  
PROFILE CS820 FOR  
ALIGNMENT AND FIX CS820  
TO THE OUTER FRAME WITH  
CSK SCREWS N8 x 32  
FX036XSLF

NOTE:  
APPLY SILICON  
BETWEEN BEAD AND  
VENT FRAME AS SHOWN  
ALONG SILL AND 150mm  
UP THE JAMBS



DRAINAGE SHOWN IS OPTIONAL.  
DRAINTO PROFILE ENDS IS STANDARD.

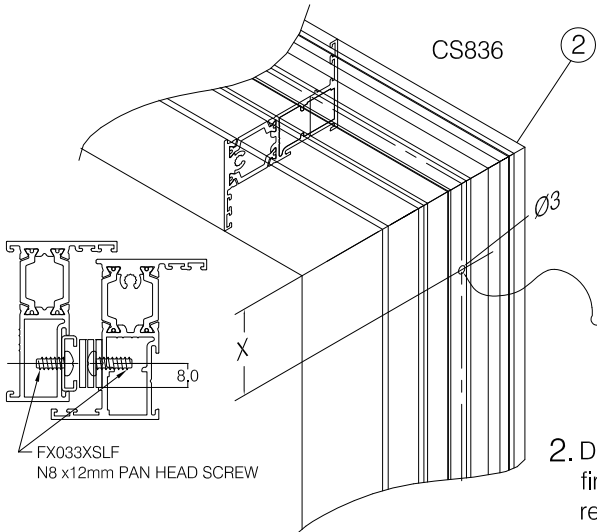
M DENOTES WS416XSLF  
\* DENOTES WS515  
∅ FOR DRAINAGE DETAIL  
= OPTIONAL CRIMPING CLEAT

ALIGNMENT SQUARE  
CHEVRON  
SEE DRAINAGE DETAIL PAGES  
WS847XSLF INSTEAD OF WS394XSLF

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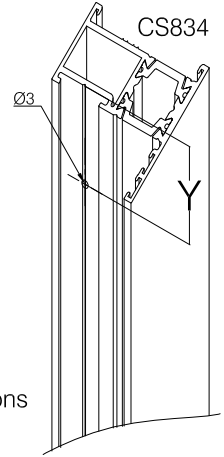


PROFILE PREPARATION



1. Datum for hinge fixing to outer frame. For 'X' & 'Y' dimensions see tables below.

2. Datum for hinge fixing to sash. Mark hole positions first, drill to centre of slots, fit hinge, adjust if required, then drill datum hole and fit screw to "lock" hinge position.



SECURISTYLE HINGE TYPE	VENT HOLE POSITION 'X'
12" SH R & NR	24
16" SH NR	24
16" SH R	24
12" TH R	24
16" - 24" TH R	24
8" - 24" TH NR	24
EASY CLEAN	24

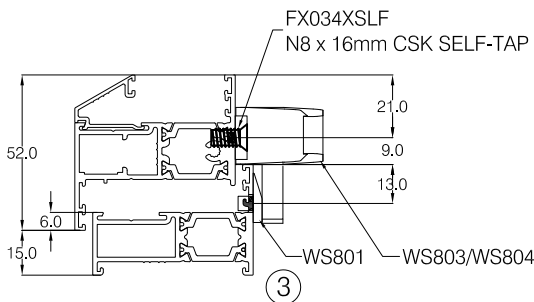
SECURISTYLE HINGE TYPE	OUTER FRAME HOLE POSITION 'Y'
ALL TYPES	30
HEAVY DUTY	30
EASY CLEAN	30

Drilling positions for Comar Friction Hinges (SECURISTYLE).  
Jigs available from Comar Ref. COM5-JIG9.

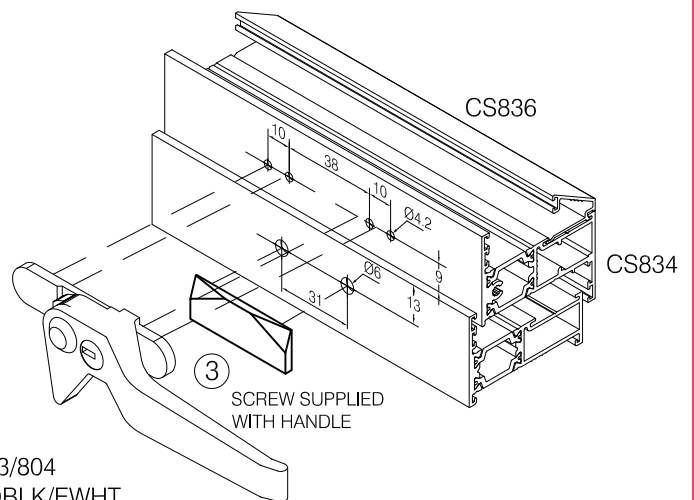
COTSWOLD HINGE TYPE	VENT HOLE POSITION 'X'
12" SH R & NR	32.6
16" SH NR	32.6
16" SH R	36.2
12" TH R	32.6
16" - 24" TH R	36.2
8" - 24" TH NR	36.2
EASY CLEAN	20.8

COTSWOLD HINGE TYPE	OUTER FRAME HOLE POSITION 'Y'
ALL TYPES	15.5
HEAVY DUTY	36.5
EASY CLEAN	31.3

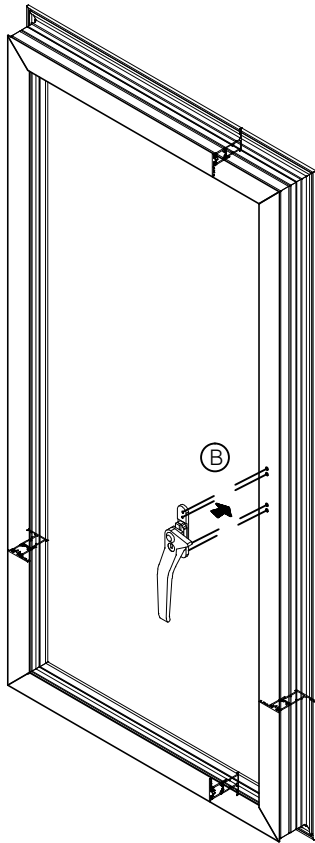
Drilling positions for NON-STOCK Friction Hinges (COTSWOLD).  
Jigs available on request Ref. COM5-JIG3.



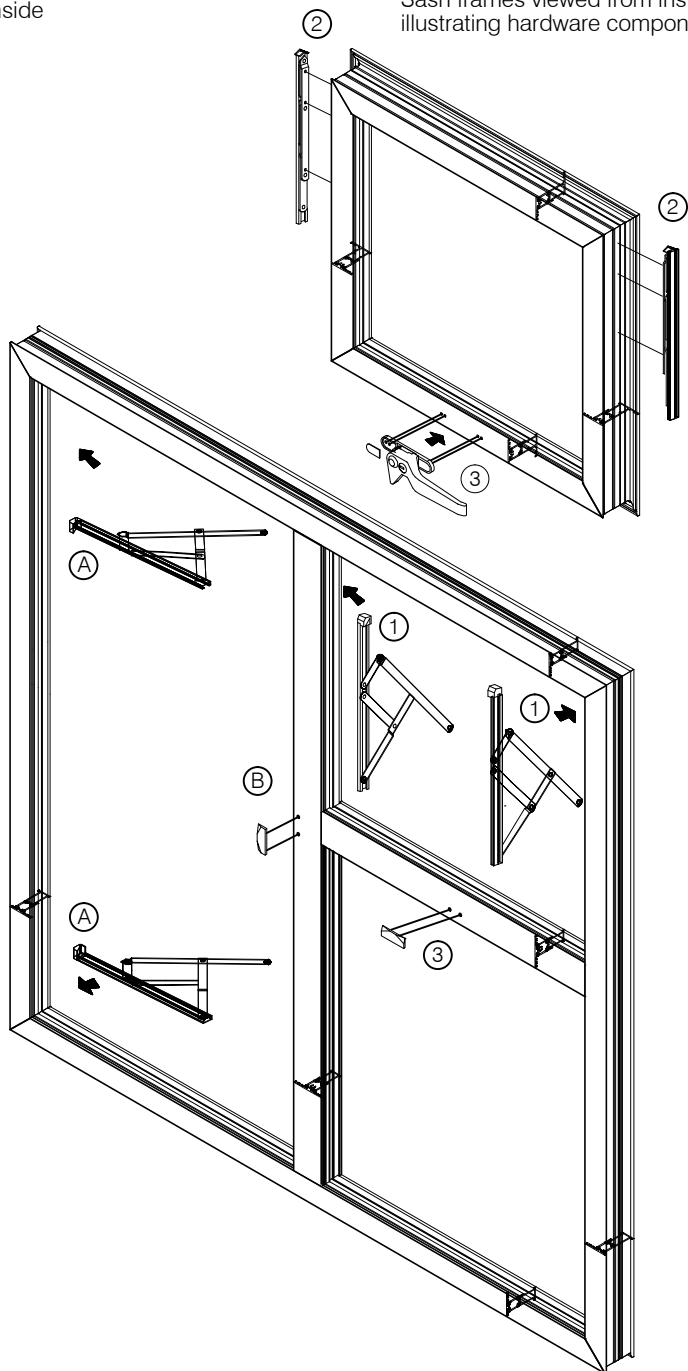
3. Preparation for Cockspur handle WS803/804 BSVR/EWHT and 3mm wedge WS801DBLK/EWHT.



Multi light outer frame viewed from inside illustrating hardware components



Sash frames viewed from inside illustrating hardware components.



### PROFILE AND GLASS CUTTING

PROFILES	
Outer Frames	
Cut to	Work size
Mullions/transoms	
Cut to	Work size - 42mm
Sash size	
Mitre cut to	Work size - 30mm
or	Edge to $\phi$ - 18.5mm
or	$\phi$ to $\phi$ - 7mm
GLASS	
Sash Glass	
Cut to	Sash size - 82mm

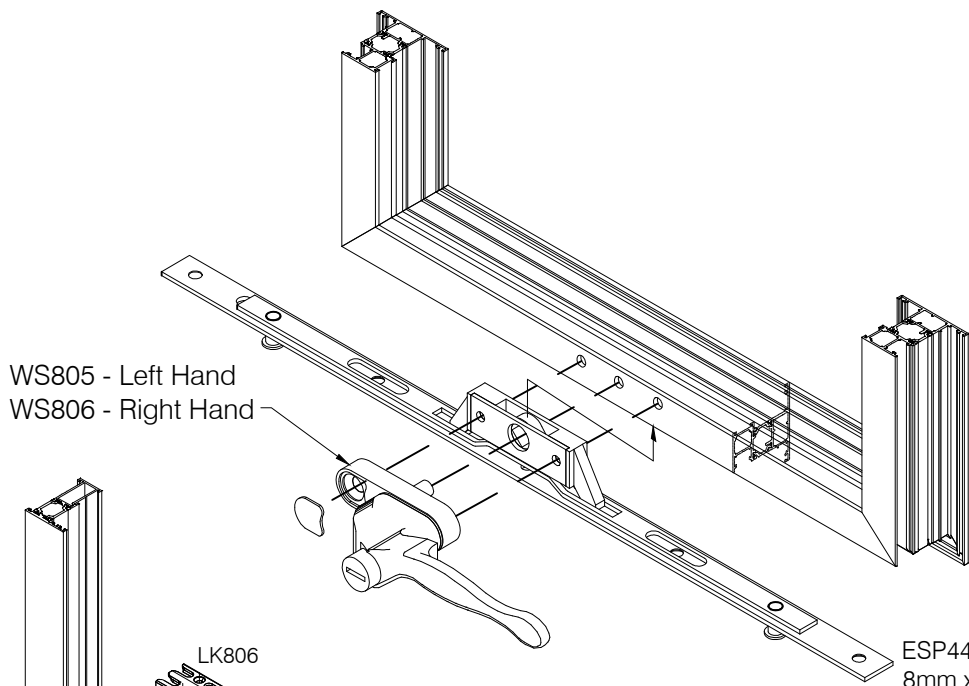
Note:  
Items A & B are side projected window option details.





### ESPAGNOL LOCKING RODS

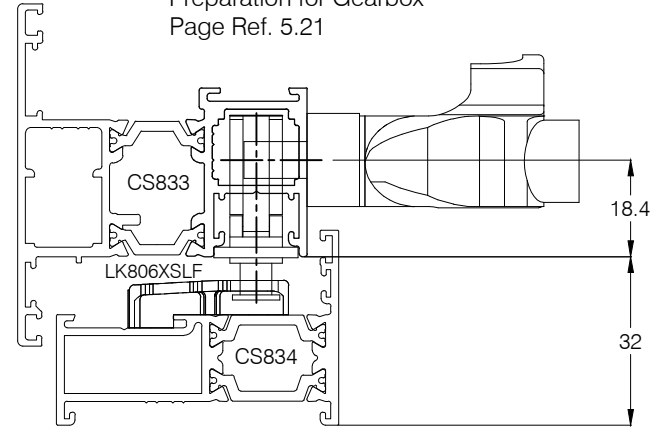
LOCK PART NUMBER	DESCRIPTION
ESP442XSLP	8mm x 250mm
ESP444XSLP	8mm x 400mm
ESP446XSLP	8mm x 600mm
ESP448XSLP	8mm x 800mm
ESP440XSLP	8mm x 1000mm



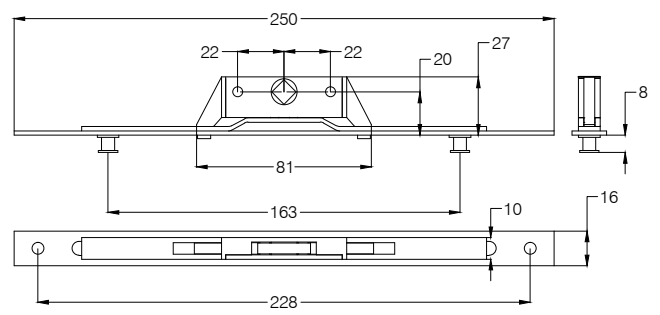
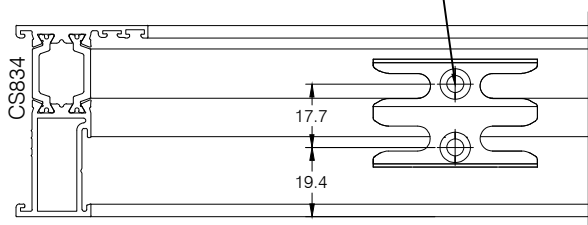
Note: Ensure shoulder of keep is located at correct point of mushroom for smooth operation.

ESP444XSLP  
8mm x 400mm Espag Lock

Preparation for Gearbox  
Page Ref. 5.21

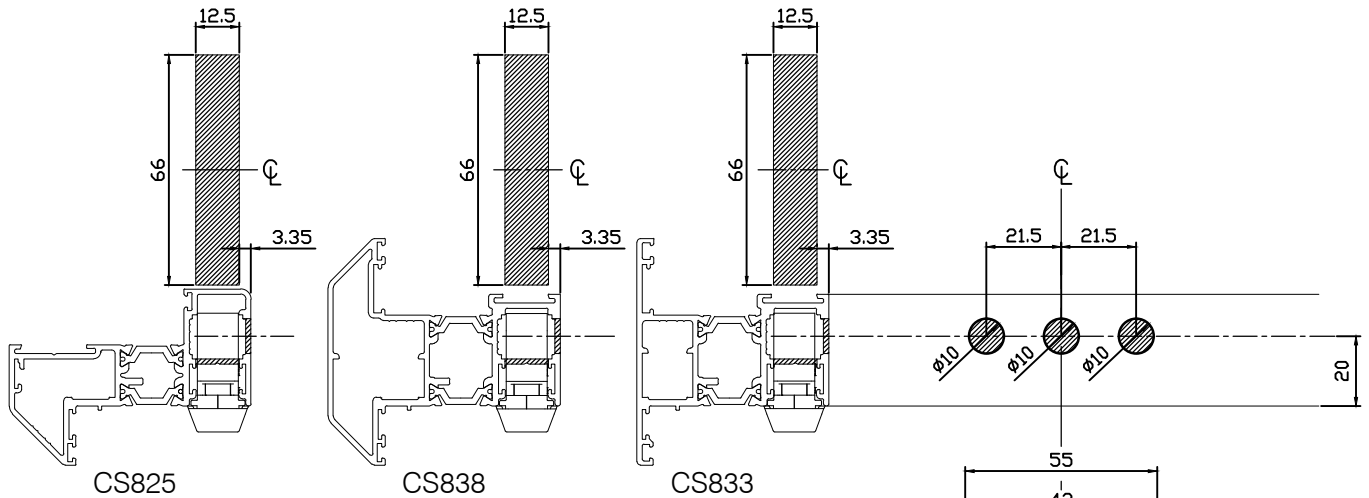


LK806XSLF  
MUSHROOM KEEP  
FX034XSLF  
N8 x 16mm (x2)  
CSK SELF-TAP

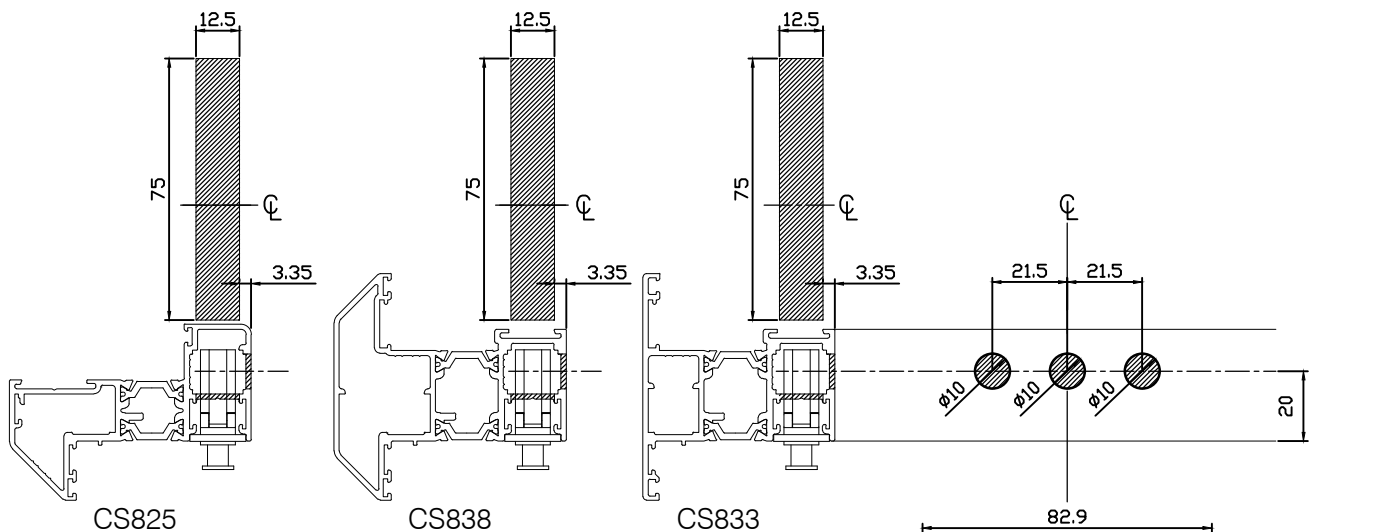


ESP442XSLP ( 8mm x 250mmEspag Lock )

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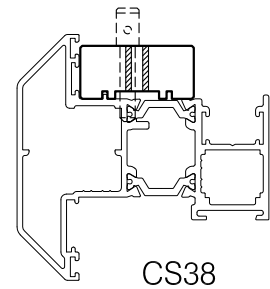
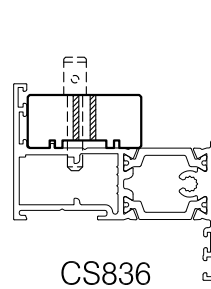
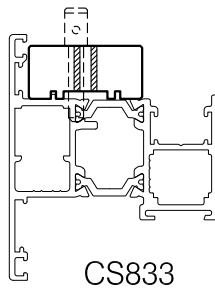
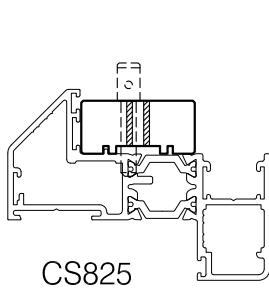


PREPARATION OF CS 825, CS 833, CS 838  
SHOOTBOLT HANDLE - WS805, WS806  
SHOOTBOLT GEARBOX - LK808XSLF  
HANDLE FIXING - M5 X 20mm CSK  
POZI MACHINE SCREW (FX800XSLF)

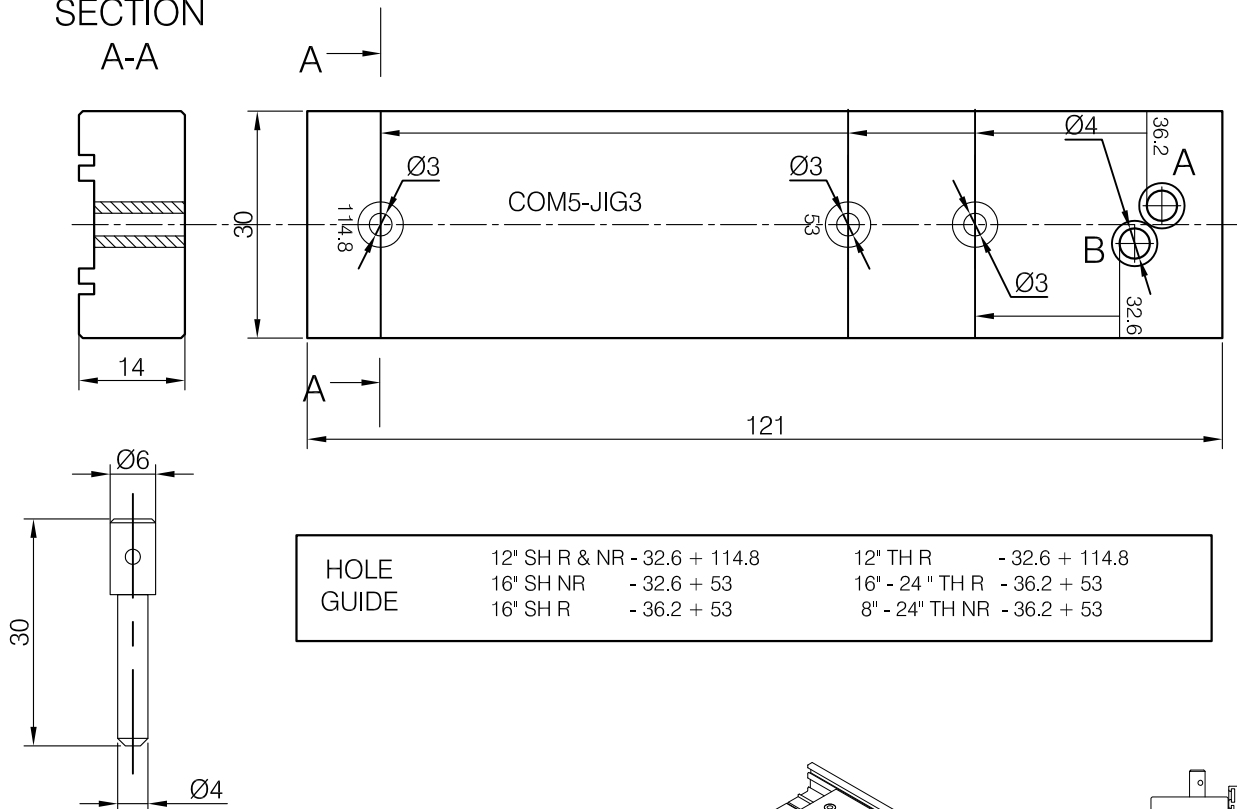


PREPARATION OF CS 825, CS 833, CS 838  
ESPAGNOLETTE HANDLE - WS805, WS806  
ESPAGNOLETTE ROD - SEE PAGE 5.20  
HANDLE FIXING - M5 X 20mm CSK  
POZI MACHINE SCREW (FX800XSLF)





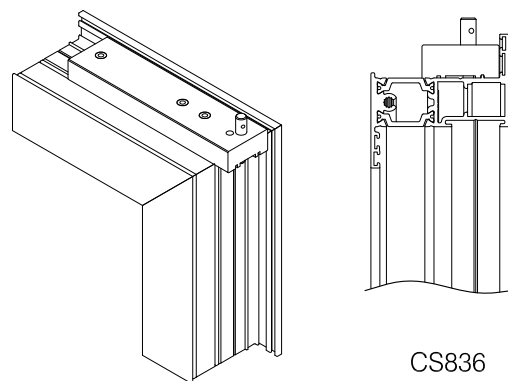
SECTION  
A-A

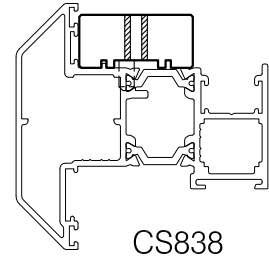
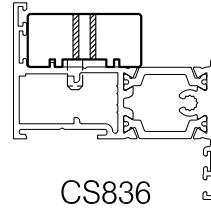
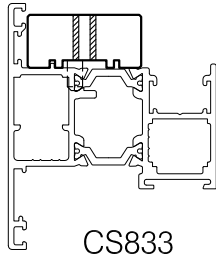
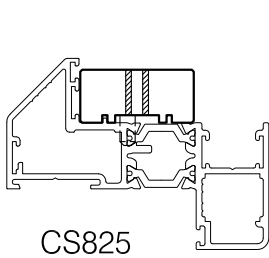


USE Ø3mm HSS DRILL.

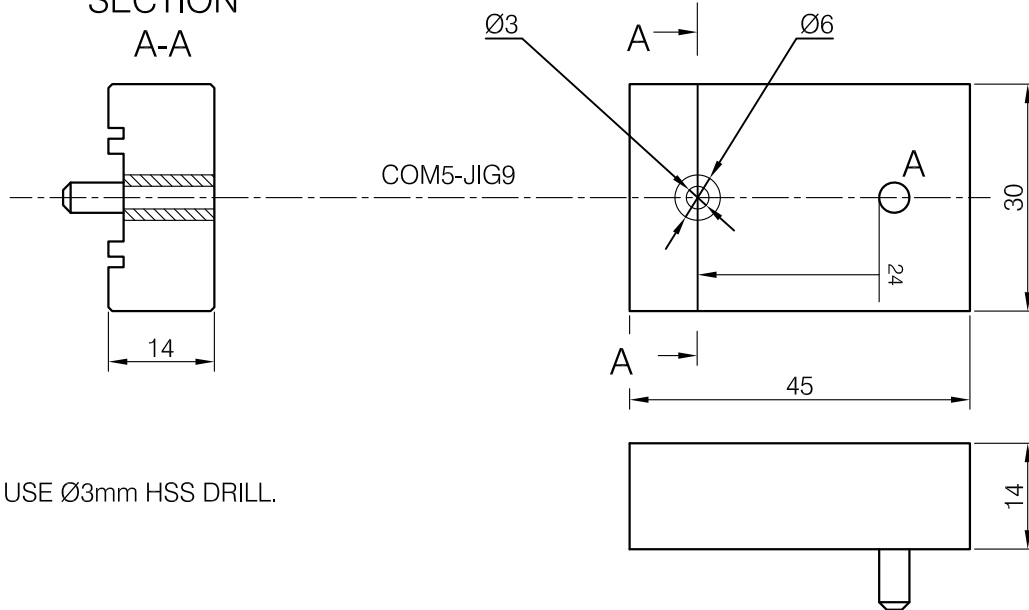
FOR THE POSITION 32.6 INSERT PIN INTO THE HOLE B.

FOR THE POSITIONS 36.2; 53; 114.8 INSERT PIN INTO THE HOLE A.

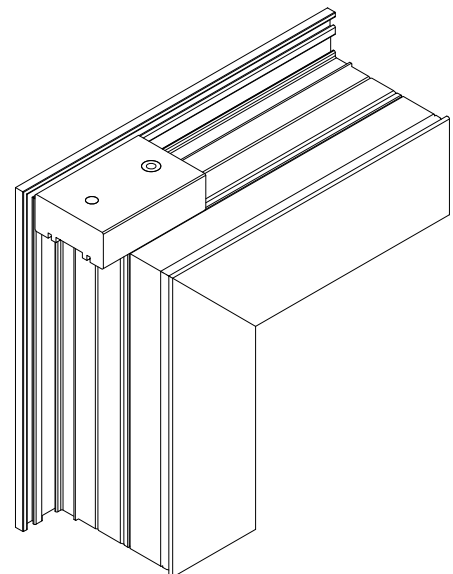
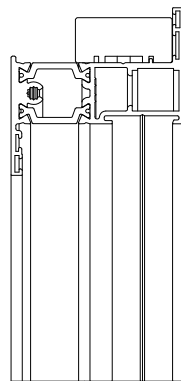
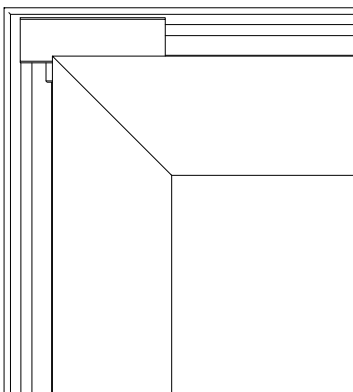




SECTION  
A-A

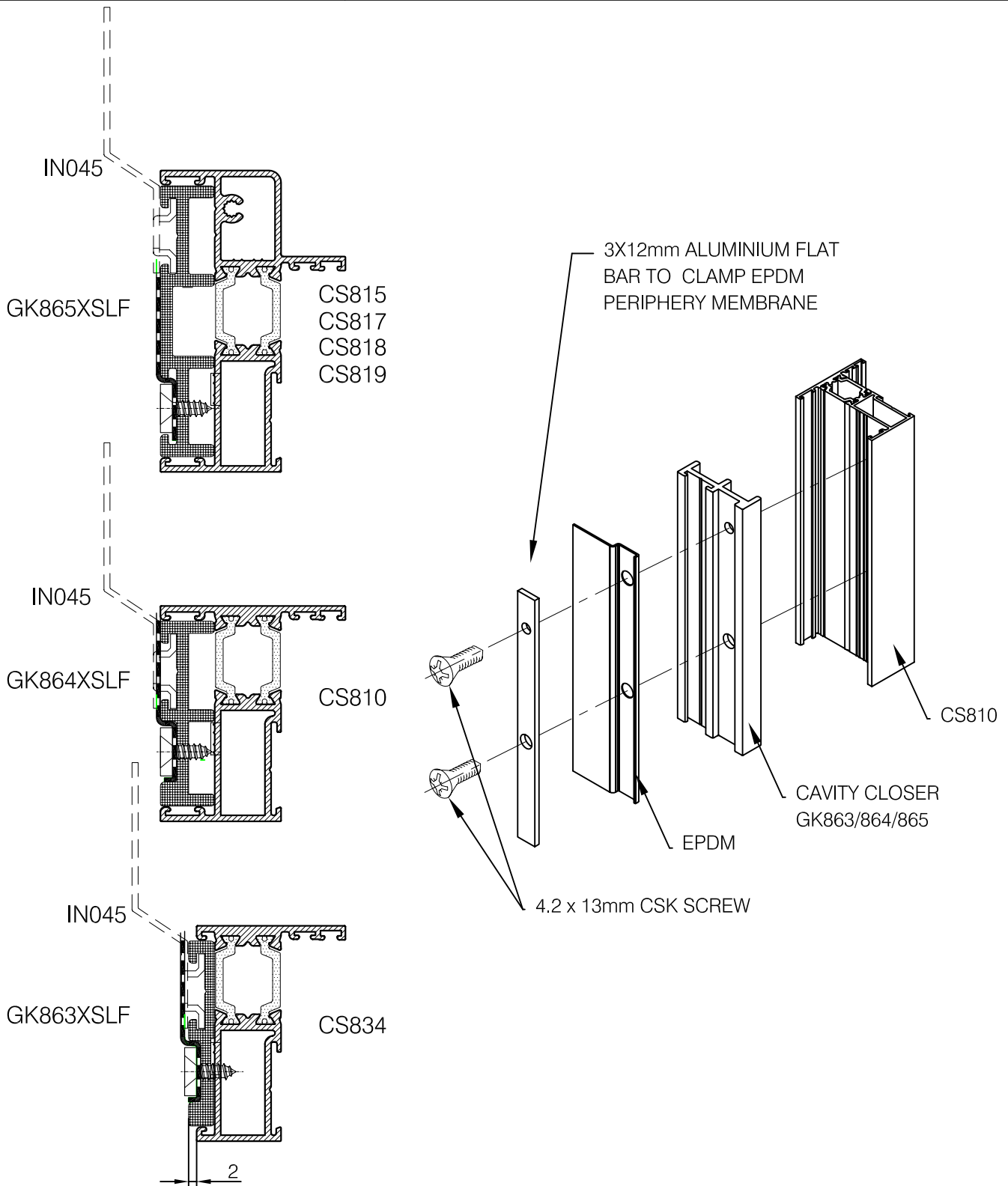


USE Ø3mm HSS DRILL.

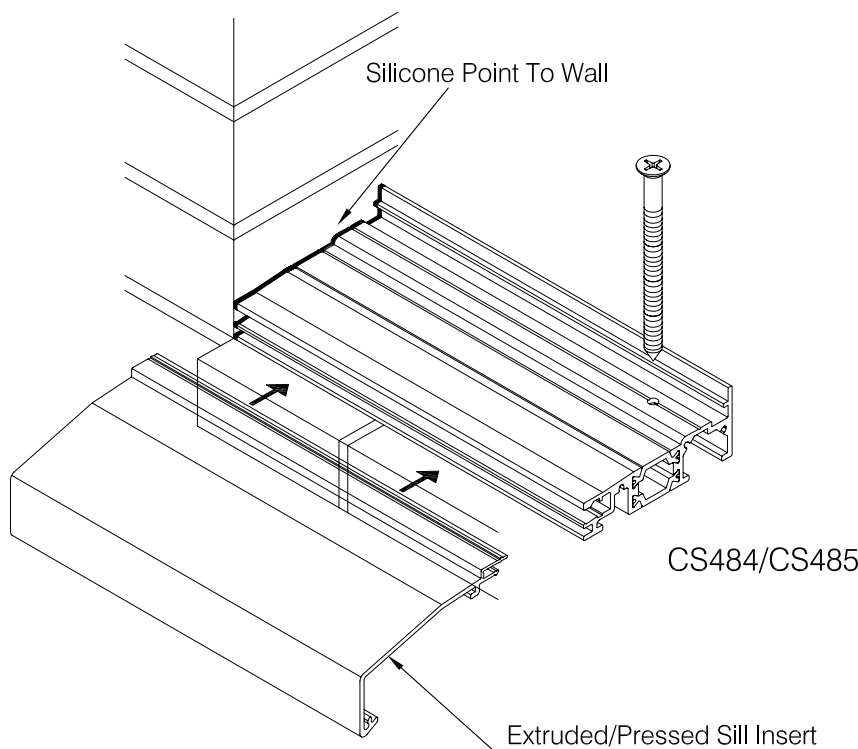
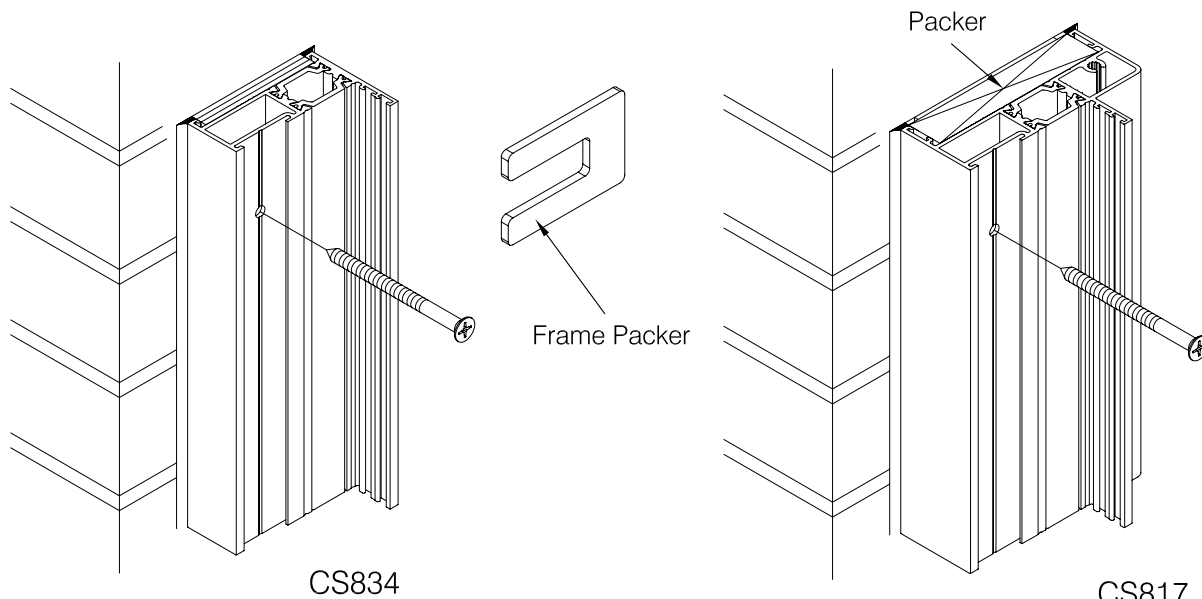


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SILL FIXINGS

### DIRECT FIXING TO MASONRY.

Use suitable fixings positioned no less than 100mm from corners/joints and not more than 600mm apart.

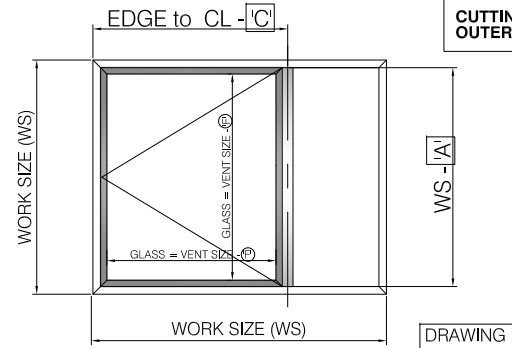
Spacer shims must be used between the frame and masonry to prevent profile distortion.



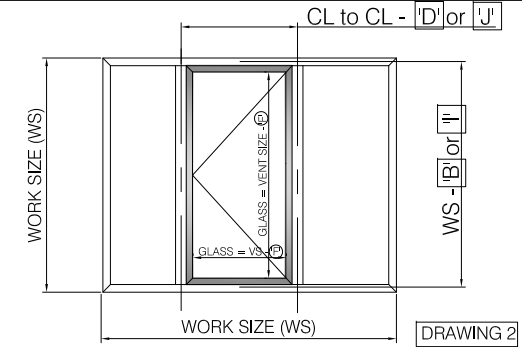
SCALE	1:1	© A4
DATE	31/03/2010	
DRAWN	VM/OP	
DRG. No.	C5-Pi-ECO-5.24	

## MULLION/TRANSOM LENGTH

		WORK SIZE - 'A' (DRAWING 1)					
OUTER FRAME		CS834	CS810	CS815	CS817	CS818	CS819
		'A'	'A'	'A'	'A'	'A'	'A'
TRANSOM PROFILES	CS835	-42	-60	-60	-60	-60	-60
	CS832	-42	-60	-60	-60	-60	-60
	CS821	-	-	-	-60	-54	-
	CS822	-	-	-35	-	-	-60



DRAWING 1

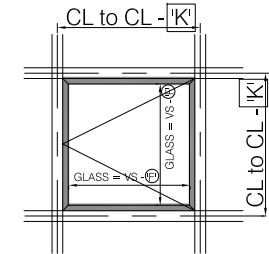


DRAWING 2

## VENT CUTTING OPTIONS & GLASS SIZES

DRAWING 1, 2 & 3

		WORK SIZE - 'B'		EDGE TO € - 'C'				€ TO € - 'D'		WORK SIZE - 'I'		€ TO € - 'J'		€ TO € - 'K'		GLASS SIZE	
OUTER FRAME		CS834	CS810,815,817,818,819	CS834		CS810,815,817,818,819				CS834	CS810,815,817,818,819	WITH TRANSFER CS 820		CURTAIN WALL INSERT CS813		VENT SIZE (VS) - 'F'	
TRANSOM/MULLION				CS835	CS832,822,821	CS835	CS832,822,821	CS835	CS832,822,821	WITH TRANSFER CS 820		CS835	CS832,822,821				
VENT PROFILES	CS836	-30	-48	-18.5	-21.5	-27.5	-30.5	-7	-13	-62	-80	-38.5	-44.5	-91.5		-82	
	CS833															-108	
	CS825															-79	
	CS838															-108	
CS820										-38	-56	-14.5	-20.5				
CS813																-19.5	-36 x 2

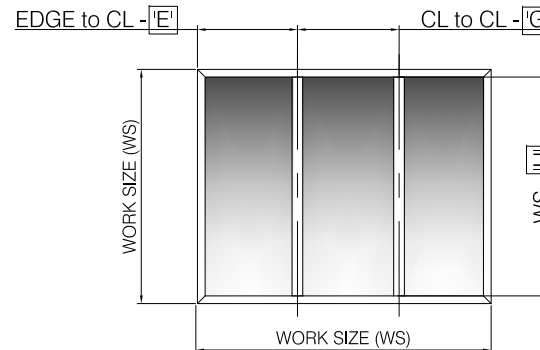


DRAWING 3

## FIXED LIGHT GLASS SIZES

DRAWING 4

		WORK SIZE - 'H'	EDGE TO € - 'E'		€ TO € - 'G'		
TRANSOM/MULLION				CS835	CS332,822,821	CS835	CS332,822,821
OUTER FRAME	CS834	-52	-40.5	-43.5	-29	-35	
	CS810,815,817,818,819	-70	-49.5	-52.5			



DRAWING 4

### DENOTES:

OUTER FRAME CUT TO WORK SIZE

MULLION/TRANSOMS - WORK SIZE - 'A'

VENT SIZE CUT TO:

- 1) WORK SIZE - 'B' OR WS - 'I' (with vent transfer CS820)
- 2) EDGE TO € - 'C'
- 3) € TO € - 'D' OR € TO € - 'J' (with vent transfer CS820)  
€ TO € - 'K' (with curtain wall insert CS813)

VENT GLASS SIZE:

- 1) VENT SIZE - 'F'

FIXED LIGHT GLASS SIZE:

- 1) WORK SIZE - 'H'
- 2) EDGE TO € - 'E'
- 3) € TO € - 'G'

GLAZING BEADS:

SEE PAGE 5.24

SCALE	NTS	©A4
DATE	31/03/2010	
DRAWN	VM / OP	
DRG. No.	C5-Pi-ECO-5.25	

28mm

**CS823**  
BEAD  
EXTERNAL  
GLAZED VENT

**CS824**  
BEAD  
INTERNAL  
GLAZED VENT

NOTE: BEADS SHOULD BE CUT IN FOR EACH WINDOW FOR ACCURATE FIT.

1. HORIZONTAL BEAD - SQUARE CUT  
GLASS SIZE + 14.6mm

2. VERTICAL BEAD - SQUARE CUT  
GLASS SIZE - 21.8mm

28mm

**CS827**  
BEAD  
EXTERNAL  
GLAZED VENT

**CS830**  
BEAD  
INTERNAL  
GLAZED VENT

1. HORIZONTAL BEAD - SQUARE CUT  
GLASS SIZE + 14.6 mm

2. VERTICAL BEAD - GLASS SIZE + 0.52mm

4.7 MM SQUARE CUT AT EACH END  
THEN SLOPED PART CUTS AT 45°

24mm

**CS826**  
BEAD  
EXTERNAL  
GLAZED VENT

**CS829**  
BEAD  
INTERNAL  
GLAZED VENT

32mm

**CS828**  
BEAD  
EXTERNAL  
GLAZED VENT

**CS831**  
BEAD  
INTERNAL  
GLAZED VENT

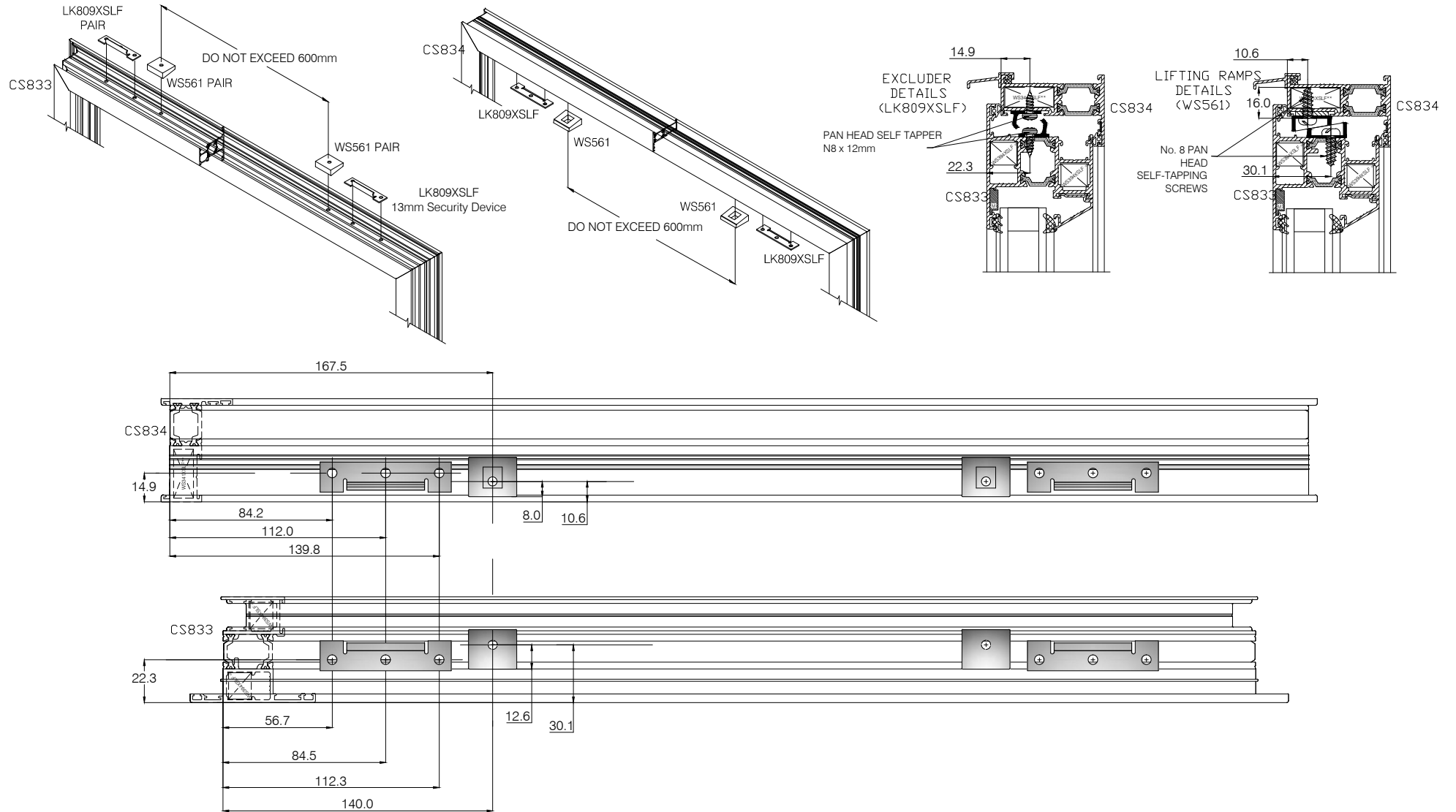
1. HORIZONTAL BEAD - SQUARE CUT  
GLASS SIZE + 14.6 mm

2. VERTICAL BEAD - GLASS SIZE + 0.52mm

4.7 MM SQUARE CUT AT EACH END  
THEN SLOPED PART CUTS AT 30°

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**WINDOW EXCLUDER & LIFTING RAMPS DETAILS  
FABRICATION & ASSEMBLY**



SCALE	NTS	©A4
DATE	15/05/2013	
DRAWN	VM / OP (IS)	
DRG. No.	C5-Pi-ECO-5.27 R1	