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A. STANDARD REQUIREMENTS

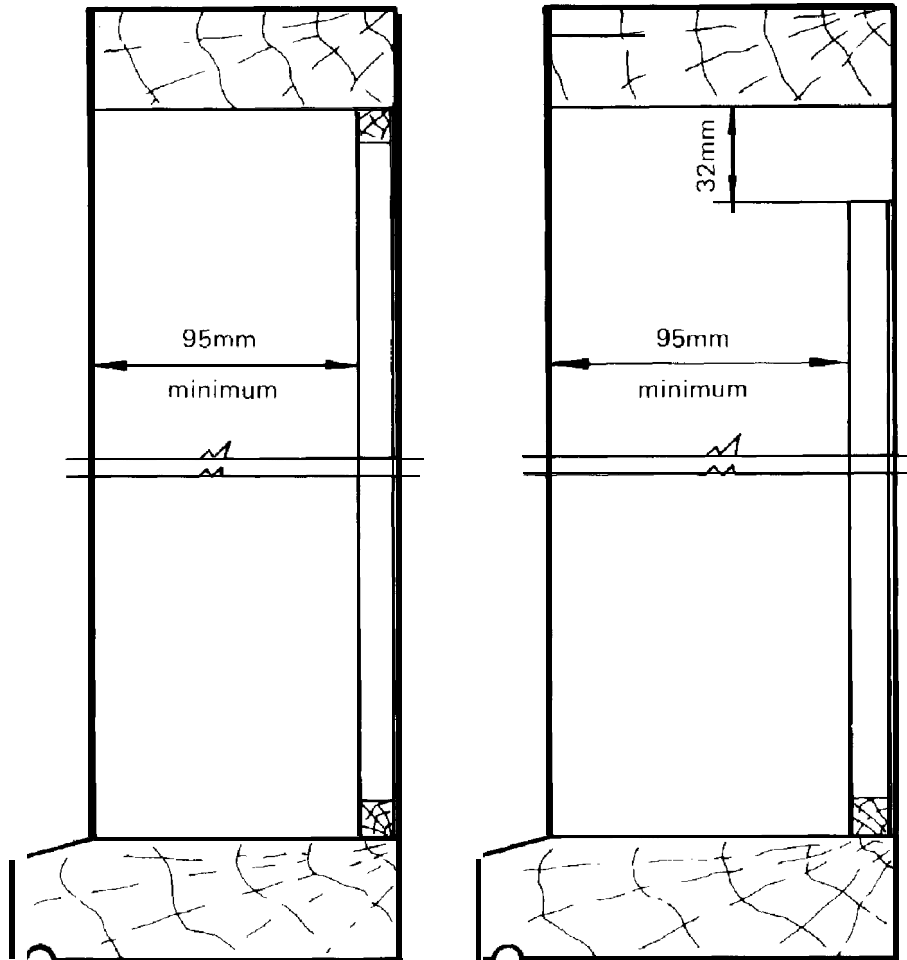
- ① CROSS-CUT OR PIVOT SAW WITH MINIMUM TRAVERSE FOR 100mm(4'') SECTION.
- ② TUNGSTEN TIPPED SAW BLADES (REQUIRE LESS SHARPENING AND GIVE A LONGER WORKING LIFE).
- ③ HAND DRILL.
- ④ DRILL SPEED REDUCTION DEVICE TO FACILITATE RE-SITING COUNTERSUNK HOLES.
- ⑤ FELT OR RUBBER STRIPPED BENCH TOP OR TRESTLES TO AVOID DAMAGE DURING ASSEMBLY OR GLAZING.
- ⑥ SASH CRAMP AND EXTENSION BAR TO GIVE MINIMUM HOLD OF 2400mm (8'0" FOR 'H' TYPE DOORS).
- ⑦ No. 2 POINT POSIDRIVE SCREWDRIVER.
- ⑧ MAGNETIC OR CLUTCH TYPE POSIDRIVE SCREWDRIVER WITH No. 2 POINT.
- ⑨ CUTTING WAX FOR SCREW GROOVES.

B. RECOMMENDED REQUIREMENTS

- ⑩ STILE/INTERLOCKER DRILL (INCLUDING DRILLS) JIG -C1115
- ⑦ SIMPLE BENCH DRILL TO ALLOW QUICKER AND MORE EFFECTIVE USE OF THE MONARCH DRILL JIGS.
- ① CROPPING TOOL FOR HEAD -C1212A.
- ① CROPPING TOOL FOR CILL -C1213A.

REBATING DETAILS FOR TIMBER SUB-FRAMES

All Dimensions are in mm.



WITHOUT N.V.

WITH N.V.

- NOTE:
- 1 Recommended backstop size 12.7mm square.
 - 2 Backstop must be omitted for full length of head to incorporate a hood type night ventilator.



GLASS SCHEDULE AND GASKET CALL UP

KIT SIZE		GLASS WIDTH	GLASS HEIGHT	GASKET PER KIT:COILS
WIDTH	HEIGHT			
1800	2030	a27	1 a73	0.45
2100	2030	977	1873	0.47
2400	2030	1127	1873	0.50
2700	2030	1277	1873	0.52
3000	2030	1427	1873	0.54
2690	2030	827	1873	0.67
3590	2030	1127	1873	0.74
4490	2030	1427	1873	0.82
3570	2030	827	1873	0.89
4770	2030	1127	1x73	0.99
5970	2030	1427	1873	1.10
1800	2400	827	2243	0.50
2100	2400	977	2243	0.53
2400	2400	1127	2243	0.55
2700	2400	1277	2243	0.58
3000	2400	1427	2243	0.60
2690	2400	827	2243	0.76
3590	2400	1127	2243	0.83
4490	2400	1427	2243	0.90
3570	2400	827	2243	1.01
4770	2400	1127	2243	1.11
5970	2400	1427	2243	1.20

NON STANDARD GLASS SIZE CALCULATION FORMULA WITHOUT NIGHT OR PANEL VENTILATOR		
TYPE	WIDTH	HEIGHT
2 PANE	$(O/A \text{ FRAME} - 146) \div 2$	O/A FRAME 157
3 PANF	$(O/A \text{ FRAME} - 209) \div 3$	O/A FRAME 157
4 PANE	$(O/A \text{ FRAME} - 262) \div 4$	O/A FRAME 157



NON STANDARD GLASS SIZE CALCULATION FORMULA WITH NIGHT VENTILATOR		
TYPE	WIDTH	HEIGHT
2 PANE	$(O/A \text{ FRAME} - 146) \div 2$	O/A FRAME - 187
3 PANE	$(O/A \text{ FRAME} - 209) \div 3$	O/A FRAME - 187
4 PANE	$(O/A \text{ FRAME} - 262) \div 4$	O/A FRAME - 187

REMEMBER: WHERE A STANDARD SIZE KIT IS BEING USED I.E. NO CUT DOWN IN HEIGHT, THE INSIDE SUE FRAME HEIGHT MUST BE INCREASED BY 30MM TO ACCOMMODATE A NIGHT VENTILATOR.



GLASS SCHEDULE WITH PANEL VENTILATOR

KIT SIZE		GLASS WIDTH	GLASS HEIGHT
WIDTH	HEIGHT		
1800	2030	827	1783
2100	2030	977	1783
2400	2030	1127	1783
2700	2030	1277	1783
3000	2030	1427	1783
2690	2030	827	1783
3590	2030	1127	1783
4490	2030	1427	1783
3570	2030	827	1783
4770	2030	1127	1783
5970	2030	1427	1783
1800	2400	827	2153
2100	2400	977	2153
2400	2400	1127	2153
2700	2400	1277	2153
3000	2400	1427	2153
2690	2400	a27	2153
3590	2400	1127	2153
4490	2400	1427	2153
3570	2400	a27	2153
4770	2400	1127	2153
5970	2400	1427	2153

WARNING: THE PANEL VENTILATOR REPLACES A PORTION OF THE HEIGHT OF GLASS ONLY AND DOES NOT AFFECT THE INTERNAL DIMENSIONS OF THE TIMBER SUB-FRAME.

NON STANDARD GLASS SIZE CALCULATION FORMULA WITH PANEL VENTILATOR

TYPE	WIDTH	HEIGHT
2 PANE	$(O/A \text{ FRAME} - 146) \div 2$	O/A FRAME - 247
3 PANE	$(O/A \text{ FRAME} - 209) \div 3$	O/A FRAME - 247
4 PANE	$(O/A \text{ FRAME} - 262) \div 4$	O/A FRAME - 247

FORMULAE TO CALCULATE COMPONENT LENGTHS

24mm THERMAL BARRIER PATIO DOOR

PART No.	COMPONENT	2 PANEL	3 PANEL	4 PANEL
M701	HEAD	w	w	w
M702	CILL	W	W	W
M803	THRESHOLD	$\frac{W}{2} - 21$	$\frac{W}{3} - 20$	$\frac{W}{2} - 5$
M712	HEAD INFILL	$\frac{W}{2} - 21$	$\frac{W}{3} - 20$	$\frac{W}{2} - 5$
M704	JAMB	H - 15	H - 15	H - 15
M705	FIXED STILE	H - 35	H - 35	H - 35
M706	FIXED INTERLOCK	H - 34	H - 34	H - 34
M706	SLIDING INTERLOCK	H - 41	H - 41	H - 41
M713	LOCKING STILE	H - 41	H - 41	H - 41
M708	MEETING STILE	-	-	H - 41
M709	MULLION	-	H - 19	-
M707	TOP RAIL	$\frac{W}{2} - 92.5$	$\frac{W}{3} - 89.5$	$\frac{W}{4} - 85.5$
M710	BOTTOM RAIL	t - 92.5	$\frac{W}{3} - 89.5$	$\frac{W}{4} - 85.5$
M711	NIGHT VENT BODY	W	W	W
M414	NIGHT VENT FLAP	W	W	W
		NO OF FLAPS	NO OF FLAPS	NO OF FLAPS
M714/715	MIDRAIL(S)/PANEL VENT	AS TOP/BOTTOM RAIL		

STANDARD MIDRAIL HEIGHTS - Underside of frame to midrail centre line

- A - 885mm
- B - 812mm
- R - 892mm

Notes

- 1 All dimensions are in mm.
- 2 Where components have an angled bar-end preparation dimensions are taken over longest edge of the angle.
- 3 W is total metal-to-metal width of patio door outer frame.
- 4 H is total metal-to-metal height of patio door outer frame — exclusive of night ventilator.
- 5 Please use cutting schedule after reading cutting down details in Monarch workshop procedure manual for Patio Door.



PATIO DOOR MID-RAILS GLASS FORMULAE

H = overall aluminium frame height
(including hood type ventilator when fitted)

w = overall aluminium frame width

Infill panel height on types B and BL = 127mm

FORMULA WITHOUT NIGHT VENTILATOR OR PANEL VENTILATOR

MID-RAIL TYPE	TOP PANE HEIGHT	BOTTOM PANE HEIGHT
A	H – 1013mm	766mm
B & BL	H – 978mm	654mm

FORMULA WITH NIGHT VENTILATOR (HOOD TYPE)

MID-RAIL TYPE	TOP PANE HEIGHT	BOTTOM PANE HEIGHT
A	H – 1043mm	766mm
B & BL	H – 1008mm	654mm

FORMULA WITH PANEL VENTILATOR

MID-RAIL TYPE	TOP PANE HEIGHT	BOTTOM PANE HEIGHT
A	H – 1103mm	766mm
B & BL	H – 1068mm	654mm

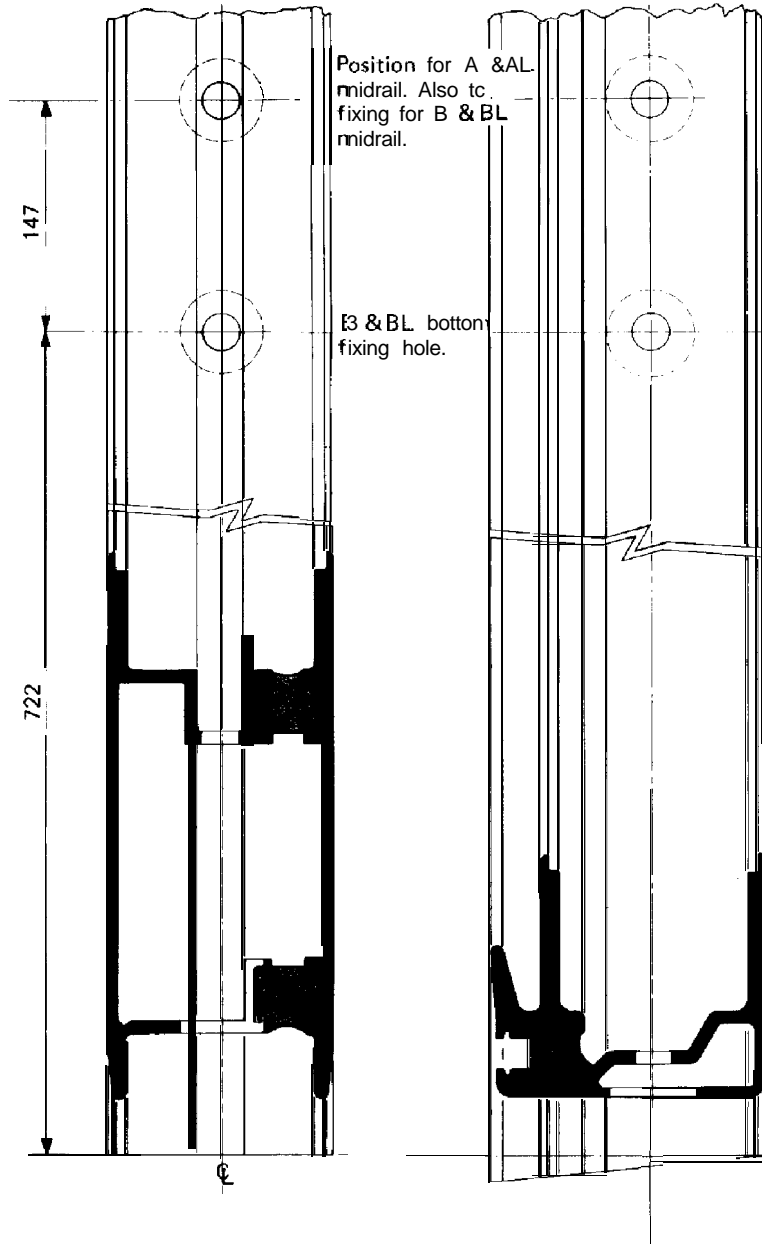
PANE WIDTHS (INCLUDING INFILL PANEL)

2 PANE DOORS	3 PANE DOORS	4 PANE DOORS
$\frac{W - 146}{2}$	$\frac{w - 209}{3}$	$\frac{w - 262}{4}$

MID-RAILS CONTINUED

FIXING HOLE POSITION(S)

USE C173 DRILL 14.3/8.75 DIA WHEN FIXING AN 'A' TYPE MIDRAIL
 USE C171 DRILL 14.3/6.35 DIA WHEN FIXING A 'B' TYPE MIDRAIL



MEETING STILE
 LOCKING STILE
 SLIDING INTERLOCK

FIXED STILE
 FIXED INTERLOCK

RECESSED THERMALLY BROKEN MIDRAIL

To allow a complete letterplate kit to be fitted to a patio door one piece midrail, a recessed midrail extrusion is available.

Lengths are as 'A' midrail.

The midrail allows letterplates to be fitted to fixed or sliding panels provided the recessed side is correctly positioned, i.e.

- Sliding panel - towards the inside.
- Fixed panel - towards the outside.

Profiled waterproof black foam bungs (C1299) are available to seal off each end of the recess.

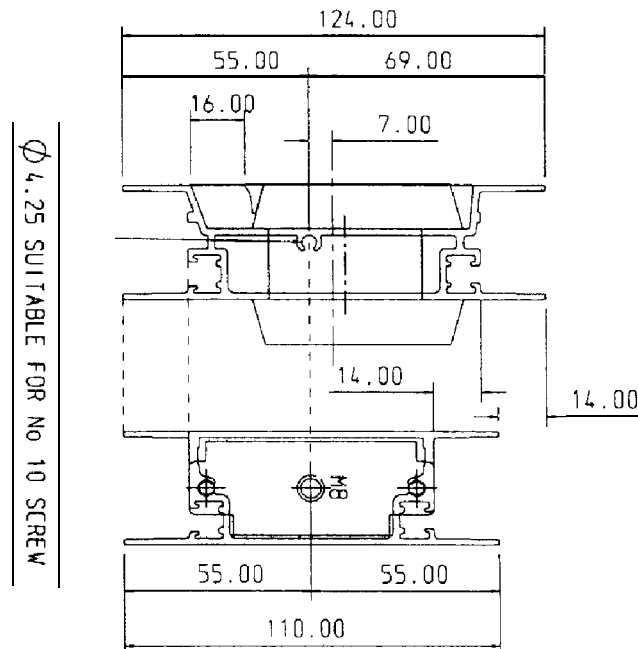
The rail has a depth of 124mm. The screw port is the same distance from the bottom of the rail as on the 'A' midrail - see illustration - and takes a No. 10 self tapping screw.

Effect on glass formulae
Width - no change.

Heights
Thermal

	Top Pane	Bottom Pane
No vent	H-I 027	766
Night vent *	H-I 057	766
Panel vent	H-1117	766

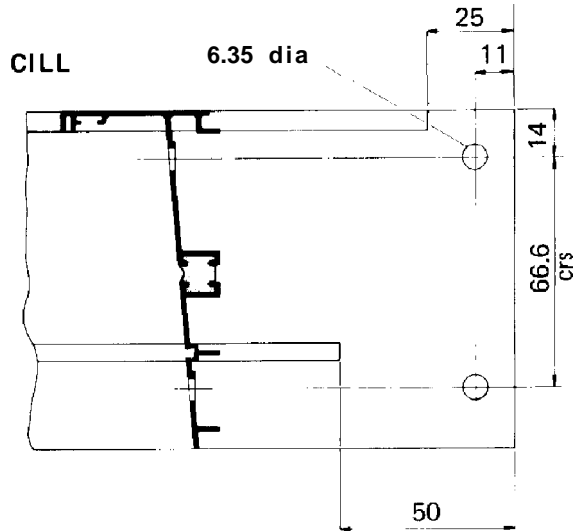
Remember: For woodfix patios 'H' in the above night vent formulae includes the vent.



CUTTING DOWN HORIZONTAL SECTIONS

HEADS AND CILLS

Cut down from the left hand end (as veiwed from the outside) by the difference between the required width and the nearest standard width and prepare the end as detailed.



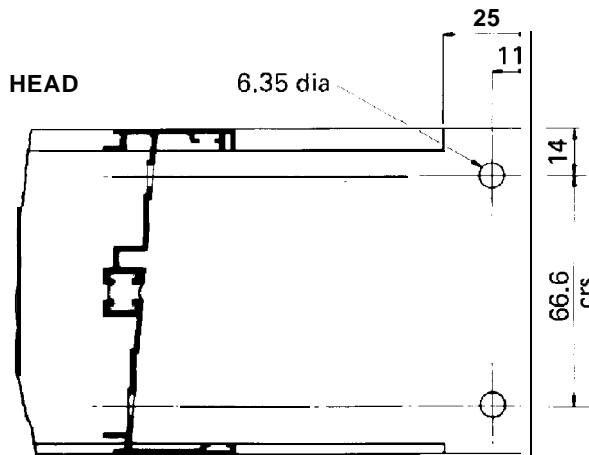
THRESHOLD AND HEAD INFILL

Cut down from one end and replace the fixing hole if required.

Calculate the cut down as follows:

2 and 4 Pane Doors
 $(\text{standard width} - \text{required width}) \div 2$

3 Pane Doors
 $(\text{standard width} - \text{required width}) \div 3$



FIXED AND SLIDING RAILS

Cut down from one end and replace the fixing hole in the sliding rail as detailed.

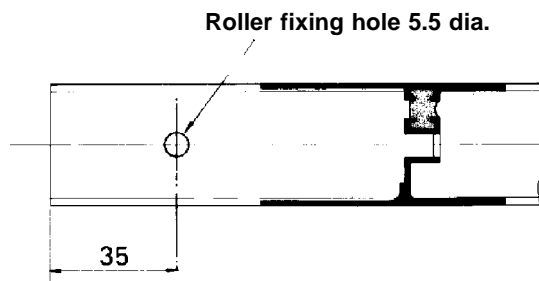
Calculate the cut down as follows:

2 Pane Doors
 $(\text{standard width} - \text{required width}) \div 2$

3 Pane Doors
 $(\text{standard width} - \text{required width}) \div 3$

4 Pane Doors
 $(\text{standard width} - \text{required width}) \div 4$

SLIDING RAIL



CUTTING DOWN VERTICAL COMPONENTS

THIS PAGE SHOULD BE READ WITH REFERENCE TO WPL and WPM.

N.B. CUT DOWN ALL VERTICAL SECTIONS FROM THE TOP.

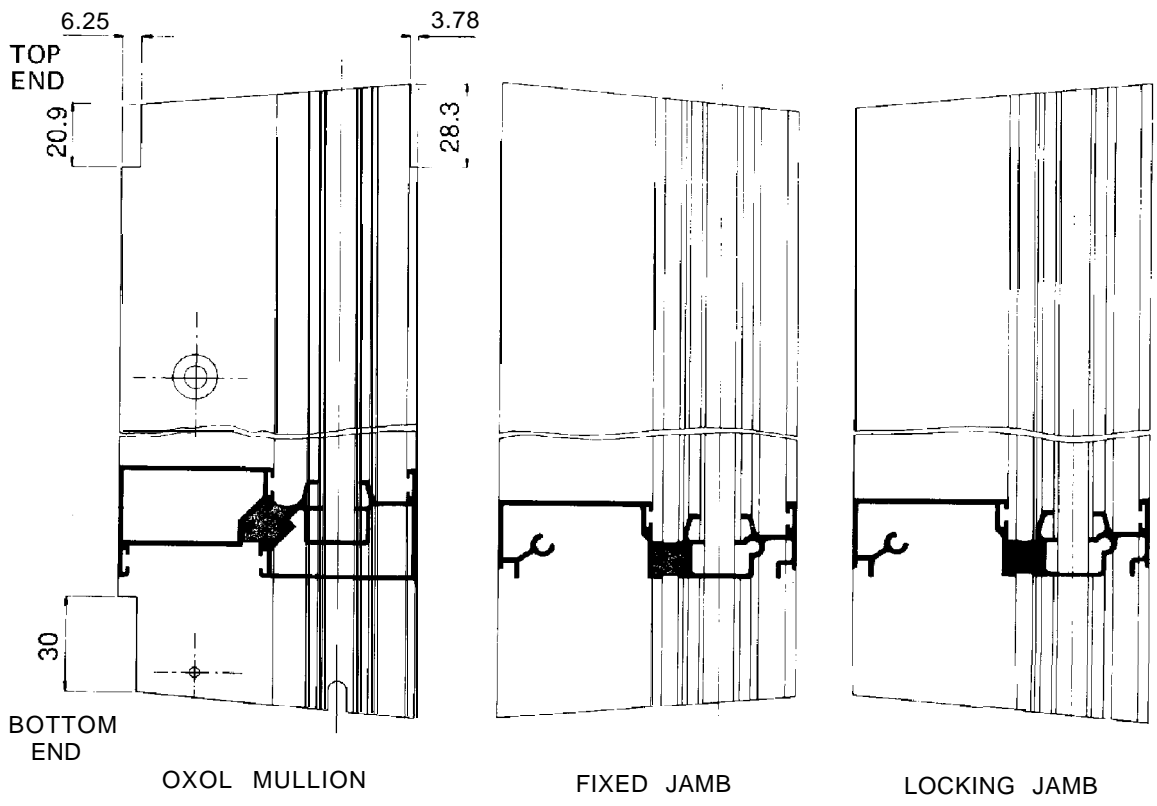
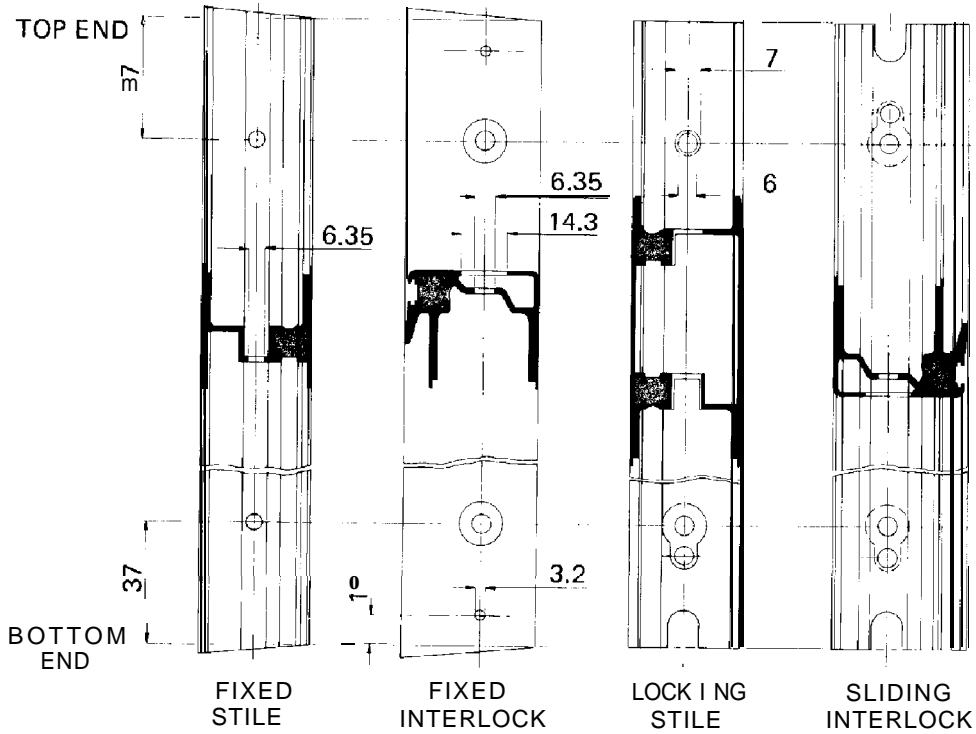
A. Lay the contents of the box out in order of assembly and determine the tops and bottoms of the vertical components. Refer to WPL and WPM.

B. Calculate the new lengths required and cut the sections to these lengths and if necessary re-prepare ends.

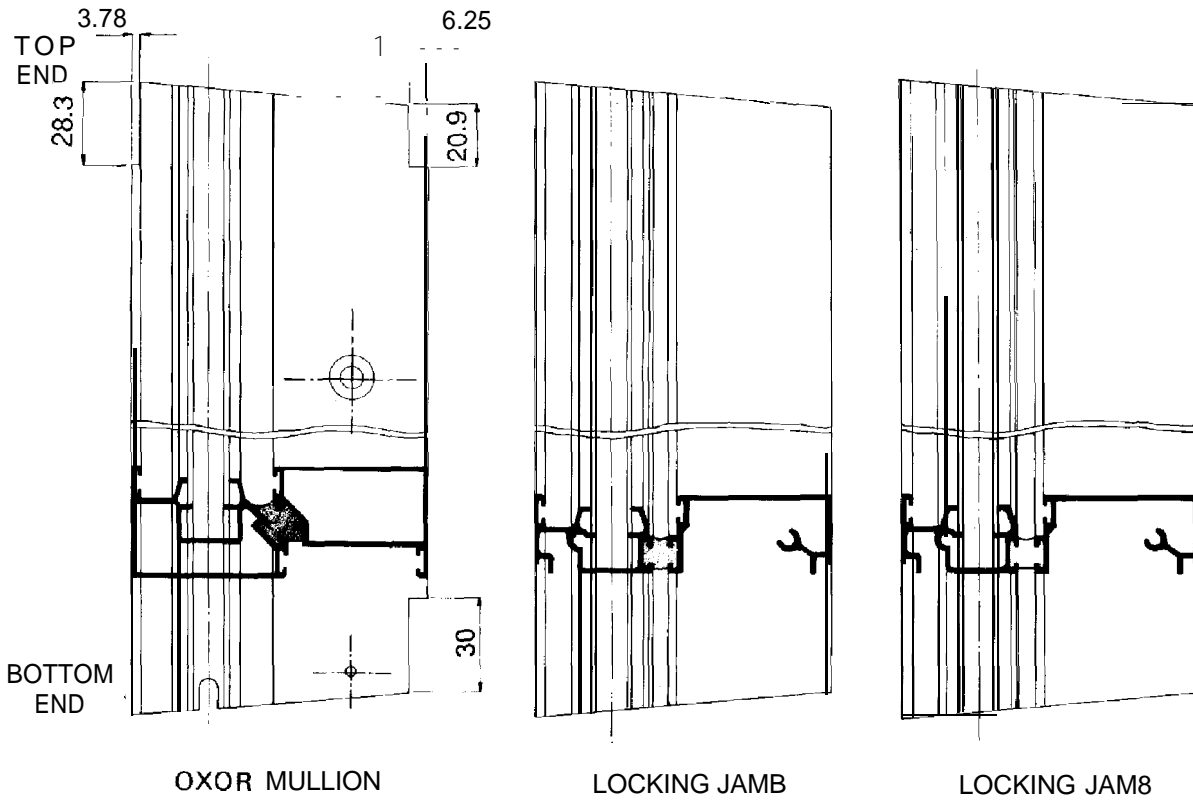
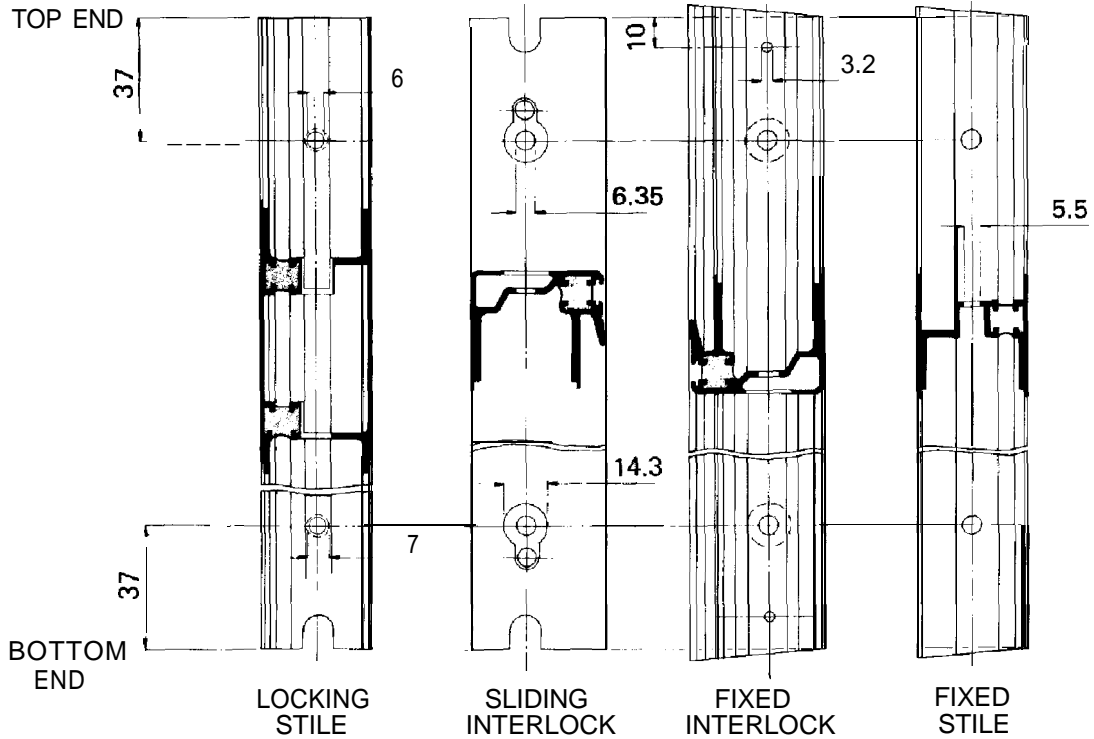
COMPONENT	CUT DOWN	RE-PREPARATION(S) REQUIRED
Locking Jamb	Either End	Cut 5° angle only
Fixed Jamb	Either End	Cut 5° angle only
Fixed Stile	Either End	Cut 5° angle, re-drill 6.3mm hole
Locking Stile	Top End	Cut Square, re-drill 14.3/6.3mm holes
Meeting Stile	Top End	Cut Square, w-drill 14.3/6.3mm holes
Sliding Interlock	Top End	Cut Square, re-drill 14.3/6.3mm holes
3 Pane Mullion	Top End	Cut 5° angle and w-prepare end as detailed
Fixed Interlock	Top End	Cut 5° angle, re-drill 14.3/6.3mm and 3.175mm (1/8'') holes.



OX ARRANGEMENT



XO ARRANGEMENT

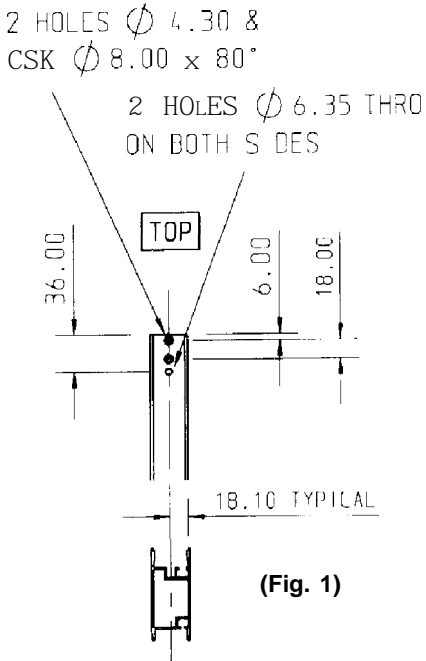


ENHANCED SECURITY LOCK KIT

1. Cutting down the kit (Fig. 1)

Excepting the lock stile **prepare** the kit in accordance with this manual.

Cut the lock stile down from the top then prepare it as shown.



(Fig. 1)

2. Fitting the shoot bolt (Fig. 2)

Screw the black plastic shoe fully onto the shoot bolt rod.

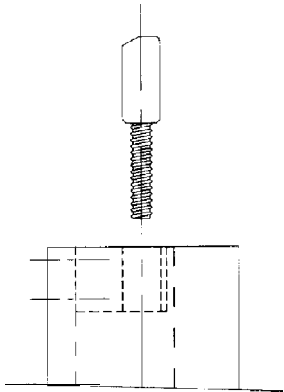
Move the lock levers to the locked i.e. fully down position.

Engage the free **end of** the shoot bolt into the threaded hole in the top pin block; screw it down until the horizontal line on the back face of the shoe is level with the top of the stile.

Rotate the rod so the chamfered edge is nearest **the** lock jamb.

Place the guide block over the shoe into, and flush with, the stile top edge.

Fit the two No. 8 x 1/2" Pozi CSK S/T screws (F167).



(Fig. 2)

Operate the levers to check the lock moves freely **in** the stile.

GLAZING INSTRUCTIONS

SPECIAL NOTE

All glazing should be carried out in strict accordance with BS 6262

THESE INSTRUCTIONS COVER 20, 22, 24, 25 AND 26mm DOUBLE AND 4 AND 6mm SINGLE GLAZED UNITS.

THE GASKET MUST NOT BE STRETCHED DURING FITTING OTHERWISE SHRINKAGE WILL OCCUR LATER.



C1274-4mm
C1218-6mm

SINGLE GLASS



C1224-20mm
C1225-22mm
C1203-24mm

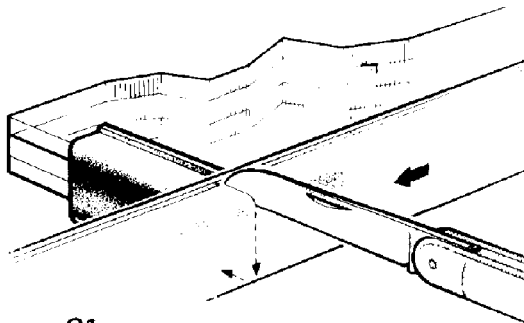
DOUBLE GLASS



C1253-25mm
C1254-26mm

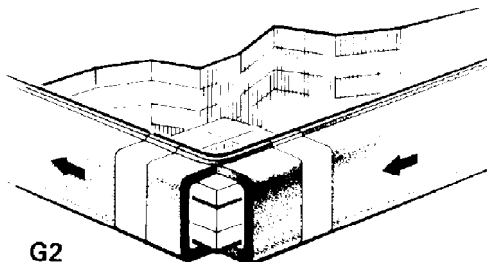
A. Check the contents of the box and lay the panel sections on trestles in the order of assembly. Leave the outer frame members in the box.

B. Support the glass panel on two trestles that are narrower than the width of the panel. Select the correct glazing gasket and cut a length sufficient to wrap round all the edges of the panel, plus approximately 100mm (4") for overlap and cutting. Cut one additional section of glazing gasket approximately 50mm (2") long for use as a slicing template.



G1

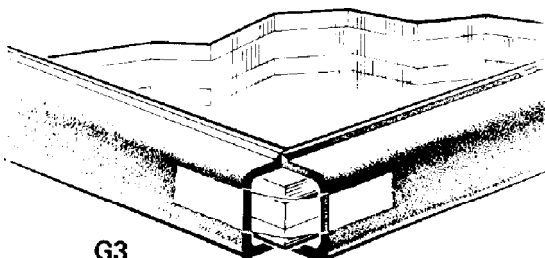
C. Start approximately 12mm ($\frac{1}{2}$ "') from the top right-hand corner of the panel, wrap the channel of the glazing gasket along the edge of the glass and allow it to extend beyond the bottom corner of the panel. Place the slicing template on the bottom edge of the glass, butting up to the gasket. Cut through the body of the gasket in line with the raised edge of the slicing template, but DO NOT CUT THROUGH THE RAISED EDGE OF THE GASKET THAT IS BEING FITTED. G1.



G2

D. Bend the gasket 90° round the bottom corner of the panel and hold it in position with adhesive tape. G2.

E. Continue wrapping the gasket along the edge of the panel and repeat the slicing process at each corner. When all the edges have been covered, use the already fitted gasket as the template for the final cut and hold the two ends in position by placing adhesive tape along the exposed back of the gasket ends. G3.

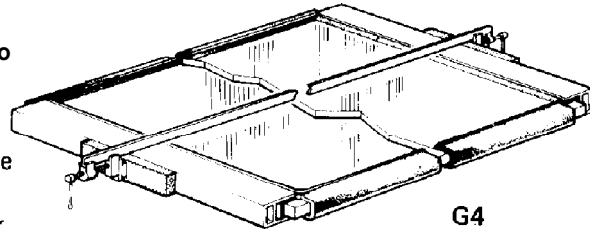


G3

F. When using patterned glass, it is recommended that the patterned glass side is glazed to the inside to ensure maximum sealing of glass to gasket on the outside.

FITTING THE ALUMINIUM FRAME SECTIONS

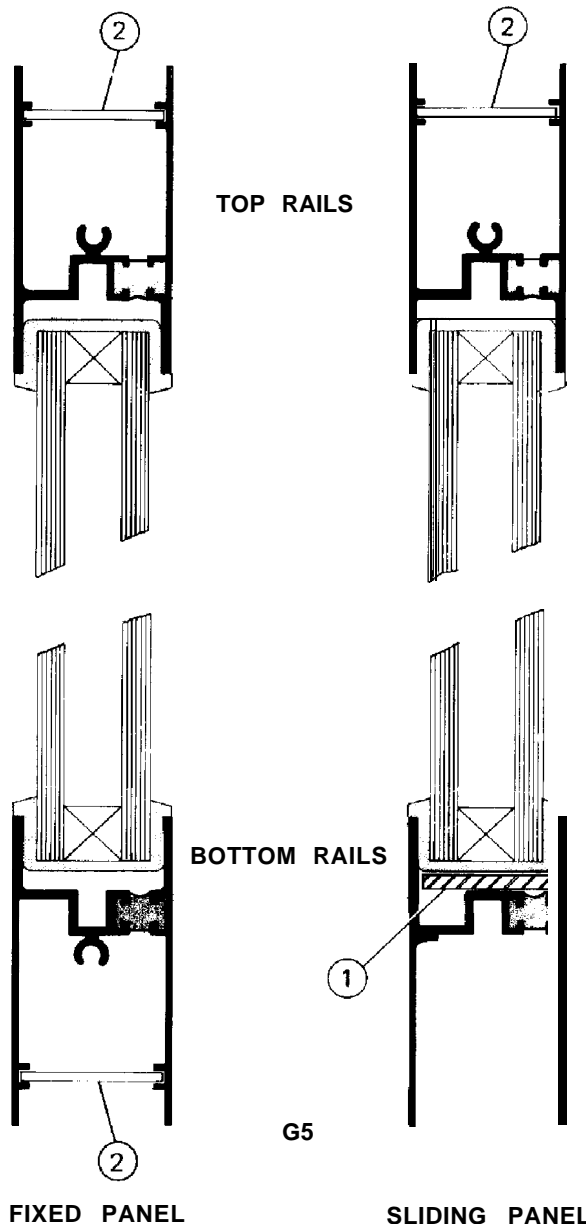
A. Stick two self adhesive setting blocks into the bottom of the glazing channel of each sliding rail. Position blocks adjacent to each roller fixing screw. ① G5.



Place the top and bottom sections on to the top and bottom edges of the panel, leaving an equal amount of panel showing at either end.

NOTE:
FOR GLAZING OF MID-RAILS
REFER TO MONARCH
ENTRANCE DOOR WORKSHOP
PROCEDURES

Carefully cramp the top and bottom sections into position using 300mm minimum packing blocks to prevent damage. G4.



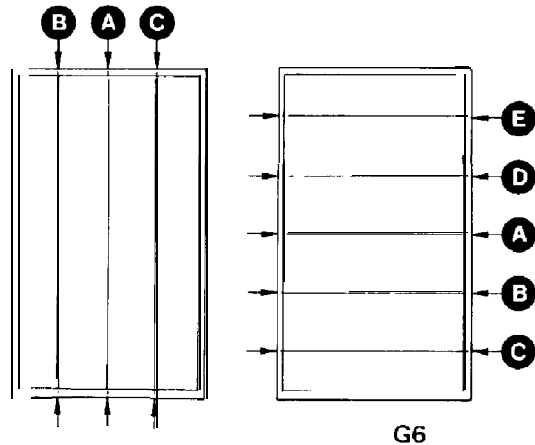
B. In the ends of each fixed panel rail and in each end of the top sliding rail insert one of the PVC wedges ② G5.

FITTING THE ALUMINIUM FRAME SECTIONS CONTINUED

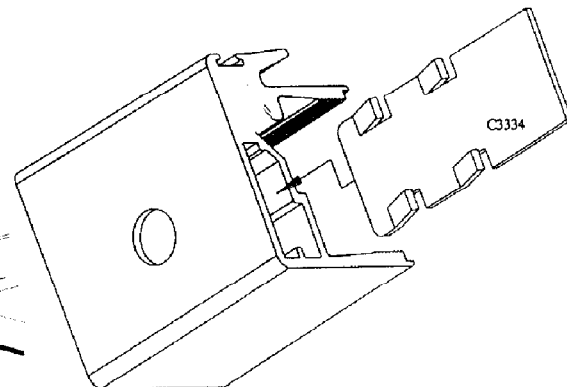
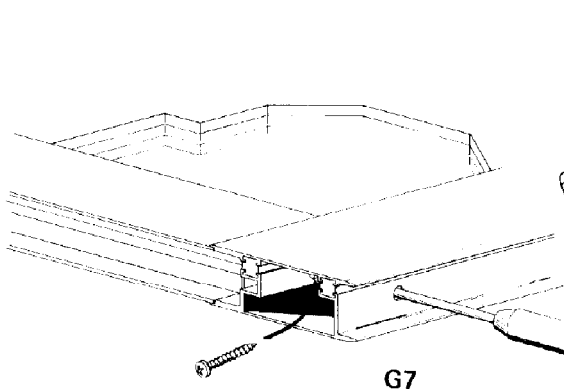
C. Place the vertical sections on to the sides of the panel with the ends in line with the outer edges of the already fitted sections. In the case of the fixed panel the shortest side of the sections should line up with the outer edges of the already fitted sections. Check that the vertical sections are correctly handed then cramp them carefully into position using the packing blocks.

Take care that the ends of the top and bottom sections fit snugly into the recesses of the vertical sections, and that the glazing gasket is seated all round with the edge of the raised section flush against the metal frame.

D. Ensure that the frame sections are straight and not bowed by carefully re-cramping them lengthwise and breadthwise in the sequence shown. G6.



E. Secure the frame joints by driving No. 10 x 1 1/8" pan-head self-tapping screws through the access holes in the vertical sections. Make sure that the joints are pulled tightly together. G7.



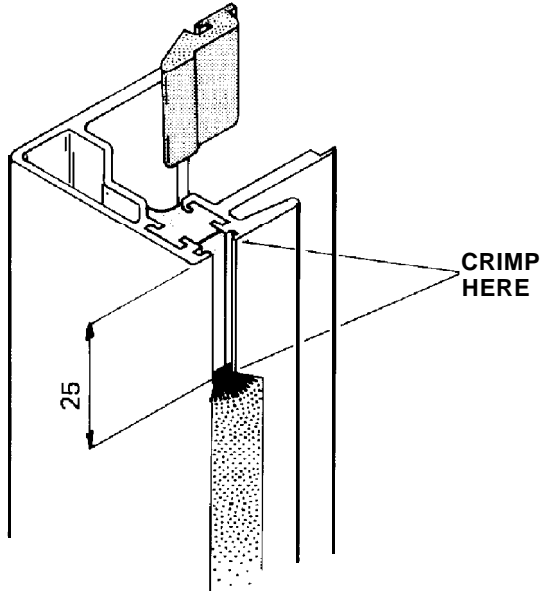
F. Blank off the screw holes with the grommets supplied. Hook the long grommet over the top end of the locking stile and sliding interlocker and tap into position in the hole using a hammer.

After assembling the sliding panel knock these plates into both ends of the sliding panel interlocker, legs to the outside to give clearance for the hole plugs.

The lower plate must be pushed past the roller adjusting screw spot.

NOTE
THE BOTTOM SECTION OF THE SLIDING PANEL MUST BE SECURED WITH **M6** x 40mm LONG MACHINE SCREWS.

FITTING THE SLIDING PANEL GUIDE BUTTON

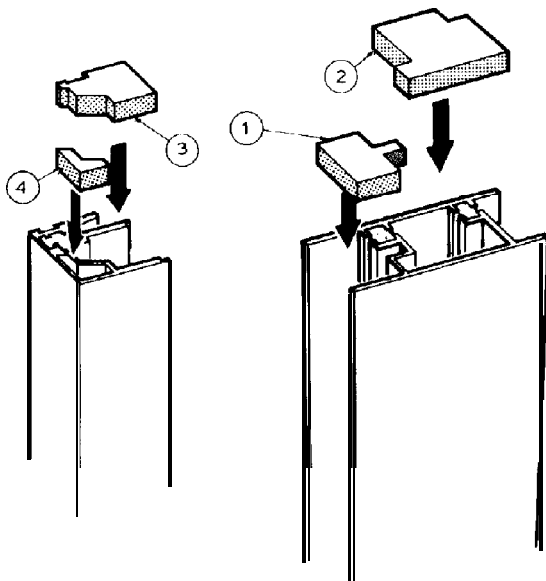


Remove approximately 25mm of the woolpile from the top end of the sliding interlocker.

Insert the guide button and crimp over the edges of the woolpile groove to prevent it from moving. G8.

G8

FITTING THE STILE/INTERLOCKER END CAPS



Compress the appropriate white plastazote end caps into the top ends of the fixed, locking and meeting stiles and interlockers, so that they remain flush with the ends of the sections. G9.

- 1 - C1150
- 2 - C1151
- 3 - C1152
- 4 - C1153

G9

3 PANEL DOORS ONLY

A. Having selected the hand of door required, glaze the sliding panel and interlocking fixed panel in the same manner as described for the 2 panel doors.

B. The other fixed panel is glazed utilising the two remaining fixed stile sections as follows:

Fit the top and bottom rails as described for the 2 panel door.

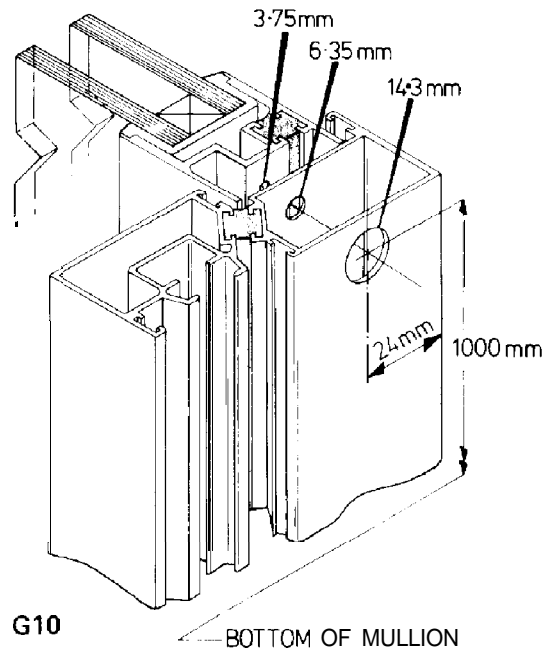
Insert the PVC wedges (1) in the ends of both top and bottom rails. G5.

Complete the glazing of the panel as described for the 2 panel door.

C. During installation the Mullion will require fixing to the one fixed panel stile.

Fixing details are included in the Assembly and Fixing instructions but it may be preferable to carry out the necessary drilling operations in the workshop.

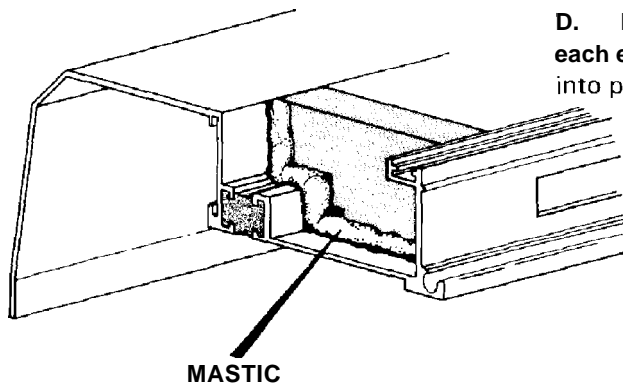
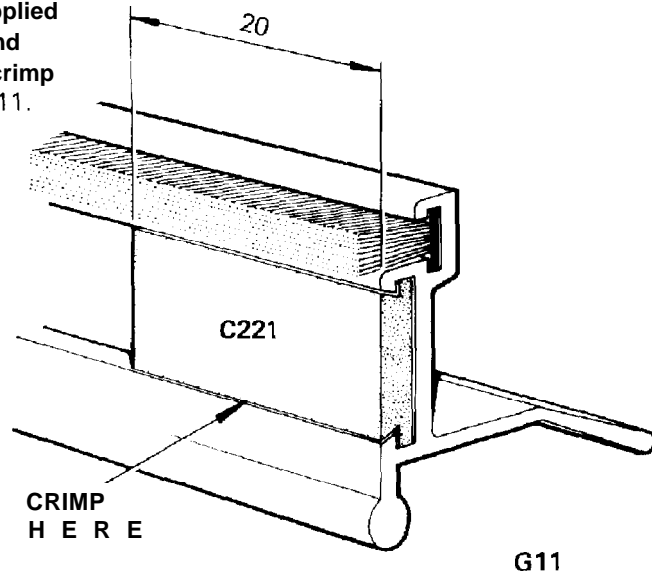
D. Clamp the fixed stile into the Mullion in their correct relationship and drill through as shown. G10.



NIGHT VENTILATORS

HOOD TYPE

- A. When cutting down, cut down the body by the difference between the required width and the standard width chosen.
- B. Divide the cut down required by the number of flaps in the assembly and cut down each flap by that amount.
- C. Cut the soft GREY PVC strip supplied in each screw kit into 20mm lengths and insert one into each end of each flap, crimp the ends of the flap to retain them.. G11.

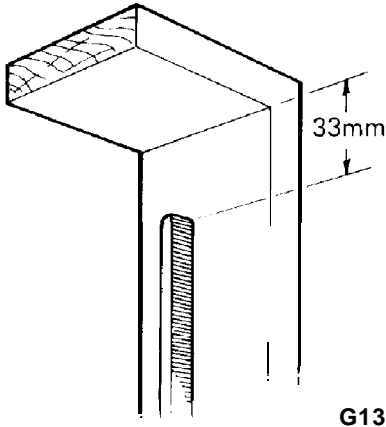


- D. Insert one of the plastazote Plugs into each end of the N.V. Hood Channel and seal into position using non-setting mastic. G12.

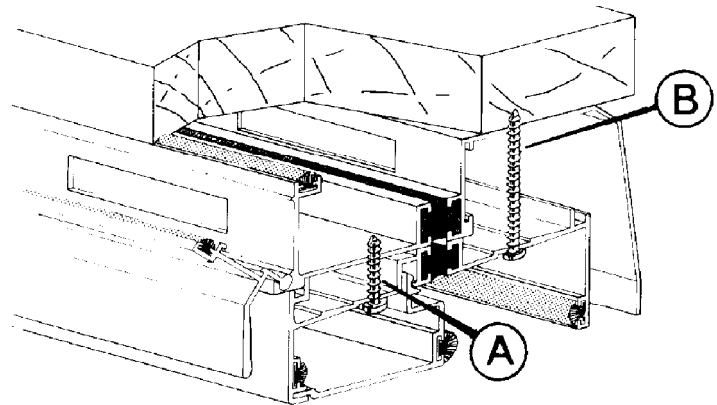
G12

NIGHT VENTILATORS

HOOD TYPE CONTINUED

**WARNING:**

THE REBATE ON THE SUB-FRAME MUST BE COMPLETELY OMITTED FROM THE HEAD SECTION AND NOTCHED BACK ON THE VERTICALS FOR 33mm (minimum) AS SHOWN IN G13.



A. Place the ventilator hood in position on the head section of the aluminium outer frame. Drill 1/8" holes at 400mm (16") intervals through both units and secure them together with No. 8 x 1" pan-head, self-tapping screws, as indicated at A, G14.

PANEL VENTILATORS

- A. Prepare the top end of the stiles as shown G. 15.
- B. When cutting down dismantle the complete assembly and cut down each extrusion separately using a common stop to ensure equality of lengths.
- C. Re-assemble and check that the vent functions correctly. (See G16 overleaf).

WARNING:

WHERE CUTTING **DOWN FROM ONE END WOULD EITHER FOWL THE MAGNET AND KEEP PLATE OR BRING THEM CLOSE TO A BRACKET, DIVIDE THE AMOUNT OF **CUTDOWN** BY TWO AND CUT **DOWN EACH END OF THE MAGNET HOUSING SECTION AND FLAP BY THAT AMOUNT.****

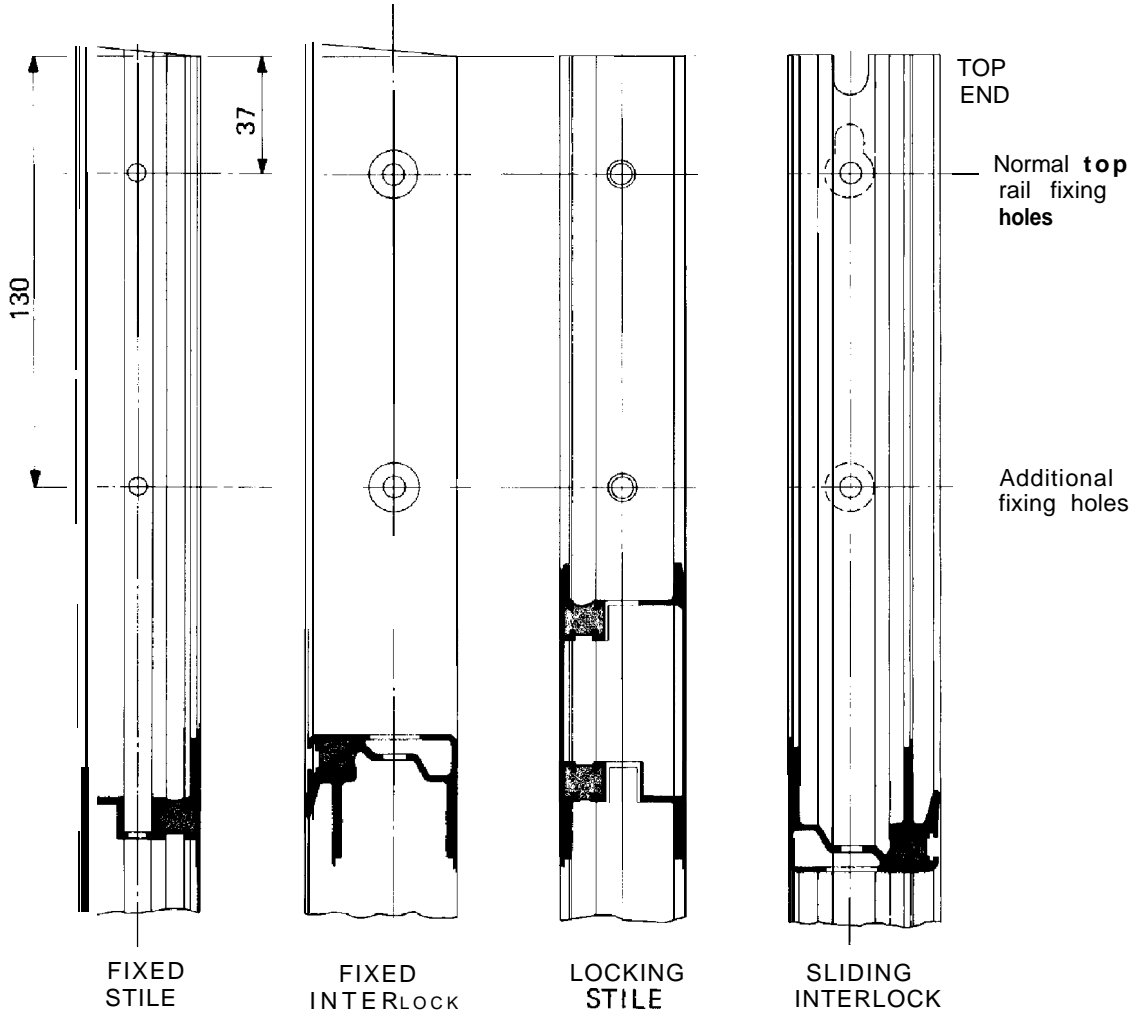
- D. For assembly on to glass panel, ease on to the top edge of the glass panel using hand pressure, but **DO NOT** use a mallet or sash cramps at this stage.
- E. Glaze the rest of the panel in the normal way and where sash cramps or a mallet becomes necessary across the height, support the full length of the top rail with a sturdy piece of timber.
- F. Fix the top rail and ventilator to the stiles using the self-tapping screws provided and insert the grommets to finish off.

WARNING:

ON COMPLETION OF GLAZING CHECK ONCE AGAIN THAT THE VENTILATOR FUNCTIONS CORRECTLY AND THAT THE FLAP IS OPERABLE FROM THE INSIDE FACE OF THE PANEL.

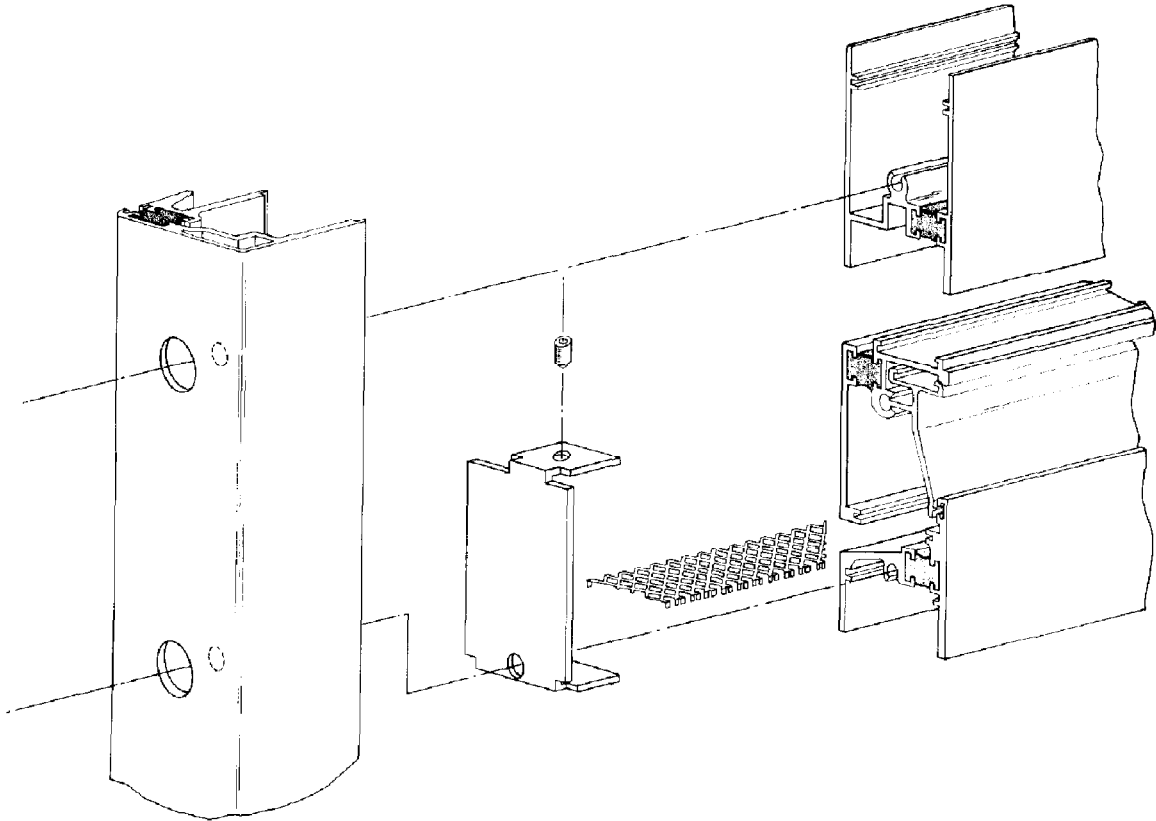
PANEL VENTILATORS CONTINUED

OX ARRANGEMENT



G.15

PANEL VENT ASSEMBLY



G16



STANDARD SIDE PANEL

24mm THERMAL **BARRIER** PATIO DOOR

THE COMPLETED PANEL REQUIRES FITTING INTO A REBATED SUB-FRAME OF EQUAL OR SLIGHTLY LARGER DIMENSIONS THAN THE PANEL ITSELF, WITH PROVISION FOR GLUEING AND SCREWING A RETAINING BEAD TO SECURE IT IN POSITION. THE THICKNESS OF THE PANEL IS 36mm.
THE FOLLOWING ITEMS ARE REQUIRED TO MAKE UP A SIDE PANEL ASSEMBLY.

ITEM	CODE	DESCRIPTION	QUANTITY
1	M705	Stile Section	Consult formulae below
2	M715	Top rail Section	Consult formulae below
3	M707	Bottom rail Section	Consult formulae below
4	F26	Pan-head self-tapping screw No.10 x 1½"	4

GLASS SCHEDULE

H = overall height of aluminium frame W = overall width of aluminium frame

WITHOUT MI D-RAIL

GLASS	
WIDTH	HEIGHT
W-54	H-88

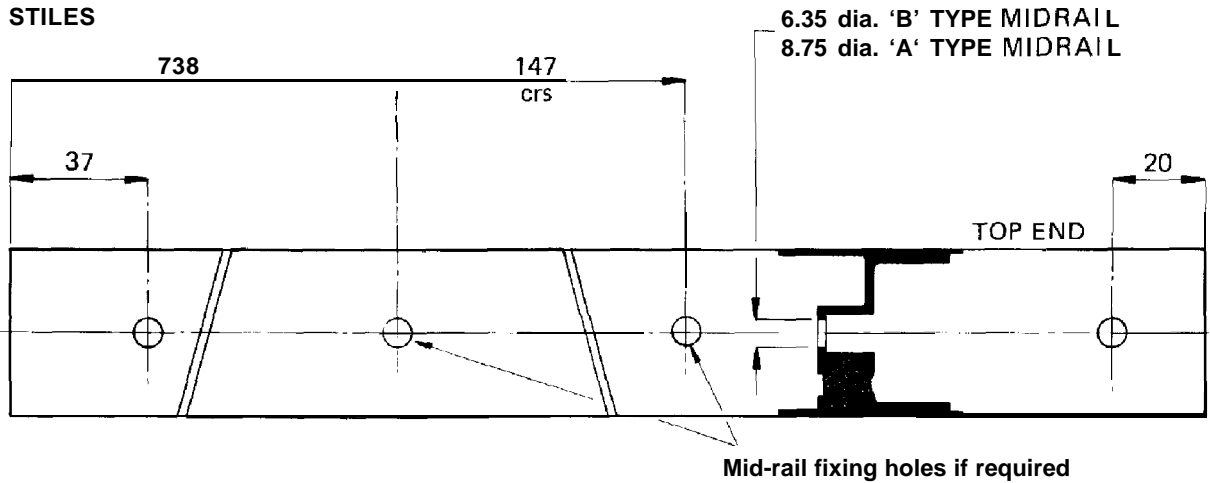
WITH MI D-RAIL

TYPE	GLASS WIDTH	GLASS HEIGHT	
		TOP PANEL	BOTTOM PANEL
A-AL	W-54	H-960	782
B-BL	w - 5 4	H-925	670

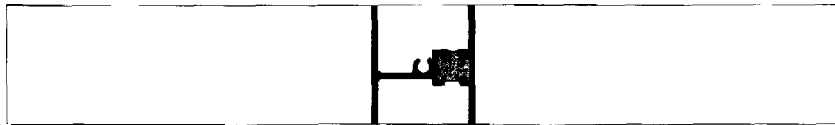
COMPONENT LENGTH FORMULAE

COMPONENT	LENGTH
Stiles	As rebate height less any fitting allowance
Top-Bottom and Mid-Rails	W-74

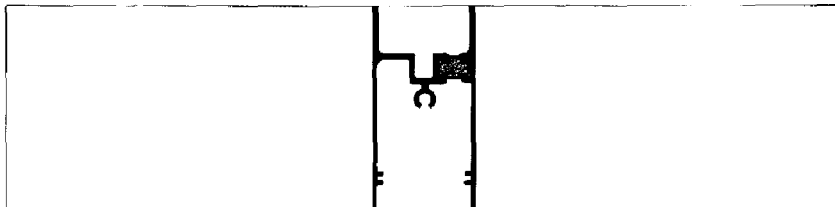
STANDARD SIDE PANEL CUTTING AND PREPARATION DETAILS



TOP RAIL



BOTTOM RAIL

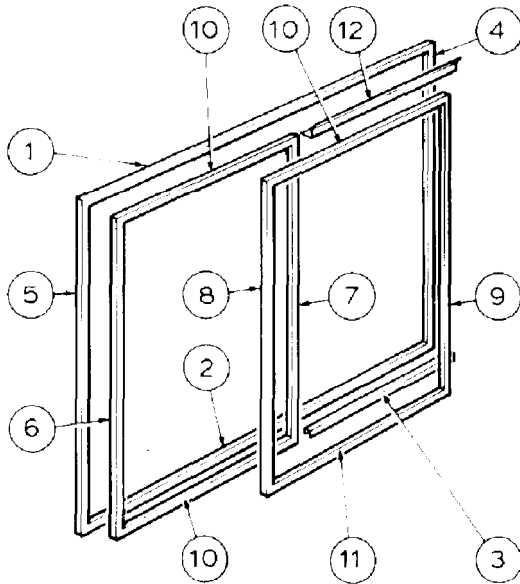


GLAZING

A Carry out the glazing procedure described on page $\frac{WP}{N}$ of these procedures placing the top and bottom rails on the panel first. Secure the corner joints with No. 10 x 1" pan-head self-tapping screws.

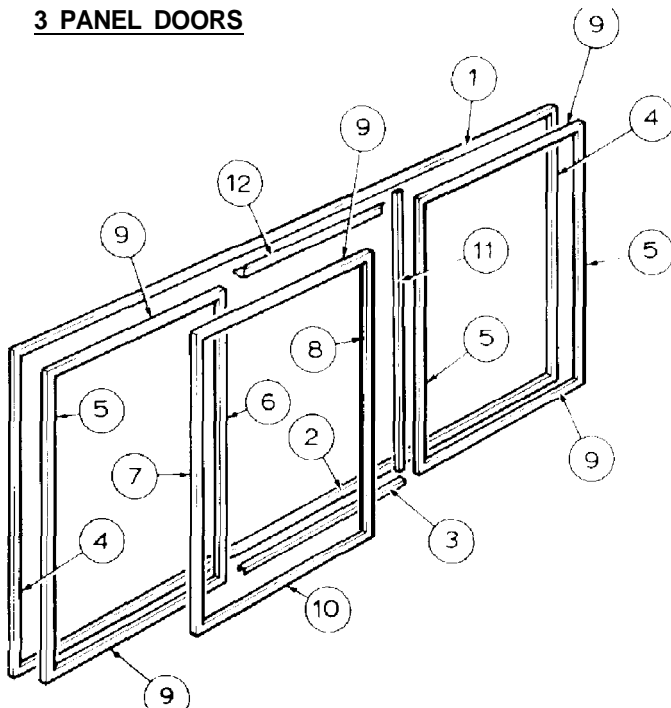


2 PANEL DOORS



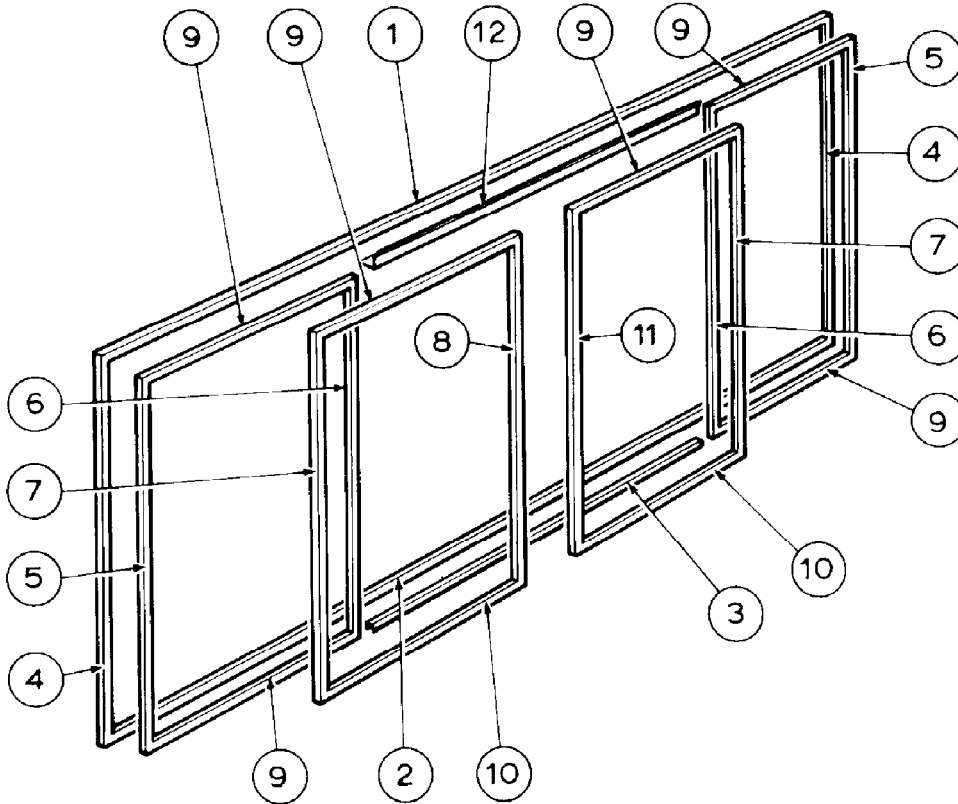
	QTY
① HD - HEAD	1
② CL - CILL	1
③ TH - THRESHOLD	1
④ LJ - LOCKING JAMB	1
⑤ FJ - FIXED JAMB	1
⑥ FS - FIXED STILE	1
⑦ FI - FIXED INTERLOCK	1
⑧ SI - SLIDING INTERLOCK	1
⑨ LS - LOCKING STILE	1
⑩ RL - RAILS	3
⑪ SR - SLIDING RAIL	1
⑫ HI - HEAD INFILL	1

3 PANEL DOORS



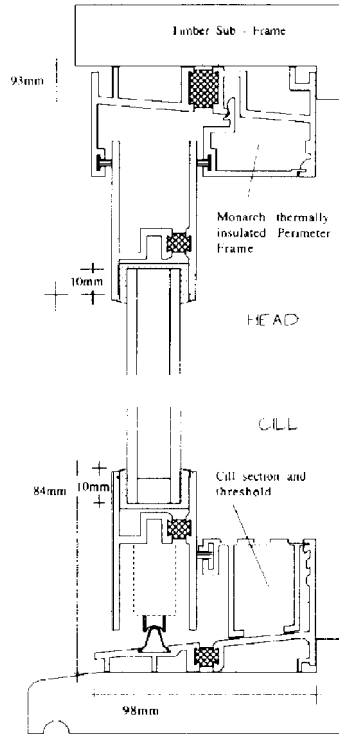
	QTY
① HD - HEAD	1
② CL - CILL	1
③ TH - THRESHOLD	1
④ FJ - FIXED JAMB	2
⑤ FS - FIXED STILE	3
⑥ FI - FIXED INTERLOCK	1
⑦ SI - SLIDING INTERLOCK	1
⑧ LS - LOCKING STILE	1
⑨ RL - RAILS	5
⑩ SR - SLIDING RAIL	1
⑪ MN - MULLION	1
⑫ HI - HEAD INFILL	1

4 PANEL DOORS

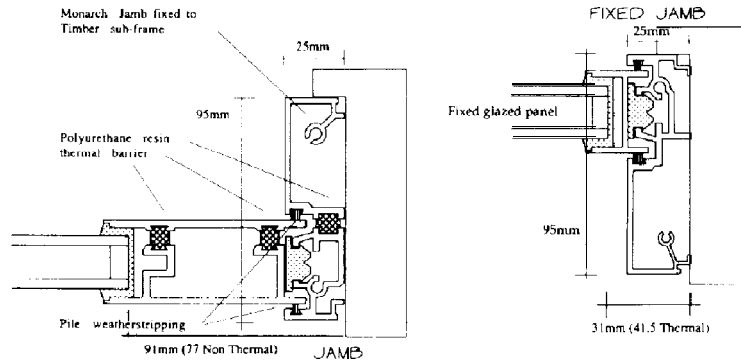


		QTY
①	HD - HEAD	1
②	CL - CILL	1
③	TH - THRESHOLD	1
④	FJ - FIXED JAMB	1 2
⑤	FS - FIXED STILE	2
⑥	FI - FIXED INTERLOCK	2
⑦	SI - SLIDING INTERLOCK	1 2
⑧	LS - LOCKING STILE	1
⑨	RL - RAILS	6
⑩	SR - SLIDING RAIL	2
⑪	MS - MEETING STILE	1
⑫	HI - HEAD INFILL	1

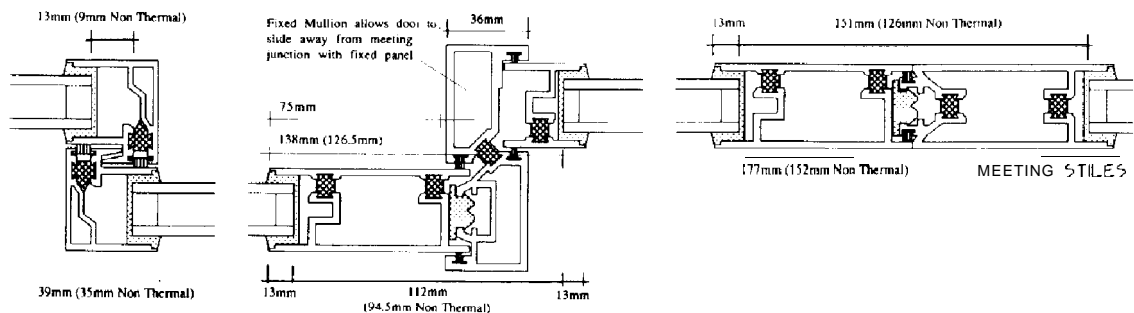
SUB-FRAME THERMAL



JAMB COMBINATIONS



INTERLOCK/STILE/MULLION COMBINATIONS





A. STANDARD REQUIREMENTS

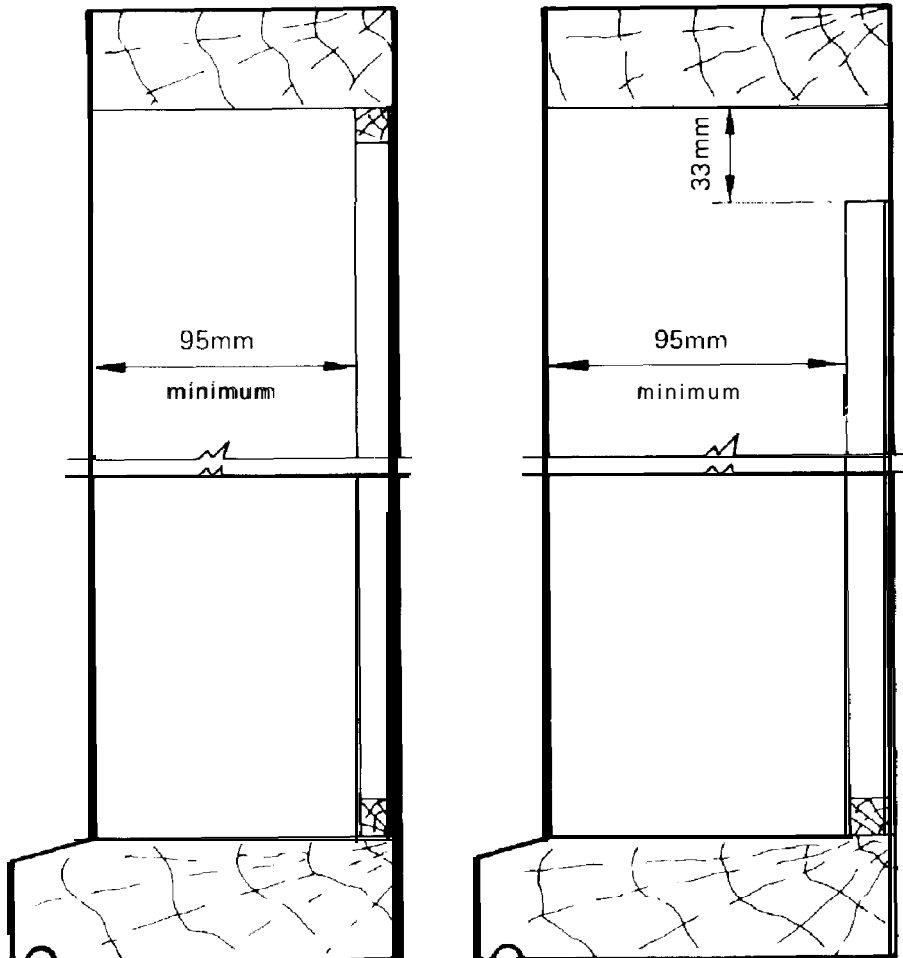
- 1** CROSS-CUT OR PIVOT SAW WITH MINIMUM TRAVERSE FOR 100mm (4") SECTION.
- 2** TUNGSTEN TIPPED SAW BLADES (REQUIRE LESS SHARPENING AND GIVE A LONGER WORKING LIFE).
- 3** HAND DRILL.
- 4** DRILL SPEED REDUCTION DEVICE TO FACILITATE RE-SITING COUNTERSUNK HOLES.
- 5** FELT OR RUBBER STRIPPED BENCH TOP OR TRESTLES TO AVOID DAMAGE DURING ASSEMBLY OR GLAZING.
- 6** SASH CRAMP AND EXTENSION BAR TO GIVE MINIMUM HOLD OF 2400mm (8'0") FOR 'H' TYPE DOORS).
- 7** No. 2 POINT POSIDRIVE SCREWDRIVER.
- 8** MAGNETIC OR CLUTCH TYPE 'POZIDRIV' SCREWDRIVER WITH No. 2 POINT.
- 9** CUTTING WAX FOR SCREW GROOVES.

B. RECOMMENDED REQUIREMENTS

- 10** STILE/INTERLOCKER DRILL JIG -C166 + CI216 (ADAPTOR).
- 1** SIMPLE BENCH DRILL TO ALLOW QUICKER AND MORE EFFECTIVE USE OF THE MONARCH DRILL JIGS.
- 1** CROPPING TOOL FOR HEAD - C1212A
- 1** CROPPING TOOL FOR CILL - C1213A

REBATING DETAILS FOR TIMBER SUB-FRAMES

All Dimensions are in mm.



WITHOUT N.V.

WITH N.V.

- NOTE:**
- 1 Recommended backstop size 12.7mm square.
 - 2 Backstop must be omitted for full length of head to incorporate a hood type night ventilator



GLASS SCHEDULE AND GASKET CALL UP

KIT SIZE		GLASS WIDTH	GLASS HEIGHT	GASKET PER KIT:COILS
WIDTH	HEIGHT			
1600	2030	841	1885	0.45
2100	2030	991	1885	0.47
2400	2030	1141	1885	0.50
2700	2030	1291	1885	0.52
3000	2030	1441	1885	0.54
2690	2030	841	1885	0.67
3590	2030	1141	1885	0.74
4490	2030	1441	1885	0.82
3570	2030	841	1885	0.89
4770	2030	1141	1885	0.99
5970	2030	1441	1885	1.10
1800	2400	841	2255	0.50
2100	2400	991	2255	0.53
2400	2400	1141	2255	0.55
2700	2400	1291	2255	0.58
3000	2400	1441	2255	0.60
2690	2400	841	2255	0.76
3590	2400	1141	2255	0.83
4490	2400	1441	2255	0.90
3570	2400	841	2255	1.01
4770	2400	1141	2255	1.11
5970	2400	1441	2255	1.20

NON STANDARD GLASS SIZE CALCULATION FORMULA WITHOUT NIGHT OR PANEL VENTILATOR		
TYPE	WIDTH	HEIGHT
2 PANE	(O/A FRAME - 118) ÷ 2	O A FRAME - 145
3 PANE	(O/A FRAME - 166) ÷ 3	O A FRAME - 145
4 PANE	(O/A FRAME - 206) ÷ 4	O A FRAME - 145



NON STANDARD GLASS SIZE CALCULATION FORMULA WITH NIGHT VENTILATOR		
TYPE	WIDTH	HEIGHT
2 PANE	$(\text{O/A FRAME} - 118) \div 2$	O/A FRAME - 175
3 PANE	$(\text{O/A FRAME} - 166) \div 3$	O/A FRAME - 175
4 PANE	$(\text{O/A FRAME} - 206) \div 4$	O A FRAME 175

REMEMBER: WHERE A **STANDARD** SIZE KIT IS BEING USED I.E. NO CUT DOWN IN HEIGHT, THE INSIDE SUB-FRAME HEIGHT MUST BE INCREASED BY 30MM TO ACCOMMODATE A NIGHT VENTILATOR.



GLASS SCHEDULE WITH PANEL VENTILATOR

KIT SIZE		GLASS WIDTH	GLASS HEIGHT
WIDTH	HEIGHT		
1800	2030	841	1795
2100	2030	991	1795
2400	2030	1141	1795
2700	2030	1291	1795
3000	2030	1441	1795
2690	2030	841	1795
3590	2030	1141	1795
4490	2030	1441	1795
3570	2030	841	1795
4770	2030	1141	1795
5970	2030	1441	1795
1800	2400	841	2165
2100	2400	991	2165
2400	2400	1141	2165
2700	2400	1291	2165
3000	2400	1441	2165
2690	2400	841	2165
3590	2400	1141	2165
4490	2400	1441	2165
3570	2400	841	2165
4770	2400	1141	2165
5970	2400	1441	2165

WARNING: THE PANEL VENTILATOR REPLACES A PORTION OF THE HEIGHT OF GLASS ONLY AND DOES NOT AFFECT THE INTERNAL DIMENSIONS OF THE TIMBER SUB FRAME.

NON STANDARD GLASS SIZE CALCULATION FORMULA WITH PANEL VENTILATOR

TYPE	WIDTH	HEIGHT
2 PANE	(O/A FRAME - 118) - 2	O/A FRAME - 235
3 PANE	(O/A FRAME - 166) - 3	O/A FRAME - 235
4 PANE	(O/A FRAME - 206) - 4	O/A FRAME - 235

FORMULAE TO CALCULATE COMPONENT LENGTHS

24mm STANDARD PATIO DOOR

PART No.	COMPONENT	2 PANEL	3 PANEL	4 PANEL
M801	HEAD	W	W	W
M802	CILL	W	W	W
M803	THRESHOLD	$\frac{W}{2} - 20.5$	$\frac{W}{3} - 16$	$\frac{W}{2} - 4$
M812	HEAD INFILL	$\frac{W}{2} - 20.5$	$\frac{W}{3} - 16$	$\frac{W}{2} - 4$
M804	JAMB	H-15	H-15	H-15
M805	FIXED STILE	H-35	H-35	H-35
M806	FIXED INTERLOCK	H-34	H-34	H-34
M806	SLIDING INTERLOCK	H-41	H-41	H-41
M813	LOCKING STILE	H-41	H-41	H-41
M808	MEETING STILE	-	-	H-41
M809	MULLION	-	H-19	-
M807	TOP RAIL	$\frac{W}{2} - 78.5$	$\frac{W}{3} - 75$	$\frac{W}{4} - 71.5$
M810	BOTTOM RAIL	$\frac{W}{2} - 78.5$	$\frac{W}{3} - 75$	$\frac{W}{4} - 71.5$
M811	NIGHT VENT BODY	W	W	W
M414	NIGHT VENT FLAP	$\frac{W}{\text{NO OF FLAPS}}$	$\frac{W}{\text{NO OF FLAPS}}$	$\frac{W}{\text{NO OF FLAPS}}$
M814/815	MIDRAIL(S)/PANEL VENT	AS TOP/BOTTOM RAIL		

STANDARD **MIDRAIL** HEIGHTS - Underside of frame to midrail centre line

- A - 885mm
- B - 812mm
- R - 892mm

Notes

- 1 All dimensions are in mm
- 2 Where components have an angled bar-end preparation dimensions are taken over longest edge of the angle.
- 3 W is total metal-to-metal width of patio door outer frame
- 4 H is total metal-to-metal height of patio door outer frame – exclusive of night ventilator.
- 5 Please use cutting schedule after reading cutting down details in Monarch workshop procedure manual for Patio Door.



PATIO DOOR MID-RAILS GLASS FORMULAE

H = overall aluminium frame height
(including hood type ventilator when fitted)

W = overall aluminium frame width

Infill panel height on types B and BL = 127mm

FORMULA WITHOUT NIGHT VENTILATOR OR PANEL VENTILATOR

MID-RAIL TYPE	TOP PANE HEIGHT	BOTTOM PANE HEIGHT
A	H - 1007mm	772mm
B & BL	H - 972mm	660mm

FORMULA WITH NIGHT VENTILATOR (HOOD TYPE)

MID-RAIL TYPE	TOP PANE HEIGHT	BOTTOM PANE HEIGHT
A	H - 1037mm	772mm
B & BL	H - 1002mm	660mm

FORMULA WITH PANEL VENTILATOR

MID-RAIL TYPE	TOP PANE HEIGHT	BOTTOM PANE HEIGHT
A	H - 1097mm	772mm
B & BL	H - 1062mm	660mm

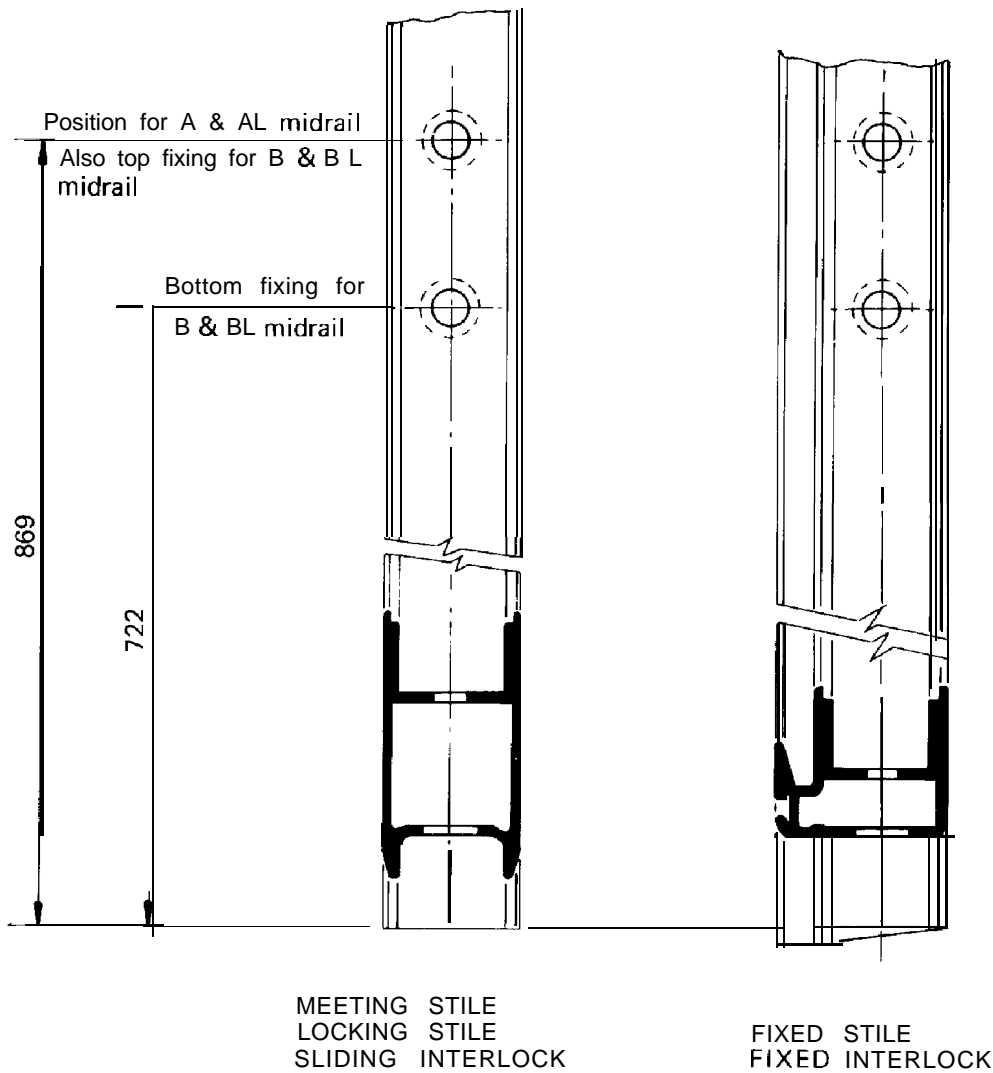
PANE WIDTHS (INCLUDING INFILL PANEL)

2 PANE DOORS	3 PANE DOORS	4 PANE DOORS
$\frac{W - 118}{2}$	$\frac{W - 166}{3}$	$\frac{w - 206}{4}$

MID-RAILS CONTINUED

FIXING HOLE POSITION(S)

USE C173 DRILL 14.3/8.75 DIA WHEN FIXING AN 'A' TYPE MIDRAIL
 USE C171 DRILL 14.3/6.35 DIA WHEN FIXING A 'B' TYPE MIDRAIL



RECESSED THERMALLY BROKEN MIDRAIL

To allow a complete letterplate kit to be fitted to a patio door one piece midrail, a recessed midrail extrusion is available.

Lengths are as 'A' midrail.

Although thermally broken this midrail can be used in non-thermal patios.

The new midrail allows letterplates to be fitted to fixed or sliding panels provided the recessed side is correctly positioned, i.e.

- Sliding panel - towards the inside.
- Fixed panel - towards the outside.

Profiled waterproof black foam bungs (C1299) are available to seal off each end of the recess.

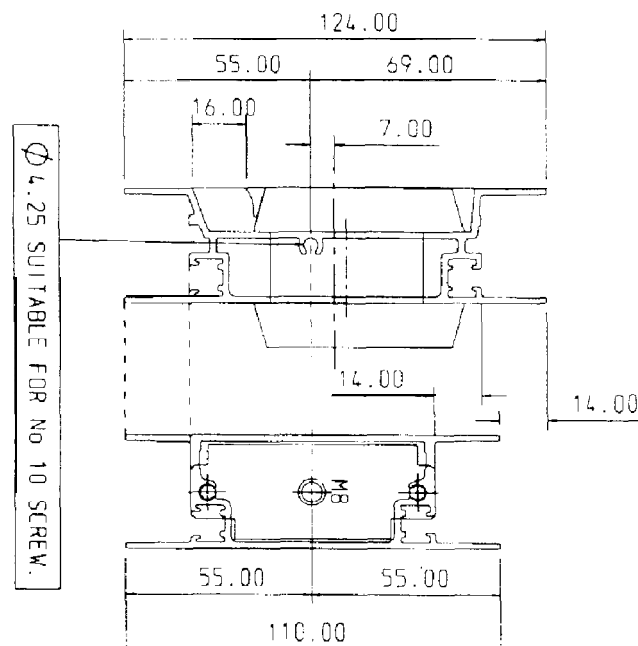
This rail has a depth of 124mm. The screw port is the same distance from the bottom of the rail as on the 'A' midrail - see illustration - and takes a No. 10 self tapping screw.

Effect on glass formulae
Width - no change.

Heights
Non-thermal

	Top Pane	Bottom Pane
No vent	H-I 021	772
Night vent *	H-I 051	772
Panel vent	H-1111	772

Remember: For woodfix patios 'H' in the above night vent formulae includes the vent.

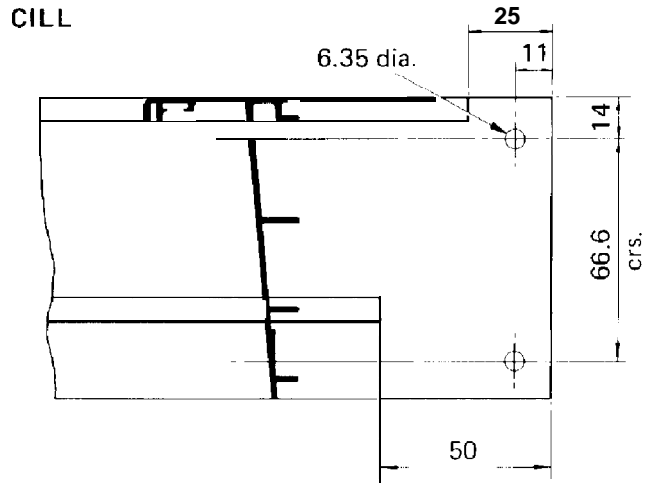


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CUTTING DOWN HORIZONTAL SECTIONS

HEADS AND CILLS

Cut down from the left hand end (as viewed from the outside) by the difference between the required width and the nearest standard width and prepare the end as detailed.



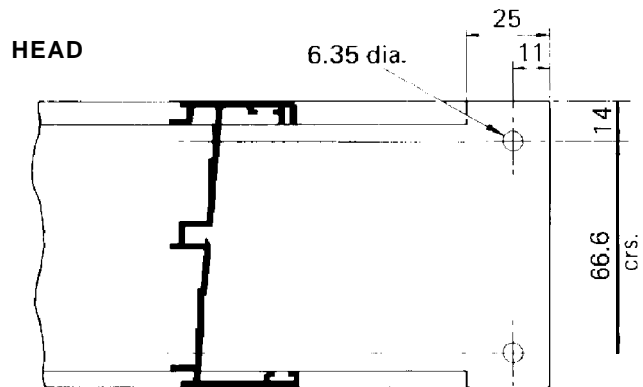
THRESHOLD AND HEAD INFILL

Cut down from one end and replace the fixing hole if required.

Calculate the cut down as follows:

2 and 4 Pane Doors
 $(\text{standard width} - \text{required width}) \div 2$

3 Pane Doors
 $(\text{standard width} - \text{required width}) \div 3$



FIXED AND SLIDING RAILS

Cut down from one end and replace the fixing holes in the sliding rail as detailed.

Calculate the cut down as follows:

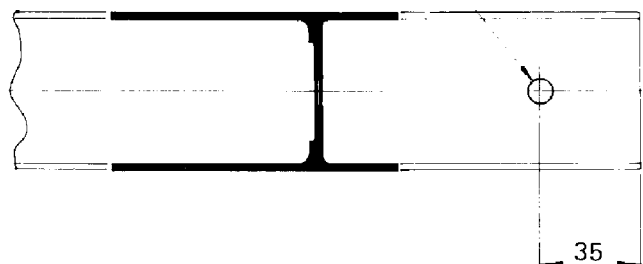
2 Pane Doors
 $(\text{standard width} - \text{required width}) \div 2$

3 Pane Doors
 $(\text{standard width} - \text{required width}) \div 3$

4 Pane Doors
 $(\text{standard width} - \text{required width}) \div 4$

SLIDING RAIL

Roller fixing hole 5.5 dia.





CUTTING DOWN VERTICAL COMPONENTS

THIS PAGE SHOULD BE READ WITH REFERENCE TO WPL and WPM.

NB CUT DOWN ALL VERTICAL SECTIONS FROM THE TOP

A. Lay the contents of the box out in order of assembly and determine the tops and bottoms of the vertical components. Refer to WPL and WPM.

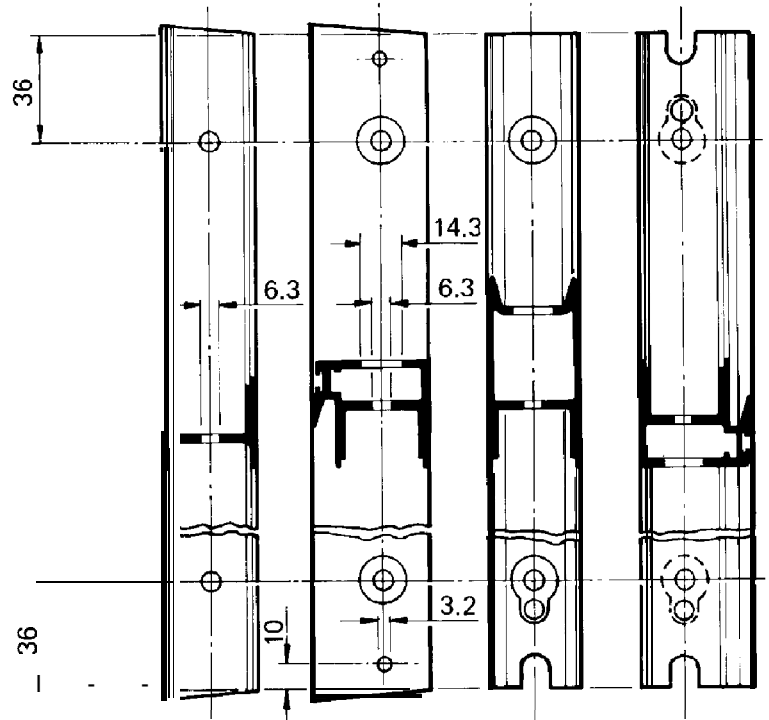
B. Calculate the new lengths required and cut the sections to these lengths and if necessary re-prepare ends.

DRILL JIG USAGE (C166 & C1216)
 USE THE SMALL SPACER AROUND THE MAIN POST OF THE DRILL JIG FOR RE-DRILLING HOLES IN COMPONENTS THAT HAVE SQUARE CUT END PREPARATIONS. REMOVE FOR RE-DRILLING ANGLE CUT COMPONENTS.

COMPONENT	CUT DOWN	RE-PREPARATION(S) REQUIRED
Locking Jamb	Either End	Cut 5° angle only
Fixed Jamb	Either End	Cut 5° angle only
Fixed Stile	Either End	Cut 5° angle, re-drill 6.3mm hole
Locking Stile	Top End	Cut Square, re-drill 14.3/6.3mm holes
Meeting Stile	Top End	Cut Square, re-drill 14.3/6.3mm holes
Sliding Interlock	Top End	Cut Square, re-drill 14.3/6.3mm holes
3 Pane Mullion	Top End	Cut 5° angle and re-prepare end as detailed
Fixed Interlock	Top End	Cut 5° angle, re-drill 14.3/6.3mm and 3.175mm (1/8") holes.

OX ARRANGEMENT

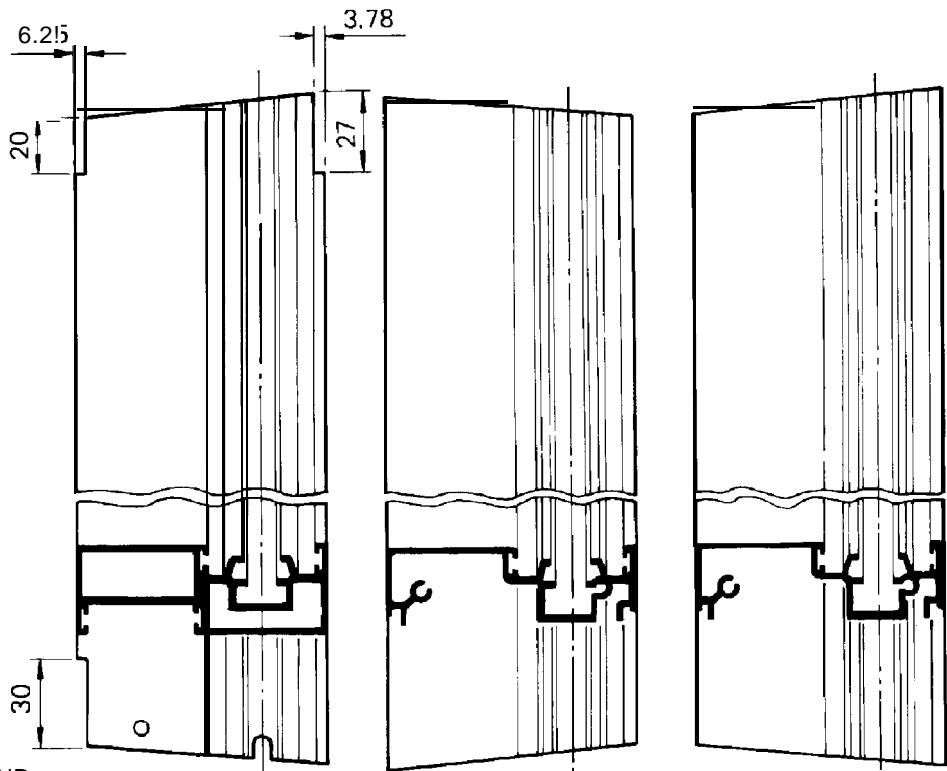
TOP END



BOTTOM END

FIXED STILE FIXED INTERLOCK LOCKING STILE SLIDING INTERLOCK

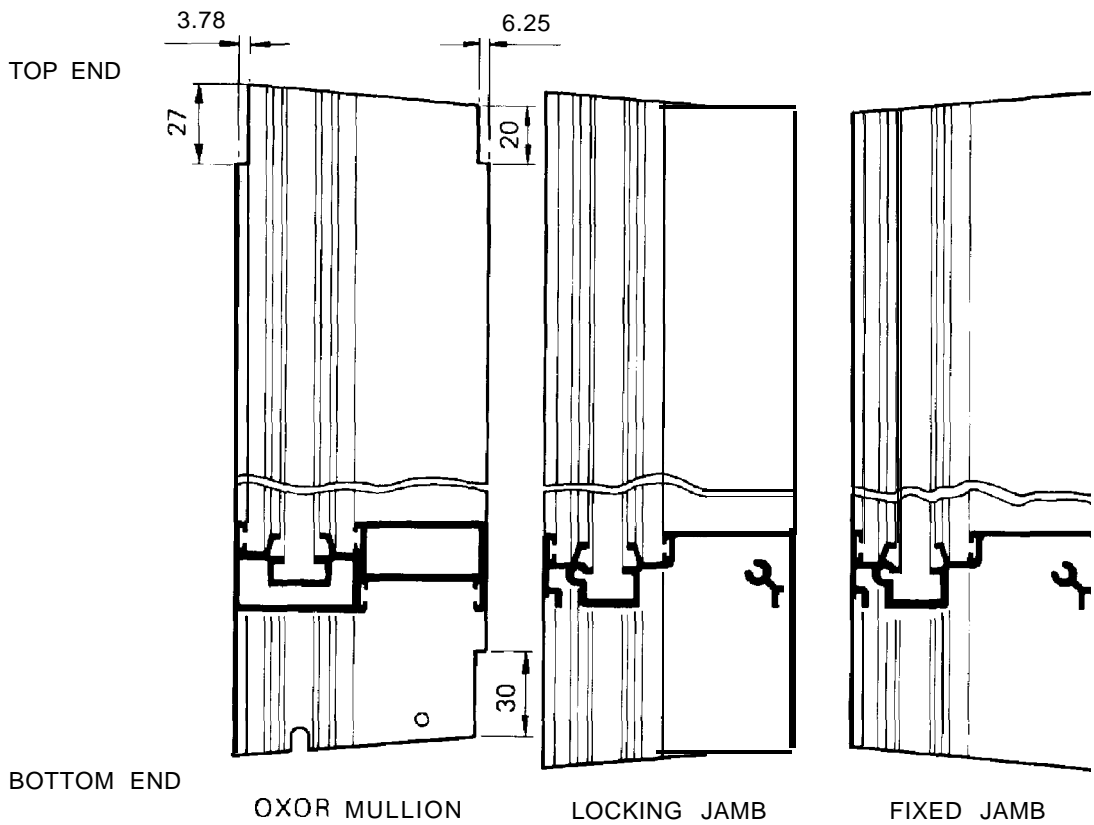
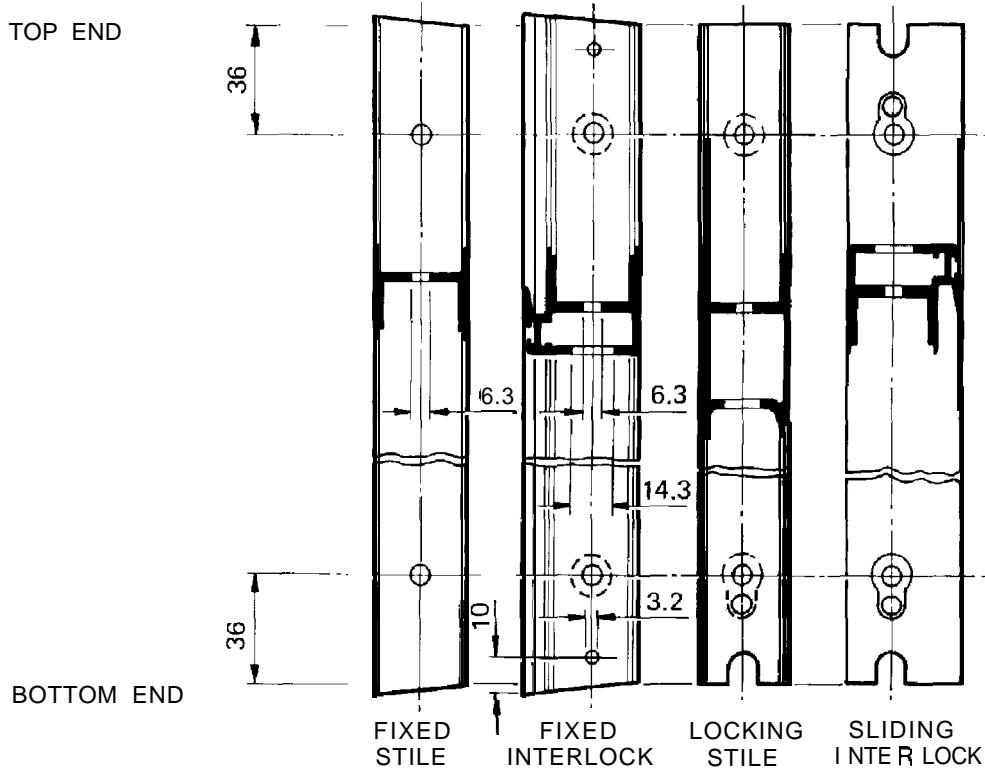
TOP END



BOTTOM END

OXOL MULLION FIXED JAMB LOCKING JAMB

XO ARRANGEMENT



GLAZING INSTRUCTIONS

SPECIAL NOTE

All glazing should be carried out in strict accordance with BS 6262

THESE INSTRUCTIONS COVER 20, 22, 24, 25 AND 26mm DOUBLE AND 4 AND 6mm SINGLE GLAZED UNITS.
THE GASKET MUST NOT BE STRETCHED DURING FITTING OTHERWISE SHRINKAGE WILL OCCUR LATER.



C1274-4mm
C1218-6mm

SINGLE GLASS



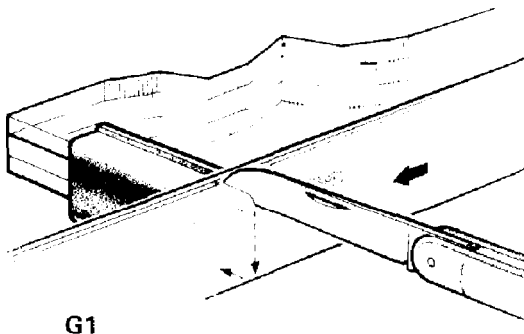
C1224-20mm
C1225-22mm
C1203-24mm

DOUBLE GLASS



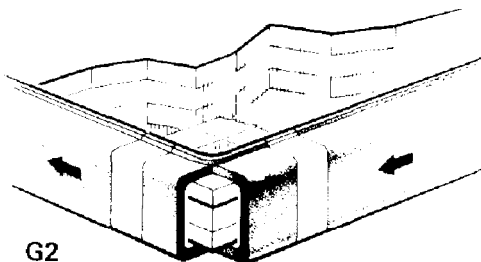
C1253-25mm
C1254-26mm

- A. Check the contents of the box and lay the panel sections on trestles in the order of assembly. Leave the outer frame members in the box.
- B. Support the glass panel on two trestles that are narrower than the width of the panel. Select the correct glazing gasket and cut a length sufficient to wrap round all the edges of the panel, plus approximately 100mm (4") for overlap and cutting. Cut one additional section of glazing gasket approximately 50mm (2") long for use as a slicing template.



G1

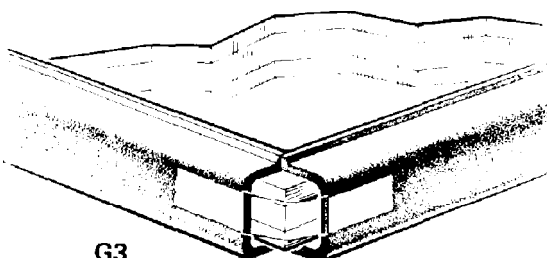
- C. Start approximately 12mm ($\frac{1}{2}$ ") from the top right-hand corner of the panel, wrap the channel of the glazing gasket along the edge of the glass and allow it to extend beyond the bottom corner of the panel. Place the slicing template on the bottom edge of the glass, butting up to the gasket. Cut through the body of the gasket in line with the raised edge of the slicing template, but **DO NOT CUT THROUGH THE RAISED EDGE OF THE GASKET THAT IS BEING FITTED.** G1.



G2

- D. Bend the gasket 90° round the bottom corner of the panel and hold it in position with adhesive tape. G2.

- E. Continue wrapping the gasket along the edge of the panel and repeat the slicing process at each corner. When all the edges have been covered, use the already fitted gasket as the template for the final cut and hold the two ends in position by placing adhesive tape along the exposed back of the gasket ends. G3.



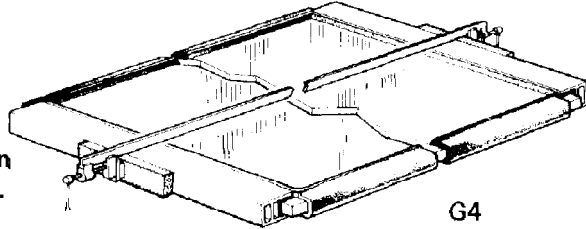
G3

- F. When using patterned glass, it is recommended that the patterned glass side is glazed to the inside to ensure maximum sealing of glass to gasket on the outside.

FITTING THE ALUMINIUM FRAME SECTIONS

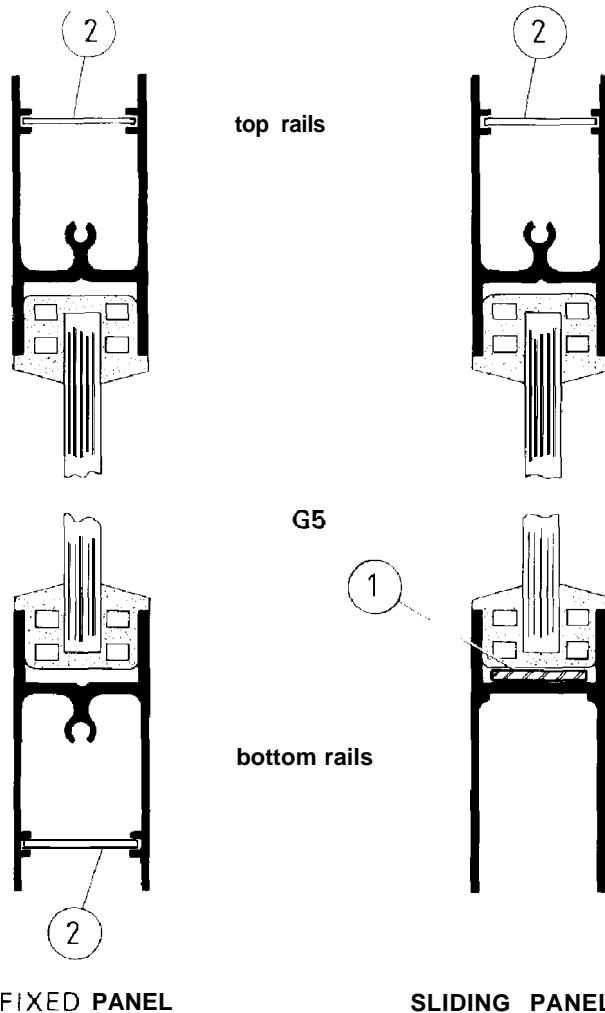
A. Stick two self adhesive setting blocks into the bottom of the glazing channel of each sliding rail. Position blocks adjacent to each roller fixing screw. ① G5.

Place the top and bottom sections on to the top and bottom edges of the panel, leaving an equal amount of panel showing at either end.



NOTE:
FOR GLAZING OF MID-RAILS
REFER TO MONARCH
ENTRANCE DOOR WORKSHOP
PROCEDURES

Carefully cramp the top and bottom sections into position using 300mm minimum packing blocks to prevent damage. G4.



B. In the ends of each fixed panel rail and in each end of the top sliding rail insert one of the PVC wedges ② G5.

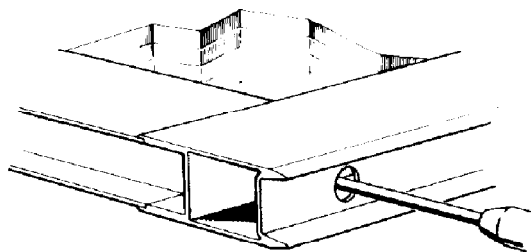
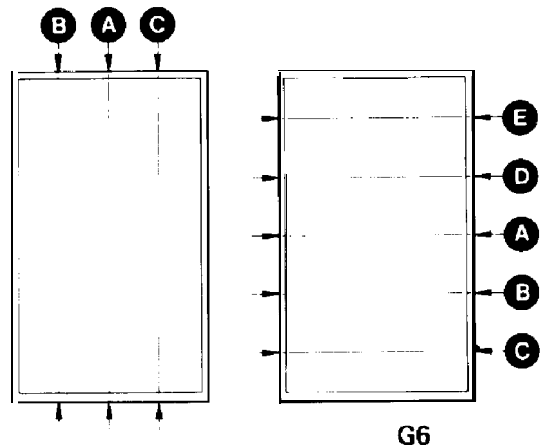
FITTING THE ALUMINIUM FRAME SECTIONS CONTINUED

C. Place the vertical sections on to the sides of the panel with the ends in line with the outer edges of the already fitted sections. In the case of the fixed panel the shortest side of the sections should line up **with the** outer edges of the already fitted sections. Check that the vertical sections are correctly handed then cramp them carefully into position using the packing blocks.

Take care that the ends of the top and bottom sections fit snugly into the recesses of the vertical sections, and that the glazing gasket is seated all round with the edge of the raised section flush against the metal frame.

D. Ensure that the frame sections are straight and not bowed by carefully re-cramping them lengthwise and breadthwise **in the sequence shown. G6.**

E. **Secure the frame joints by driving No. 10 x 1 1/2" pan head self-tapping screws through the access holes in the vertical sections. Make sure that the joints are pulled tightly together. G7.**

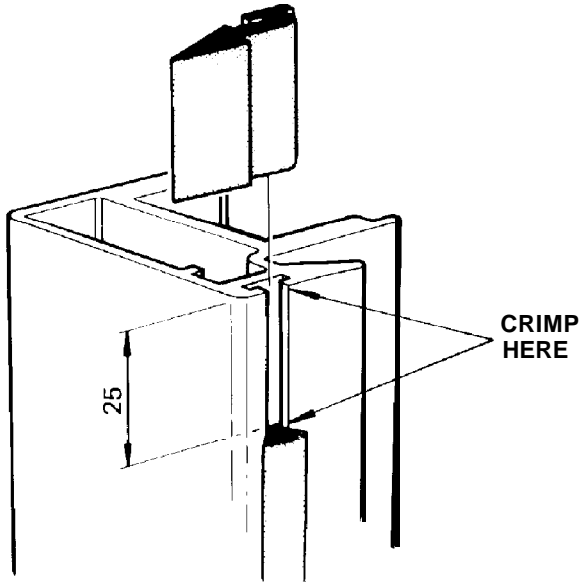


G7

F. **Blank off the screw holes with the grommets supplied. Hook the long grommet over the top end of the locking stile and sliding interlocker and tap into position in the hole using a hammer.**

NOTE

THE BOTTOM SECTION OF THE SLIDING PANEL MUST BE SECURED **WITH M6 x 40mm LONG MACHINE SCREWS.**

FITTING THE SLIDING PANEL GUIDE BUTTON

Remove approximately 25mm of the woolpile from the top end of the sliding interlocker.

Insert the guide button and crimp over the edges of the woolpile groove to prevent it from moving. G8.

G8

3 PANEL DOORS ONLY

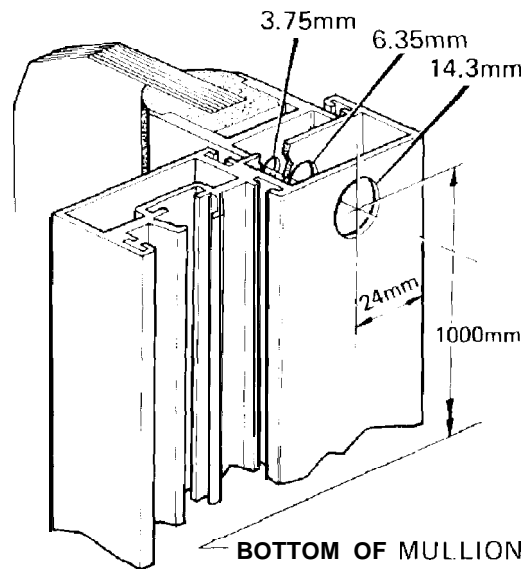
- A. Having selected the hand of door required, glaze the sliding panel and interlocking fixed panel in the same manner as described for the 2 panel doors.
- B. The other fixed panel is glazed utilising the two remaining fixed stile sections as follows:
- Fit the top and bottom rails as described for the 2 panel door.
- Insert the PVC wedges ① in the ends of both top and bottom rails. G5.
- Complete the glazing of the panel as described for the 2 panel door.

MULLION

- C. During installation the Mullion will require fixing to the one fixed panel stile.

Fixing details are Included in the Assembly and Fixing instructions but it may be preferable to carry out the necessary drilling operations in the workshop.

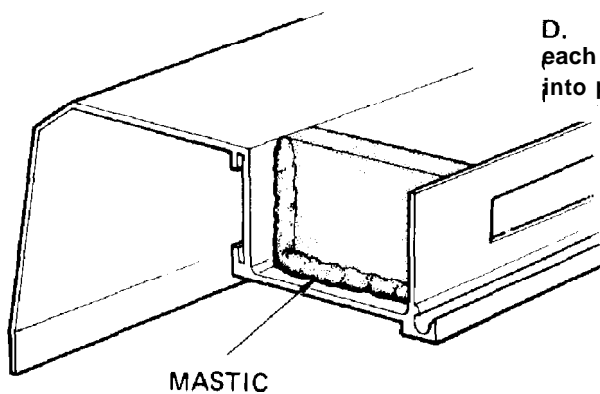
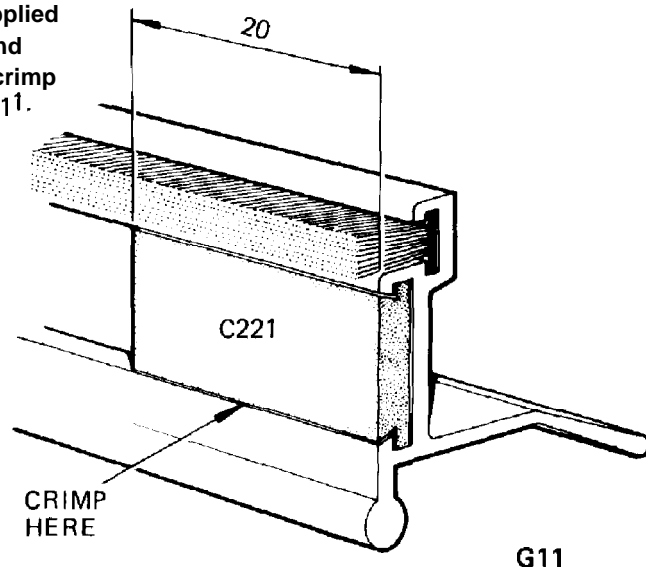
- D. Clamp the fixed stile into the Mullion in their correct relationship and drill through as shown. G 10.



G10

NIGHT VENTILATORS**HOOD TYPE**

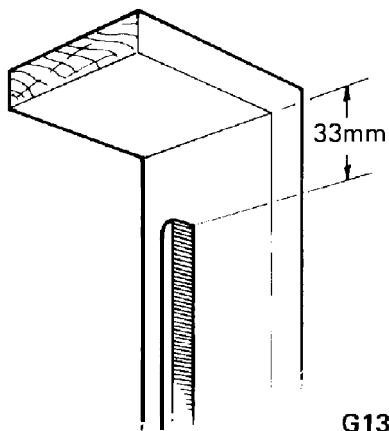
- A. When cutting down, cut down the body by the difference between the required width and the standard width chosen.
- B. Divide the cut down required by the number of flaps in the assembly and cut down each flap by that amount.
- C. Cut the soft GREY PVC strip supplied in each screw kit into 20mm lengths and insert one into each end of each flap, crimp the ends of the flap to retain them. G11.



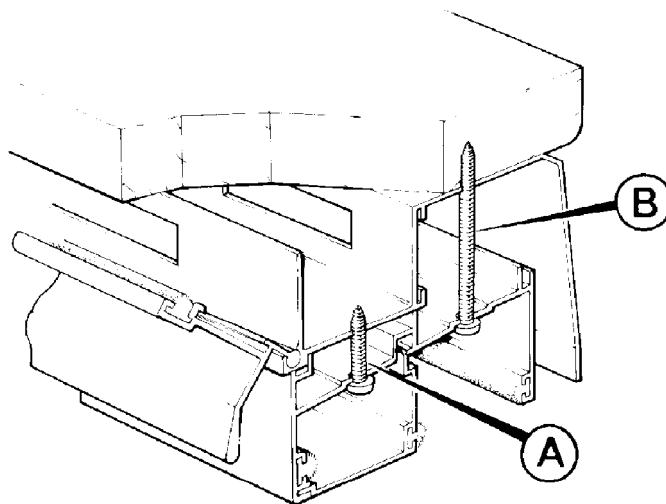
- D. Insert one of the plastazote Plugs into each end of the N.V. Hood Channel and seal into position using non-setting mastic. G 12.

NIGHT VENTILATORS

HOOD TYPE CONTINUED



WARNING:
THE REBATE ON THE SUB-FRAME
MUST BE COMPLETELY OMITTED
FROM THE HEAD SECTION AND
NOTCHED BACK ON THE VERTICALS
FOR 33mm (minimum) AS SHOWN IN
G13.



A. Place the ventilator hood in position on the head section of the aluminium outer frame. Drill 1/8" holes at 400mm (16") intervals through both units and secure them together with No. 8 x 1" pan-head, self-tapping screws, as indicated at A, G14.

PANEL VENTILATORS

- A. Prepare the top end of the stiles as shown G. 15.
- B. When cutting down dismantle the complete assembly and cut down each extrusion separately using a common stop to ensure equality of lengths.
- C. Re-assemble and check that the vent functions correctly. (See G16 overleaf).

WARNING:
WHERE CUTTING DOWN FROM ONE END WOULD EITHER FOUL THE MAGNET AND KEEP PLATE OR **BRING** THEM CLOSE TO A BRACKET, **DIVIDE** THE AMOUNT OF **CUTDOWN BY TWO** AND CUT DOWN EACH END OF THE MAGNET HOUSING SECTION AND FLAP BY THAT AMOUNT.

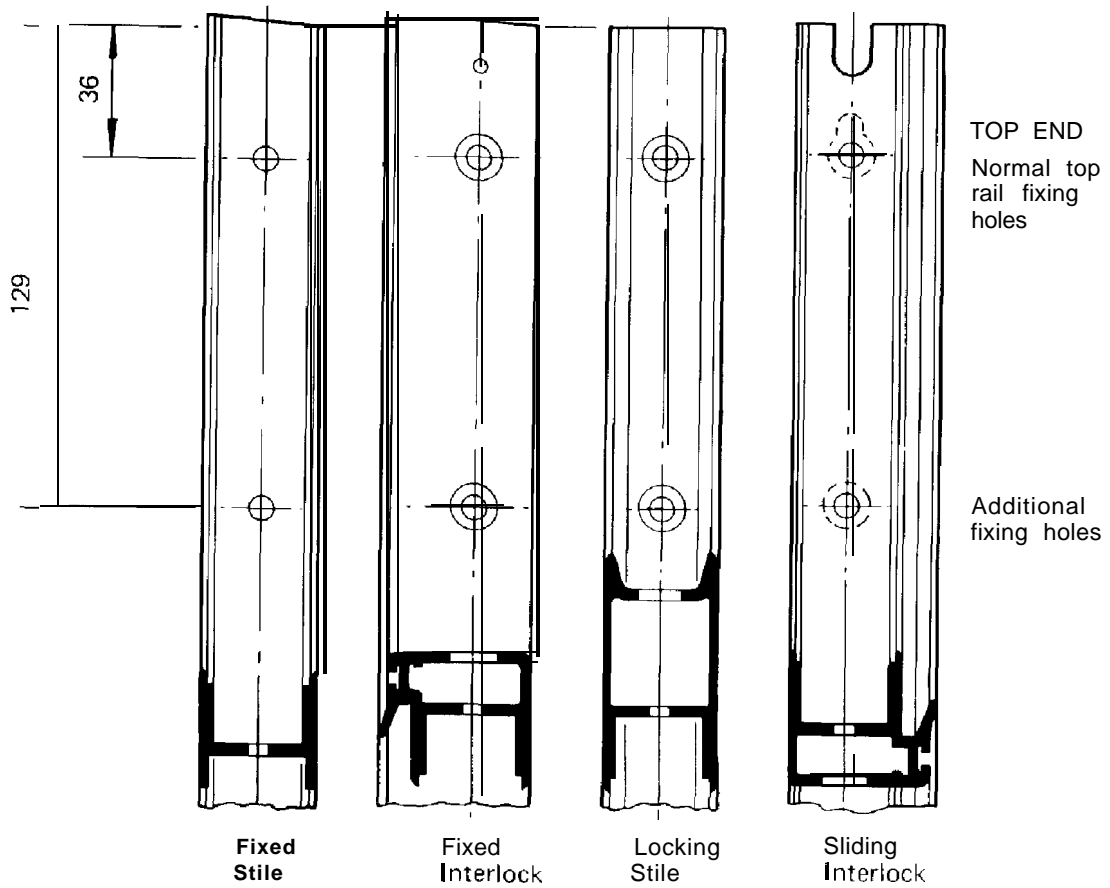
- D. For assembly on to glass panel, ease on to the top edge of the glass panel using hand pressure, but **DO NOT** use a mallet or sash cramps at this stage.
- E. Glaze the rest of the panel in the normal way and where sash cramps or a mallet becomes necessary across the height, support the full length of the top rail with a sturdy piece of timber.
- F. Fix the top rail and ventilator to the stiles using the self-tapping screws provided and insert the grommets to finish off.

WARNING:
ON **COMPLETION** OF GLAZING CHECK ONCE AGAIN THAT THE VENTILATOR FUNCTIONS CORRECTLY **AND THAT THE FLAP IS OPERABLE FROM THE INSIDE FACE OF THE PANEL.**



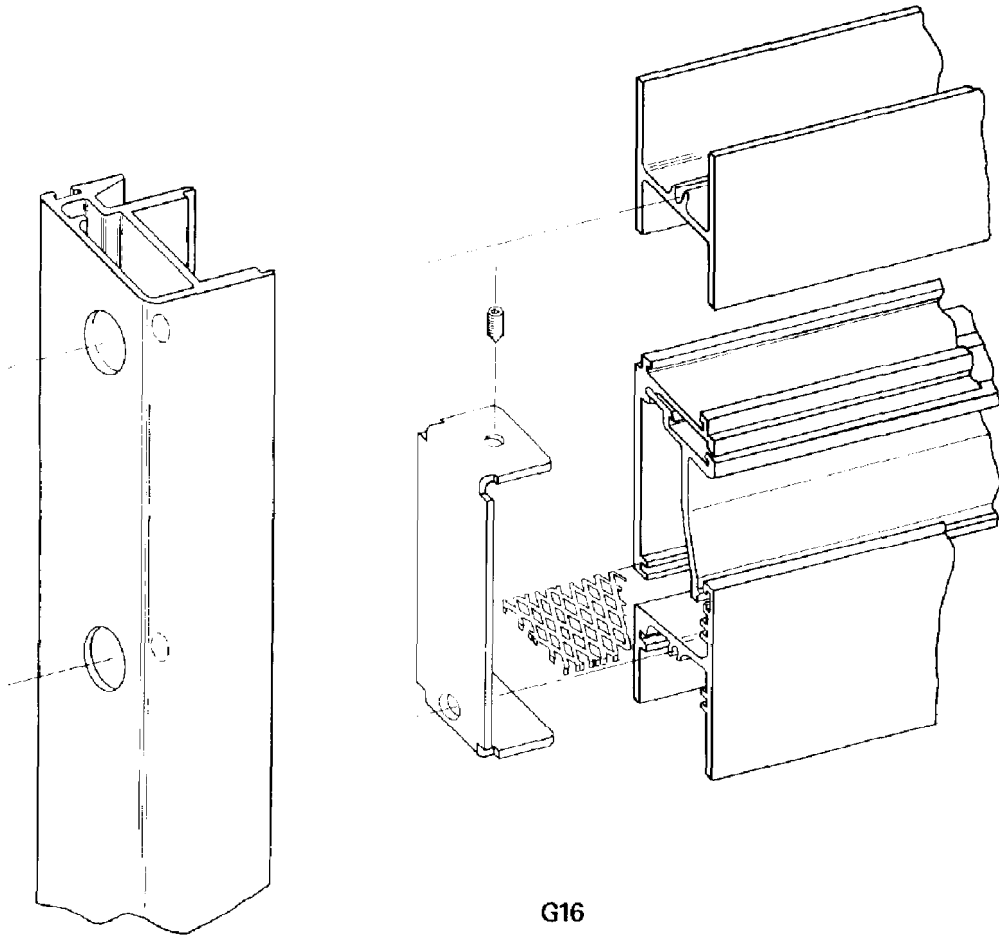
PANEL VENTILATORS CONTINUED

OX ARRANGEMENT



G15

PANEL VENT ASSEMBLY



G16

**STANDARD SIDE PANEL**

24mm STANDARD PATIO DOOR

THE COMPLETED PANEL REQUIRES FITTING INTO A REBATED SUB-FRAME OF EQUAL OR SLIGHTLY LARGER DIMENSIONS THAN THE PANEL ITSELF, WITH PROVISION FOR GLUING AND SCREWING A RETAINING BEAD TO SECURE IT IN POSITION. THE THICKNESS OF THE PANEL IS 36mm.

THE FOLLOWING ITEMS ARE REQUIRED TO MAKE UP A SIDE PANEL ASSEMBLY.

ITEM	CODE	DESCRIPTION	QUANTITY
1	M805	Stile Section	Consult formulae below
2	M815	Top rail Section	Consult formulae below
3	M807	Bottom rail Section	Consult formulae below
4	F26	Pan-head self-tapping screw No.10 x 1 1/2"	4

GLASS SCHEDULE

H = overall height of aluminium frame W = overall width of aluminium frame

WITHOUT MID-RAIL

GLASS	
WIDTH	HEIGHT
W-33	H-82

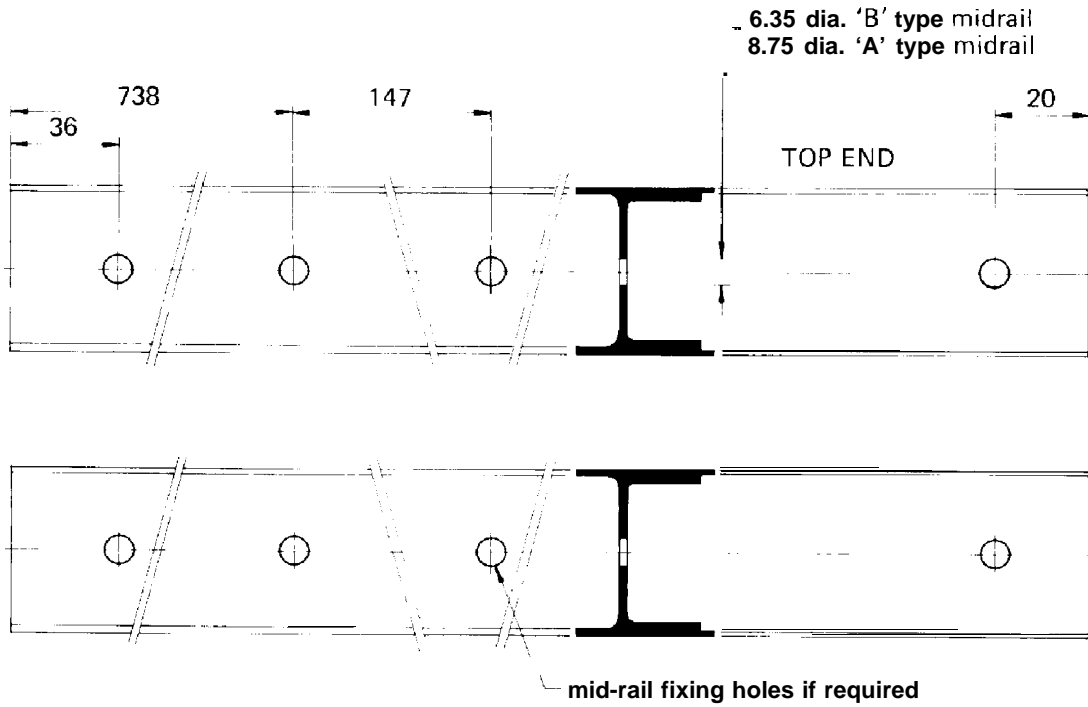
WITH MID-RAIL

TYPE	GLASS WIDTH	GLASS HEIGHT	
		TOP PANEL	BOTTOM PANEL
A-AL	W-33	H-960	788
B-BL	W-33	H-925	676

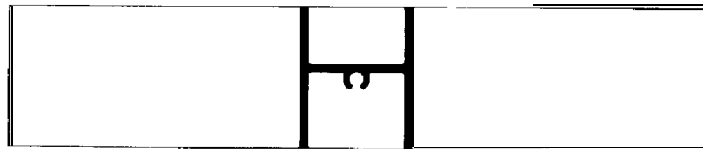
COMPONENT LENGTH FORMULAE

COMPONENT	LENGTH
Stiles	As rebate height less any fitting allowance
Top-Bottom and Mid-Rails	W-53

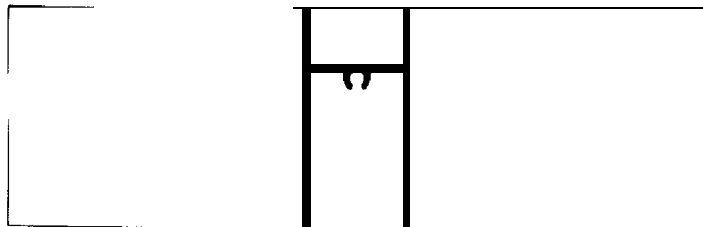
STANDARD SIDE PANEL CUTTING AND PREPARATION DETAILS



TOP RAIL



BOTTOM RAIL

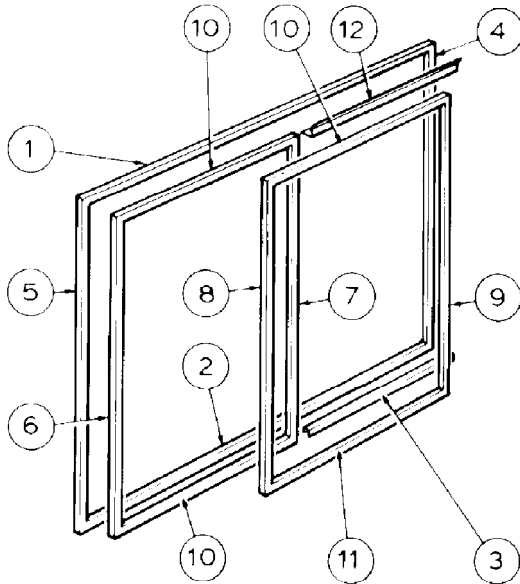


GLAZING

A Carry out the glazing procedure described on page $\frac{WP}{N}$ of these procedures placing the top and bottom rails on the panel first. Secure the corner joints with No. 10 x 1" pan-head self-tapping screws.

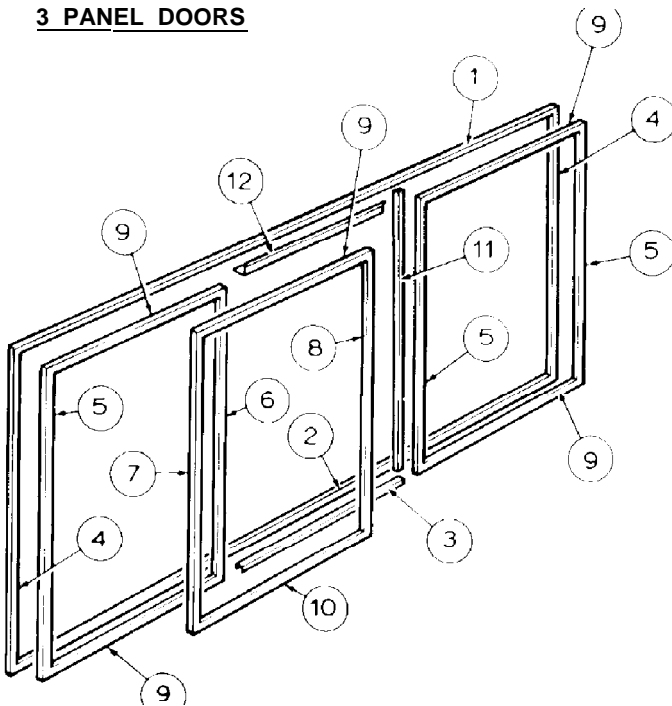


2 PANEL DOORS



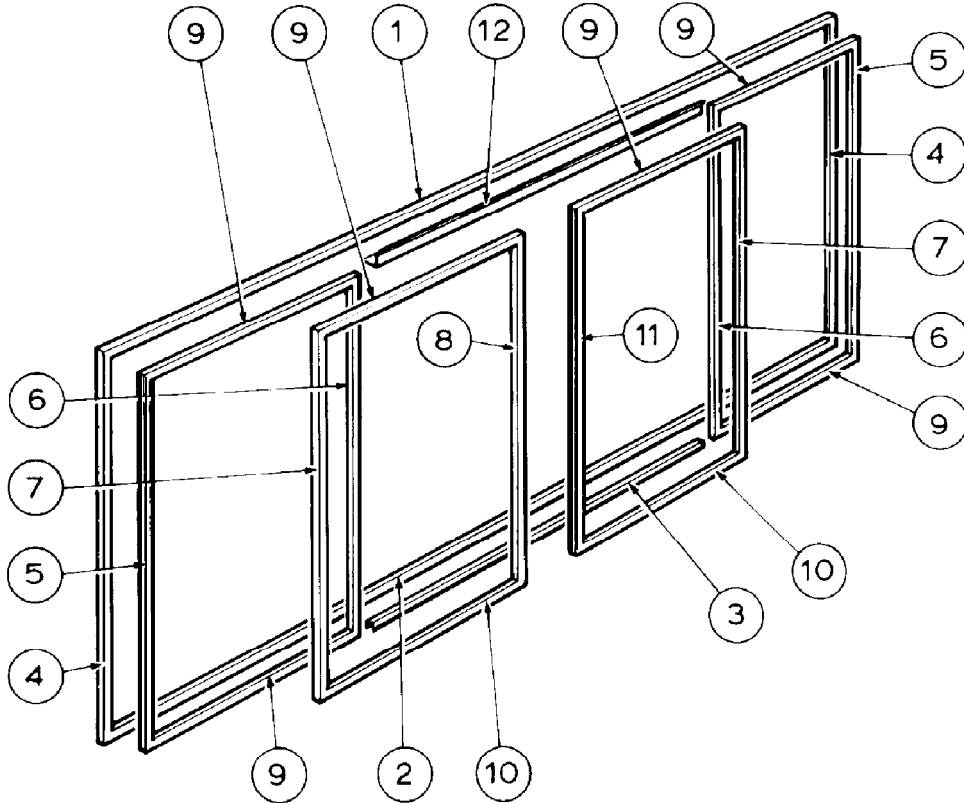
	QTY
① HD- HEAD	1
② CL - CILL	1
③ TH - THRESHOLD	1
④ LJ - LOCKING JAMB	1
⑤ FJ - FIXED JAMB	1
⑥ FS - FIXED STILE	1
⑦ FI - FIXED INTERLOCK	1
⑧ SI - SLIDING INTERLOCK	1
⑨ LS - LOCKING STILE	1
⑩ RL - RAILS	3
⑪ SR - SLIDING RAIL	1
⑫ HI - HEAD INFILL	1

3 PANEL DOORS



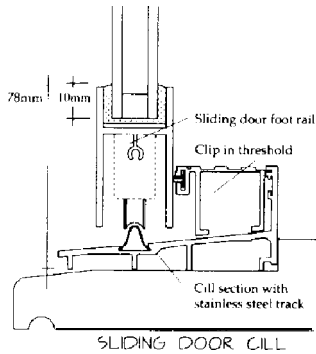
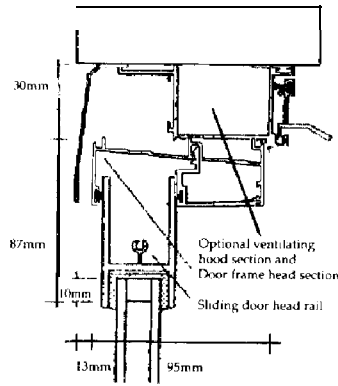
	QTY
① HD- HEAD	1
② CL - CILL	1
③ TH - THRESHOLD	1
④ FJ - FIXED JAMB	2
⑤ FS - FIXED STILE	3
⑥ FI - FIXED INTERLOCK	1
⑦ SI - SLIDING INTERLOCK	1
⑧ LS - LOCKING STILE	1
⑨ RL - RAILS	5
⑩ SR - SLIDING RAIL	1
⑪ MN - MULLION	1
⑫ HI - HEAD INFILL	1

4 PANEL DOORS

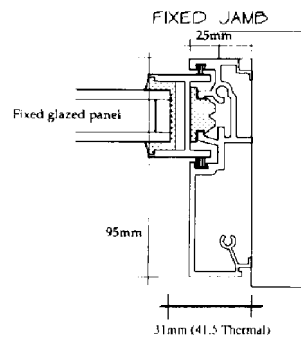
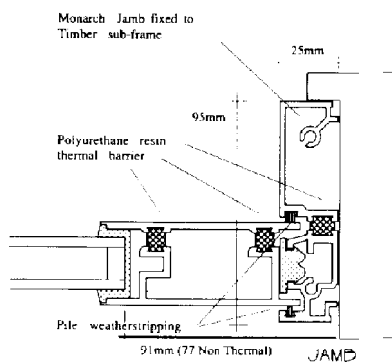


		QTY
①	HD - HEAD	1
②	CL - CILL	1
③	TH - THRESHOLD	1
④	FJ - FIXED JAMB	2
⑤	FS - FIXED STILE	2
⑥	FI - FIXED INTERLOCK	2
⑦	SI - SLIDING INTERLOCK	2
⑧	LS - LOCKING STILE	1
⑨	RL - RAILS	6
⑩	SR - SLIDING RAIL	2
⑪	MS - MEETING STILE	1
⑫	HI - HEAD INFILL	1

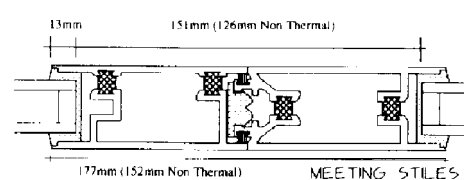
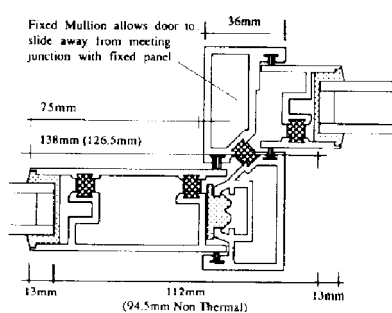
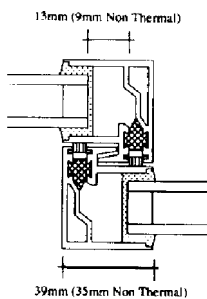
SUB-FRAME NON THERMAL



JAMB COMBINATIONS



INTERLOCK/STILE/MULLION COMBINATIONS



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