Gas Strut
Servery Window

Technical Manual

July 2024 | ISSUE G

alspec®
EVERYTHING ALUMINIUM & HARDWARE

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Gas Strut Servery Window

Contents

13. CARE & MAINTENANCE 13.1

1. Technical Manual Release Notes

This page is intended to record all changes to the **GAS STRUT SERVERY WINDOW** technical manual pages.

Changes or additions to this manual will be itemised with a brief description and date when the amendments were made.

ISSUE	DATE	Amendment Description	Refer to Tech Memo #
A	07/2020	Initial Tech Manual Release	361
B	09/2020	DG and Sill pages added	404
C	11/2020	Sill Details Changed	423
D	05/2021	Assembly Details Updated	-
E	08/2021	Machining and Extrusion Pages Updated	487
F	05/2023	Corner Stake and Screw Fixings on page 6.2 - 6.3, 10.10 - 10.11, 11.3 and 11.6 Updated	547
G	07/2024	Added ALH130 Hinge to page 6.2	577

ALUMINIUM
Aluminium frames should be manufactured using Alspec's **GAS STRUT SERVERY WINDOW** framing system.

Refer to wind load tables for maximum panel heights and widths.

The maximum panel height shall be 1500mm
The maximum panel width shall be 2000mm

HARDWARE
The hardware shall be Alspec's specific backing gaskets and colour coded wedges for **GAS STRUT SERVERY WINDOW**. Gas Strut hardware to be supplied by local fabricator.

- Colour coded wedges 3 - 7mm
- All other hardware as per Alspec Technical Manual

FINISHES
- All powder coated material shall be produced to AS3715
- All anodised material shall be produced to AS1231

TESTING
Product shall have a test report to show compliance to AS2047.
Water Testing is not compliance with the **GAS STRUT SERVERY WINDOW**.

All products are available from Alspec (A.B.N. 63 001 252 259) as detailed in the "Alspec" catalogue or on the Internet at www.alspec.com.au. All such framing is to be constructed, assembled and fixed to meet the requirement of AS2047 (windows in buildings), AS1170 (loading code). All glass, glazing rubbers, seals and gaskets shall be applied in accordance with the requirements of AS1288 (glass in buildings - selection and installation) or AS4666 (Insulated Glass Units).

Fabricators of the GAS STRUT SERVERY WINDOW system should seek certification by a consultant structural engineer as to the framing being acceptable for the design wind pressure and deflection characteristics required of the site.

3. Loading Tables

Loading Table Guide

The following pages contain gas strut opening pressure tables that may be used as a guide to the suitability of Alspec Aluminium Systems framing for various frame sizes.

Framing must be checked for suitability.

For a window / door frame, which is 1000mm high and 1250mm wide, refer to the table below;
Step 1: Locate the height
Step 2: Locate the width
Step 3: Determine the Maximum Sash opening pressure based on the height and width.

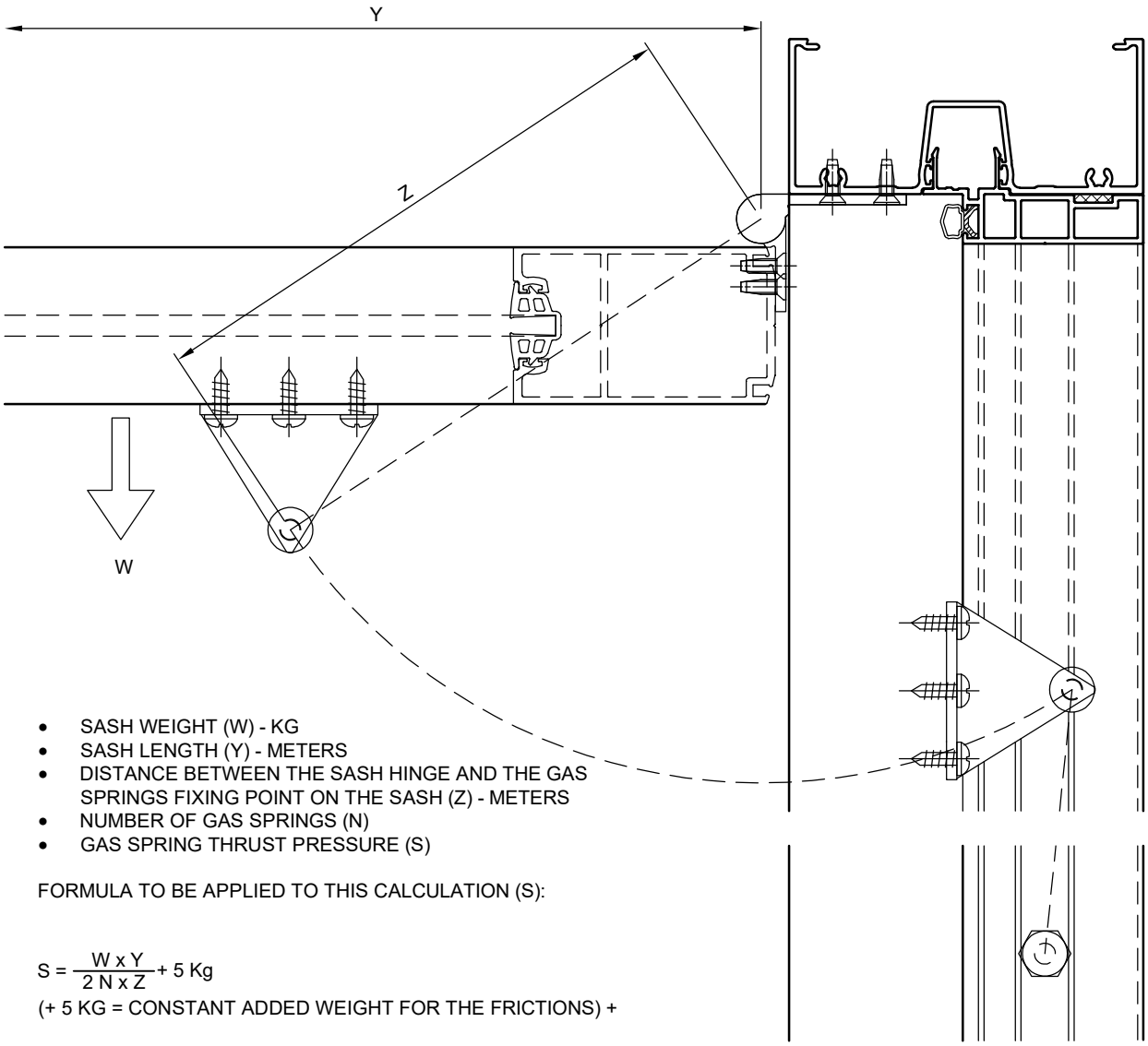
Frame Height	Sash Opening Pressure (N)						
2000	311.3	471.1	630.8	790.5	950.2		
1750	238.2	360.3	482.3	604.4	726.4	848.5	970.5
1500	174.8	264.3	353.7	443.2	53	.0	711.5
1250	121.3	183.1	245.0	306.9	368.8	430.7	492.5
1000	77.4	116.8	156.2	195.6	235.0	274.3	313.7
750		65.3	87.2	109.2	131.1	153.1	175.0
500					57.3	66.8	76.4
Frame Width	**500**	**750**	**1000**	**1250**	**1500**	**1750**	**2000**

STEP 1 → 1000 row
STEP 3 → 1250 column
STEP 2 → Frame Width 1250

The following pages pressures are calculated on the Gas Struts suplied by I.R.S Gas Struts.

3. Loading Tables

Gas Strut Formula



- SASH WEIGHT (W) - KG
- SASH LENGTH (Y) - METERS
- DISTANCE BETWEEN THE SASH HINGE AND THE GAS SPRINGS FIXING POINT ON THE SASH (Z) - METERS
- NUMBER OF GAS SPRINGS (N)
- GAS SPRING THRUST PRESSURE (S)

FORMULA TO BE APPLIED TO THIS CALCULATION (S):

$$S = \frac{W \times Y}{2\ N \times Z} + 5\ Kg$$

(+ 5 KG = CONSTANT ADDED WEIGHT FOR THE FRICTIONS) +

KG TO NEWTONS = 9.80665

EXAMPLE:

- SASH WEIGHT (W) = 50KG
- SASH LENGTH (Y) = 1.5m
- DISTANCE (Z) = 0.23m
- # OF GAS SPRINGS (N) = 2

FORMULA (S):

$$S = \frac{50 \times 1.5}{(2 \times 2) \times 0.23} + 5\ Kg = 86.52\ KG/P$$

(KG TO NEWTONS) = 86.52 x 9.80665 = 848.4 N

THEREFORE TWO GAS STRUTS HAVE TO BE FITTED WITH 848.4 N OF PRESSURE

The following pages pressures are calculated on the Gas Struts suplied by I.R.S Gas Struts.

3. Loading Tables

Sash Opening Pressure Tables

Maximum Sash Opening Pressure 6mm Glass with 2 x 716mm Gas Struts

Frame Height	Sash Opening Pressure (N)						
1500	174.8	264.3	353.7	443.2	532.6	622.0	711.5
1250	121.3	183.1	245.0	306.9	368.8	430.7	492.5
1000	77.4	116.8	156.2	195.6	235.0	274.3	313.7
750		65.3	87.2	109.2	131.1	153.1	175.0
500					57.3	66.8	76.4
Frame Width	**500**	**750**	**1000**	**1250**	**1500**	**1750**	**2000**

Calculations are based on 2x Gas Strut 10mm dia. Shaft x 22mm dia. Tube; Stroke: 300mm; Tube: 396mm; Overall: 716mm. Pressure of Gas strut are 50 -1100 N.

Maximum Sash Opening Pressure 6mm Glass with 2 x 816mm or 830mm Gas Struts

Frame Height	Sash Opening Pressure (N)						
1500	134.0	202.6	271.2	339.8	408.3	476.9	545.5
1250	93.0	140.4	187.8	235.3	282.7	330.2	377.6
1000	59.4	89.6	119.7	149.9	180.1	210.3	240.5
750		50.1	66.9	83.7	100.5	117.3	134.2
500						51.2	58.6
Frame Width	**500**	**750**	**1000**	**1250**	**1500**	**1750**	**2000**

Calculations are based on 2x Gas Strut 10mm dia. Shaft x 22mm dia. Tube; Stroke: 350mm; Tube: 451mm; Overall: 816mm. Pressure of Gas strut are 50 -1100 N.

Maximum Sash Opening Pressure 10mm Glass with 2 x 716mm Gas Struts

Frame Height	Sash Opening Pressure (N)						
1500	232.0	373.0	514.1	655.1	796.1	937.1	1078.2
1250	159.6	256.1	352.6	449.0	545.5	642.0	738.5
1000	100.7	161.1	221.4	281.8	342.2	402.5	462.9
750	55.3	88.0	120.7	153.3	186.0	218.7	251.4
500			50.2	63.7	77.1	90.5	104.0
Frame Width	**500**	**750**	**1000**	**1250**	**1500**	**1750**	**2000**

Calculations are based on 2x Gas Strut 10mm dia. Shaft x 22mm dia. Tube; Stroke: 300mm; Tube: 396mm; Overall: 716mm. Pressure of Gas strut are 50 -1100 N

The following pages pressures are calculated on the Gas Struts suplied by I.R.S Gas Struts.

3. Loading Tables

Sash Opening Pressure Tables

Maximum Sash Opening Pressure 10mm Glass with 2 x 816mm or 830mm Gas Struts

Frame Height	Sash Opening Pressure (N)						
1500	177.9	286.0	394.1	502.2	610.3	718.5	826.6
1250	122.4	196.3	270.3	344.3	418.2	492.2	566.2
1000	77.2	123.5	169.8	216.0	262.3	308.6	354.9
750		67.4	92.5	117.6	142.6	167.7	192.7
500					59.1	69.4	79.7
Frame Width	**500**	**750**	**1000**	**1250**	**1500**	**1750**	**2000**

Calculations are based on 2x Gas Strut 10mm dia. Shaft x 22mm dia. Tube; Stroke: 350mm; Tube: 451mm; Overall: 816mm. Pressure of Gas strut are 50 -1100 N.

Maximum Sash Opening Pressure12.38mm Glass with 2 x 716mm Gas Struts

Frame Height	Sash Opening Pressure (N)						
1500	266.0	437.7	609.5	781.2	952.9		
1250	182.4	299.5	416.6	533.6	650.7	767.8	884.9
1000	114.5	187.4	260.3	333.1	406.0	478.8	551.7
750	62.4	101.5	140.5	179.6	218.7	257.8	296.9
500			57.4	73.2	88.9	104.6	120.4
Frame Width	**500**	**750**	**1000**	**1250**	**1500**	**1750**	**2000**

Calculations are based on 2x Gas Strut 10mm dia. Shaft x 22mm dia. Tube; Stroke: 300mm; Tube: 396mm; Overall: 716mm. Pressure of Gas strut are 50 -1100 N

Maximum Sash Opening Pressure 12.38mm Glass with 2 x 816mm or 830mm Gas Struts

Frame Height	Sash Opening Pressure (N)						
1500	203.9	335.6	467.2	598.9	730.6	862.2	993.9
1250	139.8	229.6	319.4	409.1	498.9	588.6	678.4
1000	87.8	143.7	199.5	255.4	311.2	367.1	423.0
750		77.8	107.7	137.7	167.7	197.6	227.6
500				56.1	68.1	80.2	92.3
Frame Width	**500**	**750**	**1000**	**1250**	**1500**	**1750**	**2000**

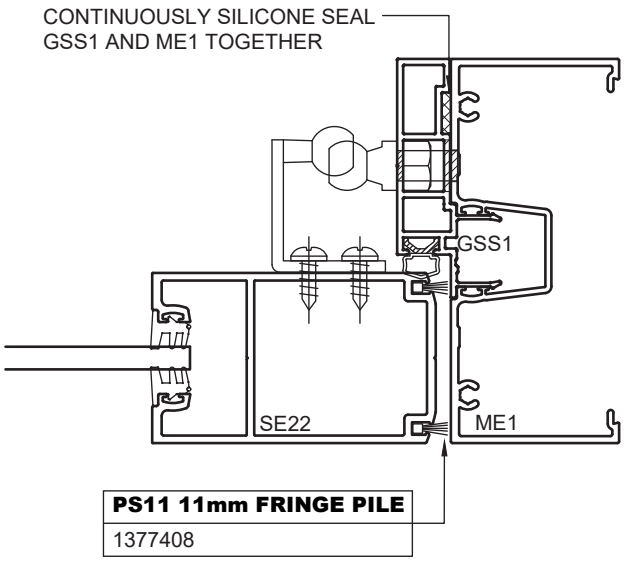
Calculations are based on 2x Gas Strut 10mm dia. Shaft x 22mm dia. Tube; Stroke: 350mm; Tube: 451mm; Overall: 816mm. Pressure of Gas strut are 50 -1100 N.

The following pages pressures are calculated on the Gas Struts suplied by I.R.S Gas Struts.

4. Test Summary

AS2047 - 6mm Glass with GSS1 (Gas Strut Clip-on) Gas Strut Servery Window

TEST REPORT:	OT20-006
SYSTEM CONFIGURATION	Swan Evo Gas Strut Servery 6mm Toughened Glass
TEST SAMPLE SIZE	1.5m high x 2.0m wide
SERVICEABILITY LOAD	+/- 764 Pa
ULTIMATE LOAD	+/- 3306 Pa
WATER PENETRATION	N/A
AIR INFILTRATION @ 75Pa	+ 1.17L/m/s² - 1.38L/m/s²

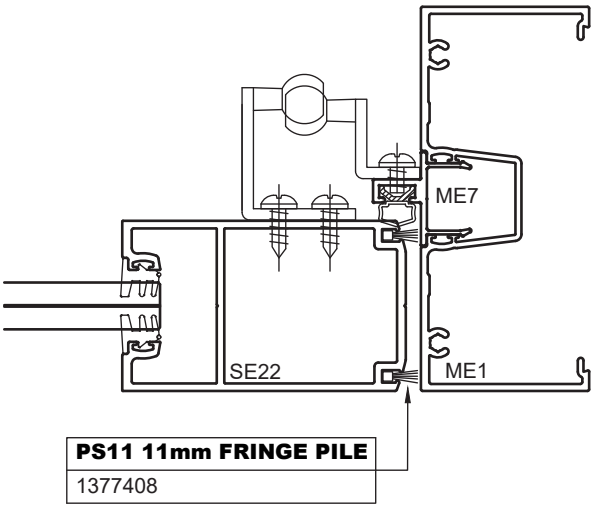


DISCLAIMER:
Please note that the test results shown above reflect specific configurations of a system and are representative only. If a specific high wind load or a different configuration (i.e. changes to frames, transoms, mullions) is required on a project please discuss with Alspec prior to commencement.

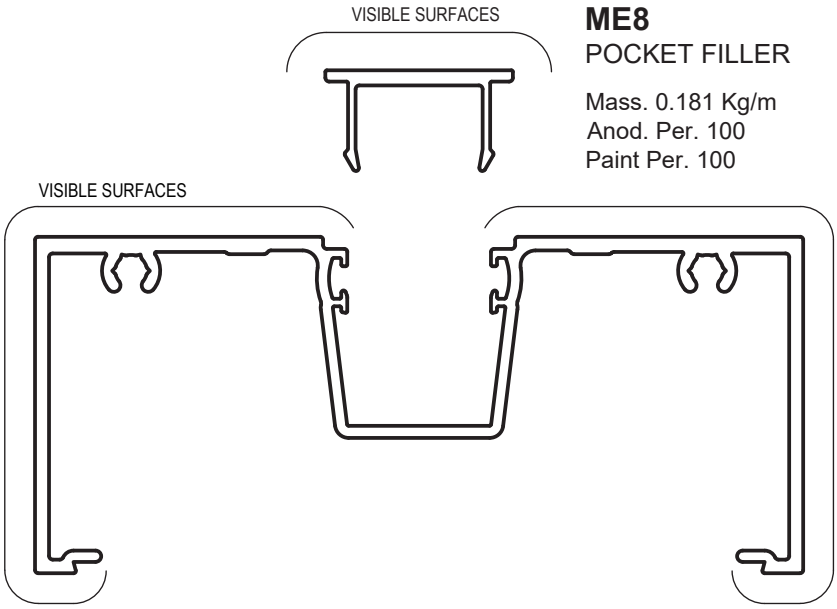
4. Test Summary

AS2047 - 12.38mm Glass with ME7 (45mm Door Stop) Gas Strut Servery Window

TEST REPORT:	AS19-414
SYSTEM CONFIGURATION	Swan Evo Gas Strut Servery 12.38mm Laminated Glass
TEST SAMPLE SIZE	1.5m high x 2.0m wide
SERVICEABILITY LOAD	+/- 959 Pa
ULTIMATE LOAD	+/- 3101 Pa
WATER PENETRATION	N/A
AIR INFILTRATION @ 75Pa	+ 3.52L/m/s² - 3.86L/m/s²



DISCLAIMER:
Please note that the test results shown above reflect specific configurations of a system and are representative only. If a specific high wind load or a different configuration (i.e. changes to frames, transoms, mullions) is required on a project please discuss with Alspec prior to commencement.



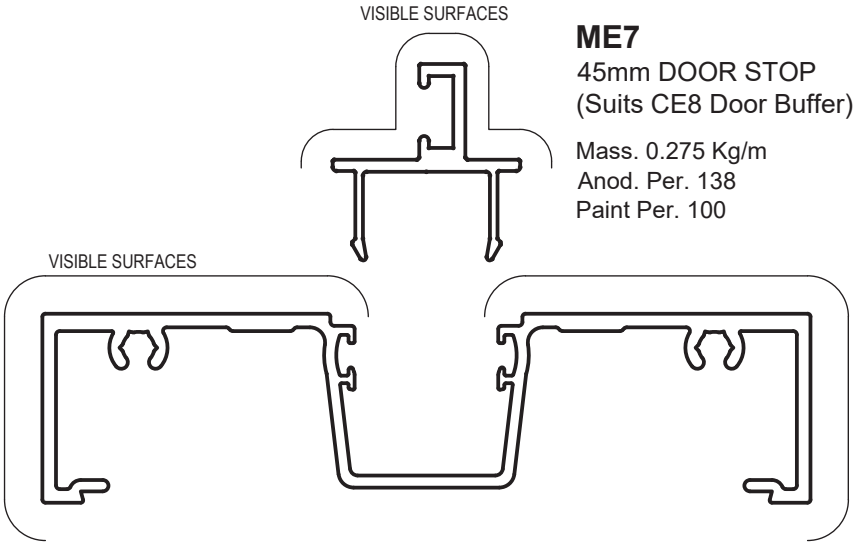
ME8
POCKET FILLER

Mass. 0.181 Kg/m
Anod. Per. 100
Paint Per. 100

ME1
FRAME / JAMB

Mass. 1.365 Kg/m
Anod. Per. 560
Paint Per. 182

Ixx = 695.7 x 10^3 mm^4

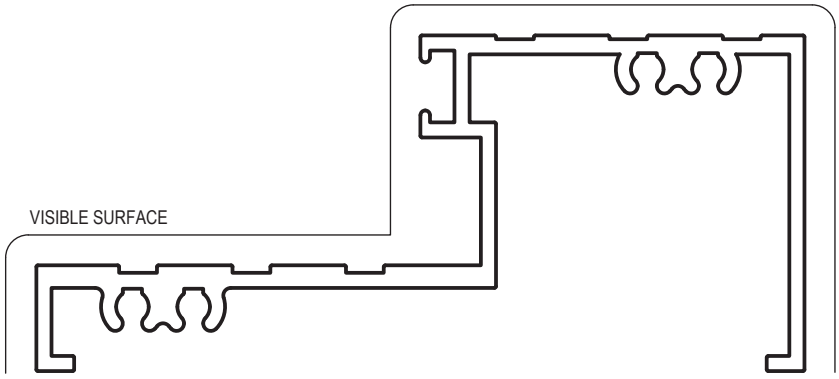


ME7
45mm DOOR STOP
(Suits CE8 Door Buffer)

Mass. 0.275 Kg/m
Anod. Per. 138
Paint Per. 100

ME24
25mm NARROW
FRAME

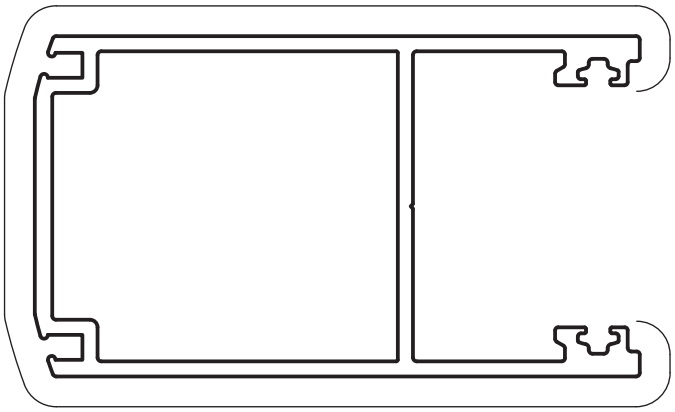
Mass. 1.14 Kg/m
Anod. Per. 468
Paint Per. 127



AS2366
45mm DOOR
THRESHOLD
OUTWARD
OPENING

Mass. 1.552 Kg/m
Anod. Per. 491
Paint Per. 239

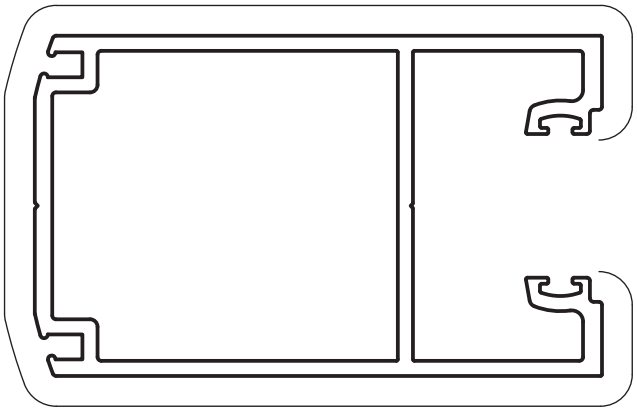
VISIBLE SURFACES



SE422
DG LOCK STILE / PIVOT STILE

Mass. 1.542 Kg/m
Anod. Per. 366
Paint Per. 233

Ixx = 195.1 x 10^3 mm^4

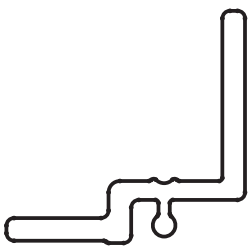


VISIBLE SURFACES

SE22
LOCK STILE / PIVOT STILE

Mass. 1.564 Kg/m
Anod. Per. 392
Paint Per. 236

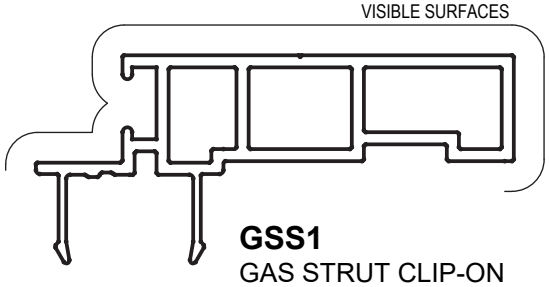
Ixx = 183.4 x 10^3 mm^4



AD001
HINGE BACKING PLATE

Mass. 0.483 Kg/m
Anod. Per. 131
NO VISIBLE SURFACES

VISIBLE SURFACES



GSS1
GAS STRUT CLIP-ON STOP

Mass. 0.799 Kg/m
Anod. Per. 228
Paint Per. 100

6. Hardware & Components

Glazing Wedges

IMAGE	TO SUIT GAP	MATERIAL	PART #	DESCRIPTION
	2mm	PVC	1376132	GR32 GLAZING WEDGE (2mm GAP) x 200m ROLL
	3mm	PVC	1313055	GR43 GLAZING WEDGE (BROWN) (3mm GAP) PVC x 200m ROLL
		S/PRENE	1313063	GR43S GLAZING WEDGE (BROWN) (3mm GAP) S/PRENE x 200m ROLL
	4mm	PVC	1313056	GR44 GLAZING WEDGE (WHITE) (4mm GAP) PVC x 200m ROLL
		S/PRENE	1313064	GR44S GLAZING WEDGE (WHITE) (4mm GAP) S/PRENE x 200m ROLL
	5mm	PVC	1313057	GR45 GLAZING WEDGE (BLUE) (5mm GAP) PVC x 150m ROLL
		S/PRENE	1313065	GR45S GLAZING WEDGE (BLUE) (5mm GAP) S/PRENE x 150m ROLL
	6mm	PVC	1313058	GR46 GLAZING WEDGE (YELLOW) (6mm GAP) PVC x 150m ROLL
		S/PRENE	1313066	GR46S GLAZING WEDGE (YELLOW) (6mm GAP) S/PRENE x 150m ROLL
	7mm	PVC	1313059	GR47 GLAZING WEDGE (RED) (7mm GAP) PVC x 150m ROLL
		S/PRENE	1313062	GR47S GLAZING WEDGE (RED) (7mm GAP) S/PRENE x 150m ROLL

Glazing / Gaskets

IMAGE	TO SUIT GLASS	MATERIAL	PART #	DESCRIPTION
	6mm / 6.38mm	PVC	1376146	GR73 GLAZING CHANNEL 19mm POCKET (6-6.38 GLASS) x 40m ROLL

Seals

IMAGE	PART #	FINISH	DESCRIPTION
	1376328	BLACK (034)	CE8 CO-EXT DOOR BUFFER x 100m ROLL
	1376410	BLACK (034)	DB1 DOOR STOP RUBBER x 200m
	1377408	BLACK (034)	PS11 11mm FRINGE PILE x 100m
	1377407		PS11 11mm FRINGE PILE x 1m
	1377414	BLACK (034)	PS13 13mm FRINGE PILE x 100m
	1377412		PS13 13mm FRINGE PILE x 1m

Automated Power Struts

Please refer to Alspec Automated Servery Window Power Struts Catalogue.

6. Hardware & Components

Fasteners

SCREWS			
PART #	**HEAD**	**DESCRIPTION**	**LOCATION**
1382059	PHILLIPS #2	10g x 3/4 (19mm) SS PHILLIPS PAN S/TAP x 1000	CLIP/JAMB
1382097	PHILLIPS #2	10g x 1 (25mm) SSS PHILLIPS CSK U/C SCREW x 1000	SASH CORNERS
1382519	SQUARE #2	10g x 1 (25mm) 304SS SQUARE PAN W/WIND S/TAP x 500	HEAD/JAMB
1382054	PHILLIPS #2	10g x 1 (25mm) SS PHIL PAN S/TAP SCREW x 500	HEAD/JAMB

Hinges

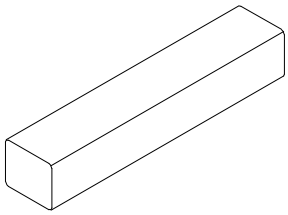
PART	DESCRIPTION	FINISH	QTY
1308347	ALSPEC ALH130 HEAVY DUTY ALUM FAST FIX HINGE	CLEAR ANODISED	EACH
1308348		BLACK	EACH
1308349		WHITE	EACH

PART	DESCRIPTION	FINISH	QTY
1374021	AH130CAN FAST FIX COMMERCIAL ALUMINIUM HINGE	CLEAR ANODISED	EACH
1374022	AH130BLK FAST FIX COMMERCIAL ALUMINIUM HINGE	BLACK	EACH
1374023	AH130WH FAST FIX COMMERCIAL ALUMINIUM HINGE	PEARL WHITE GLOSS	EACH
1374024	AH130SIL FAST FIX COMMERCIAL ALUMINIUM HINGE	SILVER	EACH

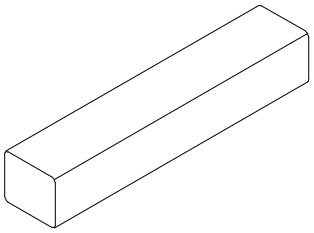
PART	DESCRIPTION	FINISH	QTY
1374081	A104 HEAVY DUTY ALUM FAST FIX HINGE	BLACK	EACH
1374082		PEARL WHITE GLOSS	EACH

6. Hardware & Components

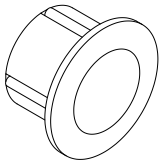
Accessories, Flush Pulls and Handles



SETTING BLOCK 15 x 15 x 75mm BAG OF 50	
PART	1376735
FINISH	BLACK (034)
QTY	50 PER BAG



SETTING BLOCK 17 x 30 x 75mm BAG OF 50	
PART	1376734
FINISH	BLACK (034)
QTY	50 PER BAG



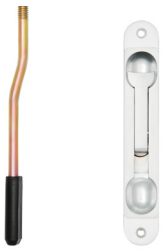
10mm DIAMETER HOLE PLUG	
PART	1378017
FINISH	BLACK (034) PEARL WHITE GLOSS (010) GREY (036) NOT SPECIFIED (099)
QTY	EACH

L1351SSS SINGLE D PULL 16mm x 200mm WITH 38mm ROSE SSS	
PART	1379301
FINISH	SATIN S/LESS STEEL (0A6)
QTY	EACH

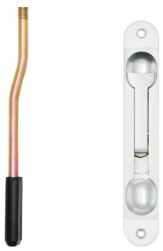
DEGO SQUARE B/B PULL HDL 325 x 25mm S316-2-325-SSS	
PART	1379515
FINISH	SATIN STAINLESS STEEL (0A6)
QTY	EACH

*ORDER WITH 1379515 FOR SINGLE SIDED PULL ONLY

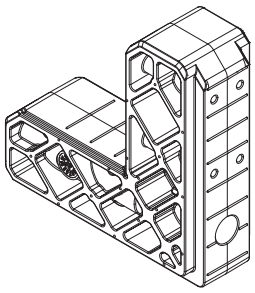
LF30SSS SINGLE SIDED FIXING KIT 25mm DIA 8mm x 90mm BOLT	
PART	1379302
FINISH	SATIN S/LESS STEEL (0A6)
QTY	EACH



FLUSH BOLT OFFSET 300mm INC ROD GUIDES P3530D HAWK	
PART	1345050
FINISH	BLACK (034) SATIN CHROME (094)
QTY	EACH



FLUSH BOLT OFFSET 600mm INC ROD GUIDES P3531D HAWK	
PART	1345052
FINISH	BLACK (034) SATIN CHROME (094)
QTY	EACH



GSSA001 GAS STRUT WINDOW CORNER STAKE	
PART	1376241
FINISH	BLACK (034)
QTY	EACH

6. Hardware & Components

Twin Bolt Lock Kits - Killara Optimum

KILLARA TWIN BOLT NONLOCK 1 x 1m 1 x 1.3m RODS STD TIPS					
PART	1344003	FINISH	BLACK (034)	QTY	EACH
			SATIN CHROME (094)	QTY	EACH
KILLARA TWINBOLT NONLOCK 1x1m 1x1.3m RODS SS TIPS					
PART	1344018	FINISH	BLACK (034)	QTY	EACH
PART	1344014	FINISH	SATIN CHROME (094)	QTY	EACH

KILLARA TWINBOLT LOCKING INC 2 RODS 1x1m 1x1.3m STD TIPS					
PART	1344004	FINISH	BLACK (034)	QTY	EACH
			SATIN CHROME (094)	QTY	EACH
KILLARA TWINBOLT LOCKING 1x1m / 1x1.3m RODS NO CYLINDER SS TIPS					
PART	1344011	FINISH	BLACK (034)	QTY	EACH
PART	1344012	FINISH	SATIN CHROME (094)	QTY	EACH

SUITS OPTIMUM DOOR LOCK & KILLARA TWIN BOLTS

1m ROD WITH EXTENSION JOINER NO TIP P84017	
PART	1345144
FINISH	NOT SPECIFIED (099)
QTY	EACH

SUITS KILLARA TWIN BOLT AND OPTIMUM LOCKS ONLY

STAINLESS STEEL D ROD TIP 65mm x 1 P9731	
PART	1313100
FINISH	SATIN S/LESS STEEL (0A6)
QTY	EACH

SUITS OPTIMUM DOOR LOCK & KILLARA TWIN BOLTS

OPTIMUM RODS SCREW IN 1m & 1.3m RODS WITH STD TIPS P33096	
PART	1345018
FINISH	NOT SPECIFIED (099)
QTY	EACH

TWIN BOLT SCREW IN 1m & 2m RODS w POLYMER TIPS P330969	
PART	1345342
FINISH	NOT SPECIFIED (099)
QTY	SET

TWINBOLT CYLINDER ONLY 70C4CYLJ031 A01	
PART	1346621
FINISH	SATIN CHROME (094)
QTY	EACH

MORE KEY OPTIONS AVAILABLE - CONTACT YOUR LOCAL ALSPEC BRANCH

Twin Bolt Lock Kits - Brio 286 Dual Point

BRIO 286 DUAL POINT NON LOCKING HANDLE 2.5m RODS SS TIP					
PART	1304106	FINISH	BLACK (034)	QTY	KIT
PART	1304102	FINISH	SATIN S/LESS STEEL (0A6)	QTY	KIT
PART	1304110	FINISH	SATIN CHROME (094)	QTY	KIT
BRIO 286 DUAL POINT NON LOCKING HANDLE 3.5m RODS SS TIP					
PART	1304107	FINISH	BLACK (034)	QTY	KIT
PART	1304103	FINISH	SATIN S/LESS STEEL (0A6)	QTY	KIT
PART	1304111	FINISH	SATIN CHROME (094)	QTY	KIT

BRIO 286 DUAL POINT LOCK HANDLE 2.5m RODS SS TIP					
PART	1304112	FINISH	BLACK (034)	QTY	KIT
PART	1304100	FINISH	SATIN S/LESS STEEL (0A6)	QTY	KIT
PART	1304108	FINISH	SATIN CHROME (094)	QTY	KIT
BRIO 286 DUAL POINT LOCK HANDLE 3.5m RODS SS TIP					
PART	1304116	FINISH	BLACK (034)	QTY	KIT
PART	1304101	FINISH	SATIN S/LESS STEEL (0A6)	QTY	KIT
PART	1304109	FINISH	SATIN CHROME (094)	QTY	KIT

BRIO 286DL TWIN POINT DUAL LOCK SS HANDLE 2.5 RODS SS TIP NC					
PART	1304246	FINISH	SATIN S/LESS STEEL (0A6)	QTY	KIT
BRIO 286DL TWIN POINT DUAL LOCK SS HANDLE 3.5 RODS SS TIP NC					
PART	1304245	FINISH	SATIN S/LESS STEEL (0A6)	QTY	KIT

6. Hardware & Components

Silicone

100% NEUTRAL CURE SILICONE

- Premium 100% silicone
- UV Stable
- Superior adhesion
- Flexible + 25%
- AS4020 Approved

100% MATTE NEUTRAL CURE SILIICONE

- Premium 100% silicone
- Matte finish
- UV Stable
- Outstanding elongation
- Higher strength

41 CLADDING SILICONE

- Premium 100% silicone
- UV Stable
- Superior adhesion
- Movement capability + 50%

WET AREA SILICONE

- Premium 100% silicone
- Mould inhibited
- Movement capability + 25%
- UV Stable
- Non corrosive
- Superior adhesion

HYBRID PU ADHESIVE SEALANT

- No isocyanates
- Internal/External
- No shrinking/staining
- Paintable
- Excellent adhesion

20 ACETIC CURE SILICONE

- Premium 100% silicone
- UV Stable
- Superior adhesion
- Flexible + 25%

D60 SILICONE

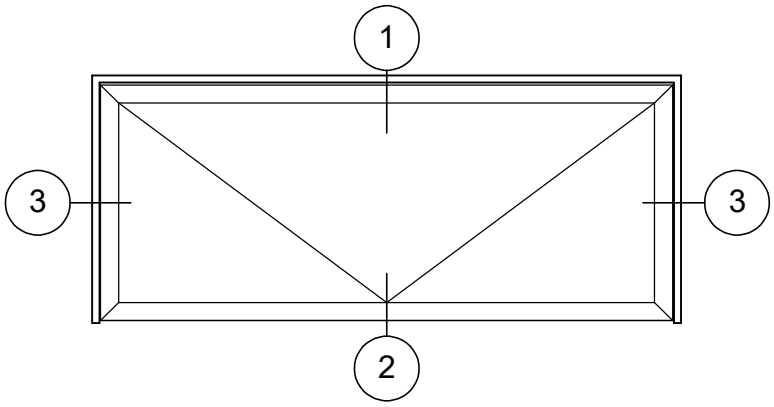
- Premium 100% silicone
- UV Stable
- 2-5 minute skin time
- Flexible + 25%
- No slump

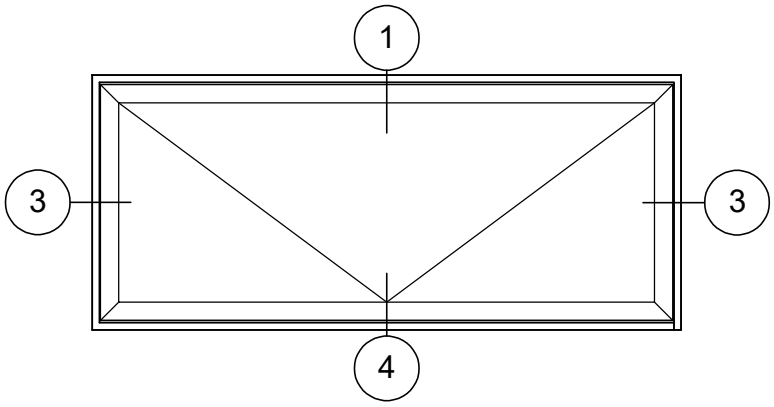
*For more information on silicones, please refer to Alspec Silicone Brochure.

Silicone Product Codes

Product Category	Item No.	Alspec Part No. Code	Description	Finish	Pack
ALSPEC 100%	1	1386113	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	ALMOND IVORY	CARTRIDGE
	2	1386114	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	ALUMINIUM	CARTRIDGE
	3	1386105	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	BLACK	CARTRIDGE
	4	1386140	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	CAULFIELD GREEN	CARTRIDGE
	5	1386111	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	CLASSIC CREAM	CARTRIDGE
	6	1386108	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	GREY	CARTRIDGE
	7	1386138	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	MONUMENT	CARTRIDGE
	8	1386112	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	OFF WHITE	CARTRIDGE
	9	1386141	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	STONE BEIGE	CARTRIDGE
	10	1386101	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	TRANSLUCENT	CARTRIDGE
	11	1386106	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	WHITE	CARTRIDGE
	12	1386143	ALSPEC 100% NEUTRAL CURE SILICONE x 310g CAT	WOODLAND GREY	CARTRIDGE
ALSPEC 100% MATT	13	1386103	ALSPEC 100% NEUTRAL CURE SILICONE x 420g CAT	BLACK MATT	CARTRIDGE
	14	1386107	ALSPEC 100% NEUTRAL CURE SILICONE x 420g CAT	GREY MATT	CARTRIDGE
	15	1386144	ALSPEC 100% NEUTRAL CURE SILICONE x 420g CAT	WHITE MATT	CARTRIDGE
ALSPEC 20	16	1386115	ALSPEC 20 SILICONE x 310g CAT	TRANSLUCENT	CARTRIDGE
ALSPEC 41 CLADDING	17	1386159	ALSPEC 41 SILICONE x 400g CAT	BLACK MATT	CARTRIDGE
	18	1386117	ALSPEC 41 SILICONE x 600ml SAU	BLACK MATT	SAUSAGE
	19	1386158	ALSPEC 41 SILICONE x 400g CAT	LIGHT GREY MATT	CARTRIDGE
	20	1386118	ALSPEC 41 SILICONE x 600ml SAU	LIGHT GREY MATT	SAUSAGE
	21	1386157	ALSPEC 41 SILICONE x 400g CAT	WHITE MATT	CARTRIDGE
	22	1386145	ALSPEC 41 SILICONE x 600ml SAU	WHITE MATT	SAUSAGE
ALSPEC D60	23	1386121	ALSPEC D60 SILICONE x 310g CAT	BLACK	CARTRIDGE
	25	1386123	ALSPEC D60 SILICONE x 310g CAT	GREY	CARTRIDGE
	26	1386120	ALSPEC D60 SILICONE x 310g CAT	TRANSLUCENT	CARTRIDGE
	27	1386124	ALSPEC D60 SILICONE x 310g CAT	WHITE	CARTRIDGE
ALSPEC HYBRID PU	28	1386127	ALSPEC HYBRID PU x 480g CAT	BLACK	CARTRIDGE
	29	1386126	ALSPEC HYBRID PU x 600ml SAU	BLACK	SAUSAGE
	30	1386160	ALSPEC HYBRID PU x 480g CAT	GREY	CARTRIDGE
	31	1386128	ALSPEC HYBRID PU x 600ml SAU	GREY	SAUSAGE
	32	1386130	ALSPEC HYBRID PU x 480g CAT	WHITE	CARTRIDGE
	33	1386129	ALSPEC HYBRID PU x 600ml SAU	WHITE	SAUSAGE
ALSPEC WET AREA	34	1386137	ALSPEC WET AREA SILICONE x 310g CAT	ALMOND IVORY	CARTRIDGE
	35	1386139	ALSPEC WET AREA SILICONE x 310g CAT	BLACK	CARTRIDGE
	36	1386146	ALSPEC WET AREA SILICONE x 310g CAT	BLUESTONE	CARTRIDGE
	37	1386147	ALSPEC WET AREA SILICONE x 310g CAT	CHARCOAL	CARTRIDGE
	38	1386136	ALSPEC WET AREA SILICONE x 310g CAT	LIGHT GREY	CARTRIDGE
	39	1386148	ALSPEC WET AREA SILICONE x 310g CAT	MID GREY	CARTRIDGE
	40	1386149	ALSPEC WET AREA SILICONE x 310g CAT	OFF WHITE	CARTRIDGE
	41	1386150	ALSPEC WET AREA SILICONE x 310g CAT	PEWTER	CARTRIDGE
	42	1386151	ALSPEC WET AREA SILICONE x 310g CAT	STONE BEIGE	CARTRIDGE
	43	1386154	ALSPEC WET AREA SILICONE x 310g CAT	TAUPE	CARTRIDGE
	44	1386152	ALSPEC WET AREA SILICONE x 310g CAT	TILE GREY	CARTRIDGE
	45	1386133	ALSPEC WET AREA SILICONE x 310g CAT	TRANSLUCENT	CARTRIDGE
	46	1386153	ALSPEC WET AREA SILICONE x 310g CAT	TRAVERTINE	CARTRIDGE
	47	1386134	ALSPEC WET AREA SILICONE x 310g CAT	WHITE	CARTRIDGE

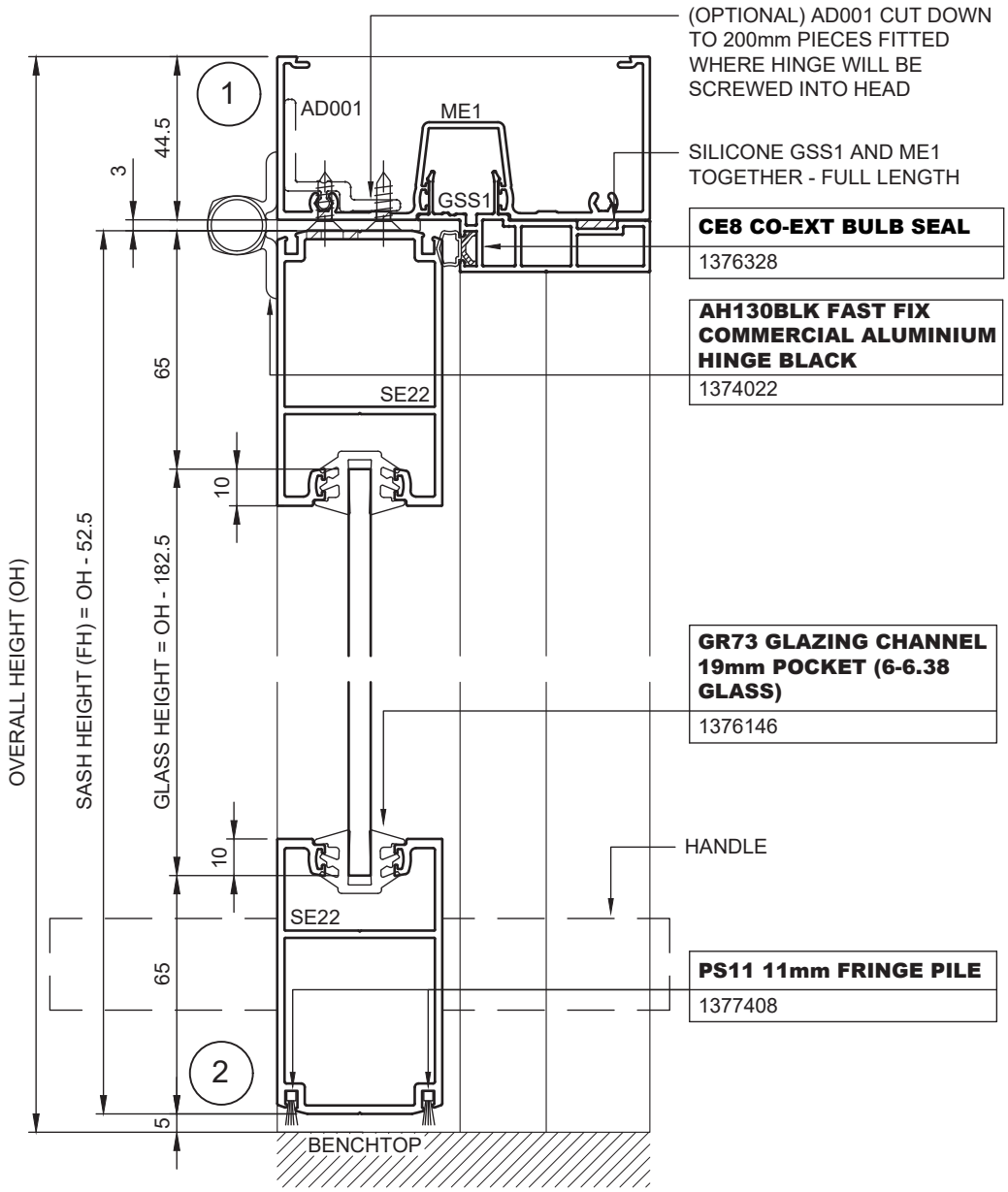
7. Typical Elevation





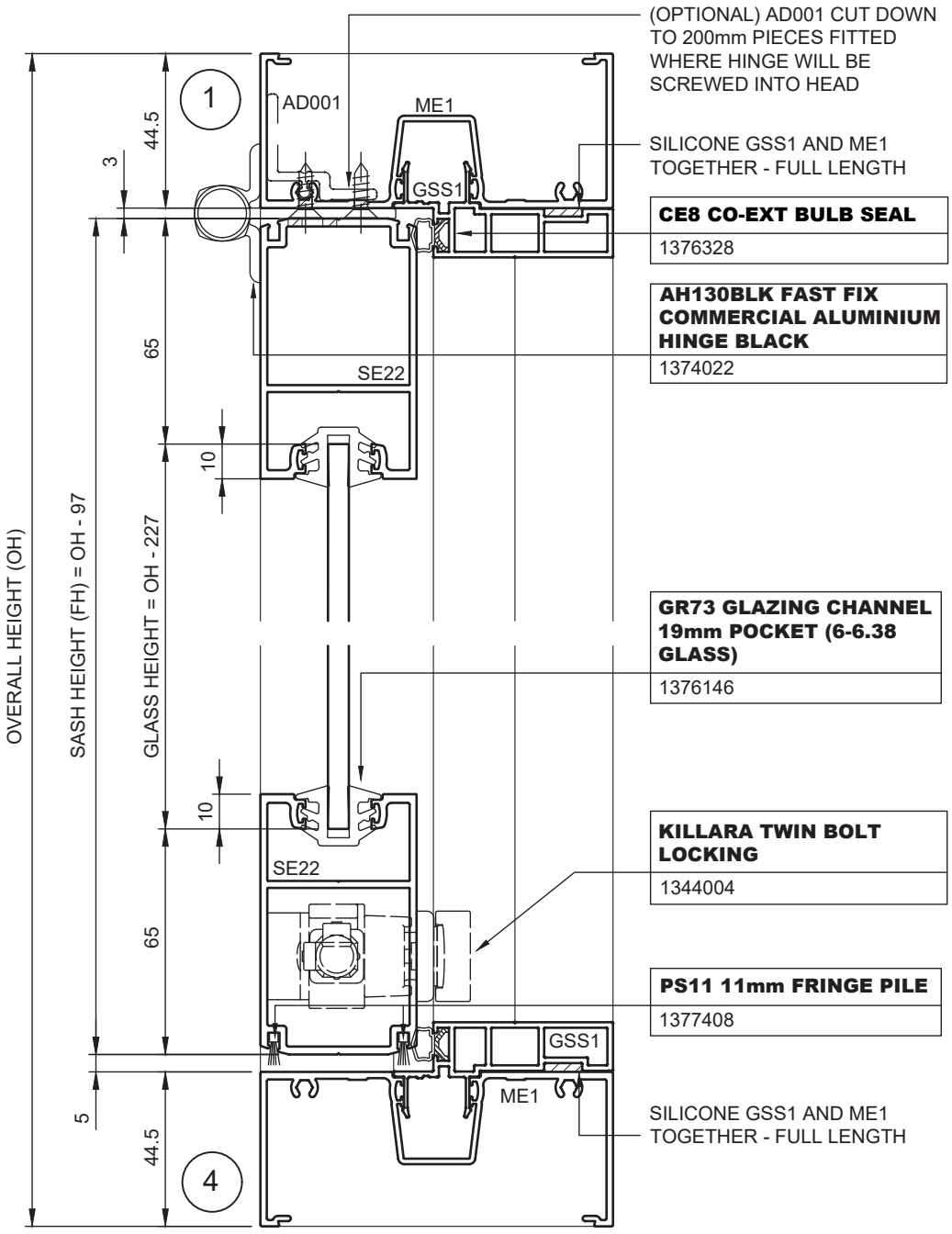
8. Typical Details

Typical Head & No Sill Details



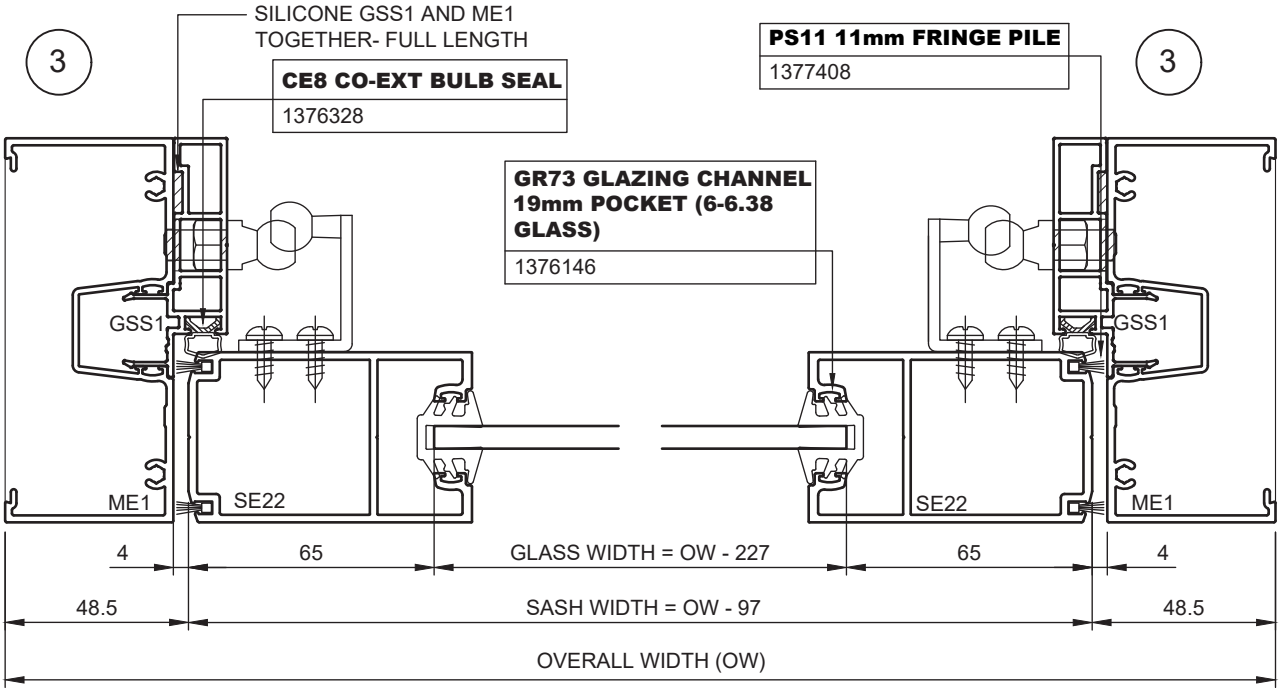
8. Typical Details

Typical Head & Sill Details

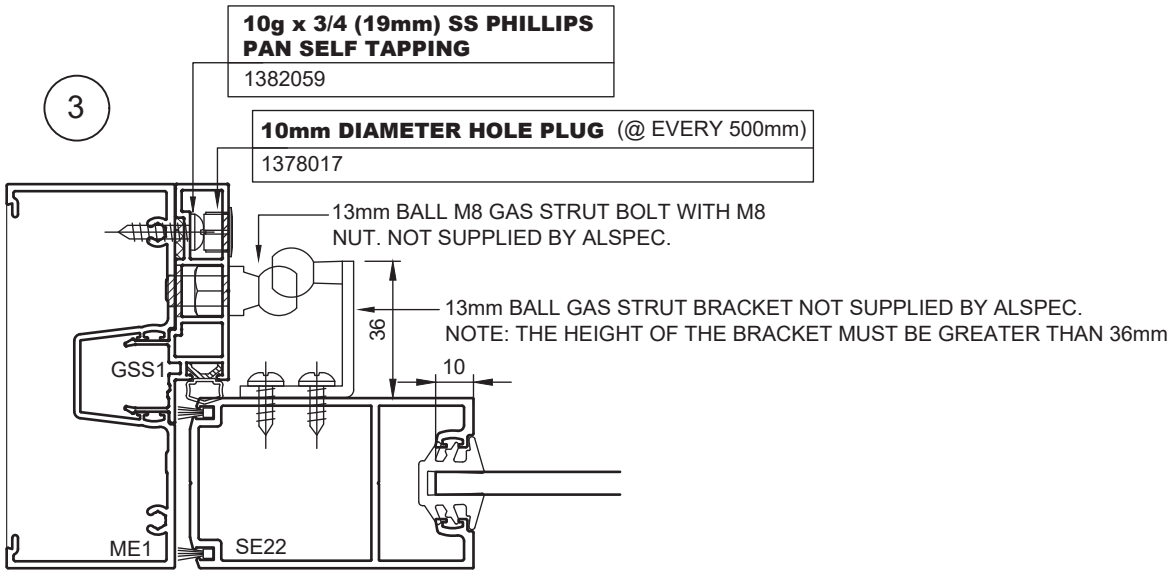


8. Typical Details

Typical Jamb Details

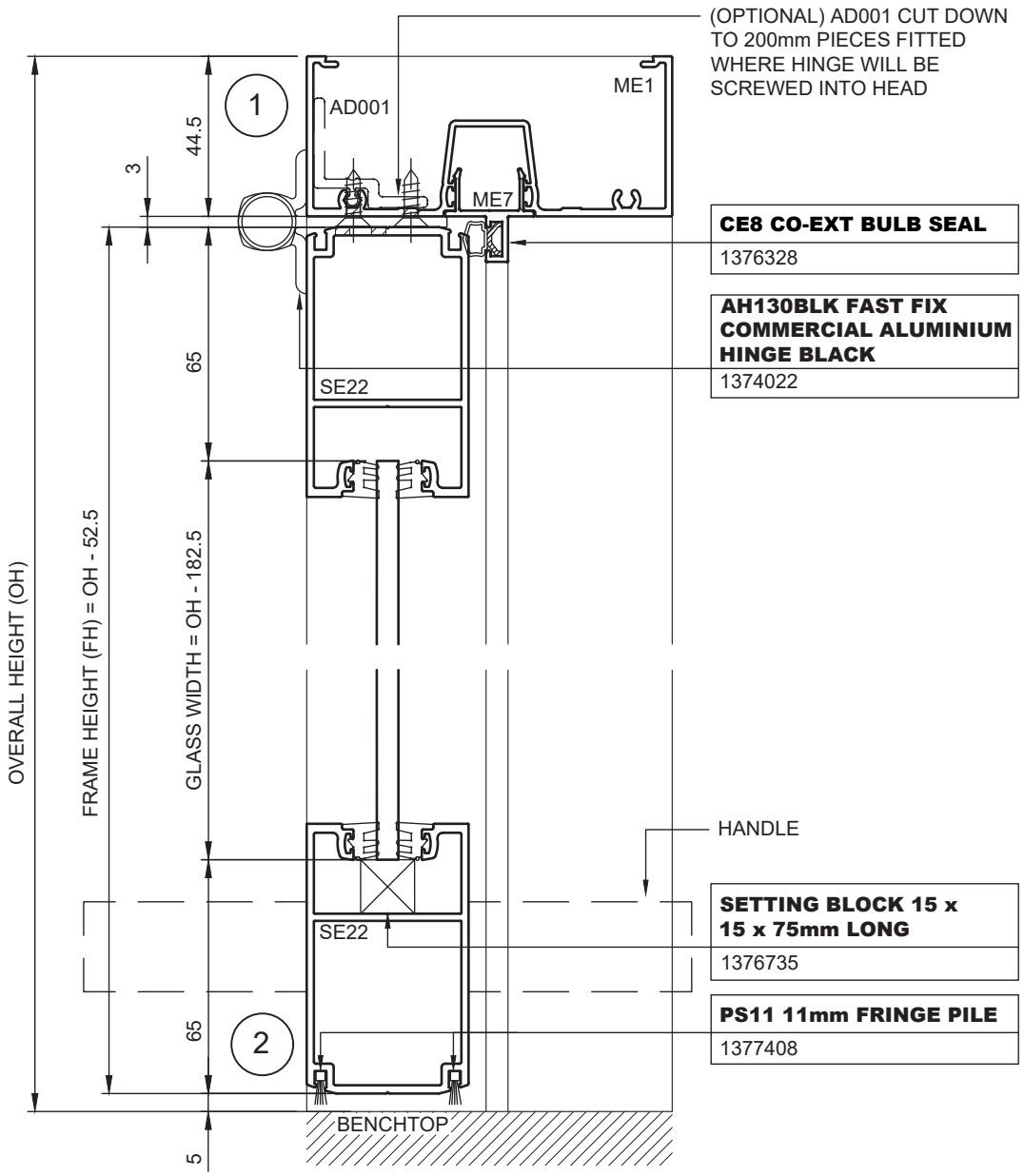


Alternative fixing option



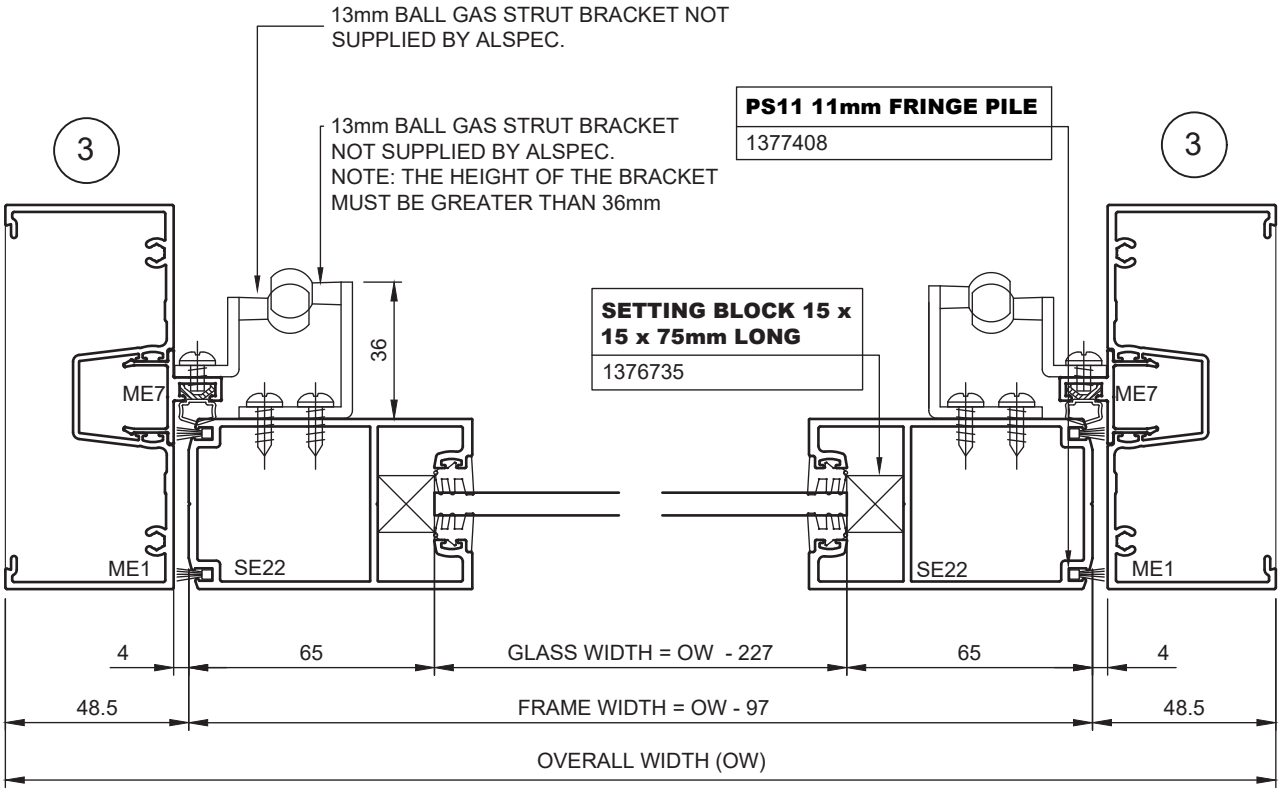
8. Typical Details

Typical Head & No Sill Detail - ME7 Configuration



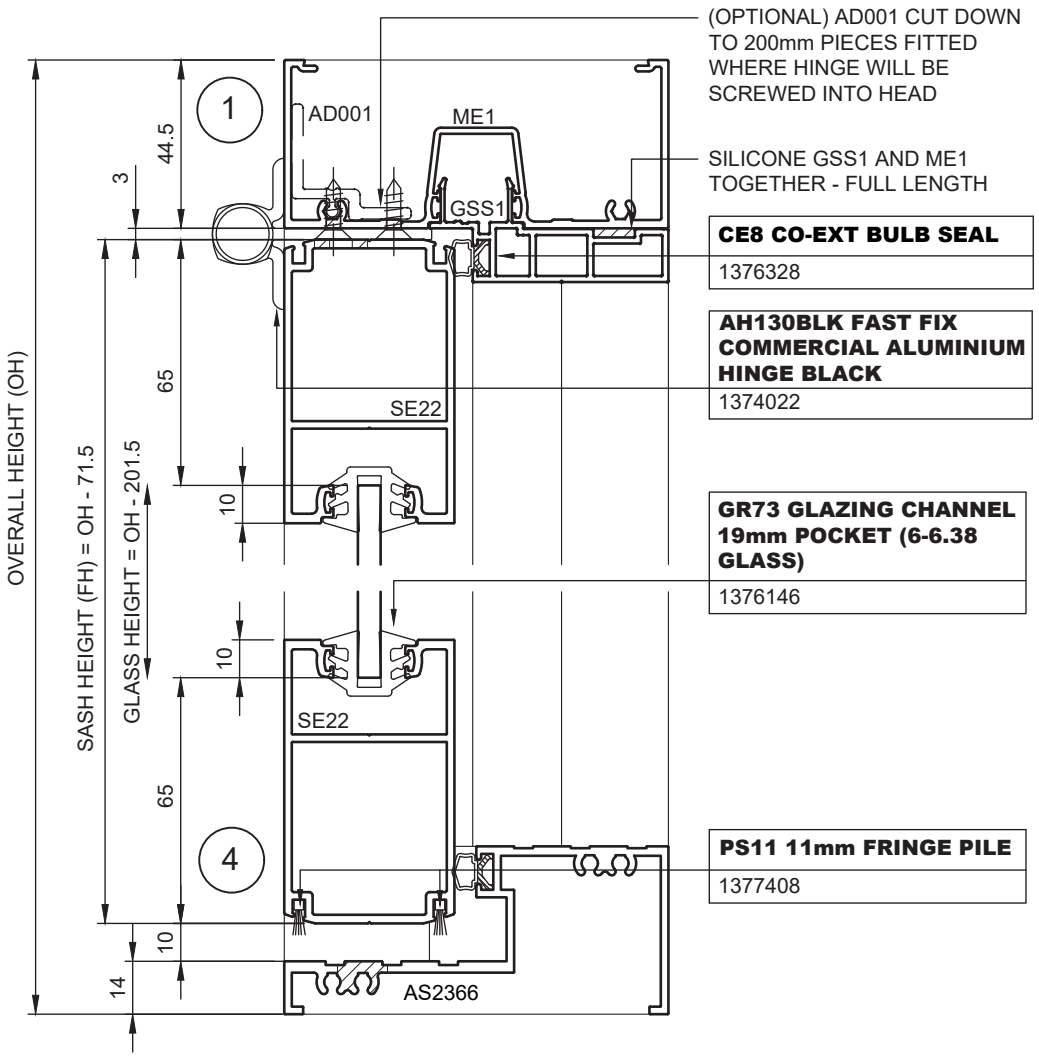
8. Typical Details

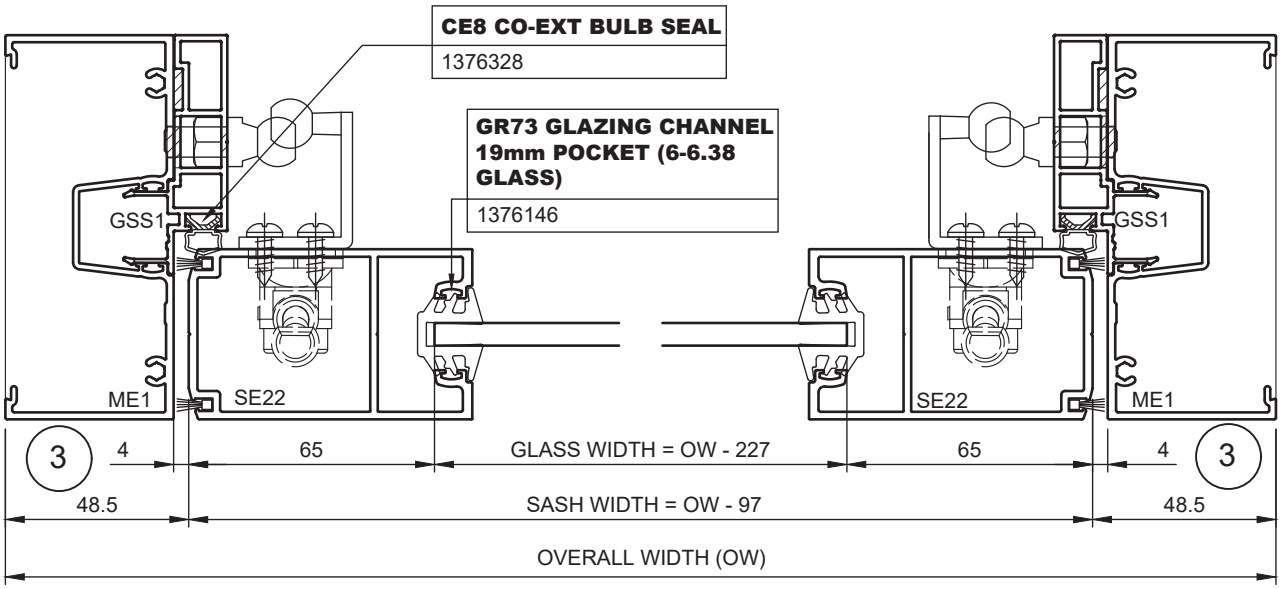
Typical Jamb Details - ME7 Configuration



8. Typical Details

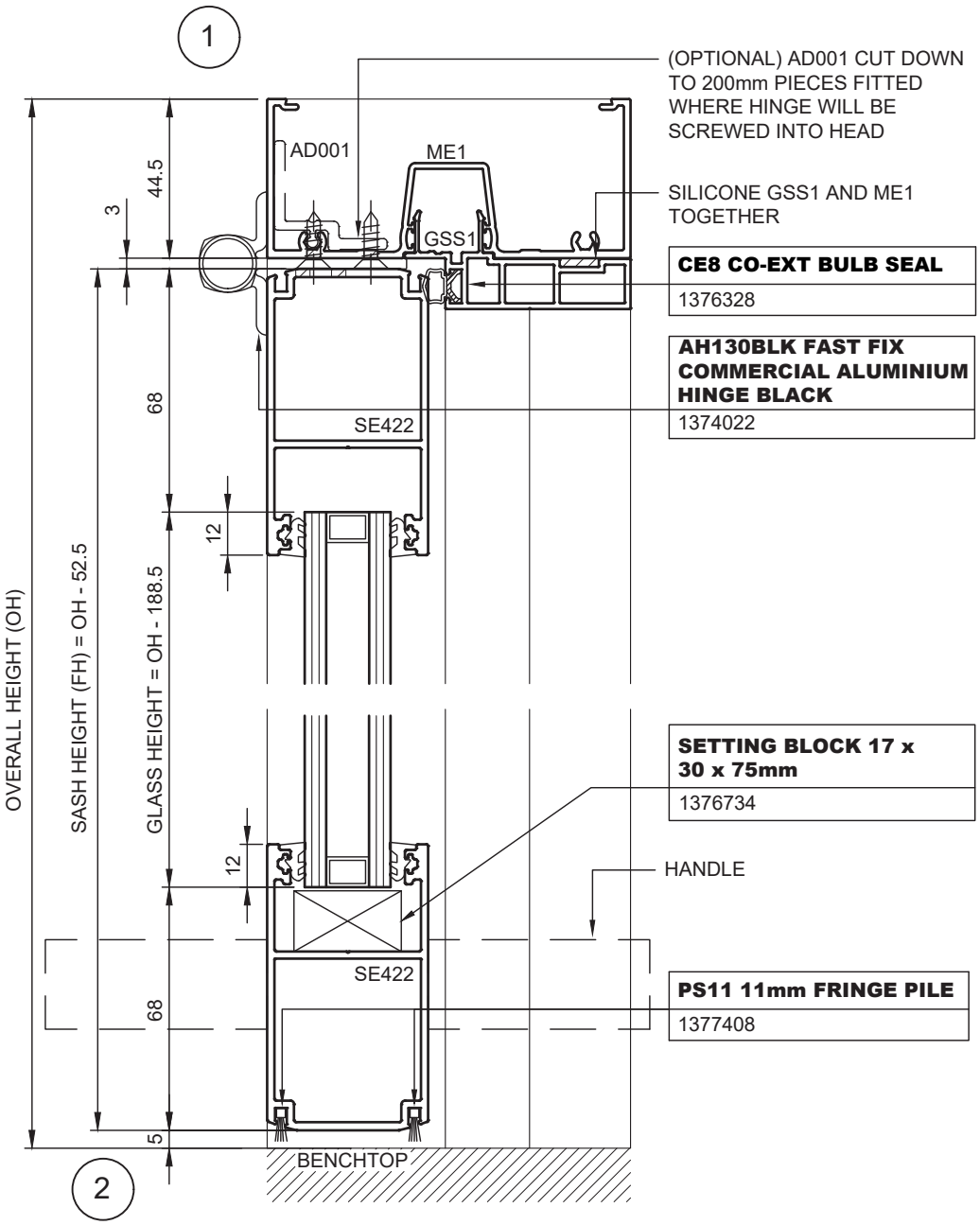
Typical Head & Jamb Details - Alternative Sill Details





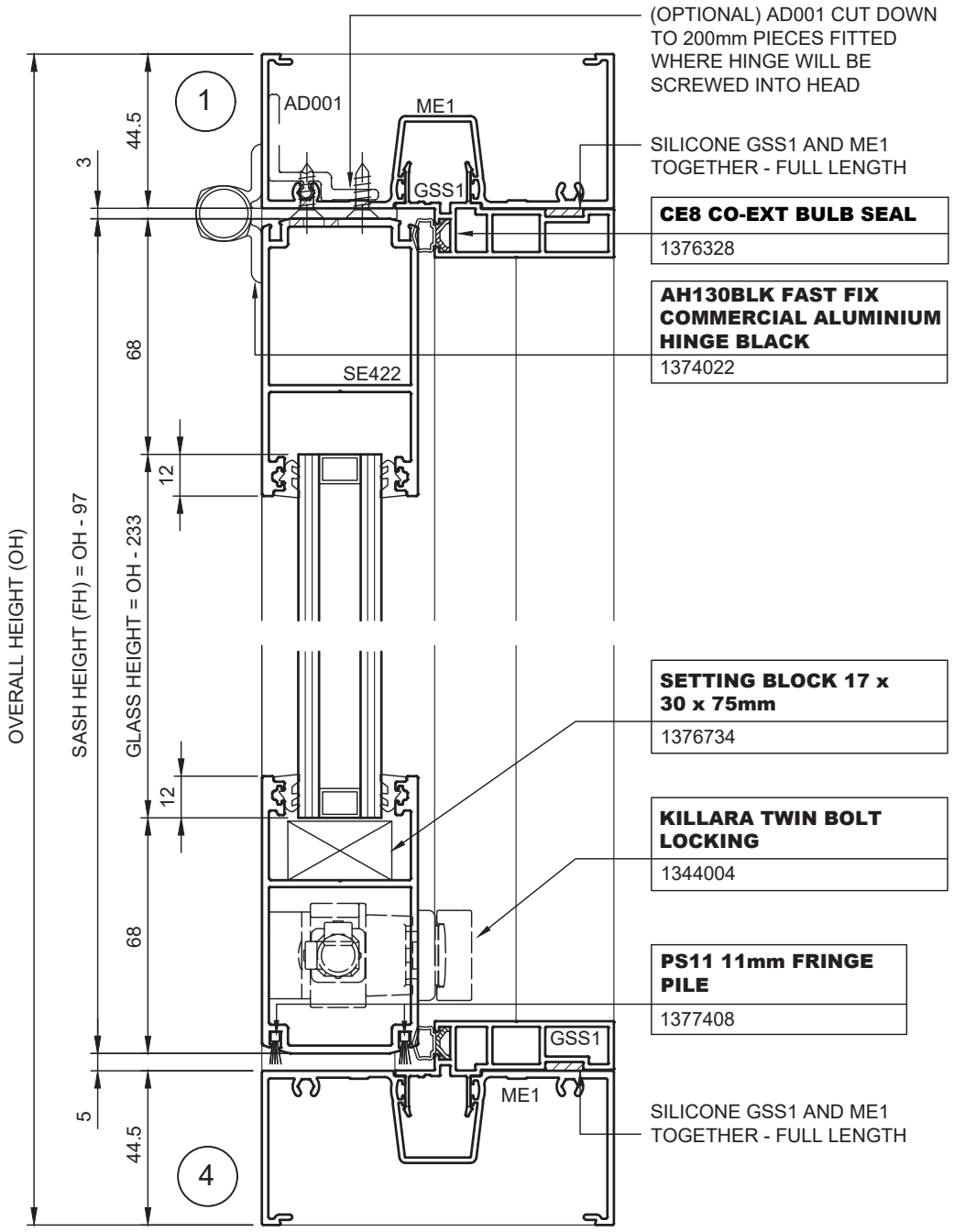
8. Typical Details

Typical DG Head & No-Sill Detail



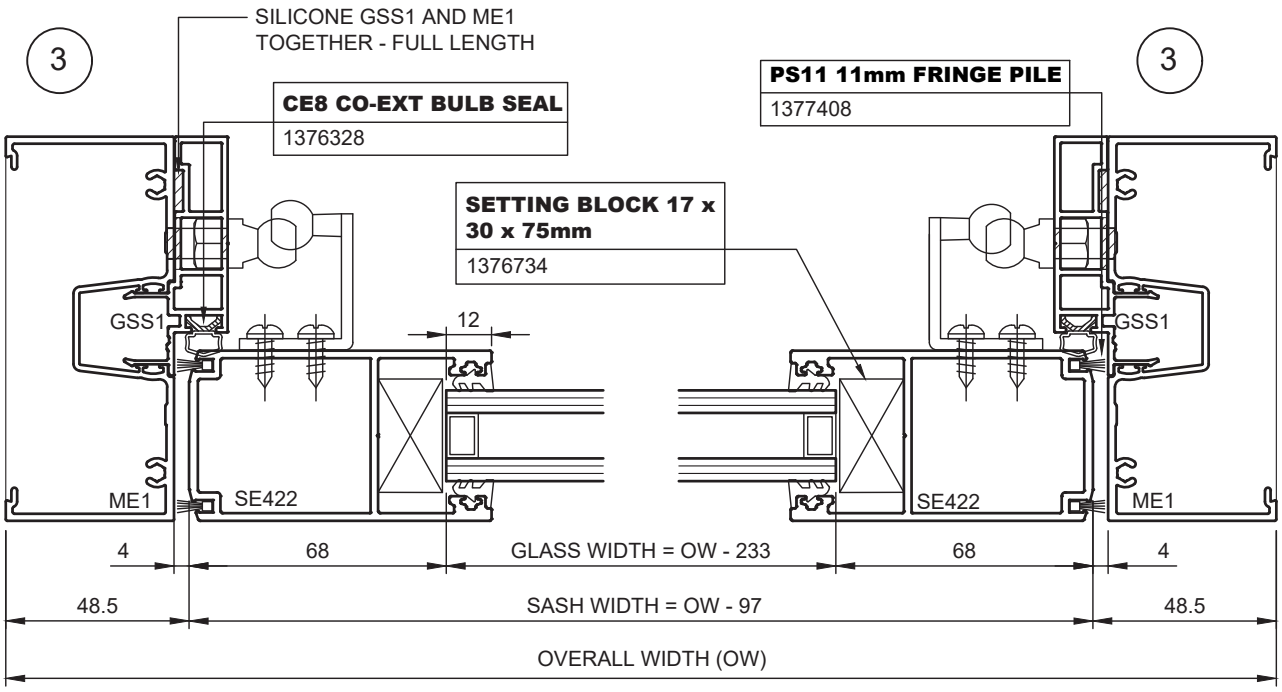
8. Typical Details

Typical DG Head & Sill Detail

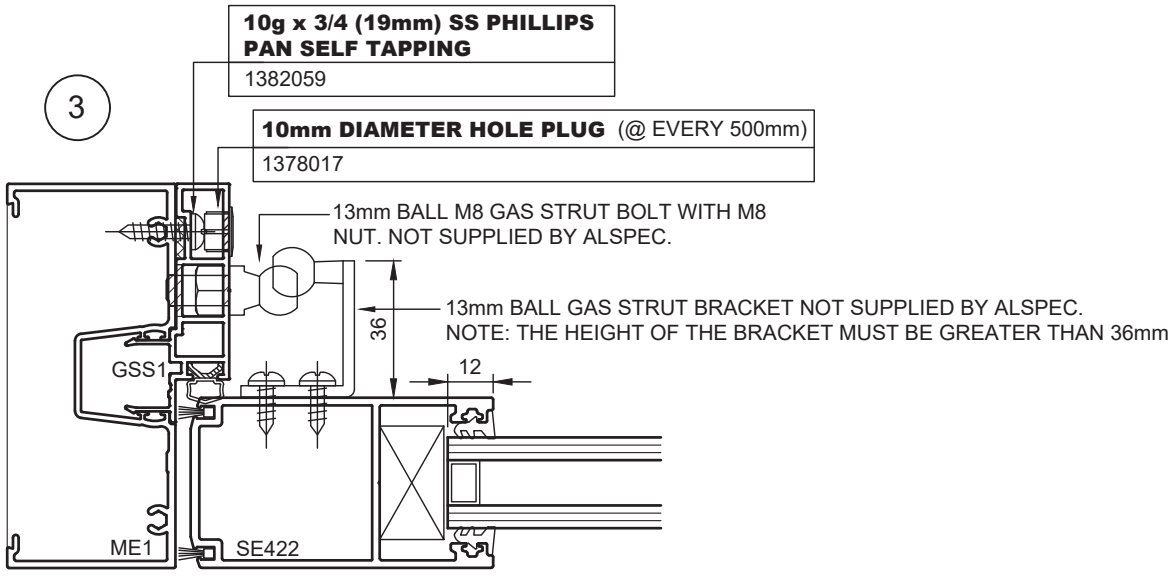


8. Typical Details

DG Typical Jamb Details

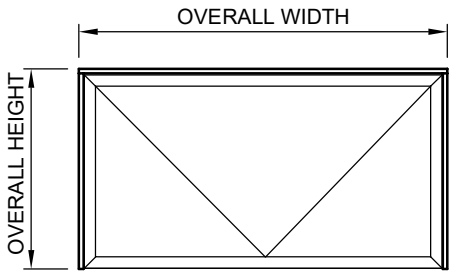


Alternative fixing option



9. Cutting Formulas

No Sill Servery Window - Glazing Channel Configuration



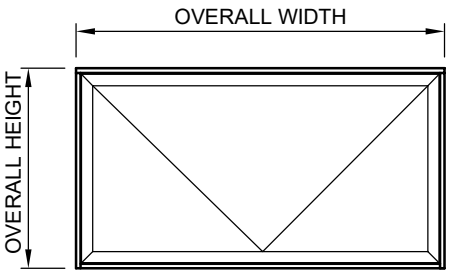
PROFILE	SECTION NO.	DESCRIPTION	CUTTING FORMULA	QTY
	ME1	JAMB	OVERALL HEIGHT - 44.5	2
	ME1	HEAD	OVERALL WIDTH	1
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL HEIGHT - 31**	2
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL WIDTH - 62.2 *	1
	SE22	STILE	OVERALL HEIGHT - 52.5 *	2
	SE22	STILE	OVERALL WIDTH - 97 *	2
GLASS SIZE	HEIGHT		OVERALL HEIGHT (OH) - 182.5	1
	WIDTH		OVERALL WIDTH (OW) - 227	

* Mitre cut both ends 45°
** Mitre cut top end only @ 45°

NOTE: There is a 5mm tolerance from bottom rail to bottom surface/bench.

9. Cutting Formulas

Standard Servery Window - Glazing Channel Configuration



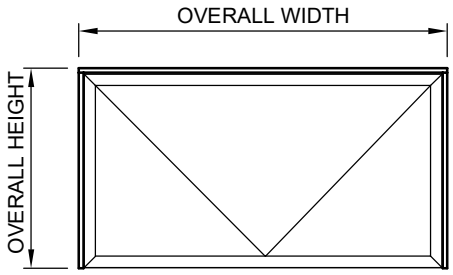
PROFILE	SECTION NO.	DESCRIPTION	CUTTING FORMULA	QTY
	ME1	JAMB	OVERALL HEIGHT - 89	2
	ME1	HEAD / SILL	OVERALL WIDTH	2
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL HEIGHT - 62.2*	2
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL WIDTH - 62.2 *	2
	SE22	STILE	OVERALL HEIGHT - 97 *	2
	SE22	STILE	OVERALL WIDTH - 97 *	2
GLASS SIZE	HEIGHT		OVERALL HEIGHT (OH) - 227	1
	WIDTH		OVERALL WIDTH (OW) - 227	

* Mitre cut both ends 45°

NOTE: There is a 5mm tolerance from bottom rail to bottom surface/bench.

9. Cutting Formulas

Servery Window - ME7 Configuration



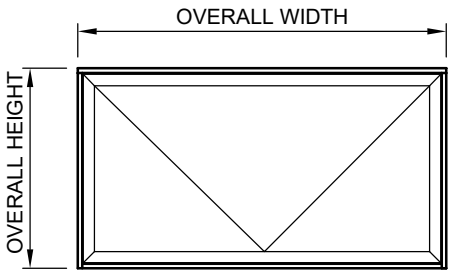
PROFILE	SECTION NO.	DESCRIPTION	CUTTING FORMULA	QTY
	ME1	JAMB	OVERALL HEIGHT - 44.5	2
	ME1	HEAD	OVERALL WIDTH	1
	ME7	45mm DOOR STOP	OVERALL HEIGHT - 31**	2
	ME7	45mm DOOR STOP	OVERALL WIDTH - 62.2 *	1
	SE22	STILE	OVERALL HEIGHT - 52.5 *	2
	SE22	STILE	OVERALL WIDTH - 97 *	2
GLASS SIZE	HEIGHT		OVERALL HEIGHT (OH) - 182.5	1
	WIDTH		OVERALL WIDTH (OW) - 227	

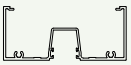
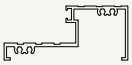
* Mitre cut both ends 45°
** Mitre cut top end only @ 45°

NOTE: There is a 5mm tolerance from bottom rail to bottom surface/bench.

9. Cutting Formulas

Standard Servery Window - Alt. Sill



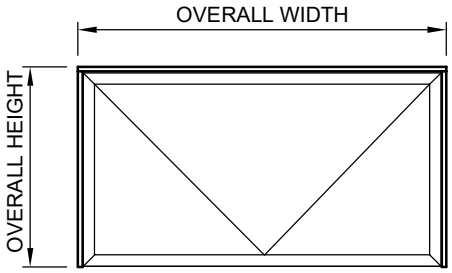
PROFILE	SECTION NO.	DESCRIPTION	CUTTING FORMULA	QTY
	ME1	JAMB	OVERALL HEIGHT - 44.5	2
	ME1	HEAD	OVERALL WIDTH	1
	AS2366	SILL	OVERALL WIDTH - 89	1
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL HEIGHT - 62.2**	2
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL WIDTH - 62.2 *	1
	SE22	STILE	OVERALL HEIGHT - 97 *	2
	SE22	STILE	OVERALL WIDTH - 97 *	2
GLASS SIZE	HEIGHT		OVERALL HEIGHT (OH) - 227	1
	WIDTH		OVERALL WIDTH (OW) - 227	

* Mitre cut both ends 45°
** Mitre cut top end only @ 45°

NOTE: There is a 5mm tolerance from bottom rail to bottom surface/bench.

9. Cutting Formulas

No Sill DG Servery Window



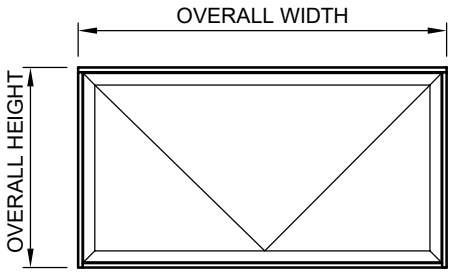
PROFILE	SECTION NO.	DESCRIPTION	CUTTING FORMULA	QTY
	ME1	JAMB	OVERALL HEIGHT - 44.5	2
	ME1	HEAD	OVERALL WIDTH	1
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL HEIGHT - 31**	2
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL WIDTH - 62.2 *	1
	SE422	STILE	OVERALL HEIGHT - 52.5 *	2
	SE422	STILE	OVERALL WIDTH - 97 *	2
GLASS SIZE	HEIGHT		OVERALL HEIGHT (OH) - 188.5	1
	WIDTH		OVERALL WIDTH (OW) - 233	

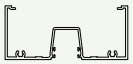
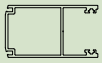
* Mitre cut both ends 45°
** Mitre cut top end only @ 45°

NOTE: There is a 5mm tolerance from bottom rail to bottom surface/bench.

9. Cutting Formulas

Standard DG Servery Window



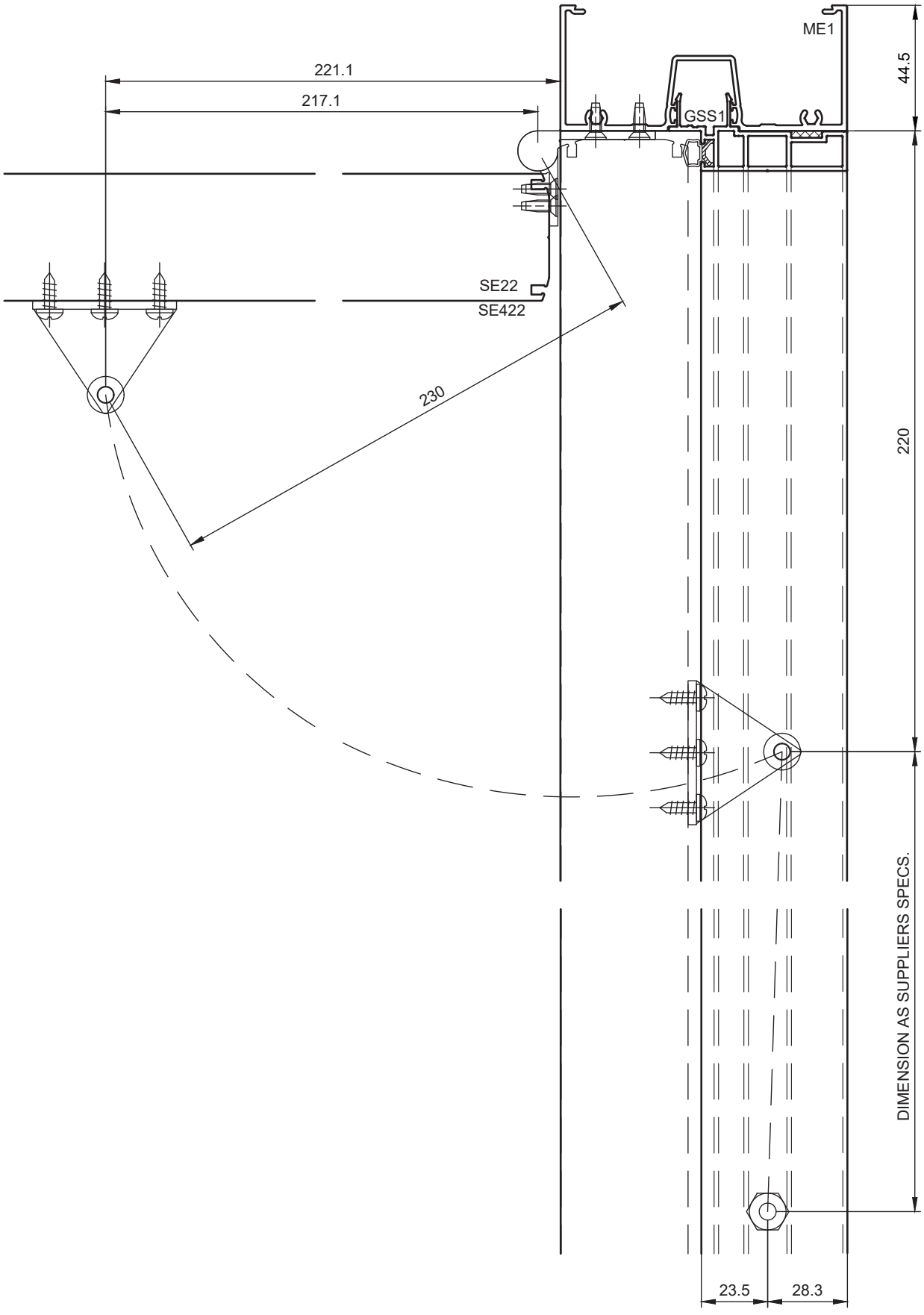
PROFILE	SECTION NO.	DESCRIPTION	CUTTING FORMULA	QTY
	ME1	JAMB	OVERALL HEIGHT - 89	2
	ME1	HEAD / SILL	OVERALL WIDTH	2
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL HEIGHT - 62.2*	2
	GSS1	GAS STRUT CLIP-ON STOP	OVERALL WIDTH - 62.2 *	2
	SE422	STILE	OVERALL HEIGHT - 97 *	2
	SE422	STILE	OVERALL WIDTH - 97 *	2
GLASS SIZE	HEIGHT		OVERALL HEIGHT (OH) - 233	1
	WIDTH		OVERALL WIDTH (OW) - 233	

* Mitre cut both ends 45°

NOTE: There is a 5mm tolerance from bottom rail to bottom surface/bench.

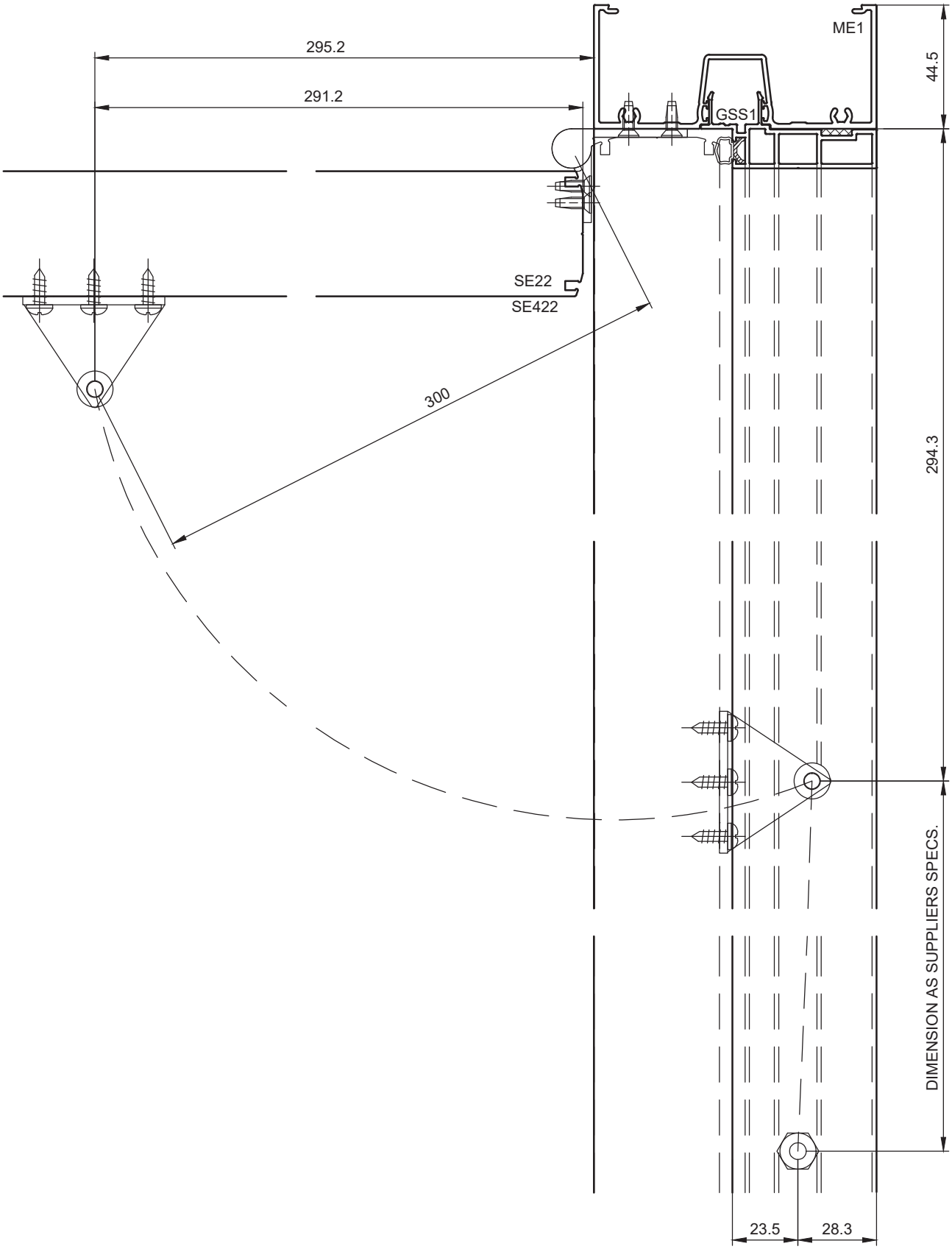
10. Manufacturing Details

716mm Gas Strut Location



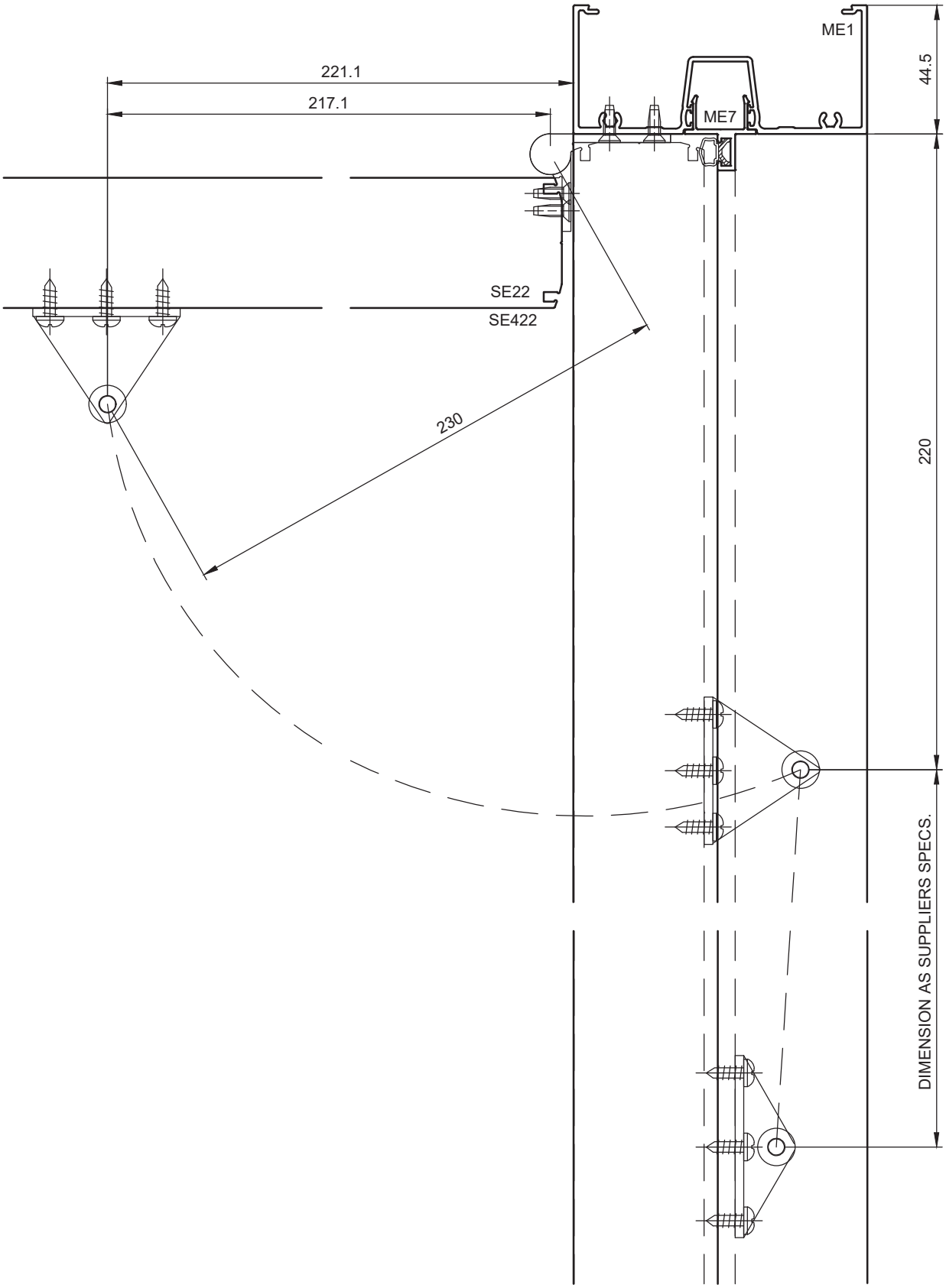
10. Manufacturing Details

816 and 830mm Gas Strut Location



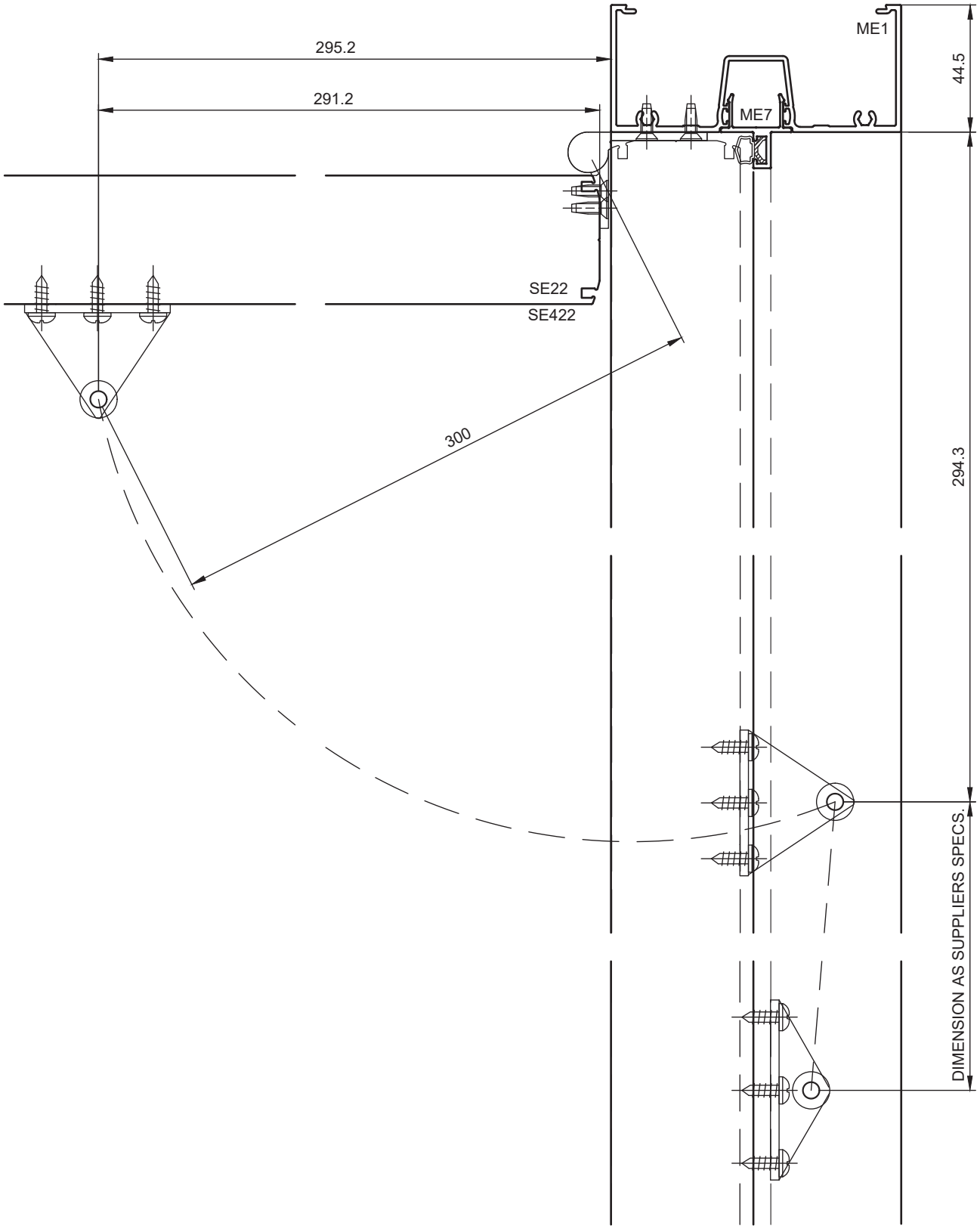
10. Manufacturing Details

716mm Long Gas Strut Location - ME7 Configuration



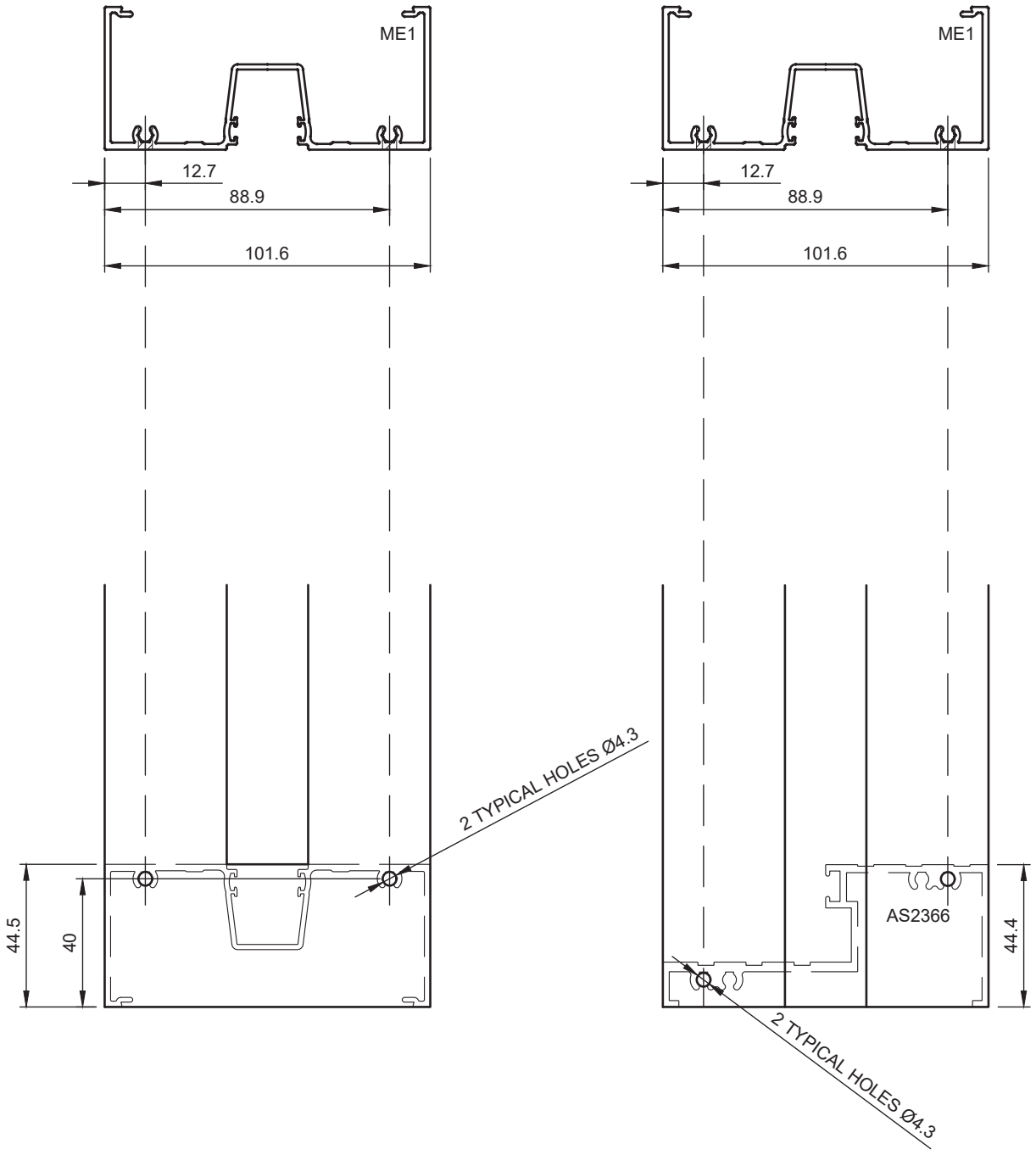
10. Manufacturing Details

816 and 830mm Gas Strut Location - ME7 Configuration



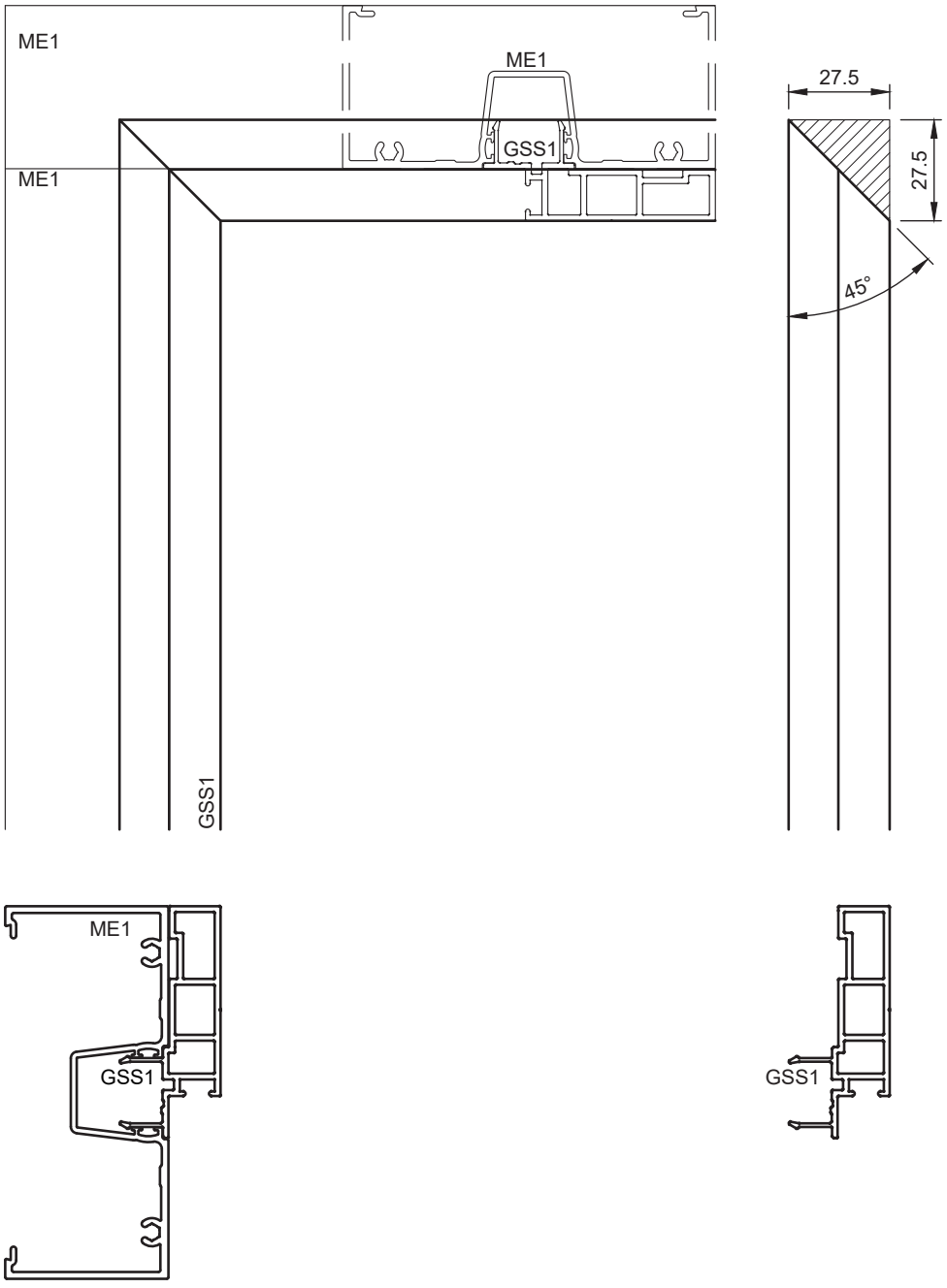
10. Manufacturing Details

Sill and Jamb Preparation



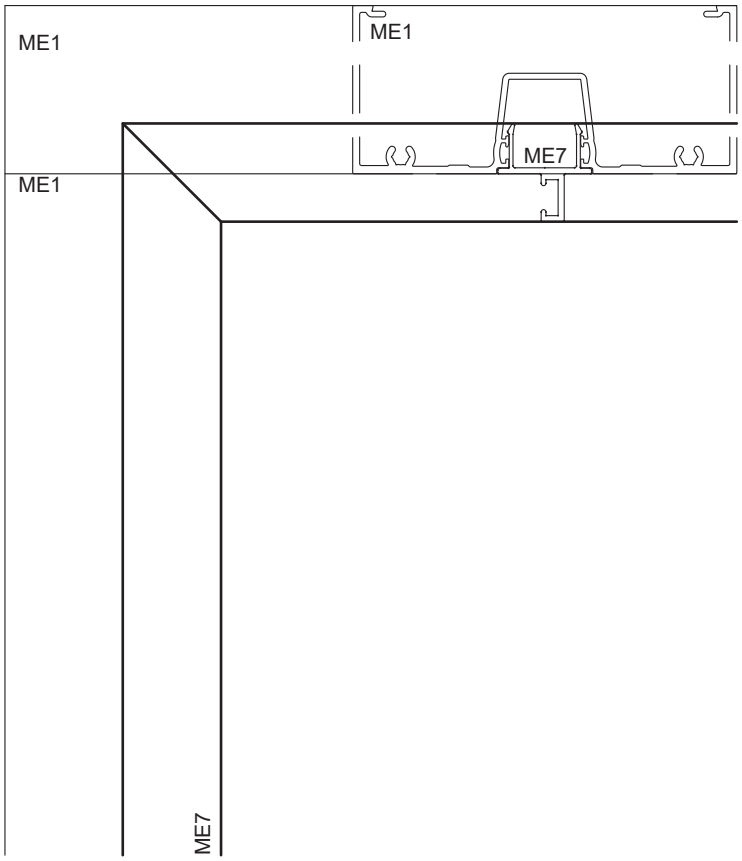
10. Manufacturing Details

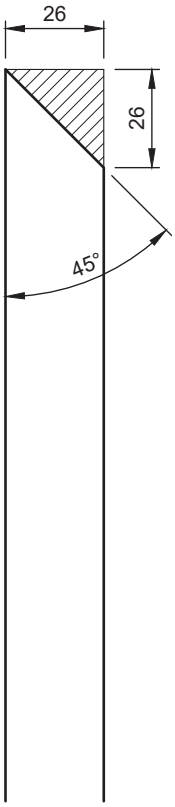
Gas Strut Clip-On Details

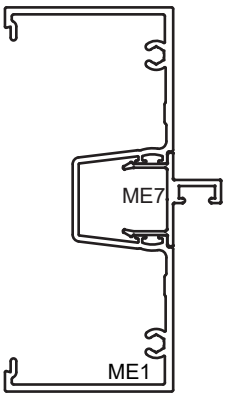


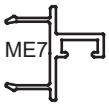
10. Manufacturing Details

Door Stop Details



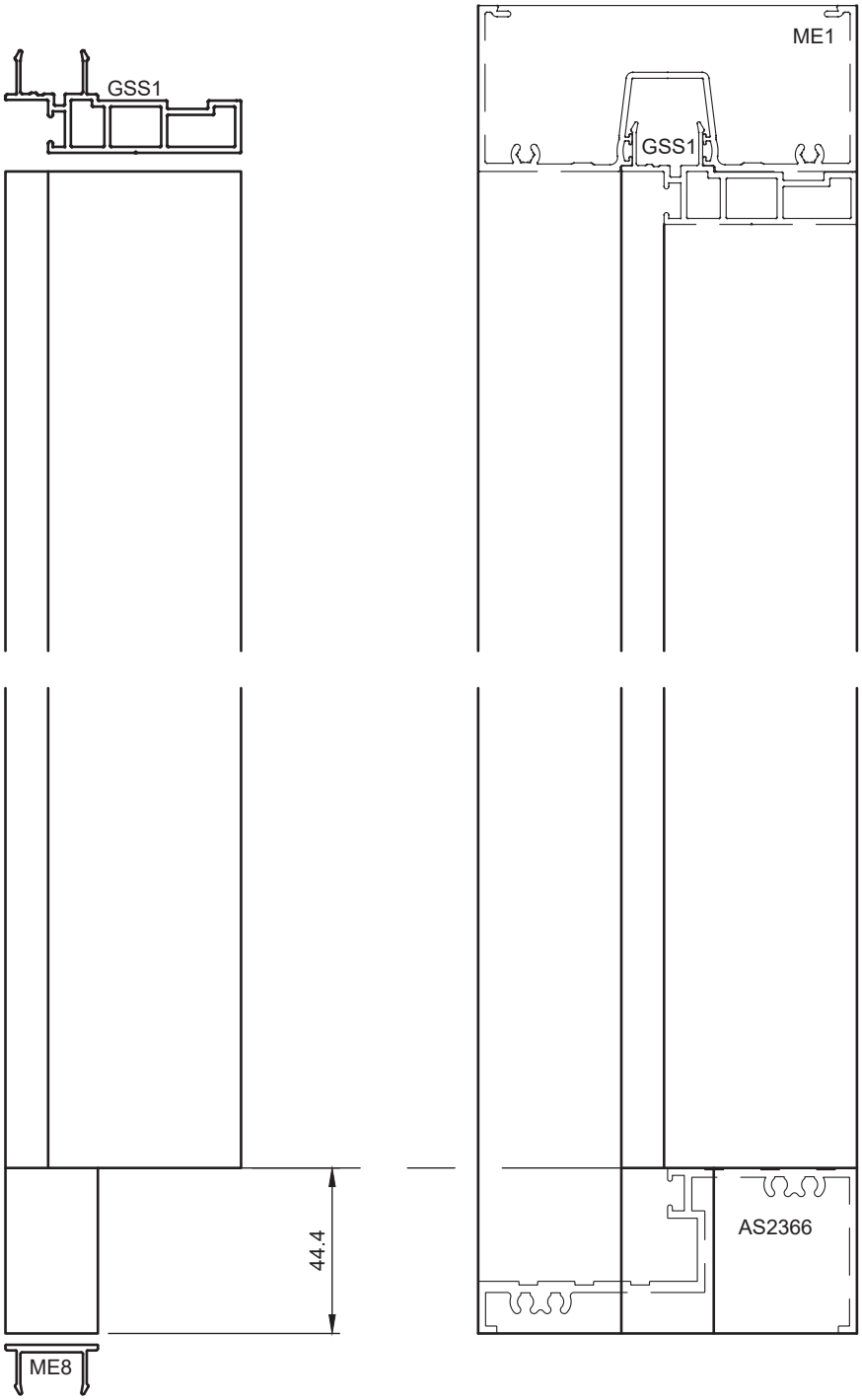






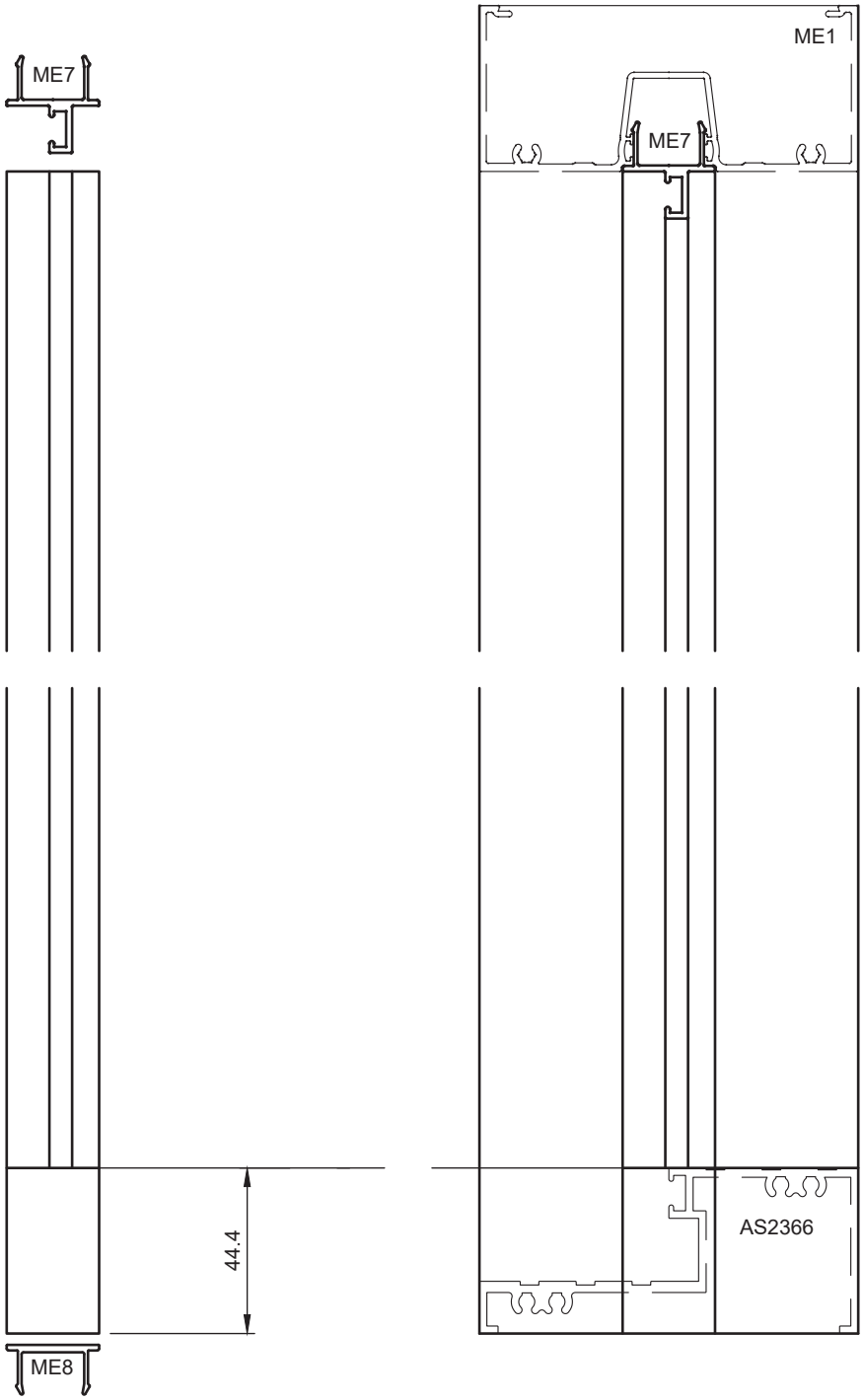
10. Manufacturing Details

Clip On Adaptor Preparation



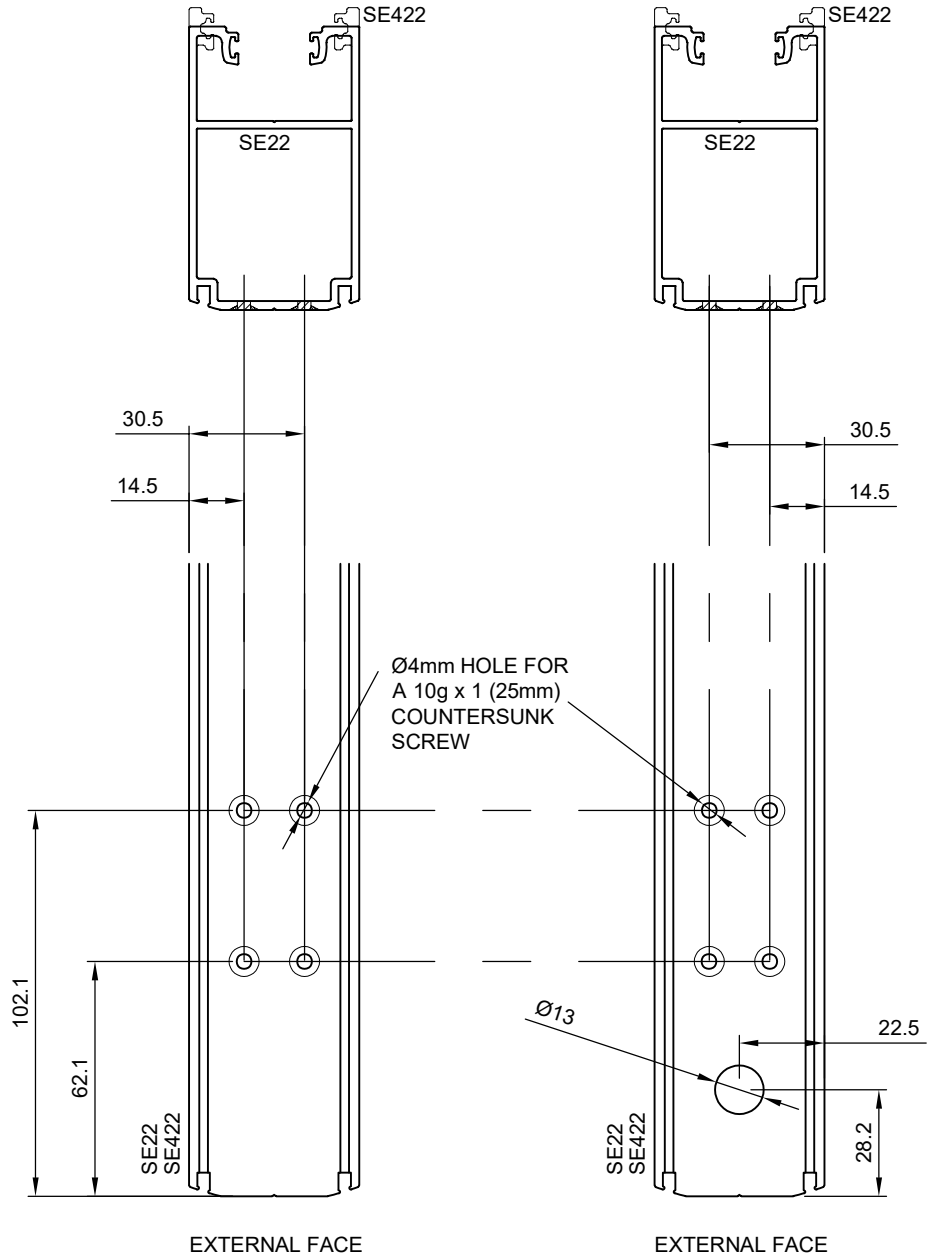
10. Manufacturing Details

Door Adaptor Preparation

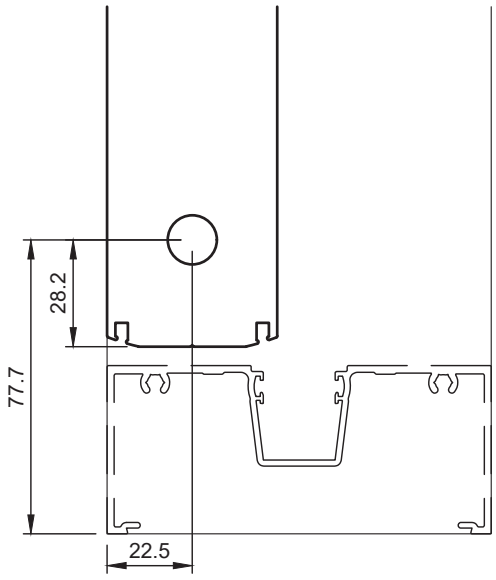


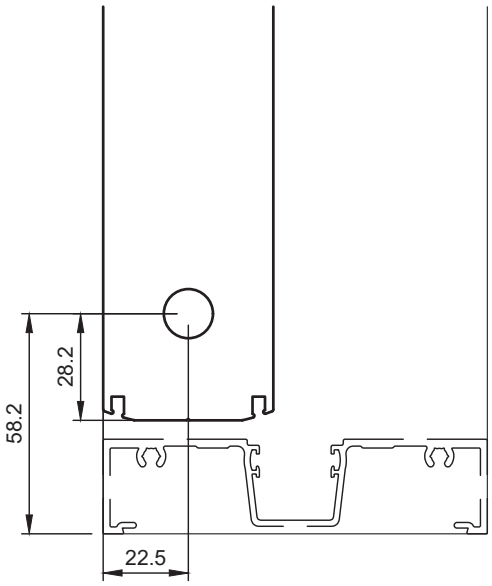
10. Manufacturing Details

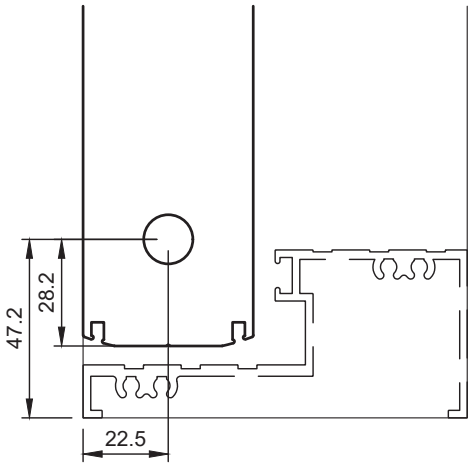
Hole Preparation GSSA001 Corner Stake

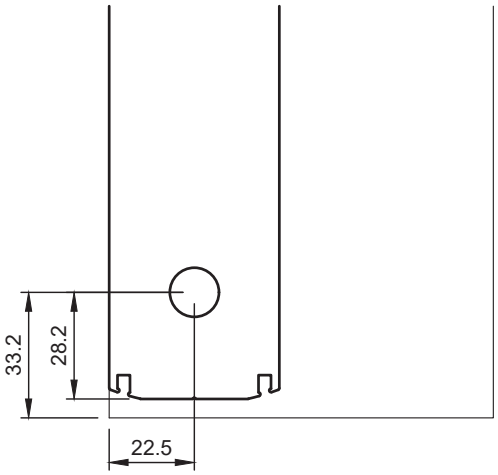


Flush Bolt Hole Location Jamb



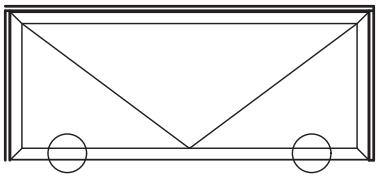


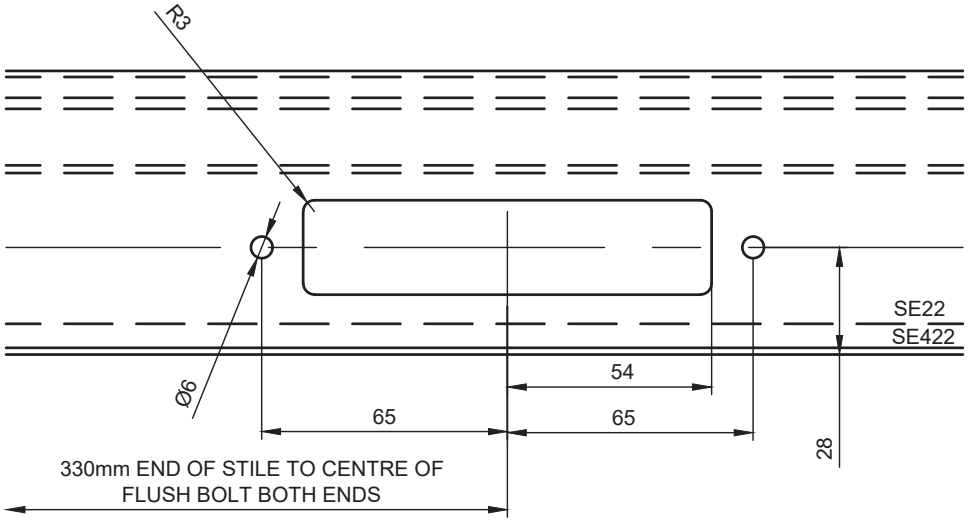


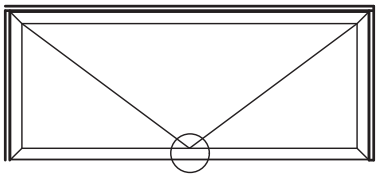


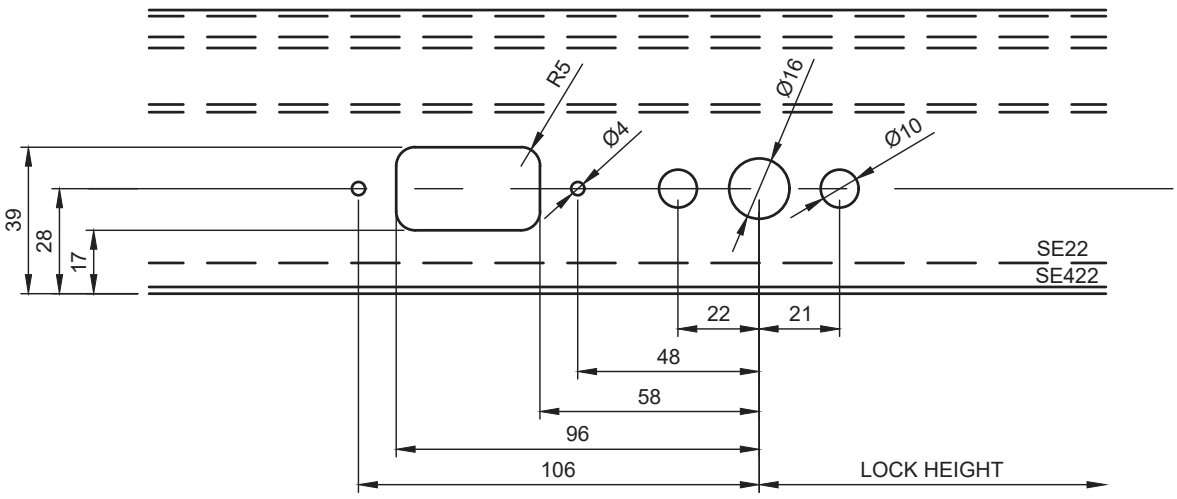
10. Manufacturing Details

Flush Bolt & Killara key lock body Preparation



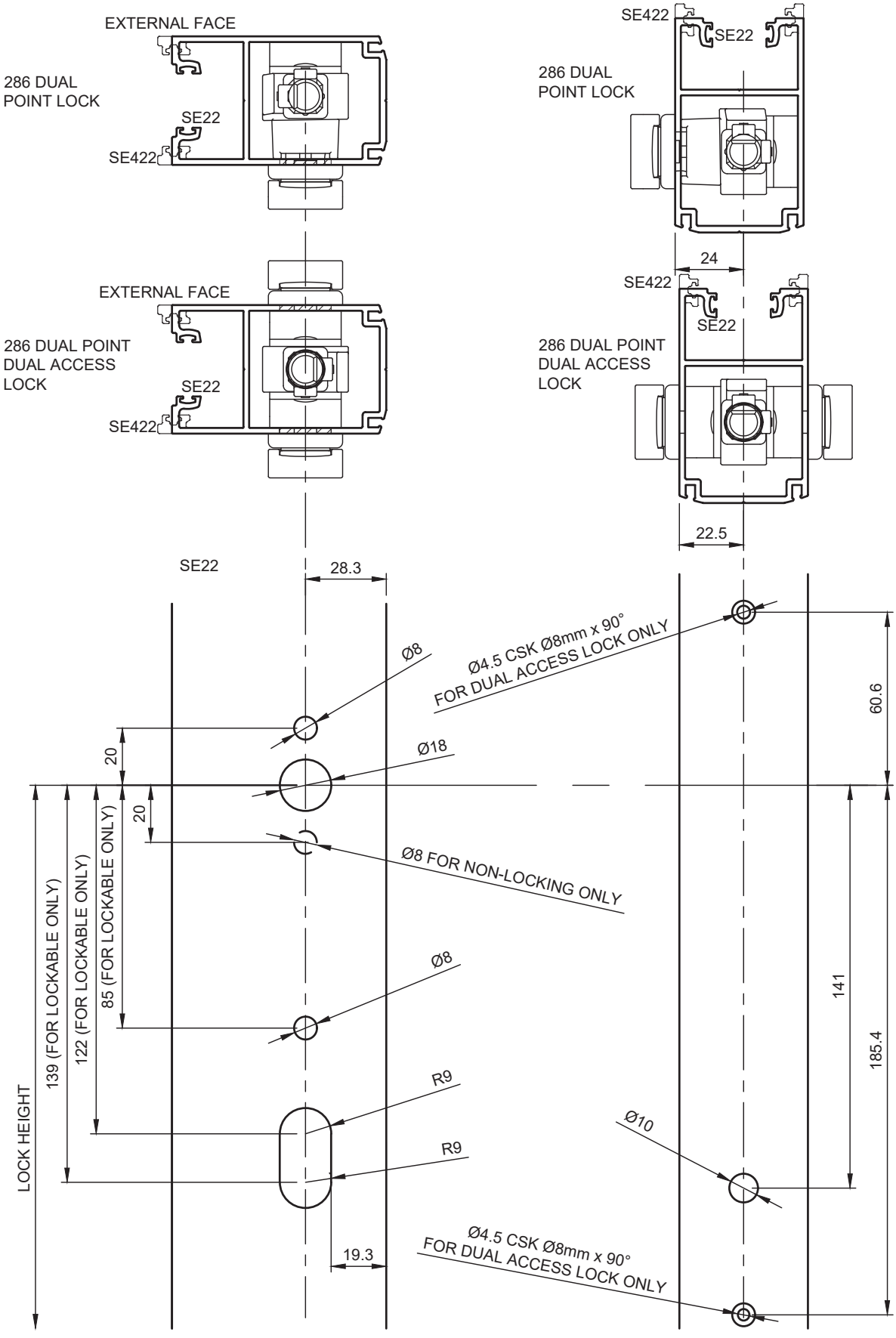






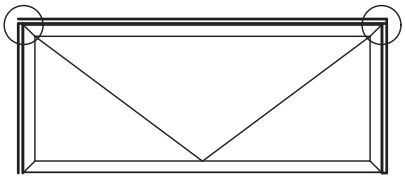
10. Manufacturing Details

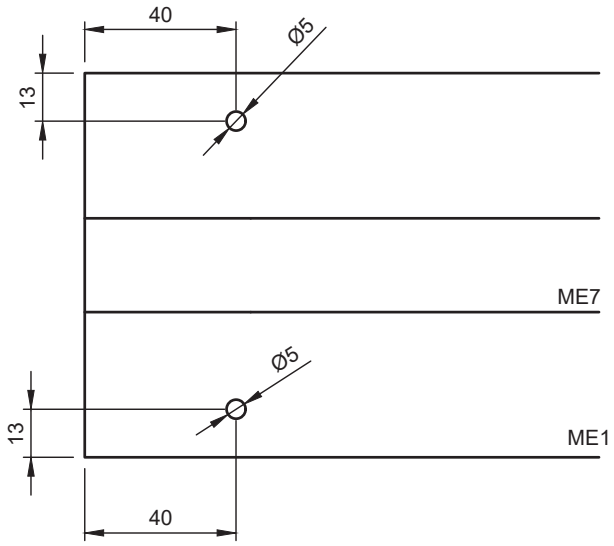
Twin Bolt Lock Preparation - Brio 286

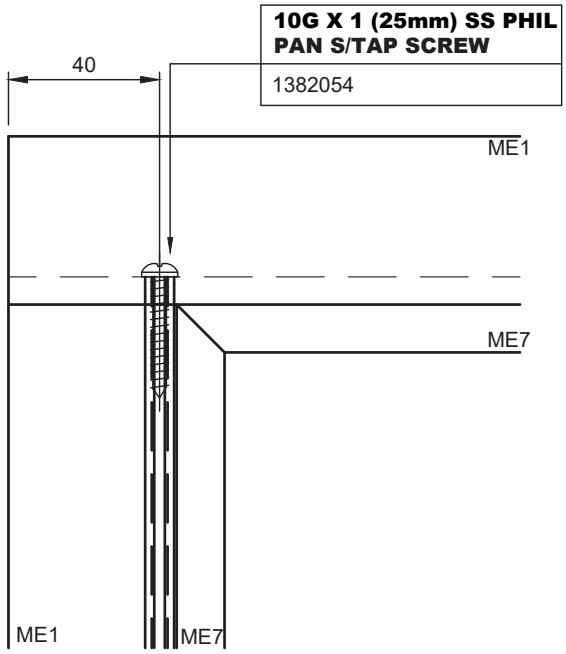


10. Manufacturing Details

Head/Jamb Preparation

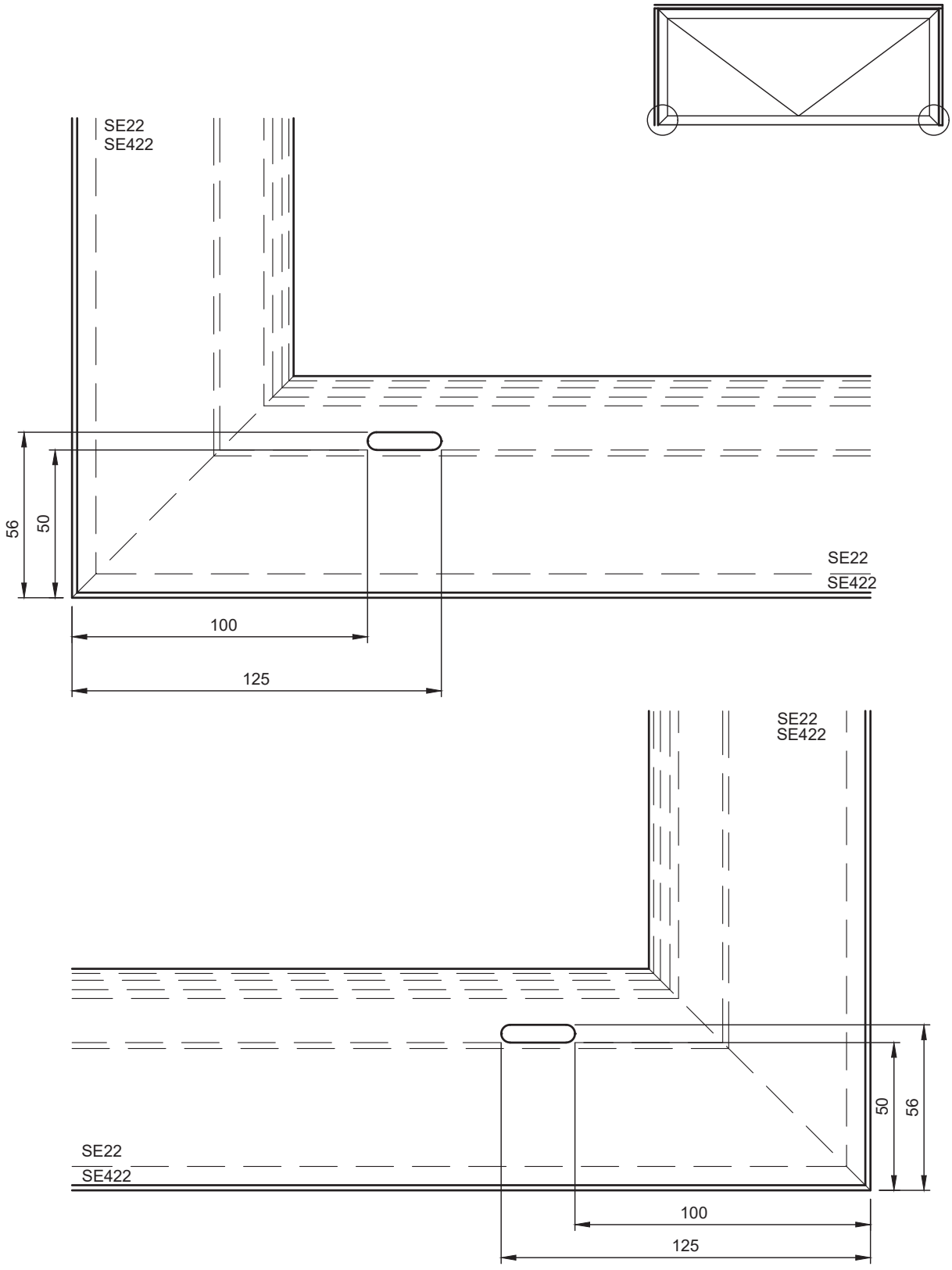






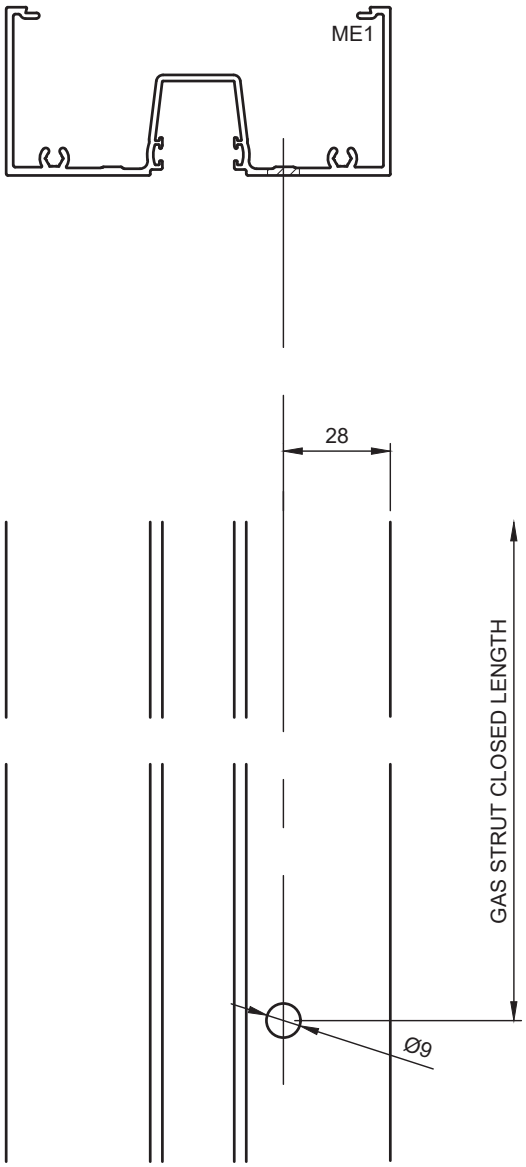
10. Manufacturing Details

Drain Holes - Bottom Rail



10. Manufacturing Details

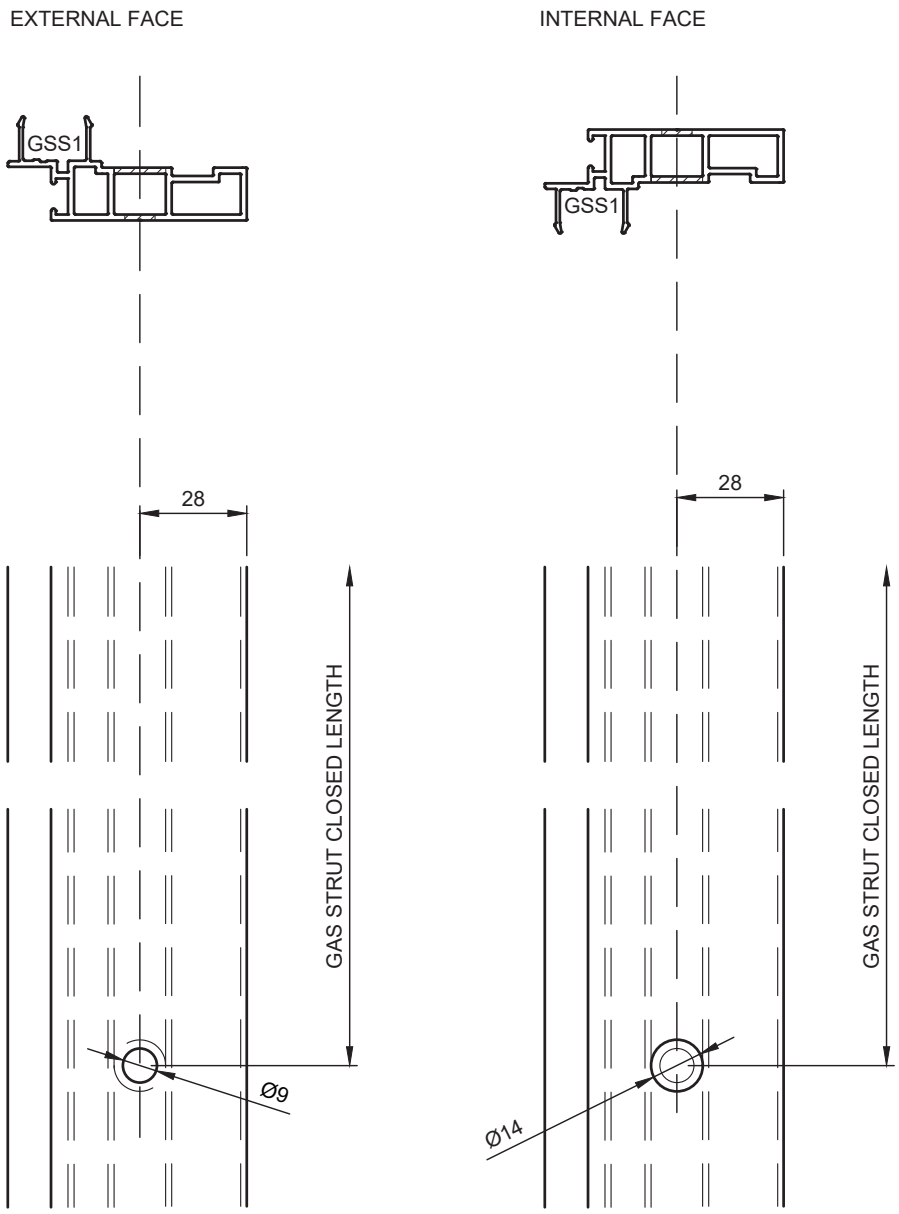
Jamb Hole Details - Gas Strut Bolt Clearance Hole



NOTE: MEASUREMENT FOR GAS STRUT BRACKET/BOLT IS SUBJECT TO THE CHOSEN GAS STRUT BY FABRICATOR.

10. Manufacturing Details

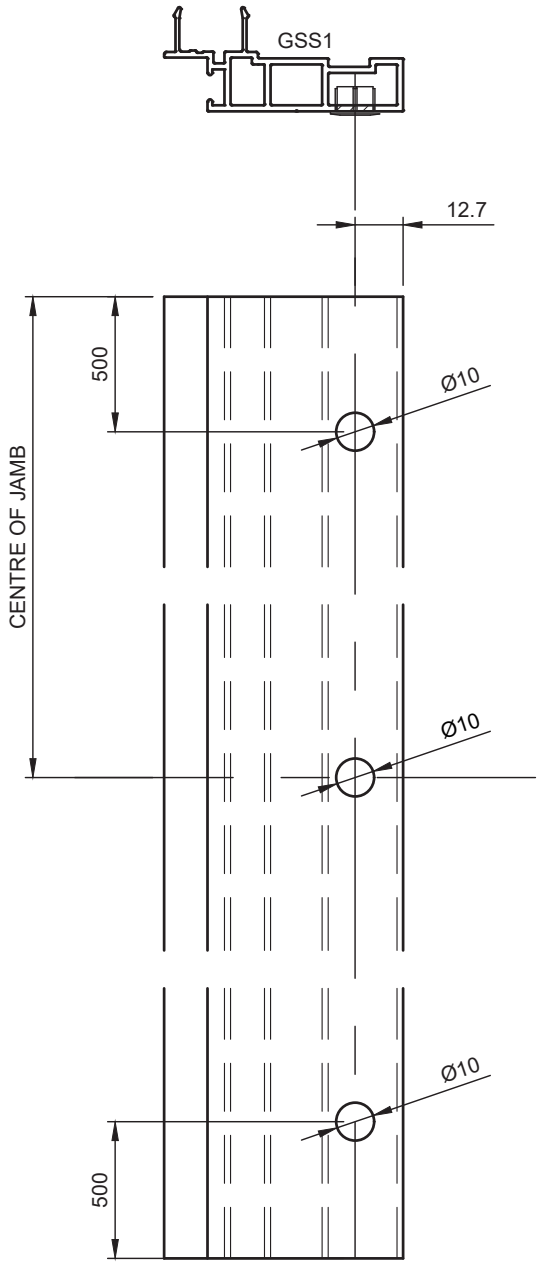
Jamb Hole Details - Gas Strut Bolt Hole Location



NOTE: MEASUREMENT FOR GAS STRUT BRACKET/BOLT IS SUBJECT TO THE CHOSEN GAS STRUT BY FABRICATOR.

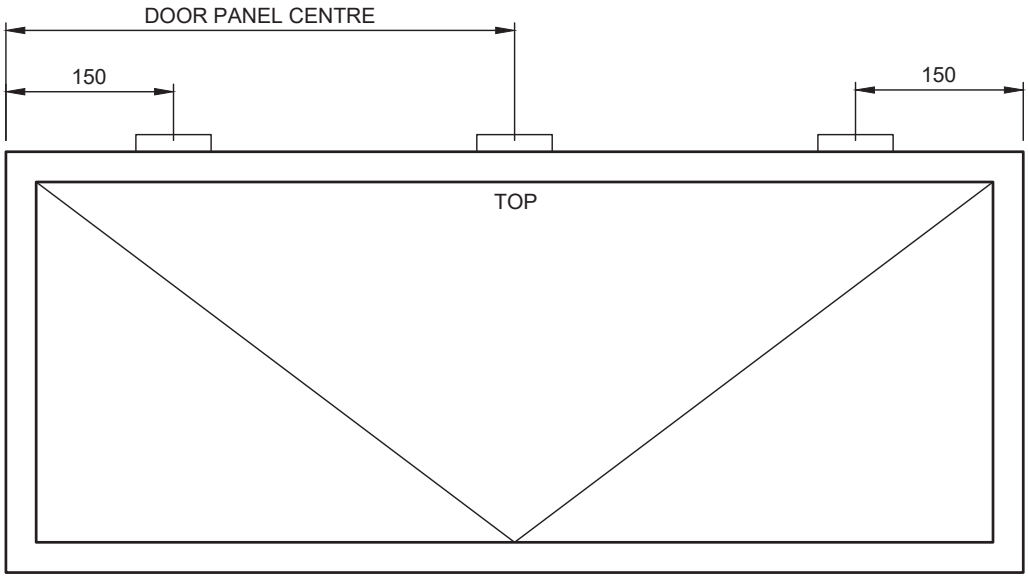
10. Manufacturing Details

GSS - Plug Holes



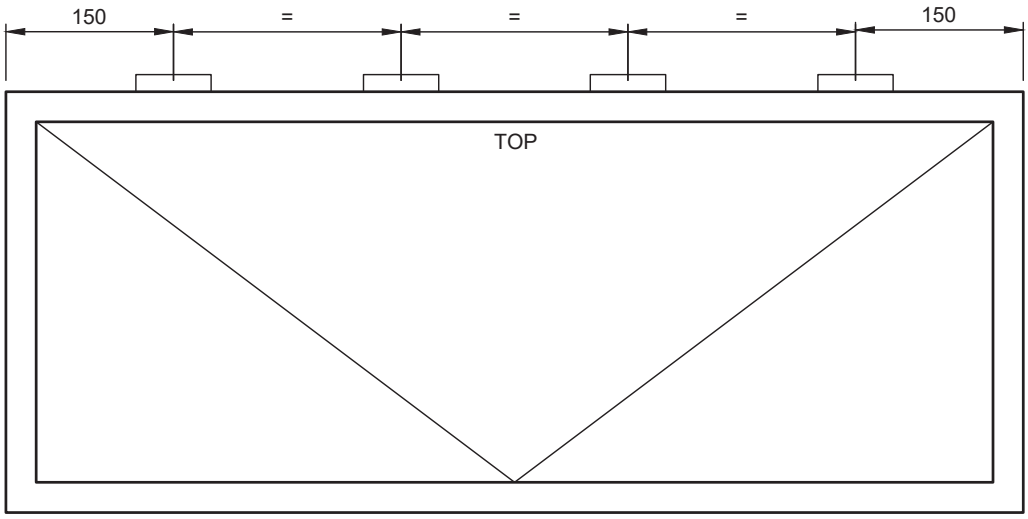
10. Manufacturing Details

AH130 Hinge Layout



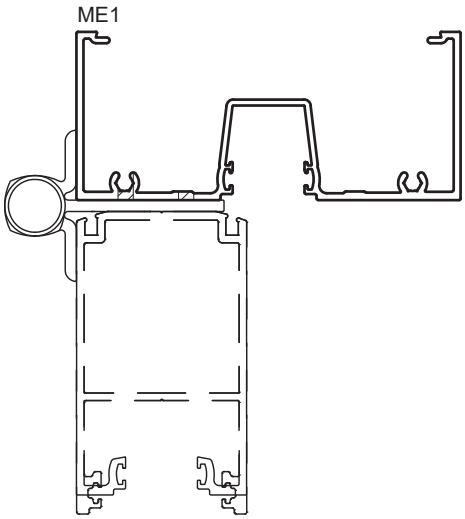
3 HINGES MAX WEIGHT 70 KG

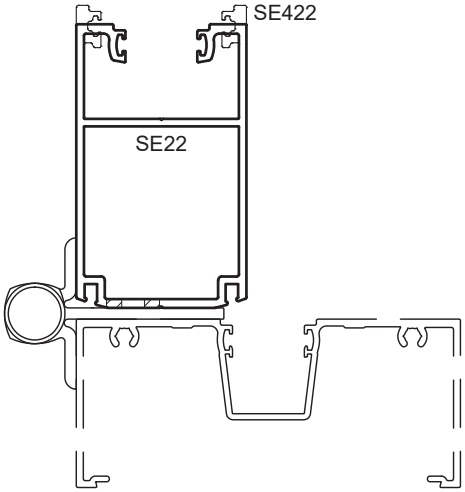
IF WEIGHT IS HEAVIER AN EXTRA HINGE WILL BE REQUIRED.

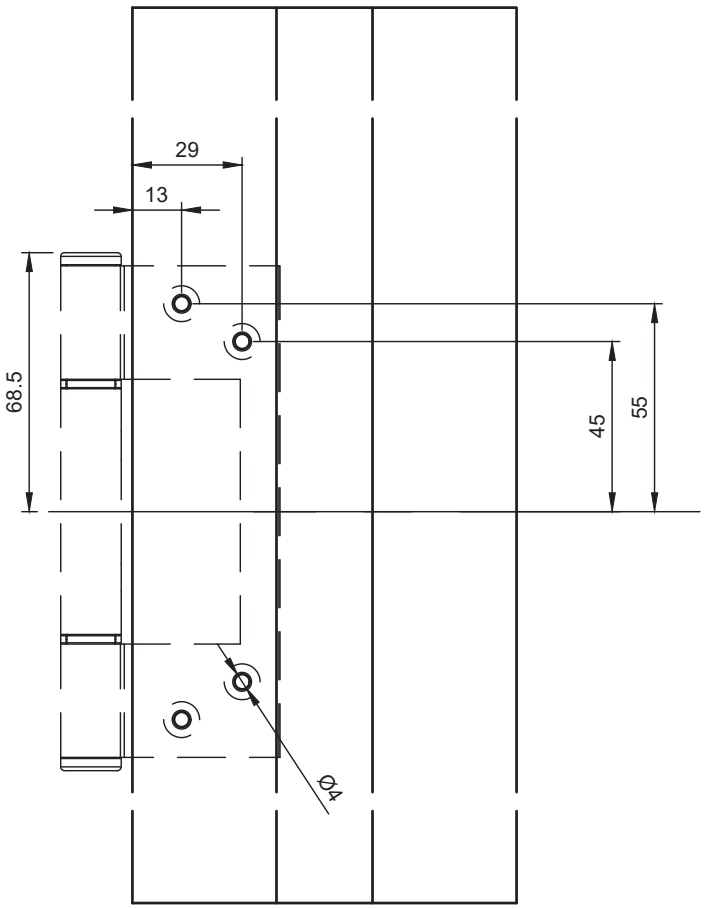


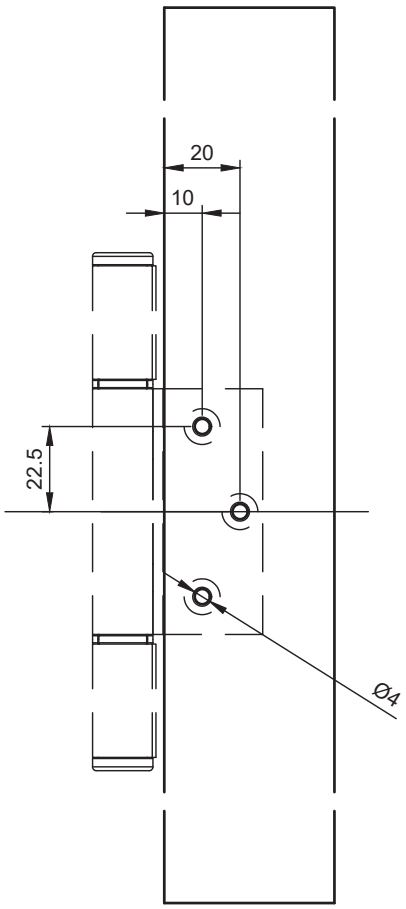
10. Manufacturing Details

AH130 Hinge Machining - Frame



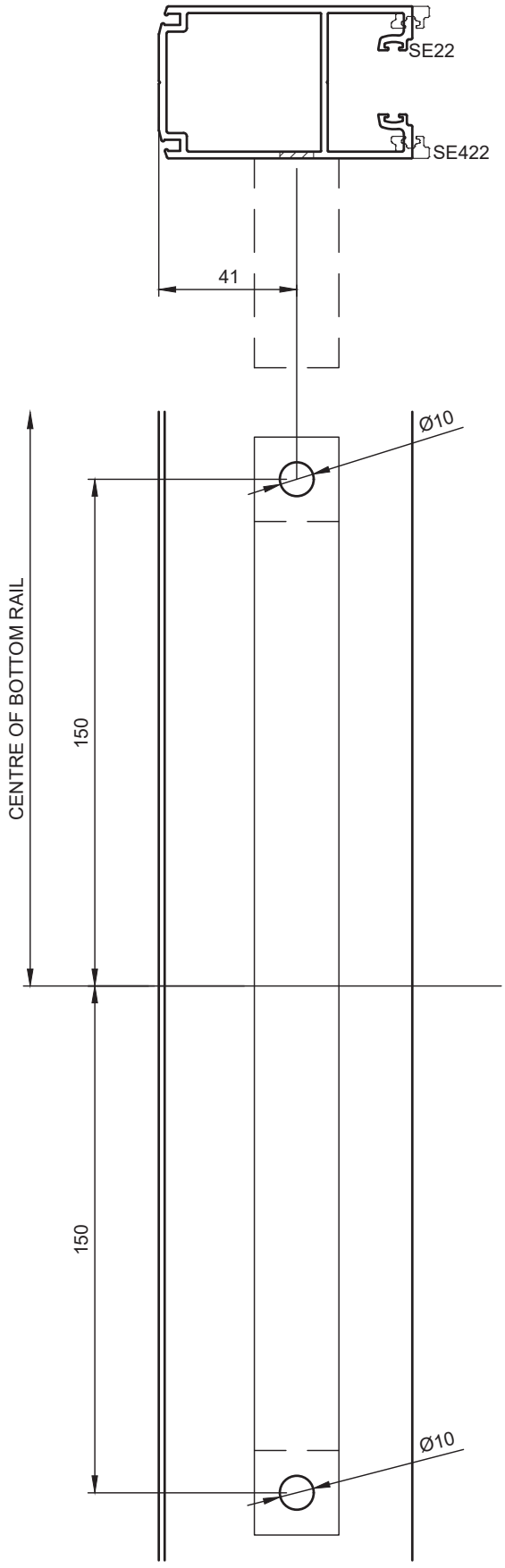






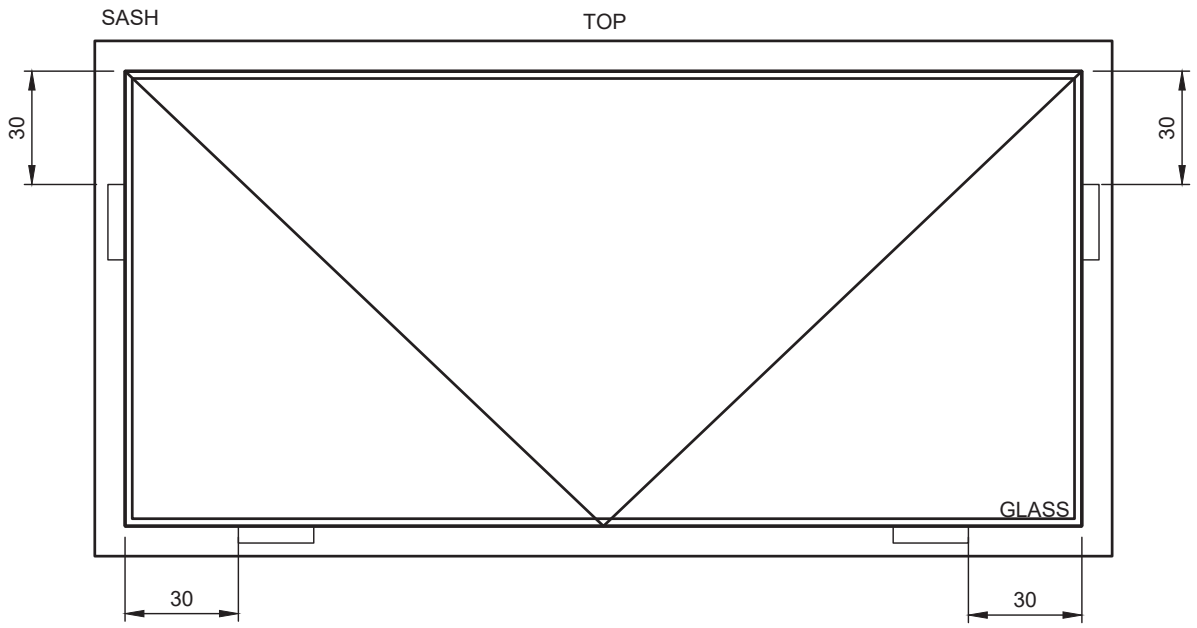
10. Manufacturing Details

Dego Square B/B Pull Handle Preparation



10. Manufacturing Details

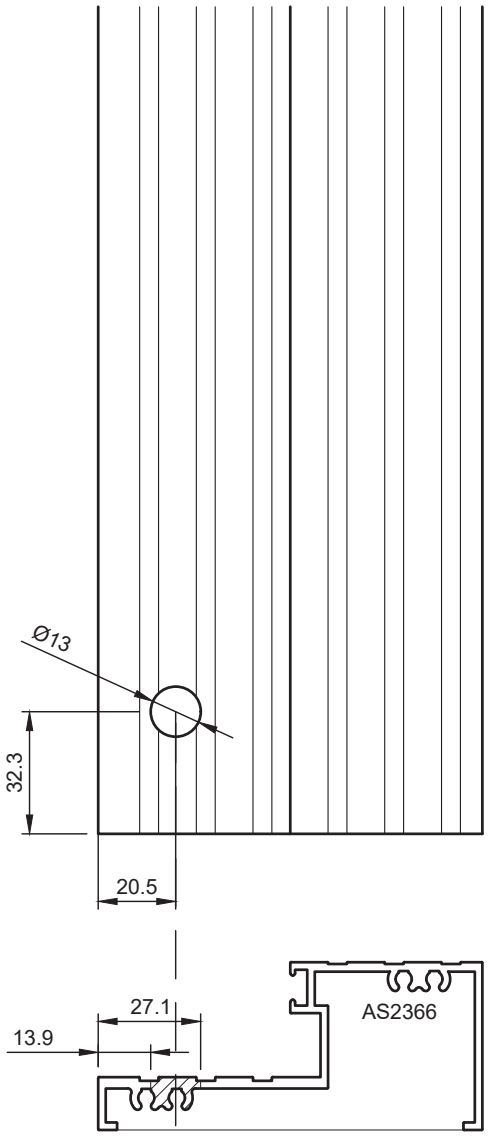
Setting Block Locations

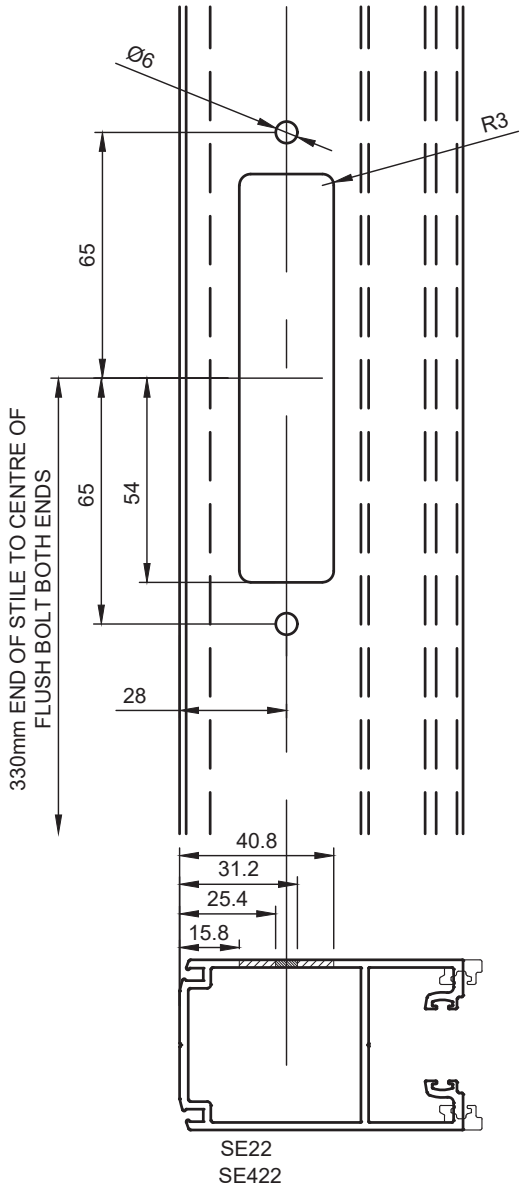


10. Manufacturing Details

Flush Bolt Machining Details for AS2366 Sill

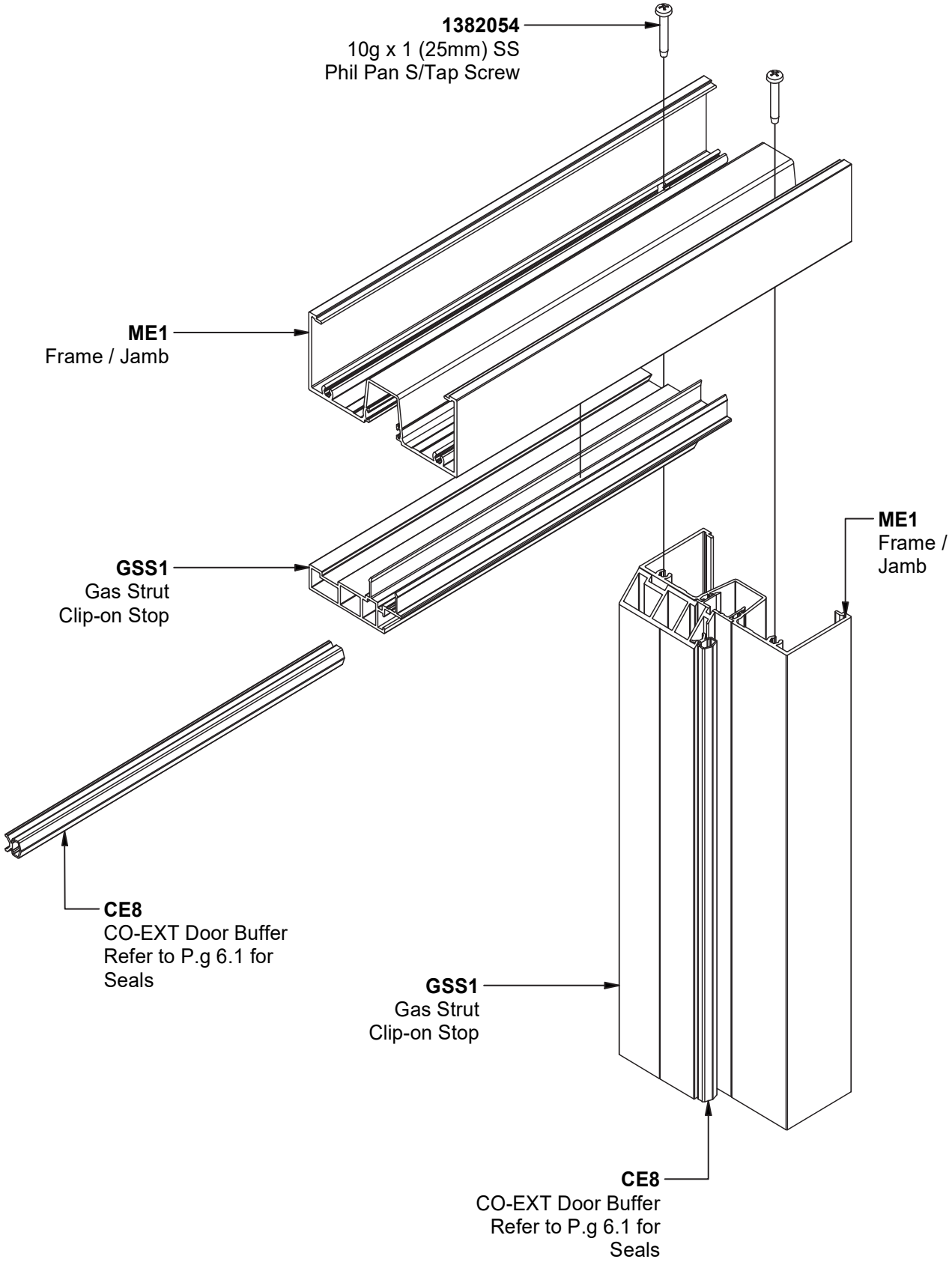
NOTE: FLUSH BOLT WITH AS2366 TO BE USED ONLY ON JAMB.
NO HANDLE ON BOTTOM OF SASH DUE TO HITTING THE SILL





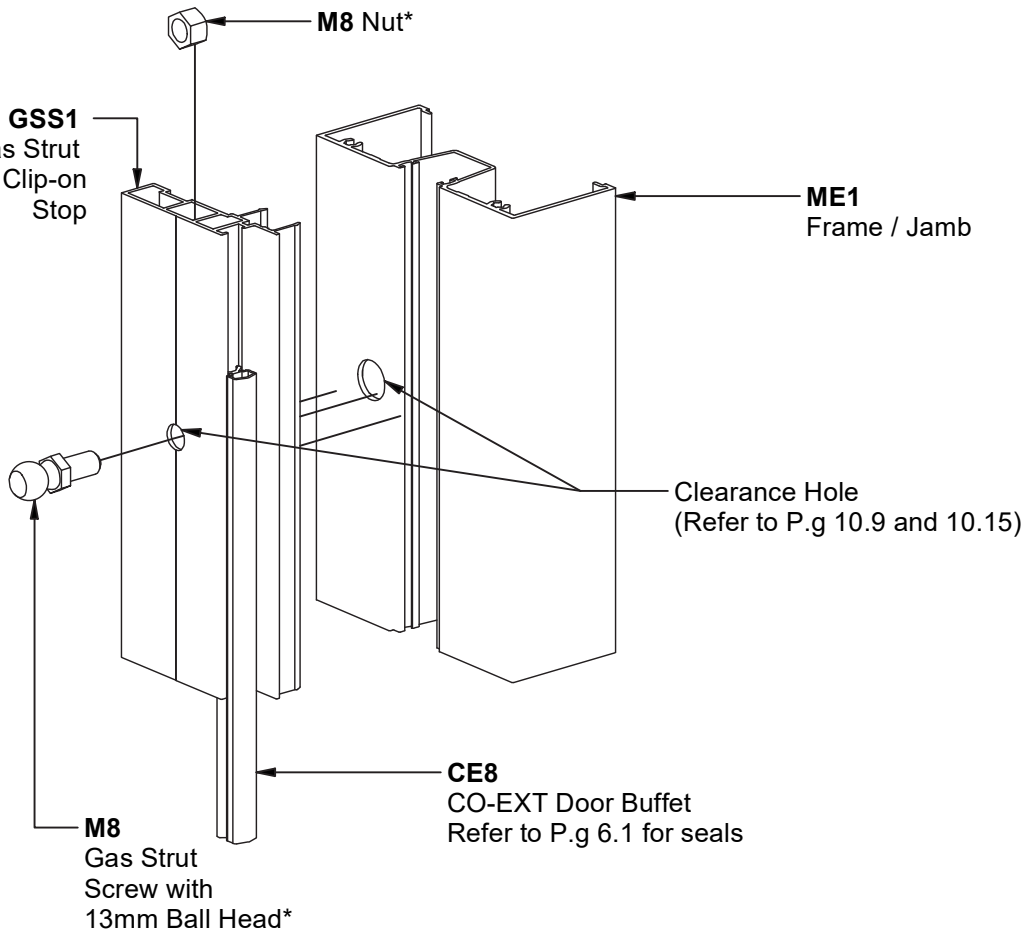
11. Assembly Details

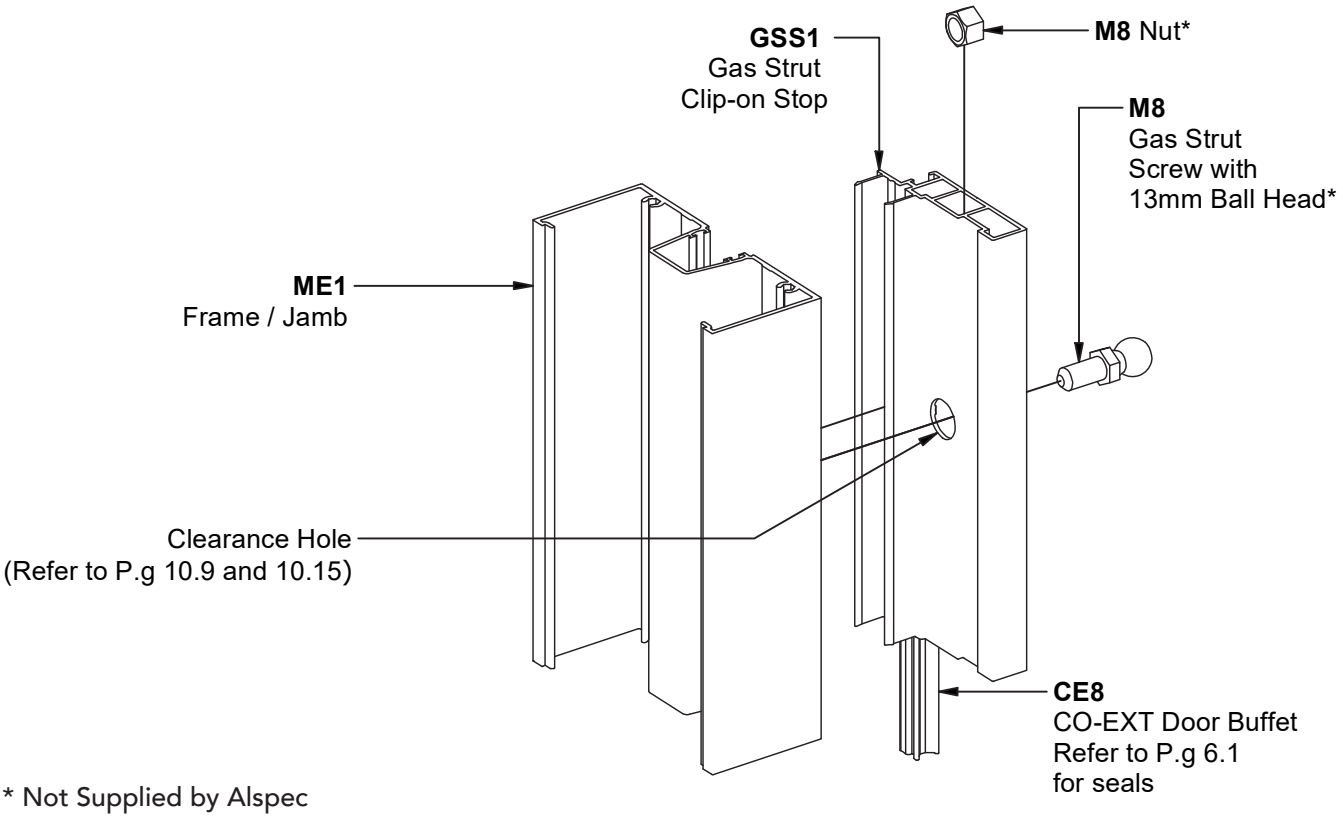
Head Details



11. Assembly Details

Jamb Details

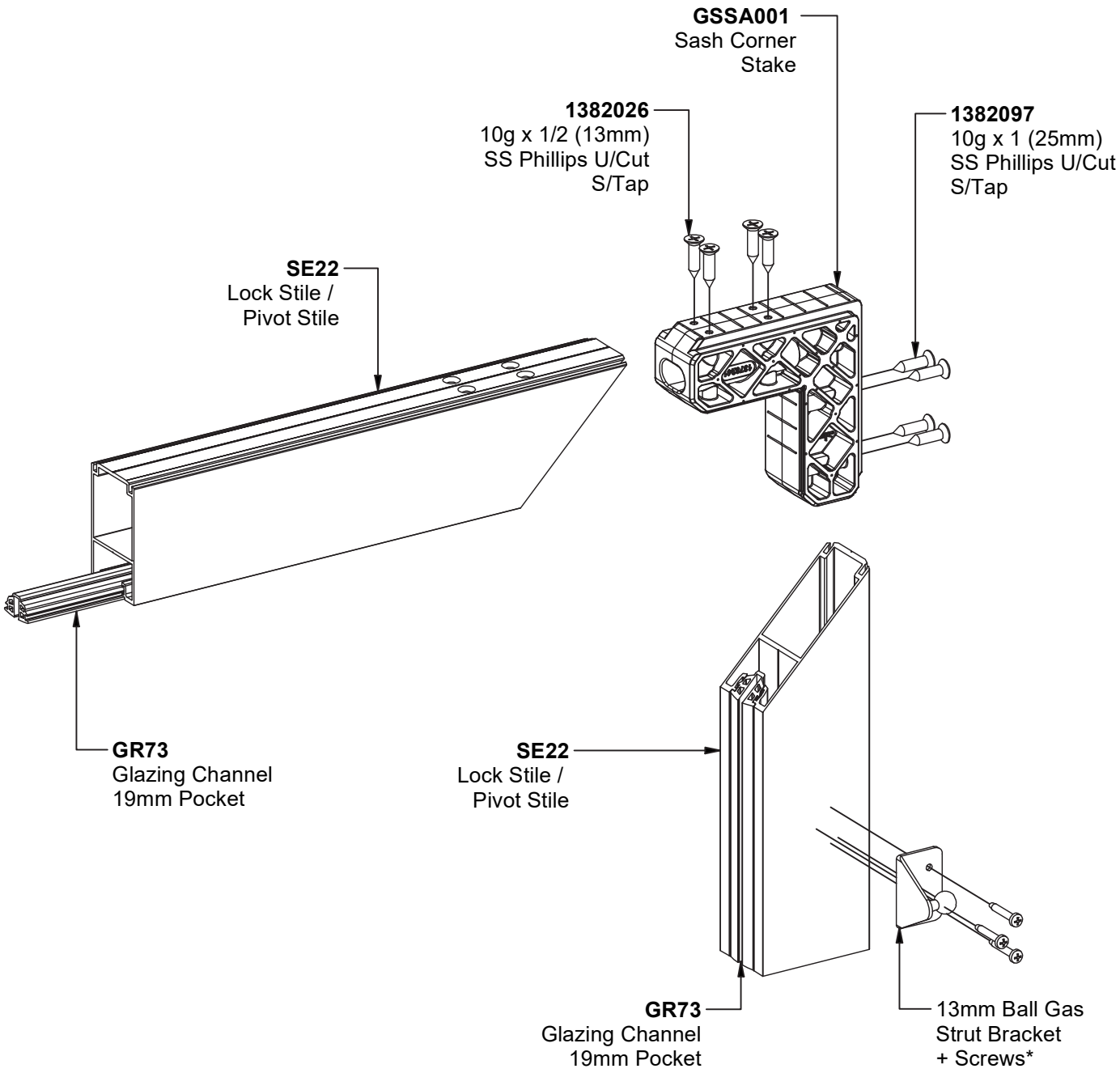




* Not Supplied by Alspec

11. Assembly Details

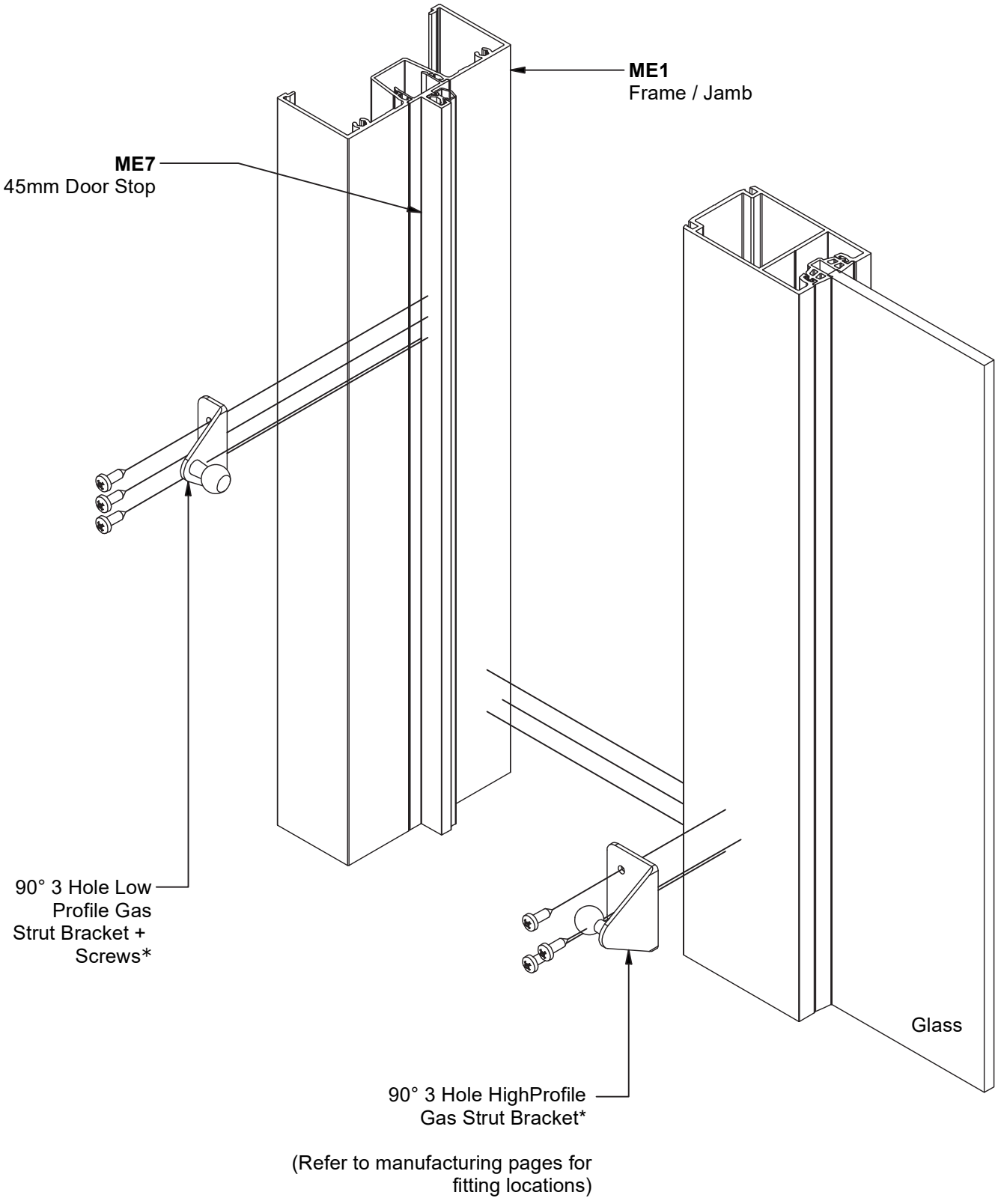
Sash Corner Assembly



* Not Supplied by Alspec

11. Assembly Details

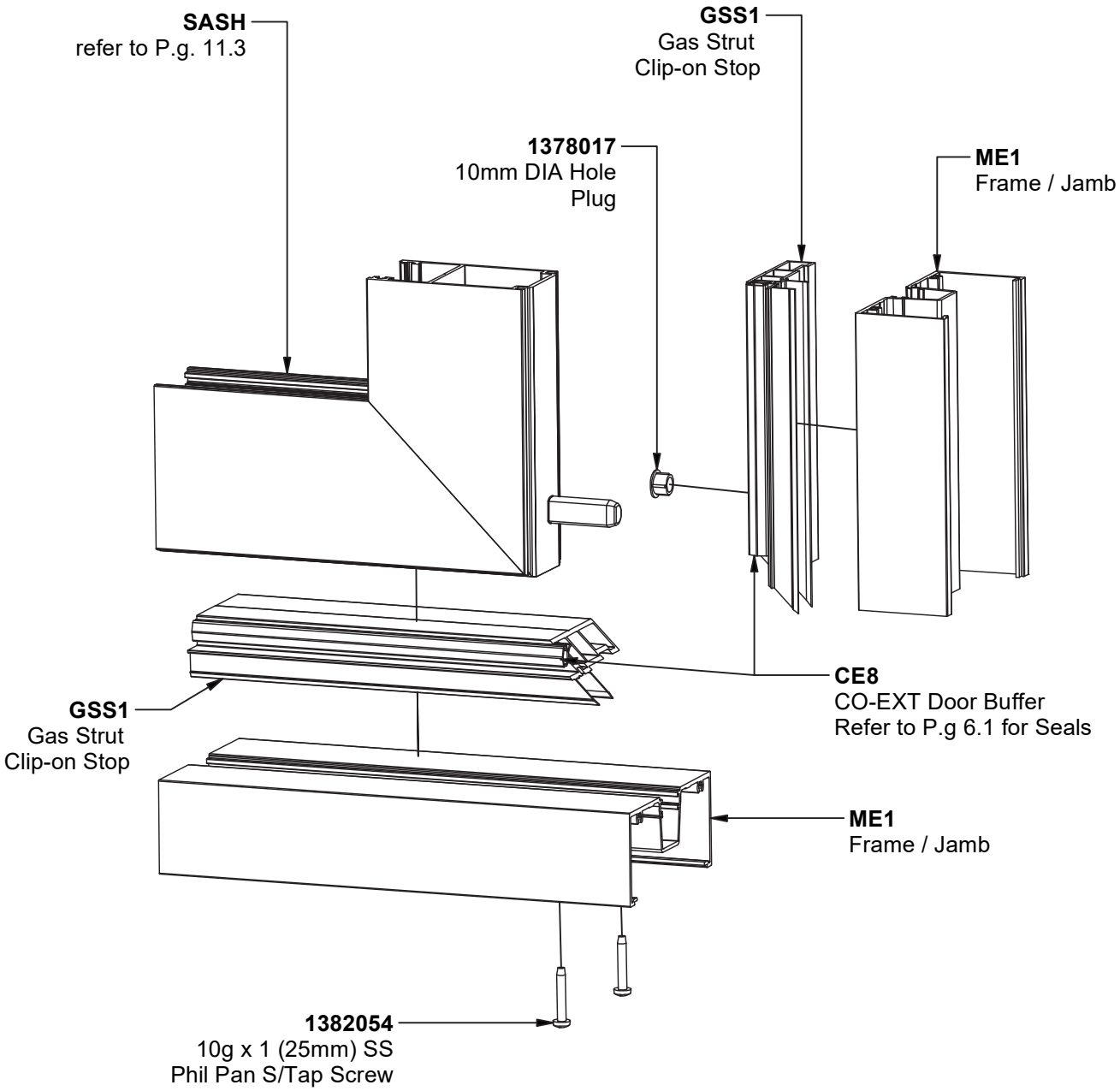
Gas Strut Details - Bracket Assembly



* Not Supplied by Alspec

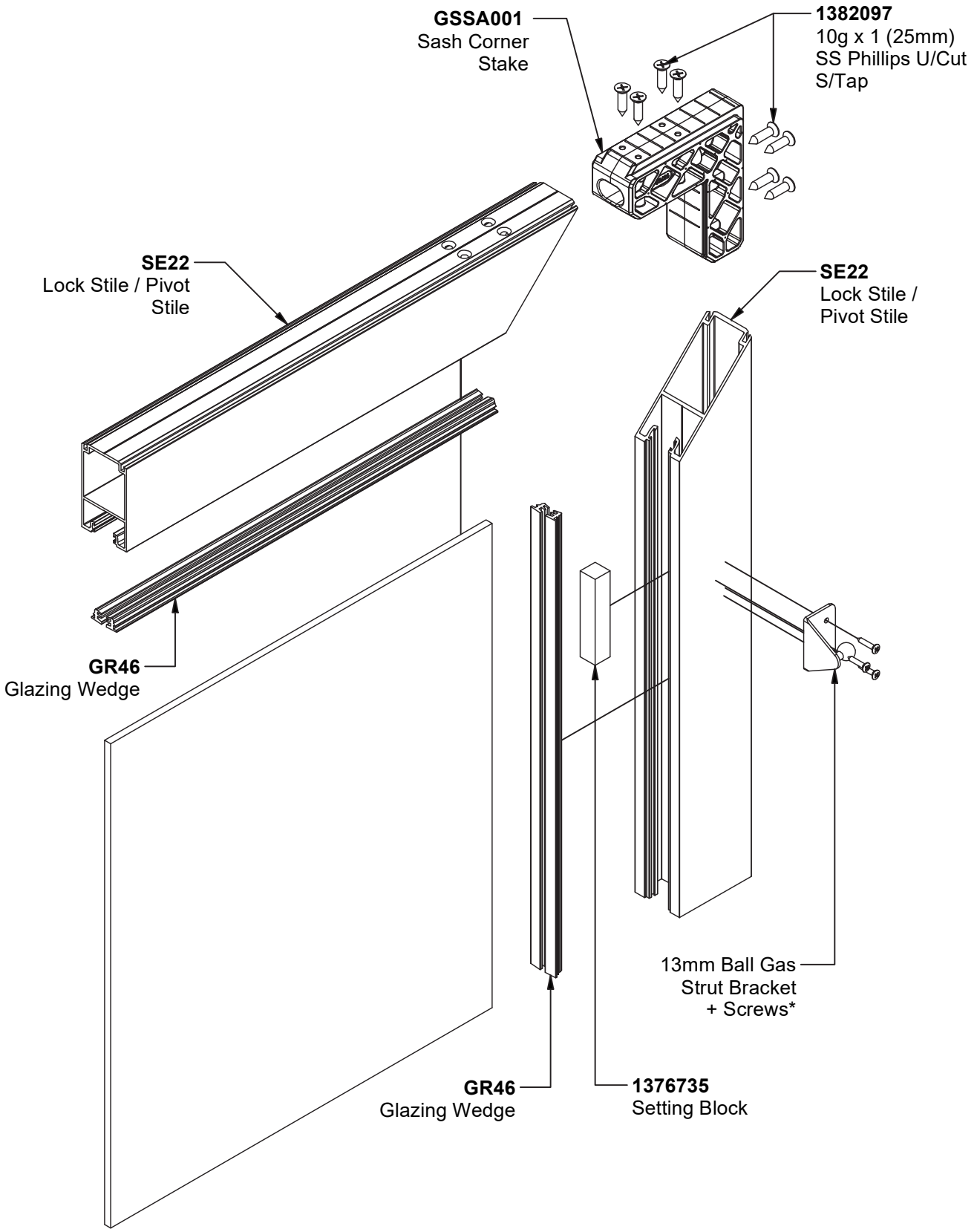
11. Assembly Details

Sill Details



11. Assembly Details

Sash Corner Assembly - Wedged Glazed with Setting Blocks

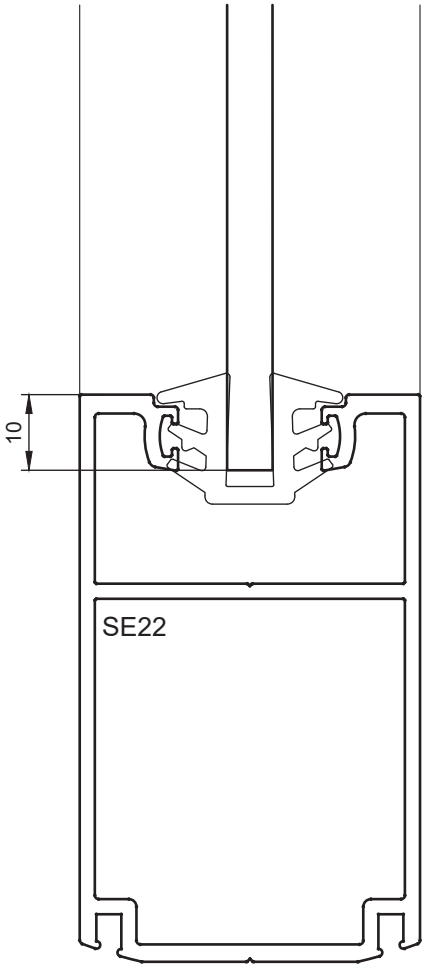


Note: Setting Block will have to be glued into place before applying glass.

* Not Supplied by Alspec

12. Glazing Details

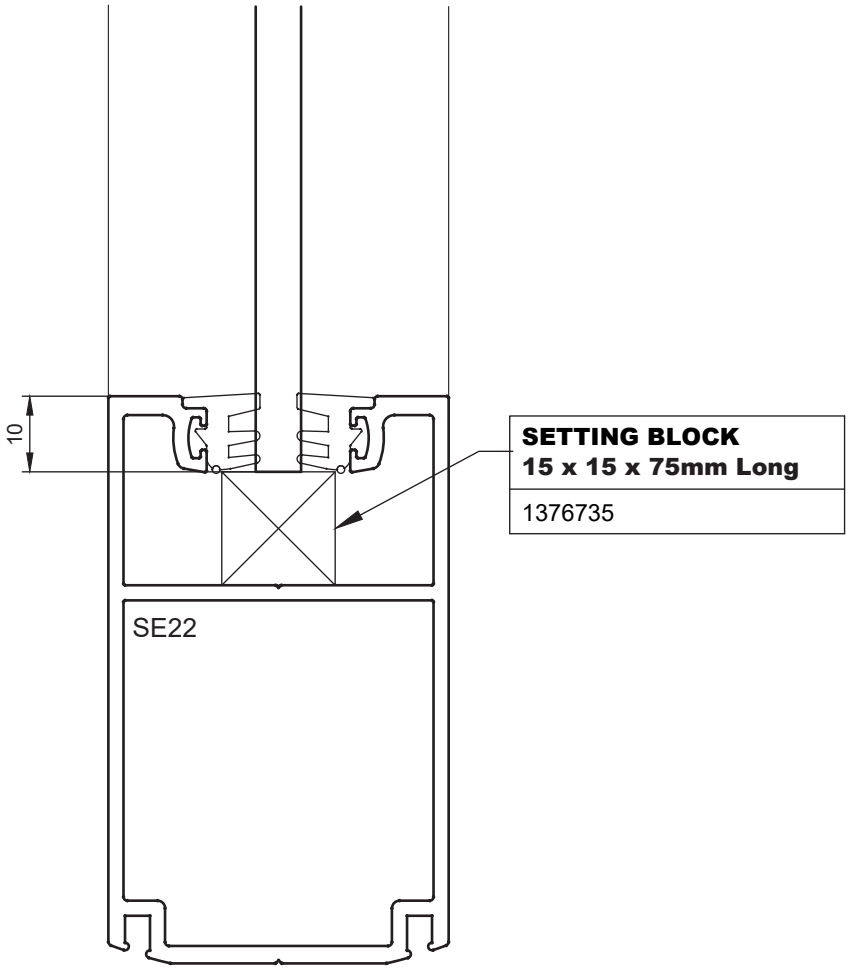
Glazing Channel Details



GLASS THICKNESS	GLAZING CHANNEL
6mm - 6.38mm	GR73 - 1376146

12. Glazing Details

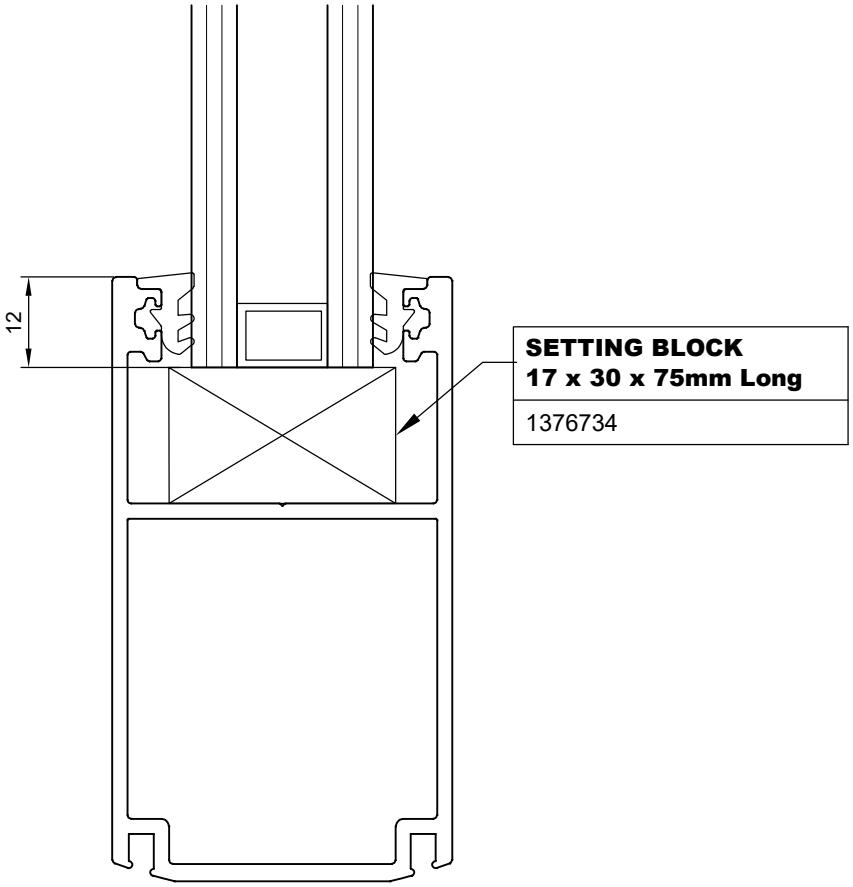
Non-Captive Glazing Wedge Details



	WEDGE INNER		WEDGE OUTER	
GLASS THICKNESS	ID COLOUR	REF. (GAP)	ID COLOUR	REF. (GAP)
6 - 6.38mm	RED	GR47 (7mm)	YELLOW	GR46 (6mm)
8 - 8.38mm	BLUE	GR45 (5mm)	YELLOW	GR46 (6mm)
9.5mm	BLUE	GR45 (5mm)	WHITE	GR44 (4mm)
10 - 10.38mm	BLUE	GR45 (5mm)	WHITE	GR44 (4mm)
11.5mm	BROWN	GR43 (3mm)	WHITE	GR44 (4mm)
12 - 12.38mm	BROWN	GR43 (3mm)	BROWN	GR43 (3mm)

12. Glazing Details

DG - Non-Captive Glazing Wedge Details



	WEDGE INNER		WEDGE OUTER	
GLASS THICKNESS	ID COLOUR	REF. (GAP)	ID COLOUR	REF. (GAP)
18mm	RED	GR47 (7mm)	RED	GR47 (7mm)
24mm	WHITE	GR44 (4mm)	WHITE	GR44 (4mm)
25mm	BROWN	GR43 (3mm)	BROWN	GR43 (3mm)
28mm	BLACK	GR32 (2mm)	BLACK	GR32 (2mm)

FRAMING

Your new **Gas Strut Servery Window** frames have been manufactured using the highest quality materials available to the Architectural industry. Constructed from Architectural grade aluminium, these products are highly corrosion resistant and exceptionally strong. With a moderate amount of maintenance, the **Gas Strut Servery Window** frame will retain it's good looks and resist the elements for years to come.

The **Gas Strut Servery Window** frames are the product of extensive research and development and designed to resist corrosion and rusting, but as with all external elements on the building require some maintenance to keep them looking good and performing well. Depending on how harsh the environment elements are, the maintenance period will vary. Refer to recommended maintenance table below.

Your **Gas Strut Servery Window** frames should only ever need to be washed down with a soft bristled brush using warm water and mild detergent. Rinse well with fresh water and remove any detergent residue. Strong detergents and abrasive cleaners should never be used to clean the **Gas Strut Servery Window** frames as they may scratch or damage the surface finish.

MAINTENANCE PERIOD TABLE

ENVIRONMENT	RECOMMENDED MAXIMUM MAINTENANCE INTERVAL
Mild	Six Months
Moderate	Three Months
Tropical/Severe	One Month

Environmental Definitions:

Mild – Being rural, away from the coast and remote from industry and urban activity.

Moderate – Being mainly urban, inland and away from heavy industry.

Tropical – Being coastal/marine, subject to salt deposition and within 15km of the Eastern coast or 10km of the Western coast of Australia.

EVERYTHING ALUMINIUM & HARDWARE

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bundaberg@alspec.com.au