

The Metal Technology Commercial Door System has been designed to act as a single door or as multi-acting doors. In combination with the other Metal Technology Systems, a variety of door jamb and stile formats can be achieved to give the entrance required.

Introduction

The basic suite of profiles comprises main and slave stiles, top rail, mid rail, bottom rail and thresholds. To these can be added additional profiles to meet every possible application, all with the benefits of minimal fabrication. Glazing options accommodate single glazed through to 28mm glazing units and infill panels. With the double glazed alternative provision has been made for the outer bead to be secured to the frame, thus enhancing the door's security. A drained threshold option is available, which is designed for general usage. Where there is a requirement for disabled use, the application should be discussed and confirmed with the relevant Building Control Officer. As with all Metal Technology systems the commercial door system has been manufactured to exacting standards giving the required strength necessary for its heavy usage but with economy, allowing many years of aesthetic trouble-free operation.

Scope

This specification defines materials, construction, finishes and size limits for the commercial door system.

Materials

Aluminium profiles are extruded from aluminium alloy 6060T6, T5 or T4 complying with the recommendations of BS1474.

Finishes

The range of sections can be provided in either of the following ranges of finishes:

1. Anodised to BS1615 or BS3987
2. Powder organic coated to BS6496

It is recommended that threshold sections are always supplied in natural anodised finish particularly where heavy traffic is expected through the door.

Construction

Frame members are square cut fixed securely together by means of aluminium cleats and stainless steel screws and bolts. Frame joints are sealed during construction against entry of water. Extruded glazing gaskets and woolpiles are provided to resist the ingress of water.

Glazing

Glass is set against co-extruded (PVC nitrile) gasket externally which is fitted into the bead, and an extruded colour coded wedge internally. Setting blocks and location pieces are fitted in accordance with BS6262 in order to ensure the doors are maintained square and rigid.

Kits

In addition to providing commercial door sections in bar lengths, along with their accessories, Metal Technology can provide standard size or made to measure door and midrail kits.

Standard size locking and slave kits (metal size only) measure 906mm wide x 2120mm high.

Standard midrail kits are to suit the above door sizes. Reference number for standard kits are as follows:

Description	Mill	Satin	White
Locking Door Kit	SD162/M	SD162/S	SD162/W
Slave Door Kit	SD163/M	SD163/S	SD163/W
Plain Midrail Kit	SD91	SD92	SD93
Midrail Kit with Letter Plate	-	SD96	SD97

Size Limits

	Max. Width	Max. Height	Max. Weight
External Doors	1.05m	2.4m	90Kg
Internal Doors	1.20m	3.0m	90Kg

Installation

Detailed installation instructions are provided which should be strictly followed.

Performance

Commercial pivoting doors are designed for use at ground floor in moderately exposed areas only. Where the site is exposed or above ground floor consideration should be given to using the commercial hinged door which being fully rebated will offer improved performance.

Maintenance

As with all mechanical products regular "preventative maintenance" is necessary if trouble free operation is required and it is strongly recommended that such a programme is arranged either with a competent door maintenance company or with the maintenance staff of the building where the doors are installed. Items such as overhead closers, hinges, locks and weather-stripping need regular care to keep them functioning correctly and adjustment is especially necessary in the first few months when the doors are "bedding in".

Development

Our policy is to continually research the market for new and improved products. We must therefore retain the right to amend specifications without prior notice. It is recognised at Metal Technology that in some instances special sections may be required for particular projects. When this occurs it may be possible to produce special sections subject to there being sufficient quantity and adequate time.

Profile Index










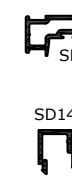













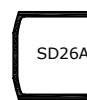
























System 10

COMMERCIAL DOOR

Profile illustration

Section Properties

ILLUSTRATION DIMENSIONS 	SHEET REF NUMBER	COMPUTER REF NUMBER	WEIGHT Kg/m	PERIMETER mm	XX mm ⁴	YY mm ⁴
	Sheet 5	SD01	0.67	166.0		
	Sheet 5	SD02	0.17	124.0		
	Sheet 6	SD03	2.54	404.0		
	Sheet 2	SD06	1.32	273.0		
	Sheet 2	SD07	1.956	402.0		
	Sheet 5	SD10	0.18	93.8		
	Sheet 4	SD11	1.14	277.0		
	Sheet 1	SD12A	1.322	243.0		
	Sheet 5	SD13	0.83	261.0		
	Sheet 5	SD14	0.14	98.8		
	Sheet 6	SD16	3.26	164.0		
	Sheet 4	SD17	1.33	428.0		
	Sheet 1	SD19	2.28	336.0		
	Sheet 6	SD20	2.73	385.0		
	Sheet 1	SD21	1.47	250.0		
	Sheet 4	SD22	0.51	115.0		
	Sheet 3	SD24	2.37	472.0		
	Sheet 2	SD25	1.55	281.0		
	Sheet 6A	SD26A	1.242	222.0		
	Sheet 6A	SD33	1.26	300.0		
	Sheet 6A	SD34	0.315	121.0		
	Sheet 5	SD35	0.178	94.0		
	Sheet 2	SD124	2.05	358.0		
	Sheet 2	SD125	2.242	315.0		
	Sheet 3	SD126	3.615	600.0		
	Sheet 6A	SD127	2.406	382.0		
	Sheet 6	SD128	2.431	396.0		
	Sheet 4	SD129	1.479	247.0		
	Sheet 4	SD132	1.184	396.0		
	Sheet 6B	SD133	1.751	524.0		
	Sheet 2	SD139	0.49	176.0		
	Sheet 3	SD140	0.99	197.0		
	Sheet 3	SD141	1.849	353.0		
	Sheet 5	SD157	0.302	133.0		
	Sheet 6B	SD158	1.61	321.0		
	Sheet 6B	SD160	1.78	343.0		
	Sheet 5	SD161	2.095	334.0		
						
						
						
						
						
						
						
						

Not to Scale

SHEET 10 / 0 / 20

rev 1 13/03/09

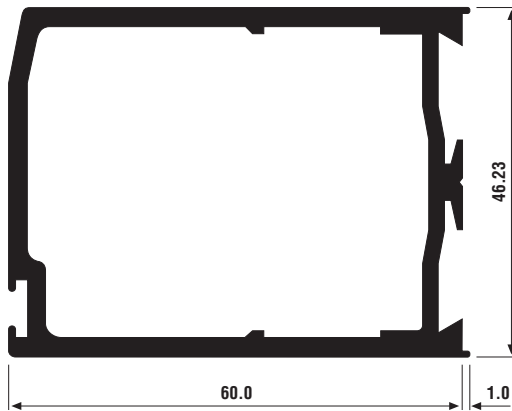


System 10

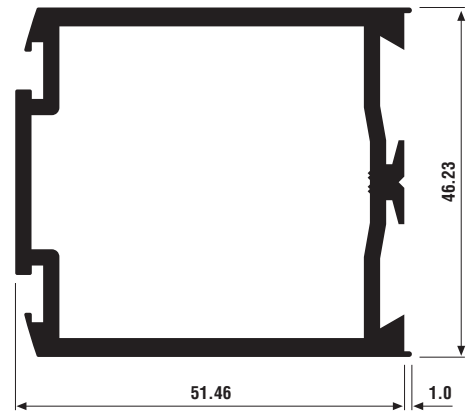
COMMERCIAL
DOOR

Section Drawings

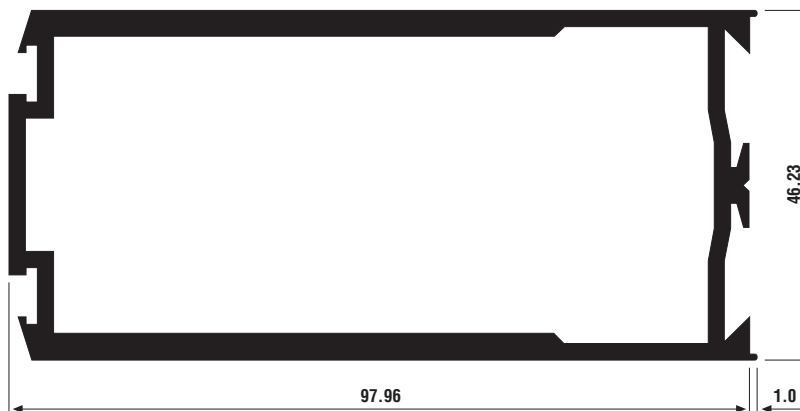
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HINGED STILE



SD12A
DOUBLE WOOLPILE STILE



SD19
WIDE DOOR STILE

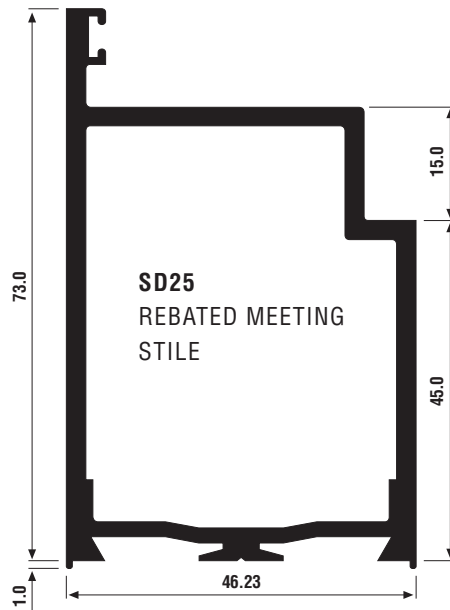
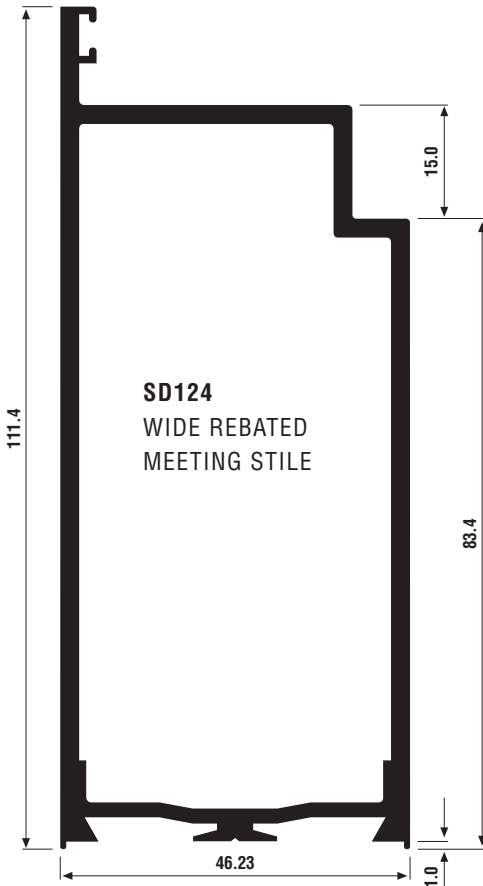
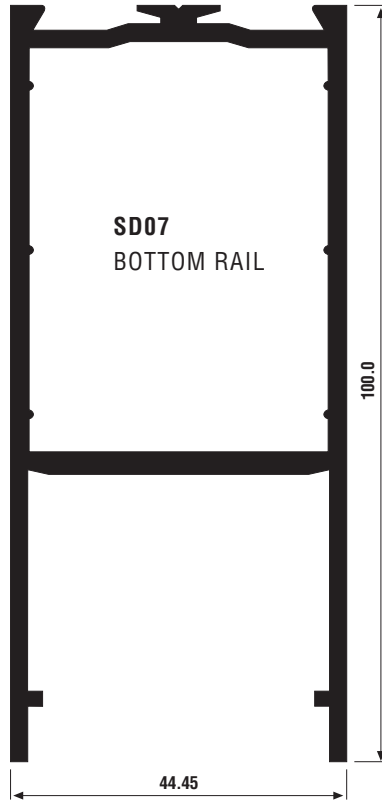
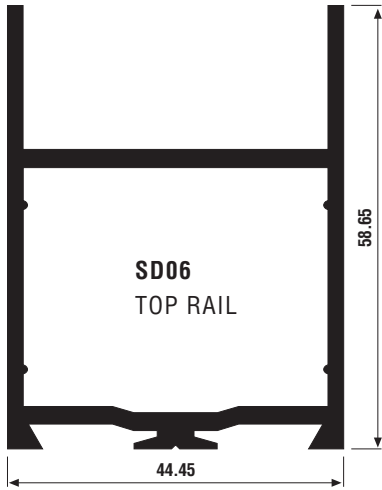


Section Drawings

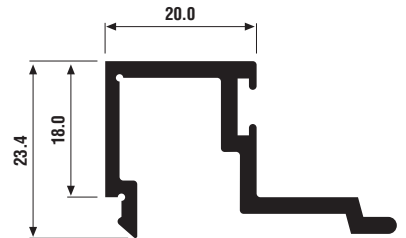


System 10

COMMERCIAL
DOOR



SD140
DOUBLE GLAZE FRAME
REBATE ADAPTOR



Scale 1:1

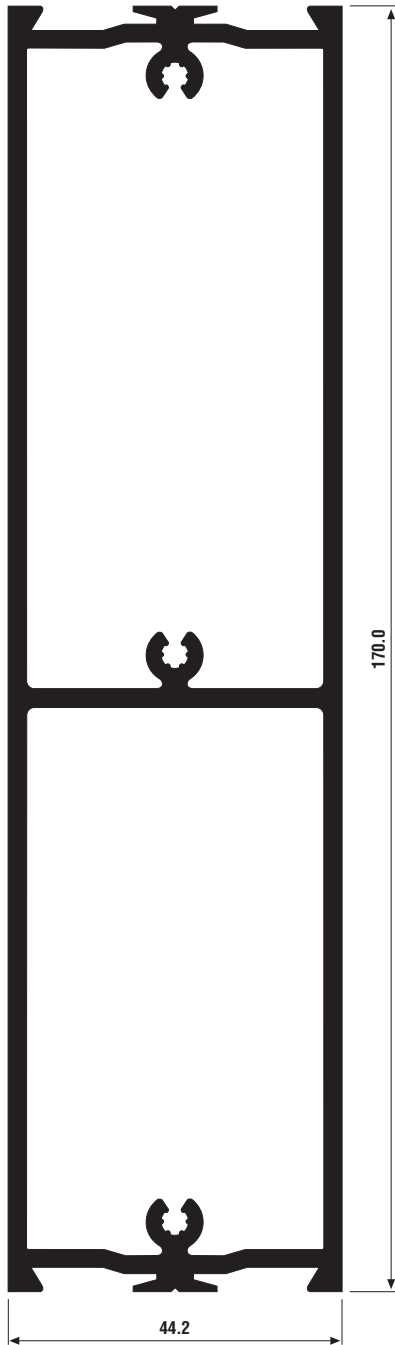


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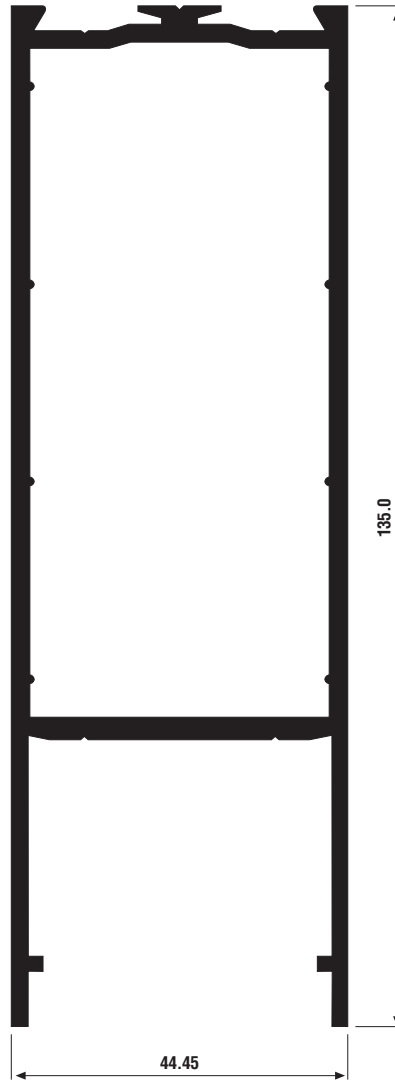
COMMERCIAL
DOOR

Section Drawings

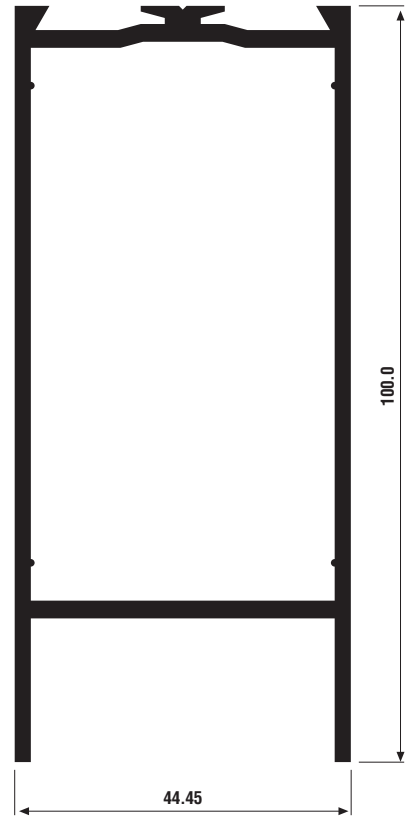
SD126
ONE PIECE DEEP MID-RAIL



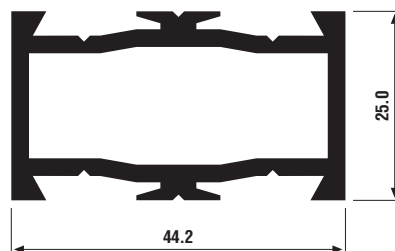
SD24
DEEP BOTTOM RAIL



SD157
100mm TOP RAIL

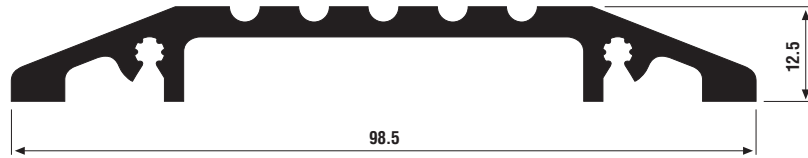


SD141
25mm LAYBAR

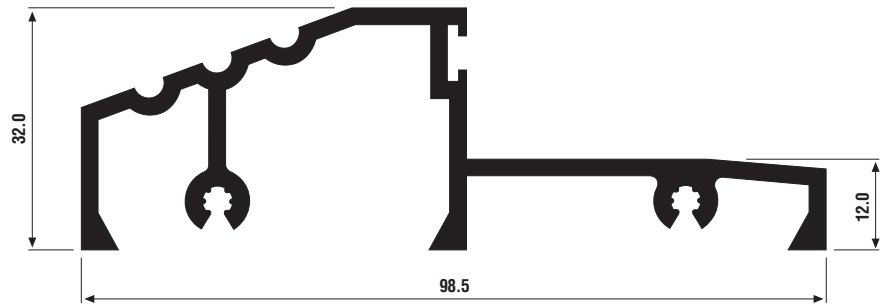


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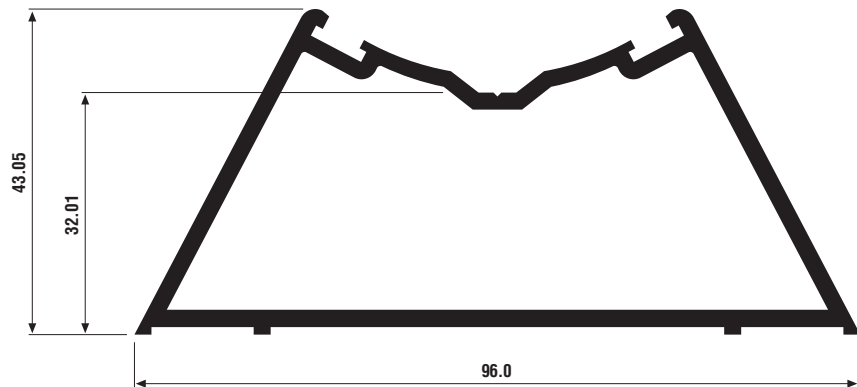
SD11
STANDARD THRESHOLD



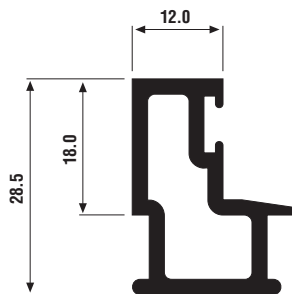
SD17
REBATED THRESHOLD



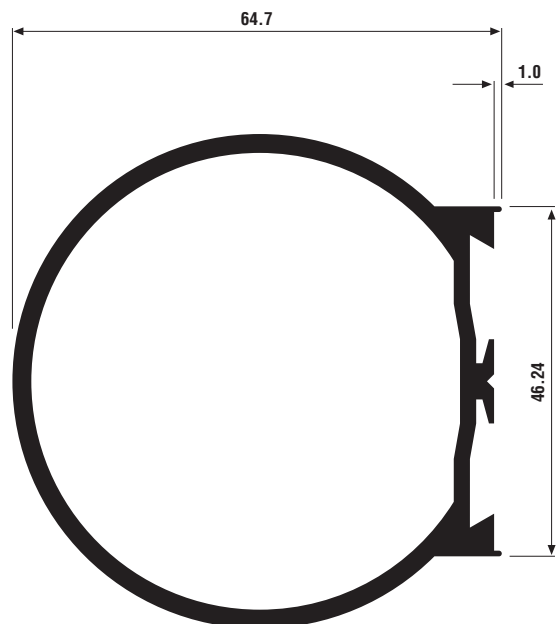
SD133
ANTI-FINGERTRAP
FRAME PIECE



SD22
REBATE ADAPTOR



SD132
STANDARD
ANTI-FINGERTRAP
STILE



Scale 1:1

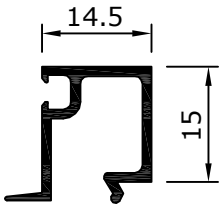
Section Drawings



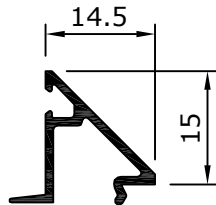
System 10

COMMERCIAL DOOR

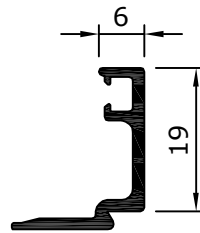
SD02
SINGLE
GLAZE BEAD



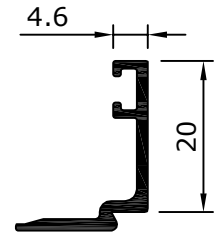
SD14
SINGLE GLAZE
BEVEL BEAD



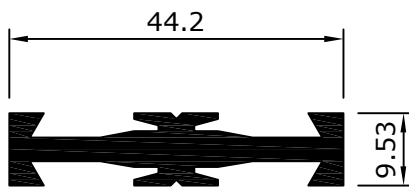
SD10
24mm DOUBLE
GLAZE BEAD



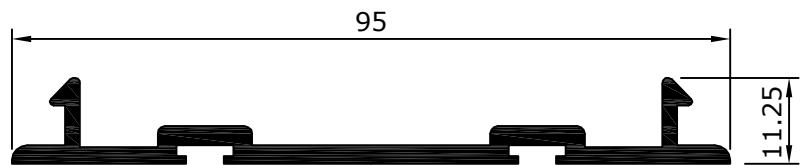
SD35
28mm DOUBLE
GLAZE BEAD



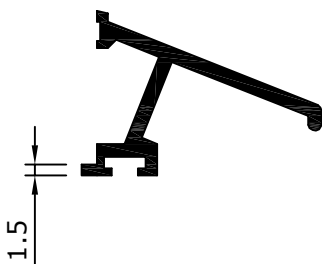
SD01
BEAD CARRIER



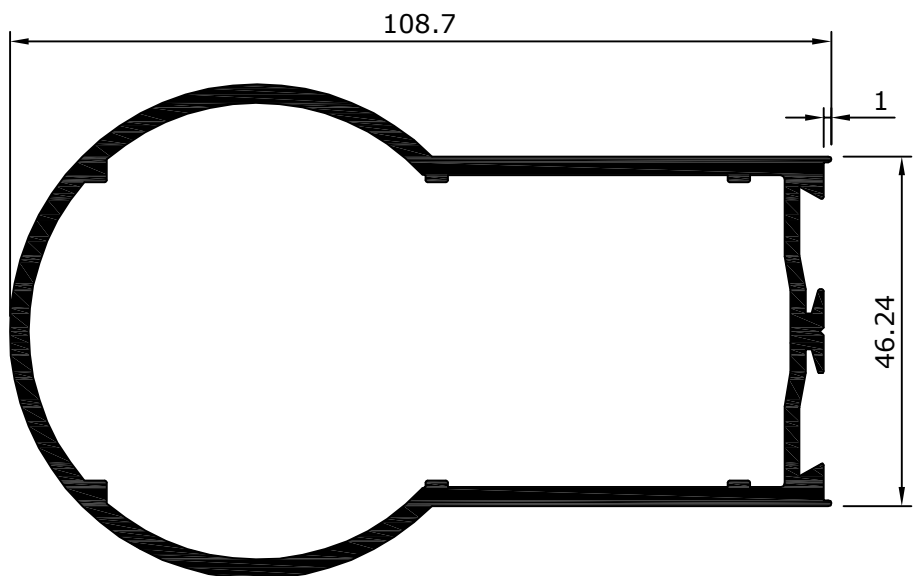
SD13
WOOLPILE PLATE



SD158
SCREW FIXED DRIP RAIL



SD169
WIDE ANTI-FINGERTRAP STILE



Scale 1:1

Section Drawings

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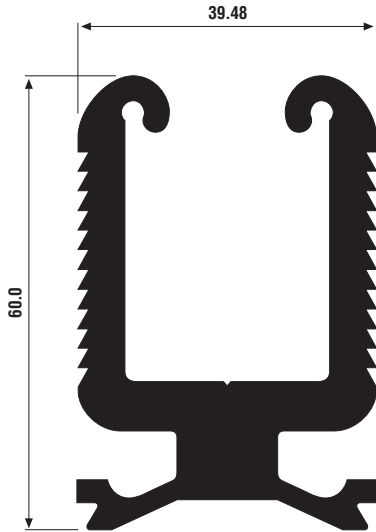
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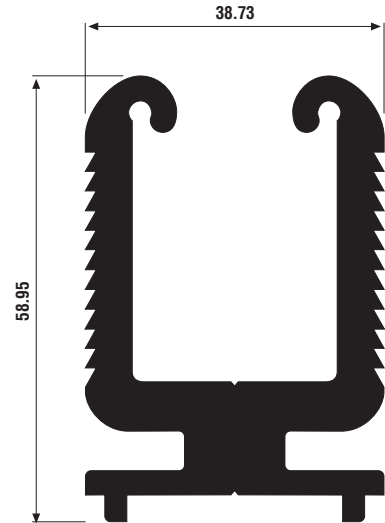
COMMERCIAL
DOOR

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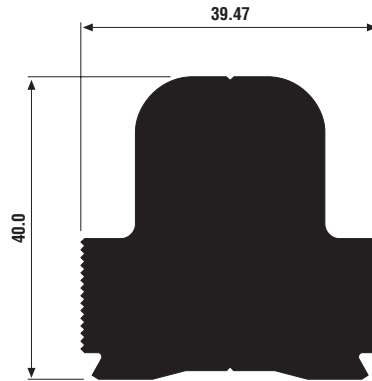
SD03
CLEAT



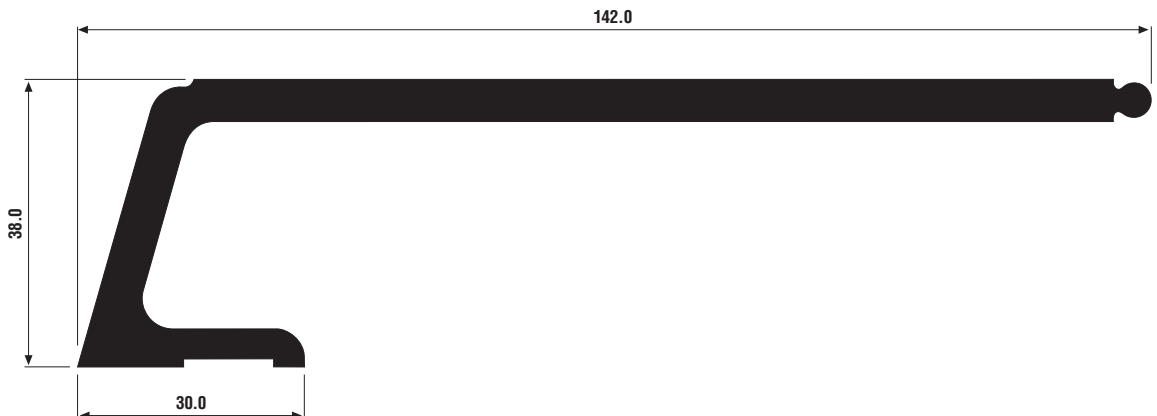
SD128
DOOR CLEAT



SD16
WELDED CLEAT



SD20
HANDLE



Scale 1:1

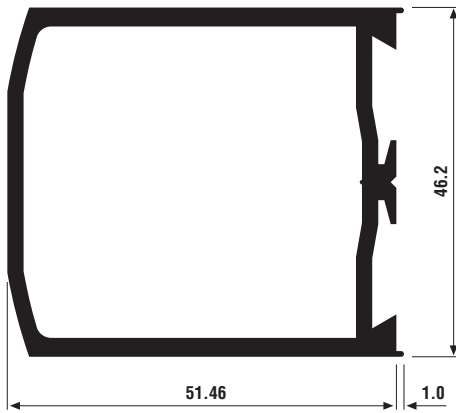


System 10

COMMERCIAL
DOOR

Section Drawings

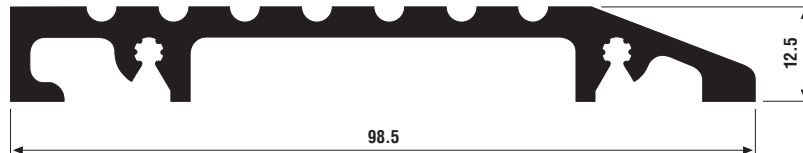
SD26A
SLAVE DOOR MEETING STILE (FOR SD12)



SD34
NEW WOOLPILE INSERT



SD33
FLAT BACK THRESHOLD



SD127
120mm MIDRAIL



Section Drawings

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System 10

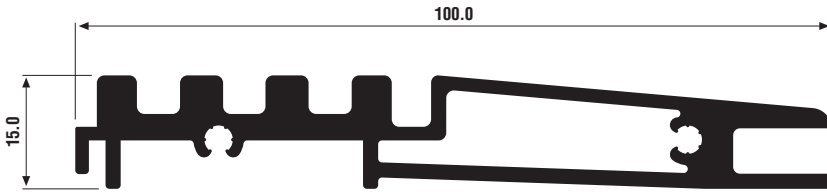
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COMMERCIAL
DOOR

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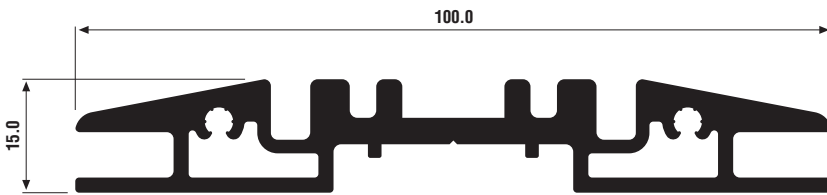
SD160

DRAINED THRESHOLD (Rebated Door)



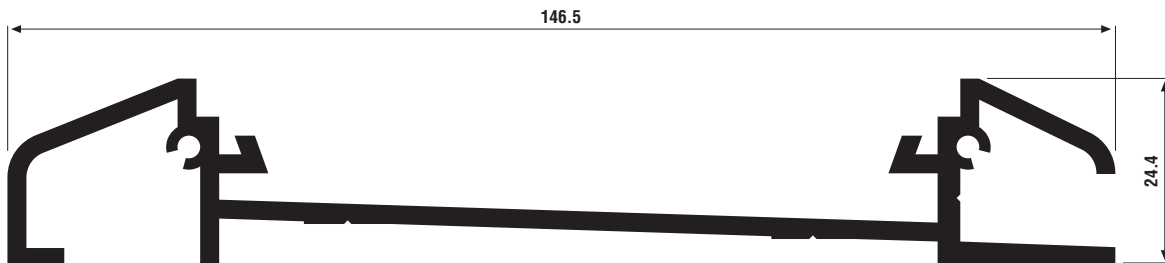
SD161

DRAINED THRESHOLD (Pivot Door)



SD139

DRAINED BASE PLATE



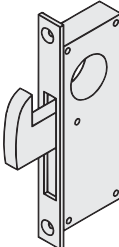
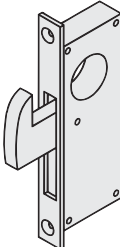
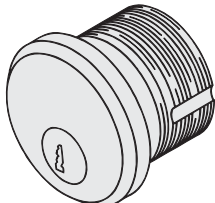

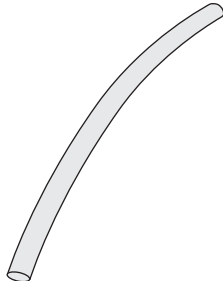
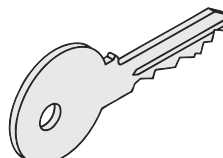
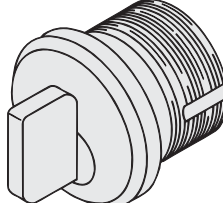
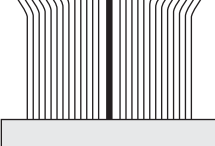
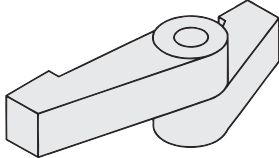
Scale 1:1



System 10

COMMERCIAL
DOOR

Component Identification






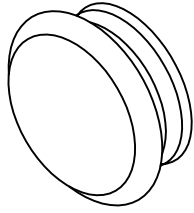
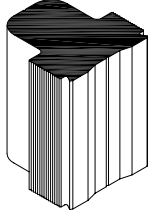
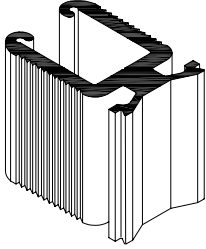
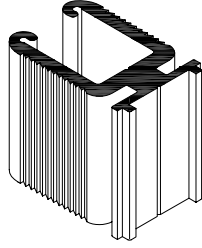
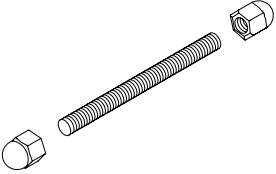
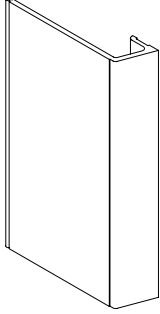
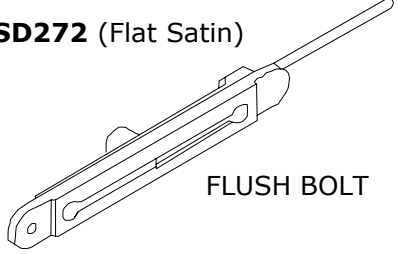

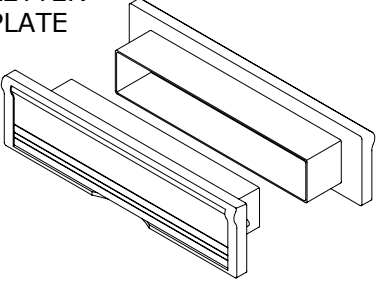
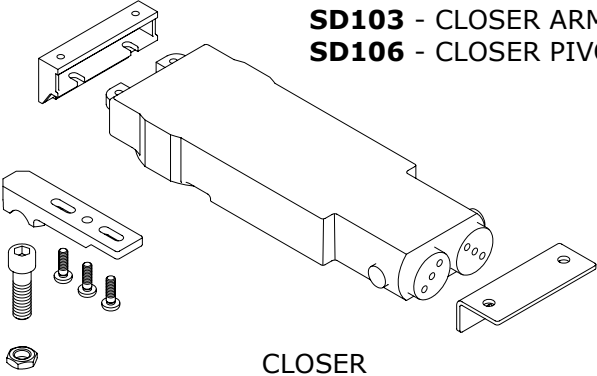
 <p>HOOK LOCK FOR SD21 & SD25 - SD69</p>	 <p>HOOK LOCK FOR SD12 & SD19 - SD70</p>	 <p>CYLINDER (Pairs) - SD71</p>																																							
 <p>FLAT COVER PLATE Satin - SD68, Bronze - SD67</p>	 <p>Cord for use with infill - DGFG20</p>	 <p>KEY BLANKS - SD77</p>																																							
 <p>THUMB TURN - SD76</p>	<p>WOOLPILES</p>  <table border="1" data-bbox="646 1556 1428 2027"> <thead> <tr> <th>Section Number</th> <th>Woolpile Description</th> <th>Woolpile Ref.</th> </tr> </thead> <tbody> <tr><td>SD12</td><td>6.9 x 900</td><td>VS118</td></tr> <tr><td>SD13</td><td>6.9 x 900</td><td>VS118</td></tr> <tr><td>SD19</td><td>6.9 x 900</td><td>VS118</td></tr> <tr><td>SD17</td><td>6.9 x 700</td><td>SD43</td></tr> <tr><td>SD21</td><td>6.9 x 900</td><td>VS118</td></tr> <tr><td>SD22</td><td>6.7 x 600</td><td>VS119</td></tr> <tr><td>SD25</td><td>4.8 x 550</td><td>TT30</td></tr> <tr><td>SD34</td><td>Fringe Weatherstrip 2.9 x 13mm</td><td>SD44</td></tr> <tr><td>SD124</td><td>4.8 x 550</td><td>TT30</td></tr> <tr><td>SD133</td><td>6.9 x 900</td><td>VS118</td></tr> <tr><td>SD138</td><td>6.9 x 700</td><td>SD43</td></tr> <tr><td>SD140</td><td>6.7 x 600</td><td>VS119</td></tr> </tbody> </table>		Section Number	Woolpile Description	Woolpile Ref.	SD12	6.9 x 900	VS118	SD13	6.9 x 900	VS118	SD19	6.9 x 900	VS118	SD17	6.9 x 700	SD43	SD21	6.9 x 900	VS118	SD22	6.7 x 600	VS119	SD25	4.8 x 550	TT30	SD34	Fringe Weatherstrip 2.9 x 13mm	SD44	SD124	4.8 x 550	TT30	SD133	6.9 x 900	VS118	SD138	6.9 x 700	SD43	SD140	6.7 x 600	VS119
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 <p>DOOR HINGE, Mill, Satin, White - PCD58</p>																																									

Component Identification



System 10

.....
COMMERCIAL DOOR
.....

<p>WEDGES</p> <p>CA26  Orange</p> <p>CA27  White</p> <p>SD134  Blue</p>	<p>SD37 'E' GASKET</p>  <p>CA25 CAPTIVE GASKET (Red)</p> 	 <p>SD40 STILE GROMMETS (Black)</p>												
 <p>SD16</p> <p>SD58 - TO SUIT SD24 SD62 - TO SUIT SD06 SD60 - TO SUIT SD07 SD154 - TO SUIT SD157</p>	 <p>SD03</p> <p>SD63 - TO SUIT SD06 SD61 - TO SUIT SD07 SD64 - TO SUIT SD24 SD55 - TO SUIT SD157</p>	 <p>SD128</p> <p>SD150 - TO SUIT SD06 SD151 - TO SUIT SD07 SD152 - TO SUIT SD141 SD153 - TO SUIT SD24 SD56 - TO SUIT SD157</p>												
 <p>SD32 - PAD HANDLE ZINC STUD</p>	<p>PAD HANDLE</p>  <p>SD30 (White) SD31 (Mill) SD27 (Satin)</p>	<p>SD272 (Flat Satin)</p>  <p>FLUSH BOLT</p>												
 <p>SD273 END CAP FOR BASE PLATE</p>	<p>SD100 - CLOSER ARM (Anti-Fingertrap) SD103 - CLOSER ARM (Standard) SD106 - CLOSER PIVOT</p>													
<p>LETTER PLATE</p>  <p>SD50 (Gold) SD51 (Satin) SD52 (White) SD53 (Black) SD54 (Bronze)</p>	 <p>CLOSER</p> <table border="1"> <thead> <tr> <th>Strength</th> <th>90° Hold Open</th> <th>No Hold</th> </tr> </thead> <tbody> <tr> <td>Light</td> <td>SD109</td> <td>SD108</td> </tr> <tr> <td>Medium</td> <td>SD90</td> <td>SD104</td> </tr> <tr> <td>Heavy</td> <td>SD114</td> <td>SD110</td> </tr> </tbody> </table>		Strength	90° Hold Open	No Hold	Light	SD109	SD108	Medium	SD90	SD104	Heavy	SD114	SD110
Strength	90° Hold Open	No Hold												
Light	SD109	SD108												
Medium	SD90	SD104												
Heavy	SD114	SD110												

Not to scale

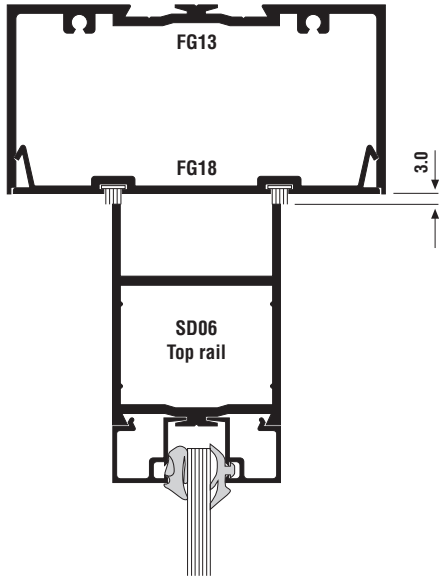


System 10

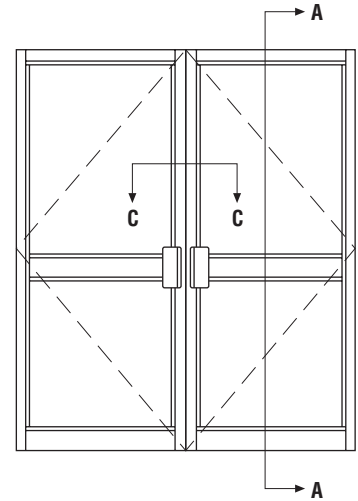
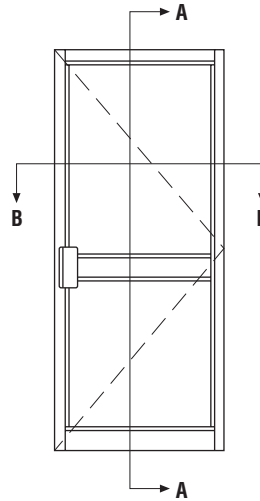
COMMERCIAL
DOOR

General Arrangement

SECTION A-A

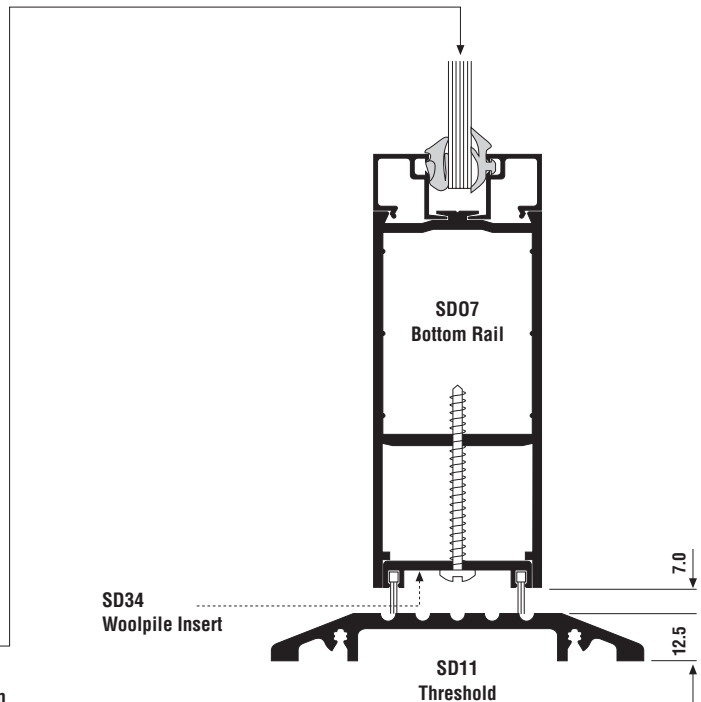
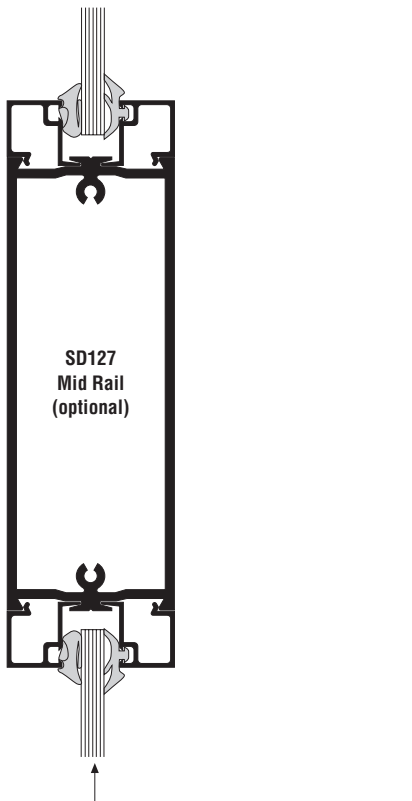


* If fixed light required above door sections
FG13 and FG18 should be used.



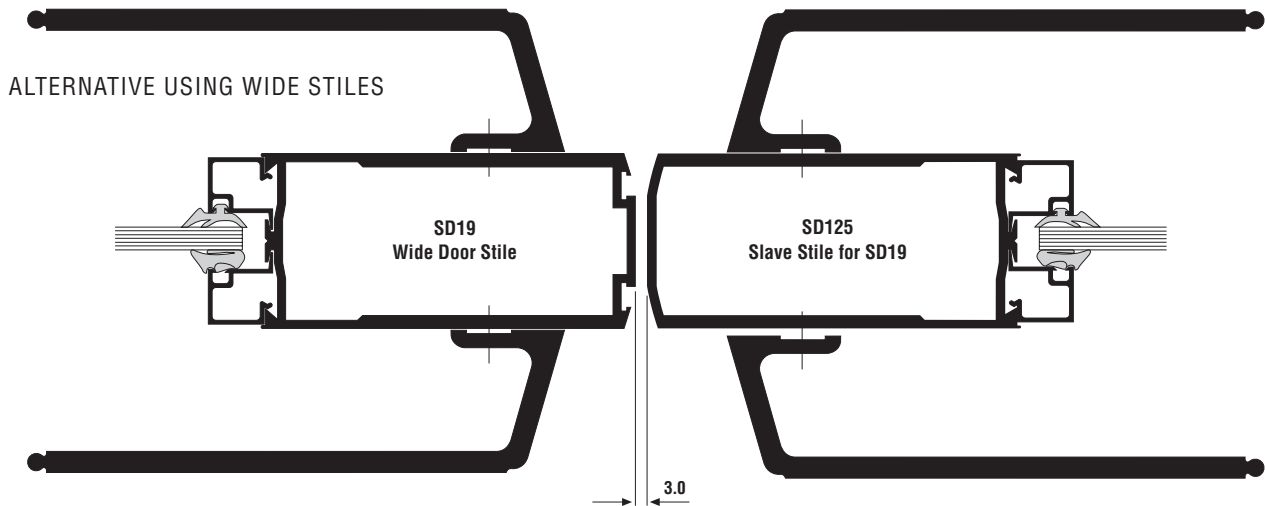
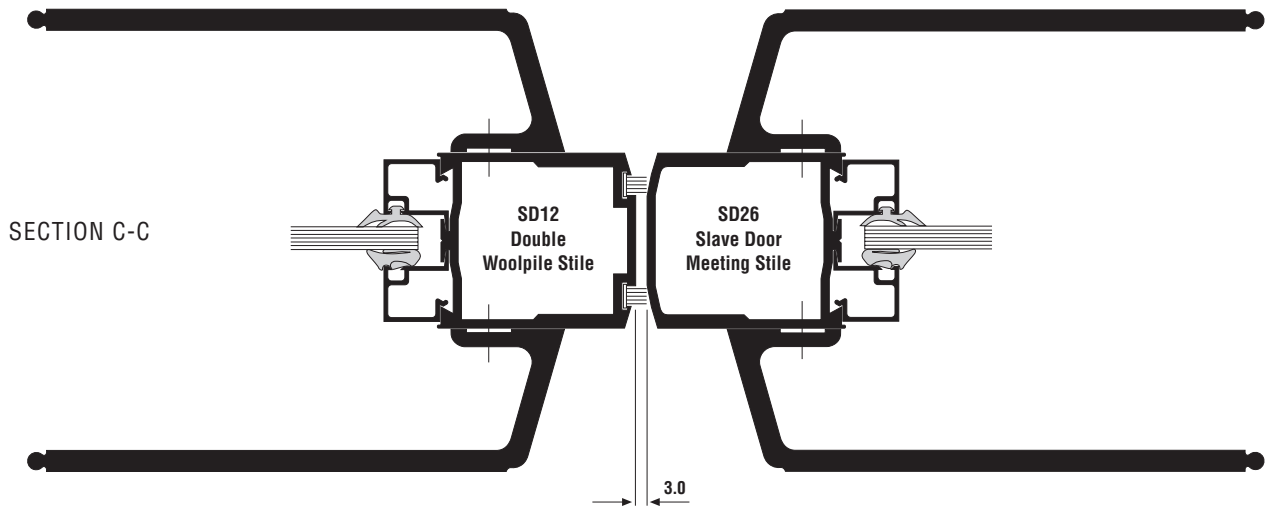
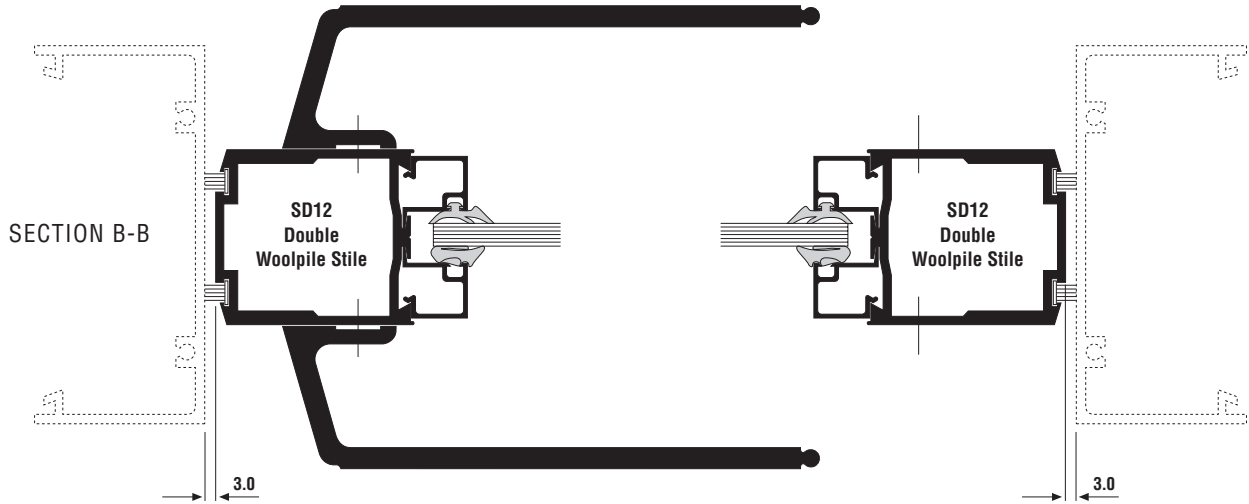
TYPICAL SINGLE GLAZED
SINGLE LEAF PIVOT DOOR

TYPICAL SINGLE GLAZED
DOUBLE LEAF PIVOT DOOR



Note that when using SD13 as header plate, 1.0mm
must be milled from the woolpile grooves in order
to give clearance for the Door closer.

General Arrangement



Scale 1:2

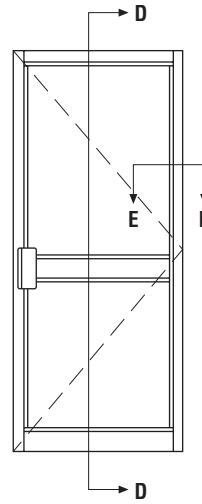
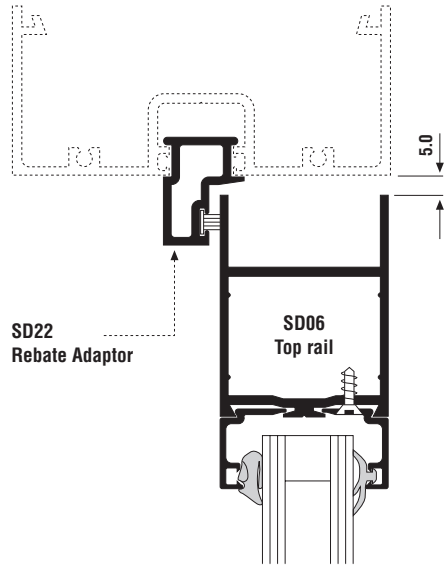


System 10

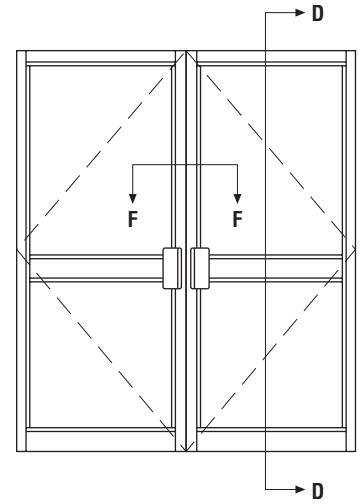
COMMERCIAL
DOOR

General Arrangement

SECTION D-D

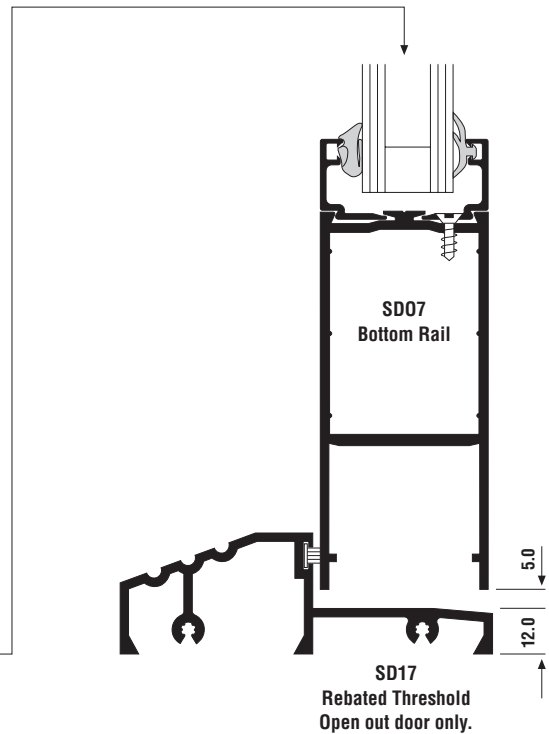
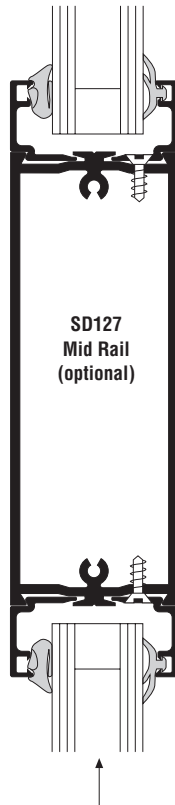
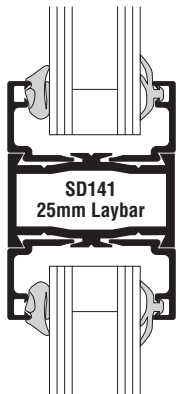


TYPICAL DOUBLE
GLAZED SINGLE LEAF
HINGED DOOR



TYPICAL DOUBLE
GLAZED DOUBLE LEAF
HINGED DOOR

OPTIONAL SD141
LAYBAR



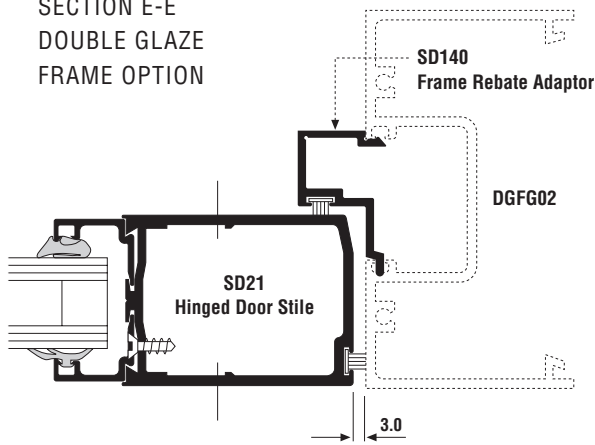
General Arrangement



System 10

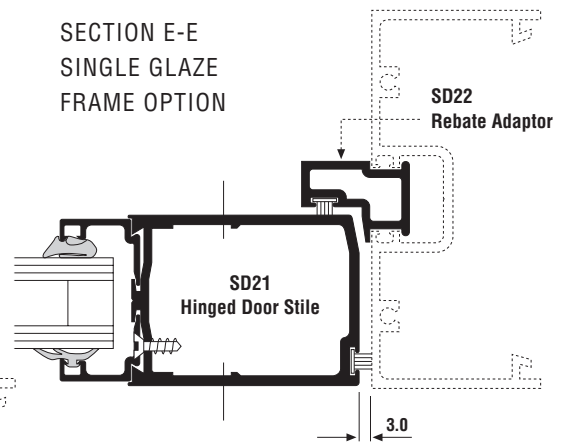
COMMERCIAL
DOOR

SECTION E-E
DOUBLE GLAZE
FRAME OPTION



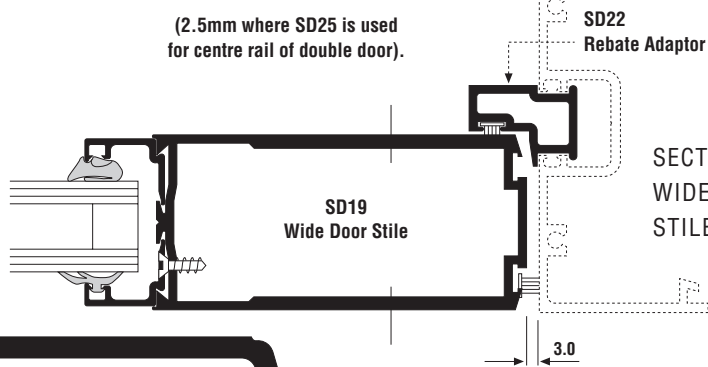
(2.5mm where SD25 is used
for centre rail of double door).

SECTION E-E
SINGLE GLAZE
FRAME OPTION



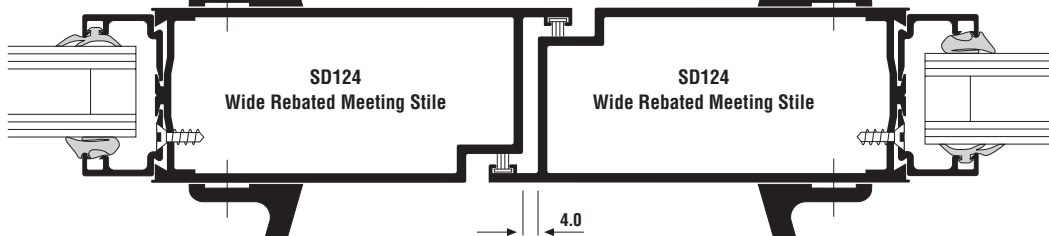
(2.5mm where SD25 is used
for centre rail of double door).

SECTION E-E
WIDE DOOR
STILE OPTION

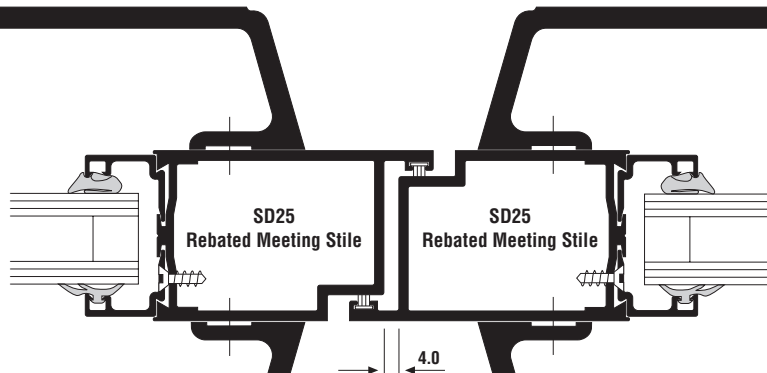


(2.5mm where SD124 is used
for centre rail of double door).

SECTION F-F
WIDE REBATED
MEETING STILE OPTION



SECTION F-F
STANDARD REBATED
MEETING STILE OPTION



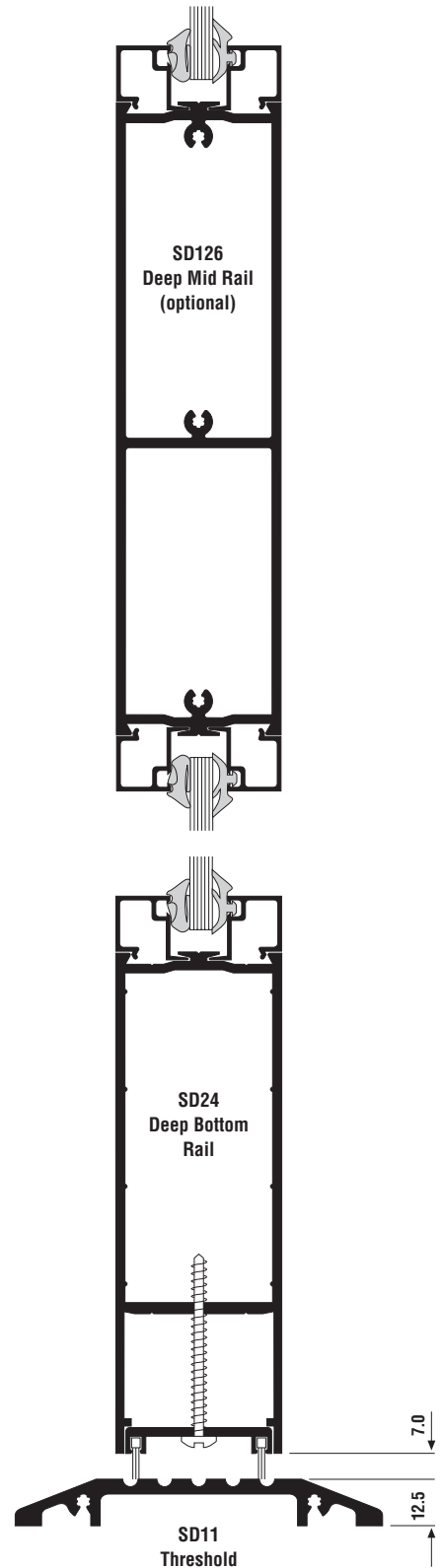
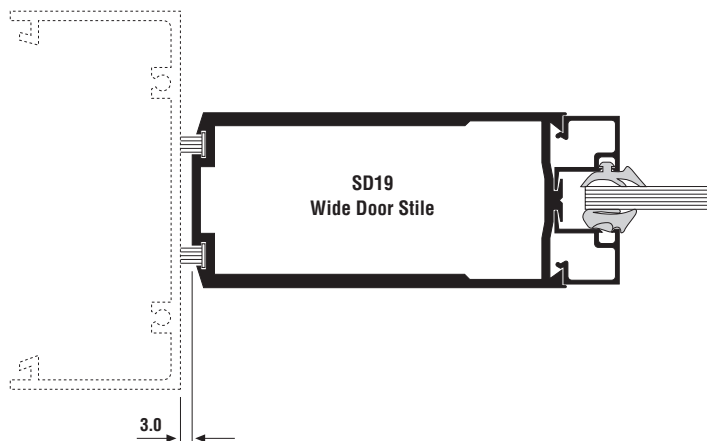
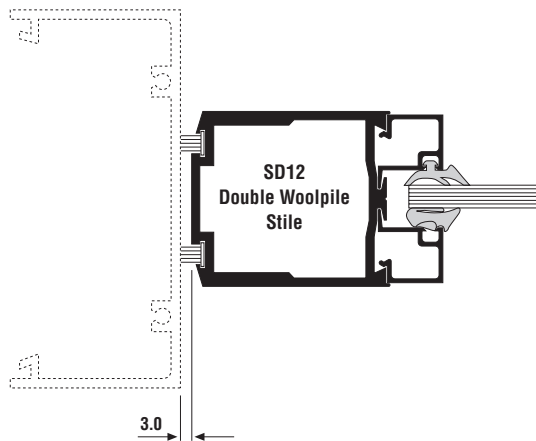
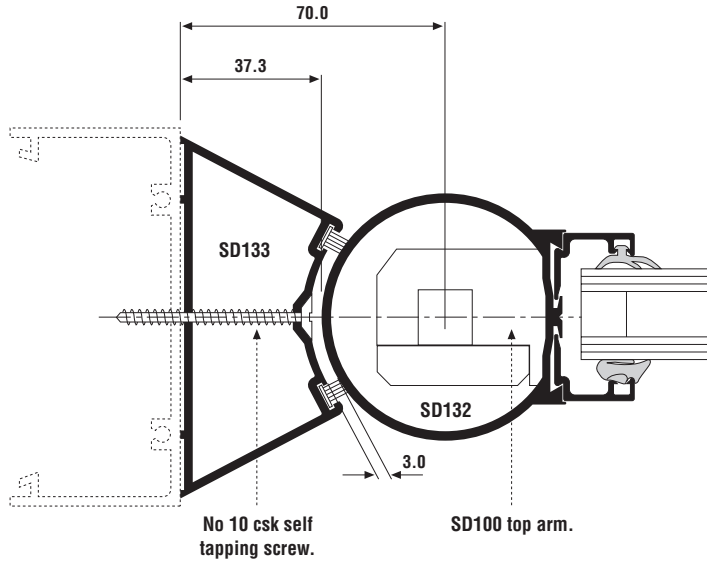
Scale 1:2



System 10

COMMERCIAL
DOOR

General Arrangement



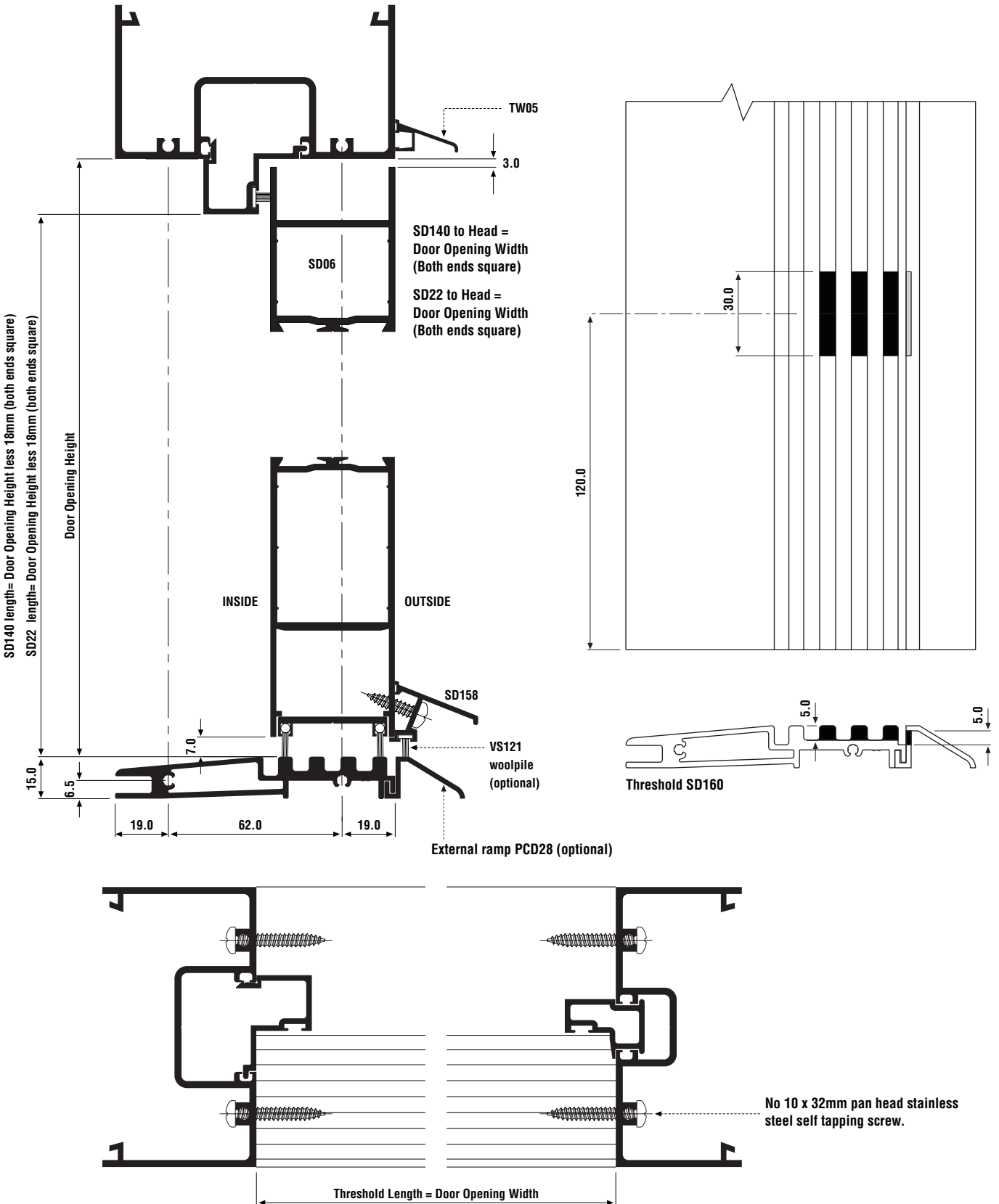
General Arrangement



System 10

COMMERCIAL
DOOR

DRAINED THRESHOLDS - OPEN OUT HINGED



Scale 1:2

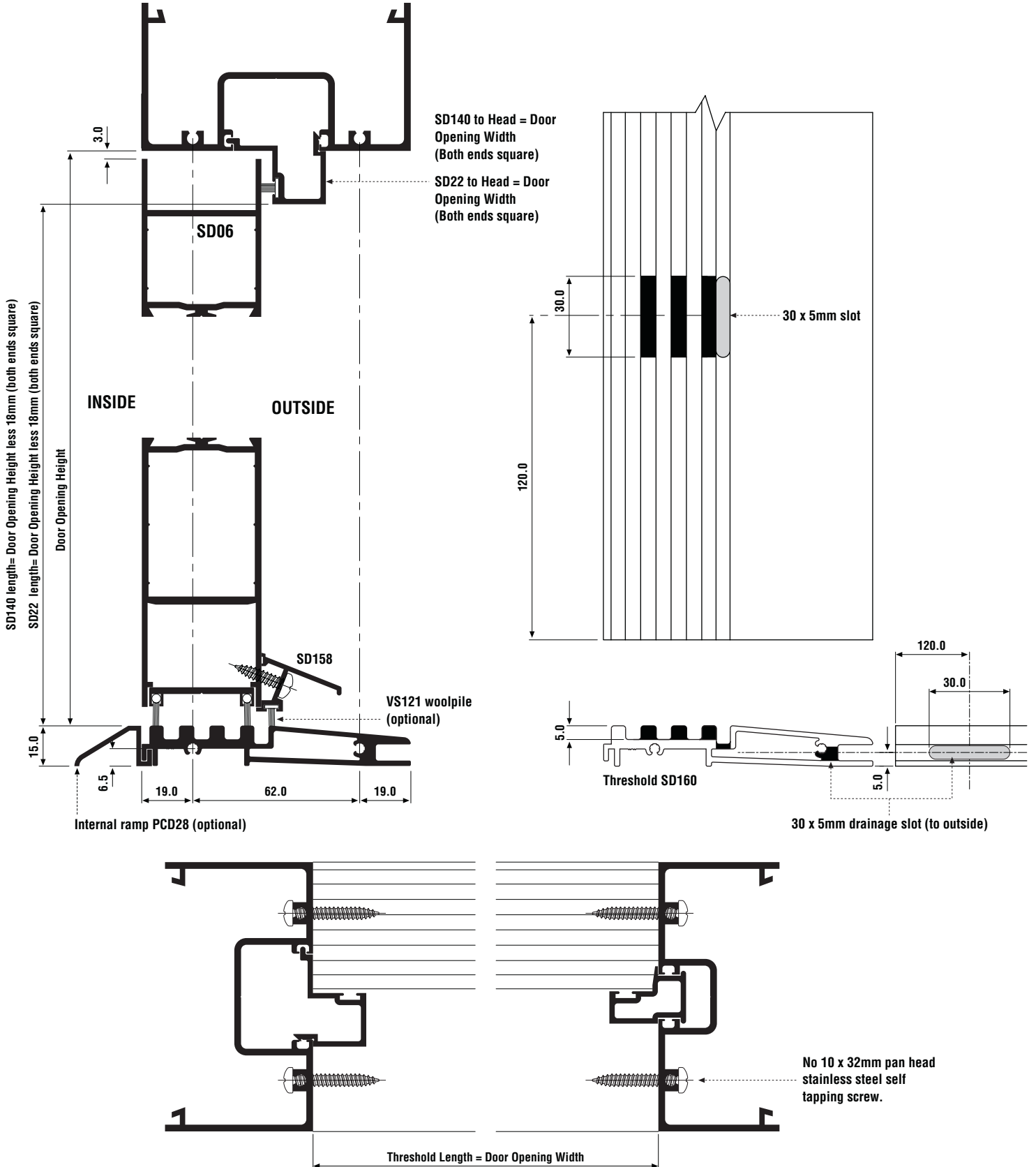


System 10

COMMERCIAL
DOOR

DRAINED THRESHOLDS - OPEN IN HINGED

General Arrangement



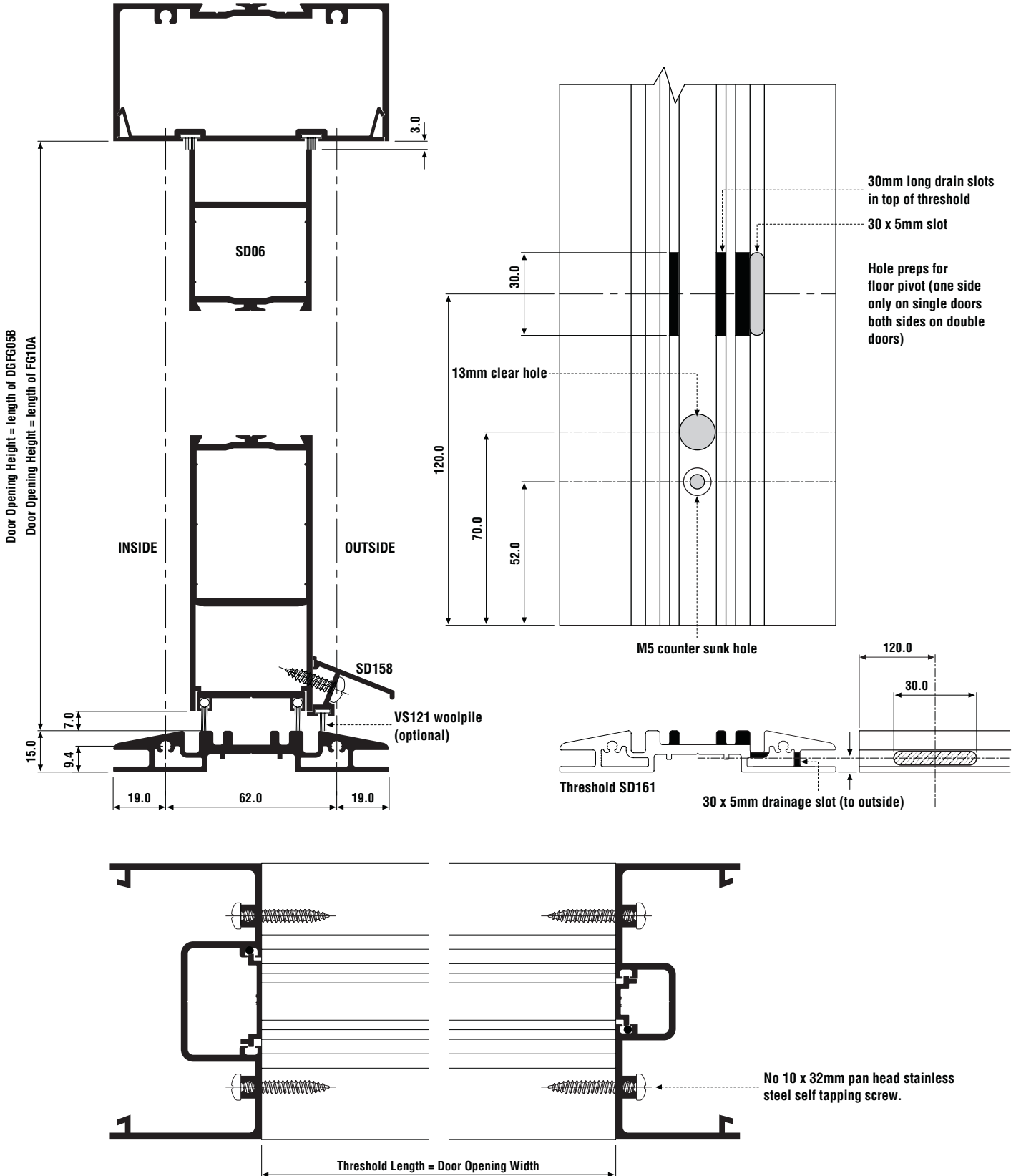
Fabrication Details



System 10

COMMERCIAL
DOOR

DRAINED THRESHOLDS - SWING DOOR



Scale 1:2

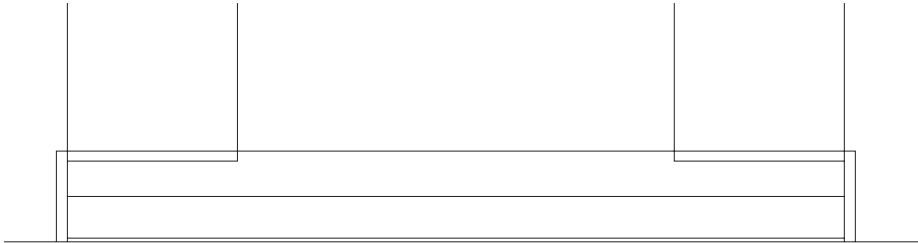


System 10

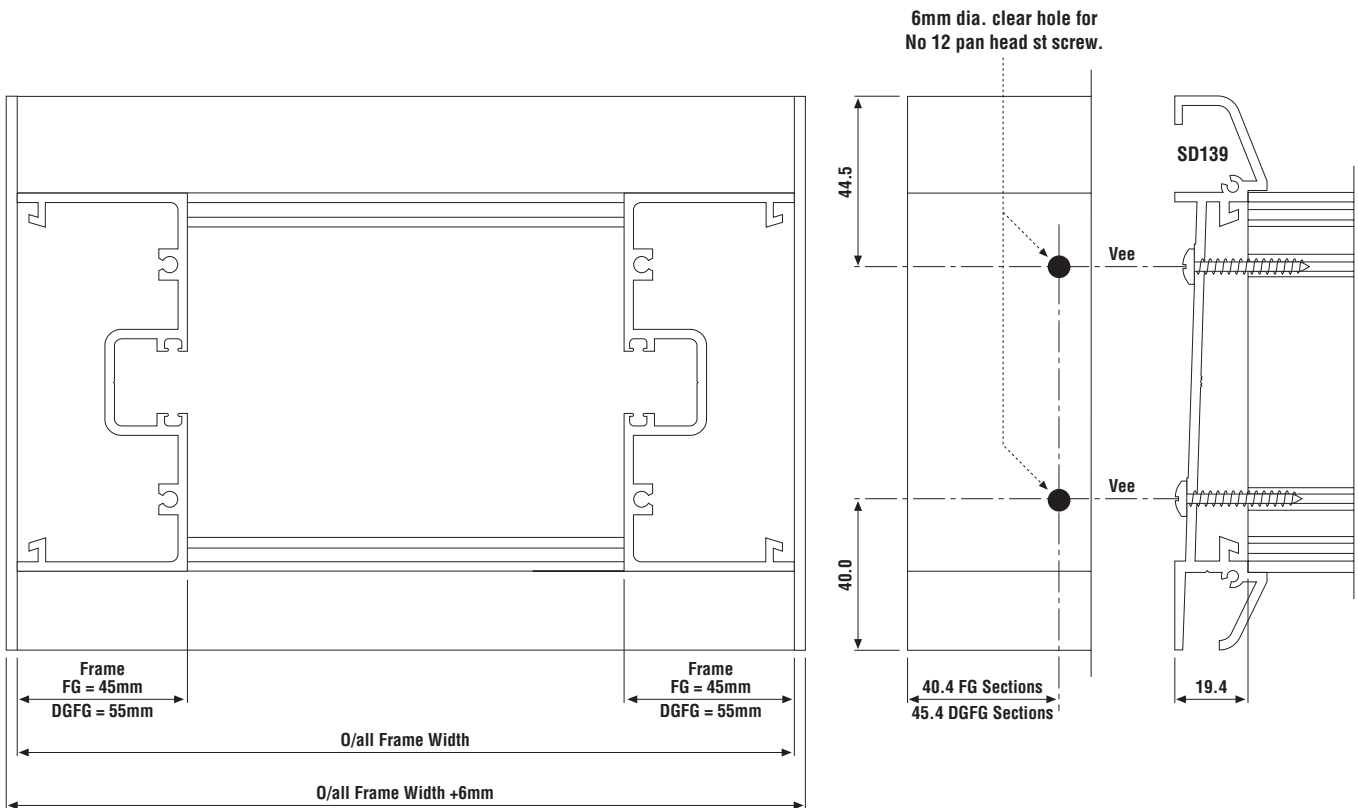
COMMERCIAL
DOOR

Fabrication Details

DRAINED BASE PLATE DETAIL TO FLUSH GLAZED SCREEN

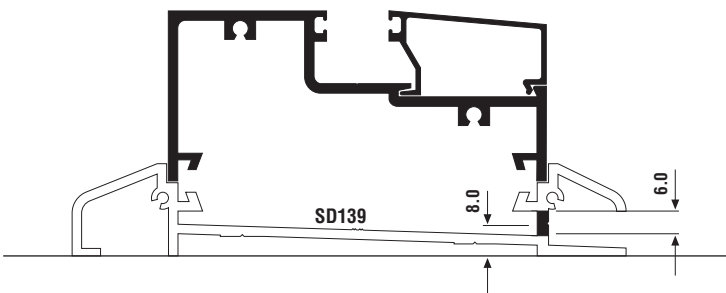


DRAINED BASE PLATE END PREP FOR MAIN FRAME SECTION

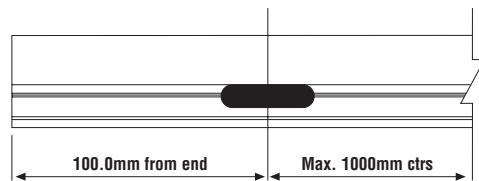


End caps SD273 available to suit base plate.

BASE PLATE TO FLUSH GLAZED SCREEN



DRAINAGE TO BASE PLATE



Hinge Prep Details

HINGE FITTING

The following details are for PCD98 door hinges only.

1. Drill the holes for the hinges at the centres shown ensuring lower set of holes is on the outer frame. Metal Technology recommend the use of drilling jigs JIG10001 & JIG10024 to ensure the correct positioning of the holes.
2. Metal Technology recommend 2 hinges per door leaf up to 2100mm high and 3 hinges per leaf between 2100mm and 2400mm high or over 850mm wide. For vertical positions of hinges on frame & stile see sheet 'Hinge Positions'.
3. Where added security is required to prevent leaf being lifted off when open, an additional hinge may be installed upside down. Refer to Metal Technology's Technical Department for details.
4. The hinges must be secured to the frame and the stile via tapping plates with integral leaf spring, supplied with the hinge. The correct positioning of tapping plates is essential.
5. When the hinges have been installed and the doors are hung, adjustment can be made to the doors position by screw adjustment with 5mm hex allen key.

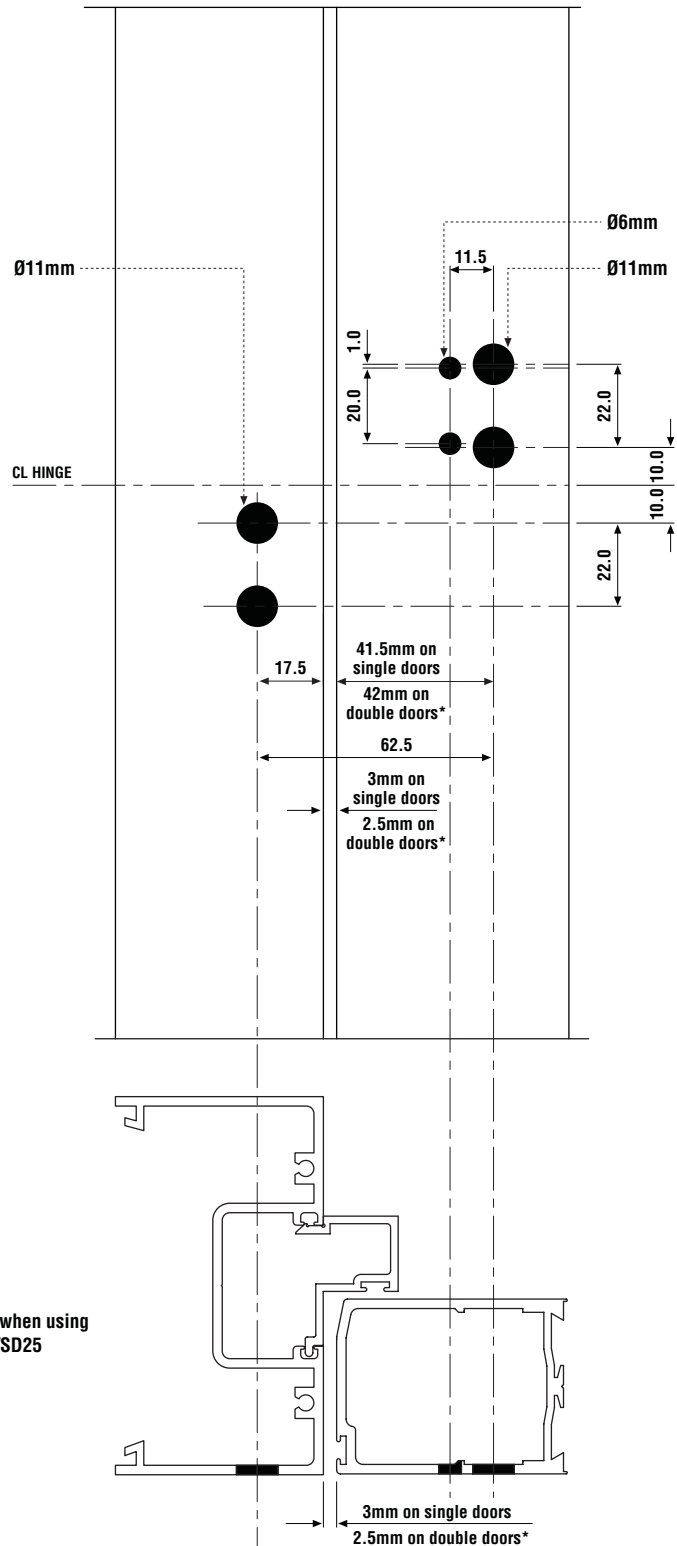
Lateral adjustment $\pm 3\text{mm}$. Access before screw cover cap is fitted.

Gasket pressure fine adjustment $\pm 0.75\text{mm}$. Access before top cover cap is fitted.

Height adjustment $+ 4\text{mm}$. Access before bottom cover cap is fitted.

(Plastic cover caps must be fitted after adjustment to offer protection against dirt/moisture and to secure bush inside the hinge)

* 2.5mm gap is only applicable when using rebated meeting stiles SD124/SD25





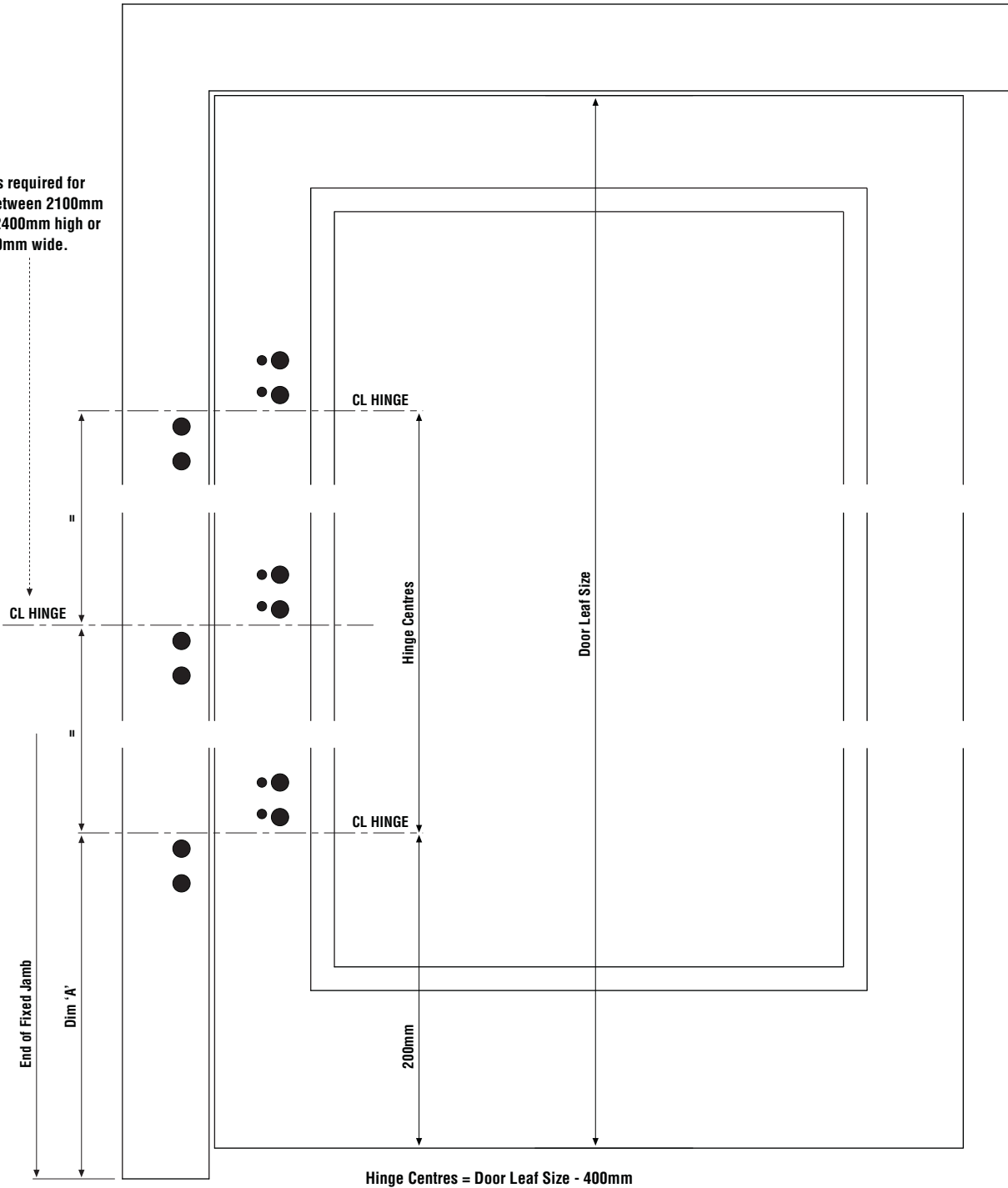
System 10

COMMERCIAL
DOOR

Hinge Positions

For details of hinge preparations and fabrication see 'Hinge Prep Details'

3 Hinges required for doors between 2100mm high & 2400mm high or over 850mm wide.



To minimise problems with tolerances, top hinge position (and centre hinge when required) should be measured from the centre line of the lower hinge.

Dim 'A' (SD11 Threshold) = 219.5mm
 Dim 'A' (SD17 Threshold) = 217mm
 Dim 'A' (SD33 Threshold) = 219.5mm
 Dim 'A' (SD160 Threshold) = 222mm

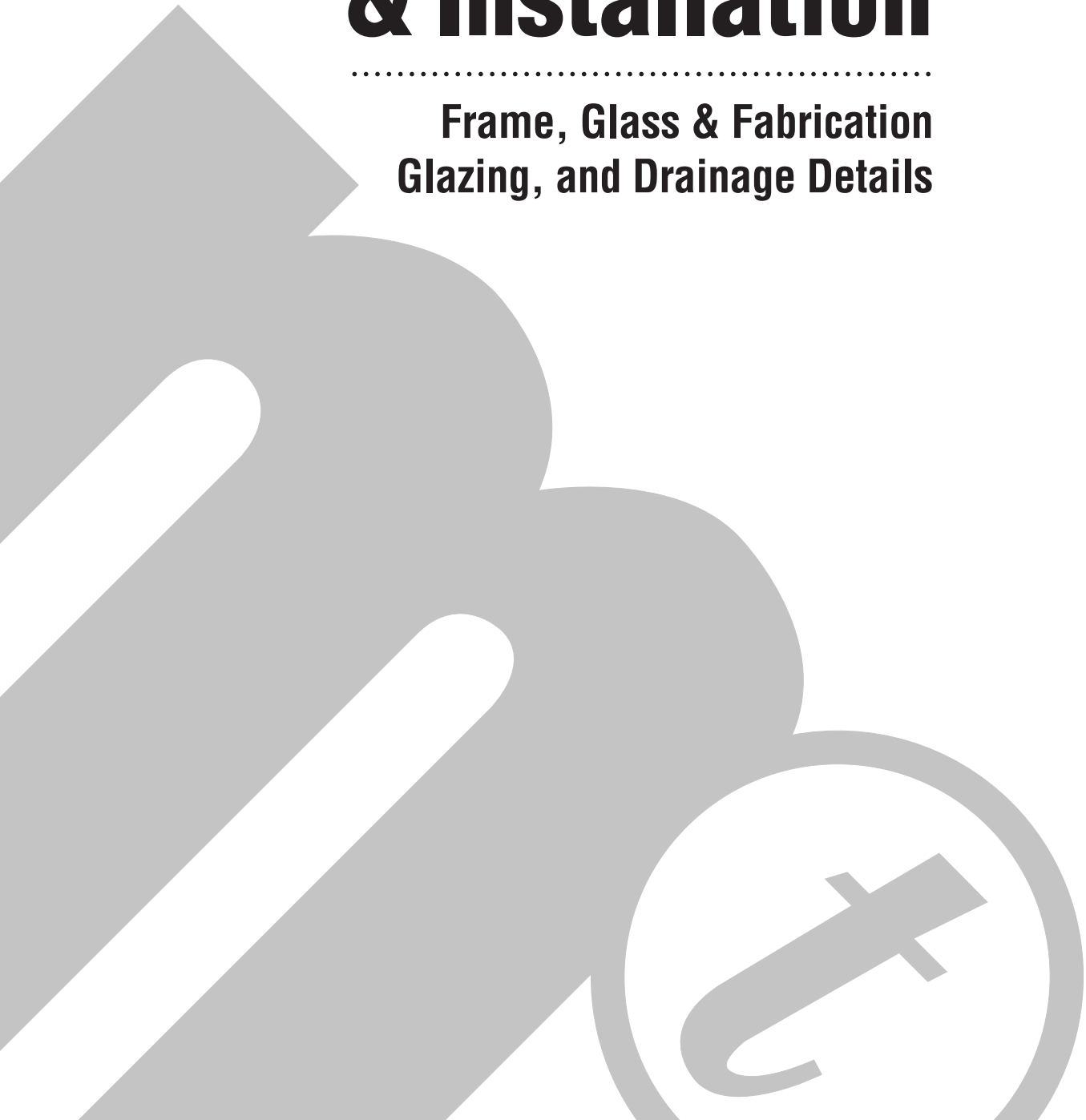


System 10

.....
COMMERCIAL
DOOR
.....

Fabrication & Installation

.....
**Frame, Glass & Fabrication
Glazing, and Drainage Details**





Introduction

COMMERCIAL DOOR SYSTEM

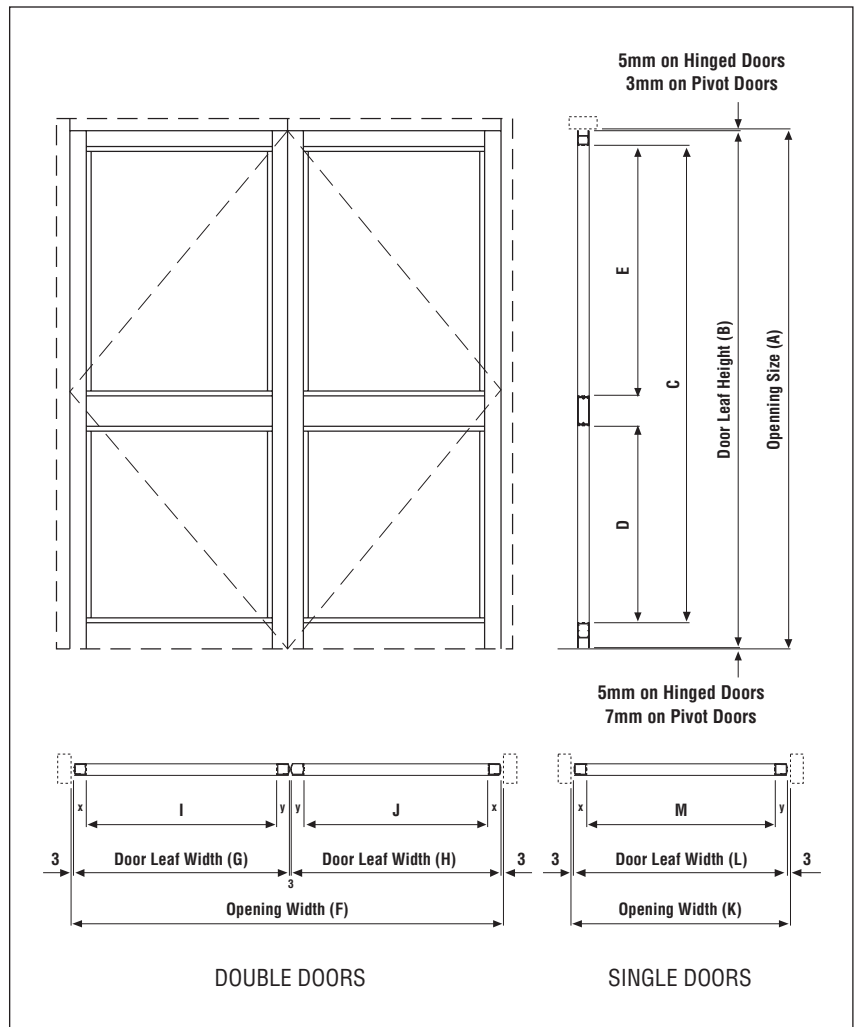
The Metal Technology Commercial Door System has been so designed as to accept all of the commonly available types of closers, locks, bolts, handles and letterplates.

Because of the wide variety of types of ironmongery available, it would be inappropriate here to detail the preparations required to secure them to the door.

Assembly & Fixing Details

While the fabrication of the door is taking place the appropriate manufacturers instructions must be consulted at the required stage. Any system is dependent on good workmanship to ensure correct fabrication and fitting. The various sections must be cut and prepared accurately, all joints must be sealed completely and cleanly, removing any excess. Weatherstrips and gaskets must be mitre cut at corners and fixed into their appropriate channels without stretching, and finally sealed at the corners. Cement and plaster can damage the finish of this product if they are not removed promptly with clean soapy water. Caution must be exercised with the use of any abrasive tools or materials. Any excess mastic must be removed as so as not to detract from the finished product.

Frame Details



Not to Scale

Glass and Fabrication Details



System 10

COMMERCIAL DOOR

To be read in conjunction with Frame Details opposite.

Door Stiles (B)

Overall Opening Height (A) - 10mm

NB Opening height (A) is measured from underside of header box to floor level, or if a threshold is required then this dimension must be reduced by:

- SD11 = 12.5mm
- SD17 = 12.0mm
- SD33 = 12.5mm
- SD160 = 15.0mm
- SD161 = 15.0mm

Top, Mid and Bottom Rails (I, J, M)

Single Doors = (Overall opening width [K] - 6mm) - Door stile widths (X) and (Y).

Double Doors = $\left(\frac{\text{Overall opening width [F]} - 9\text{mm} - \text{door stile widths (X) and (Y)}}{2} \right)$

- Door Stile Widths (X or Y)**
- SD12A = 51.46mm
 - SD19 = 98.0mm
 - SD21 = 60.0mm
 - SD25 = 60.5mm
 - SD26A = 51.46mm
 - SD124 = 98.0mm
 - SD125 = 98.0mm
 - SD132/SD133 = 98.0mm
 - SD169/SD133 = 142.0mm

C, D, and E = Tight size between top, bottom, and midrails

Width beads = I, J, M - Nil (Same width as Top, Mid and Bottom Rails) = Square cut.

- Height beads** = C, D, E
- 30mm for **SD02** (Single glazed square bead) = Square cut.
 - 3mm for **SD14** (Single glazed bevelled bead) = 45° Mitre.
 - 38mm for **SD10** (24mm double glazed bead) = Square cut.
 - 40mm for **SD35** (28mm double glazed bead) = Square cut.

Anti-fingertrap Adaptor

SD133: Overall opening height (A)

Glazing

Description	Glass size
Glass or Panels	Width (I, J, M) - 10mm Height (C, D, E) - 10mm

Fabrication Details

The following points detail the minimal fabrication required to form the frames.

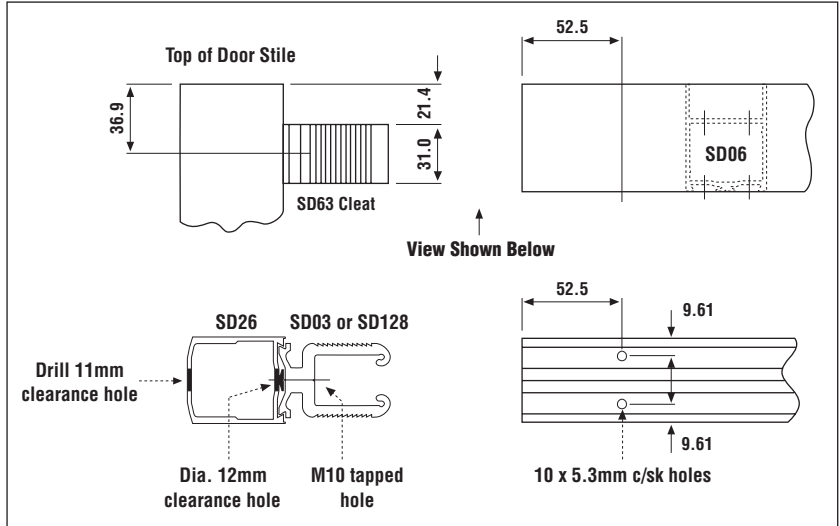
- 1 Cut the chosen sections to length as required (See Glass & Fabrication Details), and select the necessary components. All lengths to be square cut. (Except SD14 bead where indicated)
- 2 Drill 11mm dia. holes through the stiles so that they align with the tapped hole when the rail cleats are positioned as shown (see sketch).
- 3 Slide the cleats into position as shown and secure using 30mm x M10 socket head screw.
- 4 Using the 'V' grooves in the top and bottom rails, drill a series of 10 x 5.3mm c/sk holes 52.5mm in from each end. (These holes are slightly offset in relation to the screw port splines of the cleats, enabling the rails to be tightly drawn to the stiles when secured). Accurate drilling of the holes is important to achieve a good final product, therefore the use of proper drilling jigs is recommended.
- 5 Slide the rails onto their respective cleats (the rail pips will offer some resistance as they engage with the serrations on the cleat), and secure using No. 8 x 5/8" csk self-tapping.
- 6 Ensure all joints are sealed with "small gap" type sealant during fabrication.
- 7 Fit the stile grommet (SD40) into the hole in the stile.

NOTE: The above procedure is based on the use of SD03 cleat which is a dovetail fit into the stile. A non-dovetailed cleat (SD128) is also available.

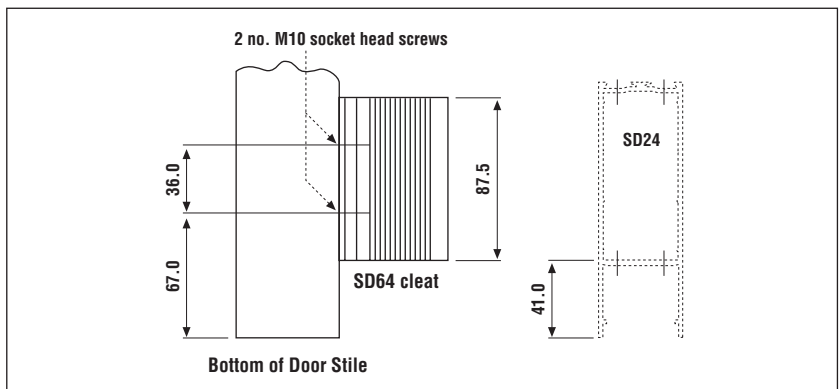
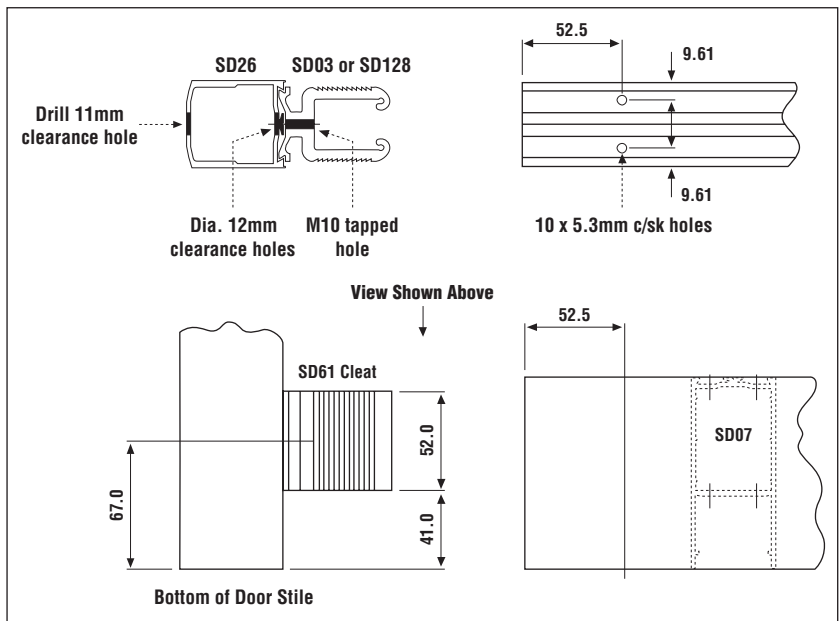
ALTERNATIVE CLEAT SECTION SD128



All preparations as for SD03.



Drawings - Not to Scale





Frame Details - Tie Bar Option

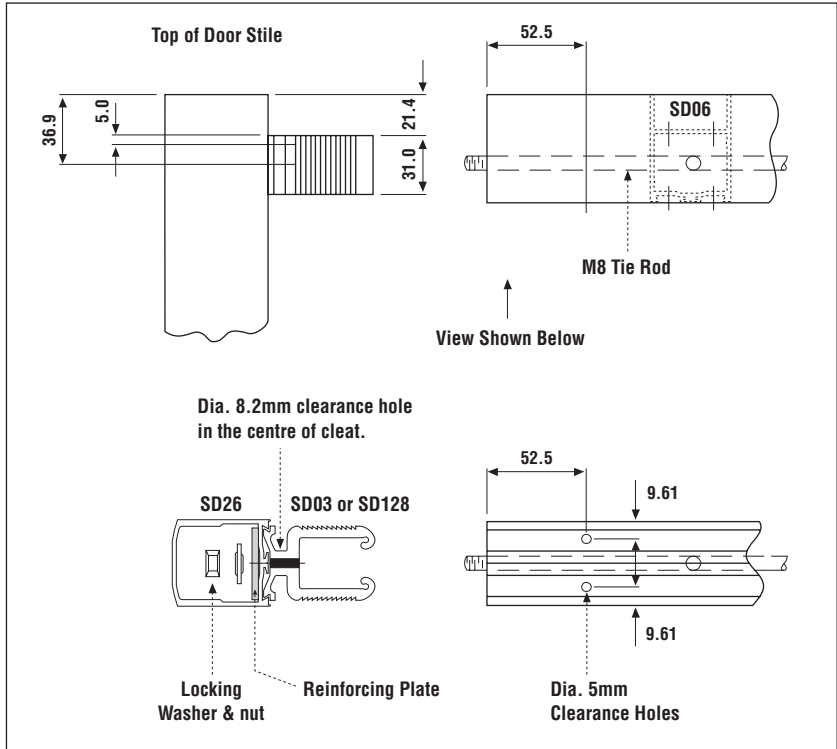
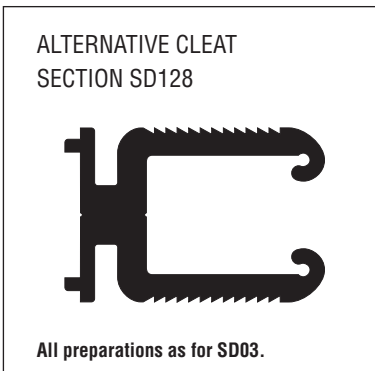
COMMERCIAL DOOR SYSTEM

Fabrication Details

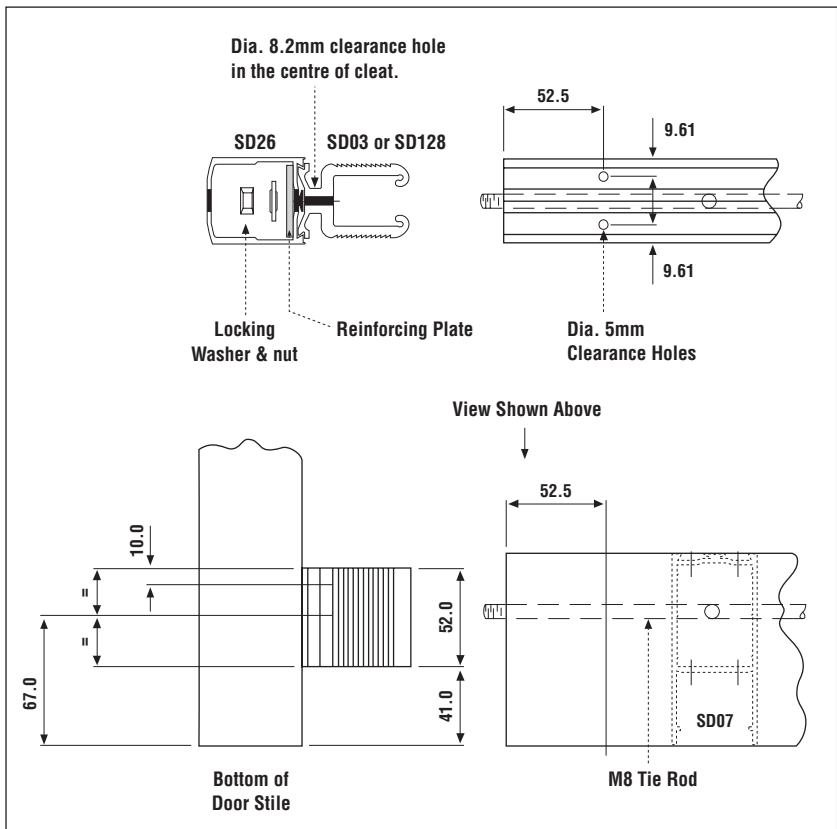
Should a particular application require greater than normal strength from the door, provision has been made for the addition of a tie bar to the top and bottom rails.

- 1 Cut the chosen sections to length as required (See Glass & Fabrication Details), and select the necessary components. All lengths to be square cut, (except SD14 bead where indicated).
- 2 Using the 'V' groove, drill an 8.2mm clearance hole in the centre of each cleat as shown. Also drill a 5mm clearance hole 5mm from the top of the top rail cleats and 10mm from the top of the bottom rail cleats.
- 3 Drill 8.2mm clearance holes in the door stiles to align with the 8.2mm hole in the cleats (See sketch) and drill 3mm pilot holes to align with the 5mm hole in the cleats. Accurate drilling of the holes is important to achieve a good final product, therefore the use of proper drilling jigs is recommended.
- 4 Slide the cleats into position as shown and secure using 25mm x No. 8 pan head self-tapping screws.
- 5 Feed the tie bars through the rails and slide the rails over the cleats. Tension the tie bars onto the reinforcing plates with the locking washers and nuts.
- 6 Secure the rails to the cleats as normal and tighten the tie bars to 15Nm (torque must be adjusted if the tie bar dia. differs from that shown).
- 7 Ensure all joints are sealed with "small gap" type sealant during fabrication.

NOTE: The above procedure is based on the use of SD03 cleat which is a dovetail fit into the stile. A non-dovetailed cleat (SD128) is also available.



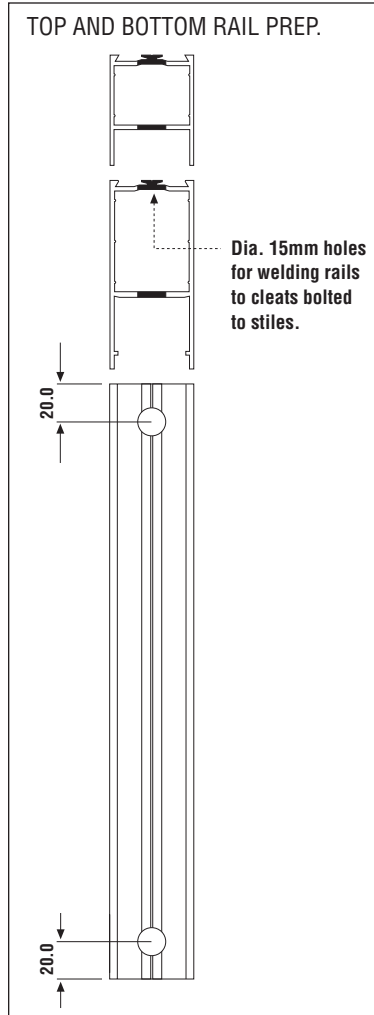
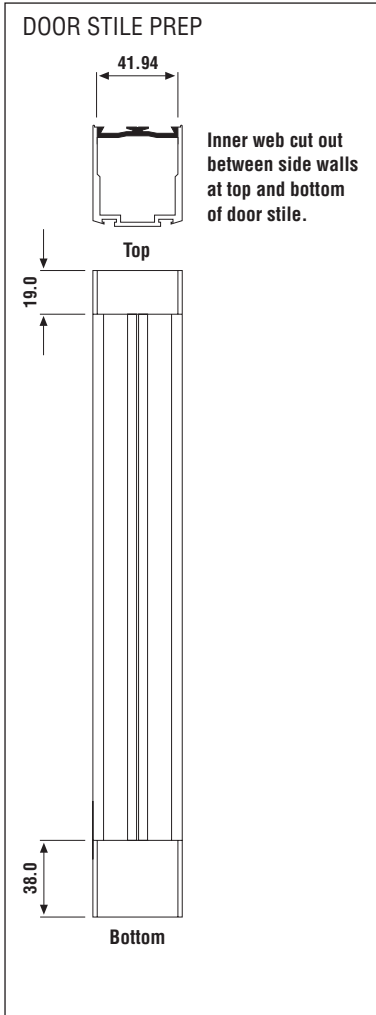
Drawings - Not to Scale





Frame Details - Welded Option

COMMERCIAL DOOR SYSTEM

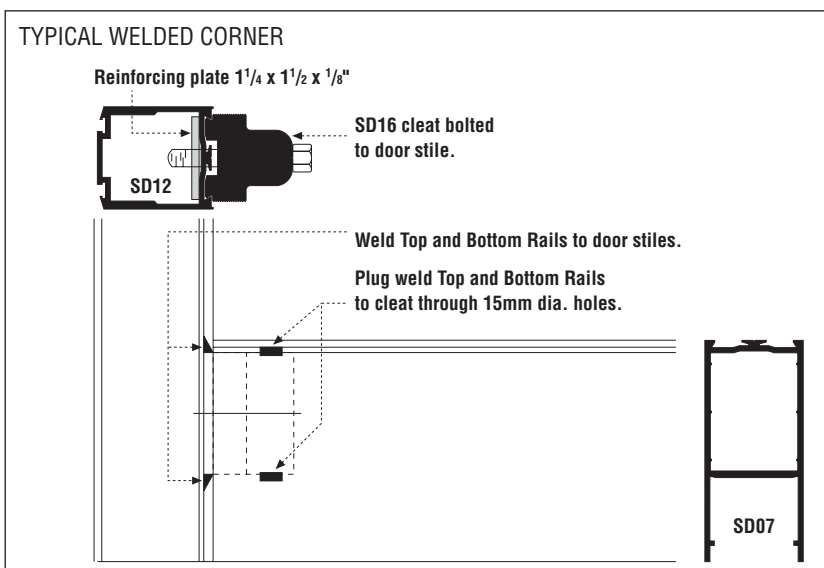


Drawings - Not to Scale

Fabrication Details

- 1 Cut the chosen sections to length as required (See Glass & Fabrication Details), and select the necessary components. All lengths to be square cut, (except SD14 bead where indicated).
- 2 Use the special cleats (top cleats are SD16 x 31mm long, bottom cleats are SD16 x 52mm long).
- 3 Drill 8.2mm clearance holes in the door stiles so that they align with the 8.2mm clearance hole in the cleat when it is in position.
- 4 Mill away the bead platform flush to the inner walls of the rail (see sketch).
- 5 Slide the cleats into position, locate the reinforcing plates and then secure using the M8 bolts.
- 6 Drill dia. 15mm holes 20mm in from each end of the top and bottom rails through the cleat cavity (see sketch).
- 7 Position the rails on the cleats and securely clamp the frame together, ensuring that the frame is perfectly square and that the top and bottom rails are flush with the top and bottom of the door stiles.
- 8 Plug weld the top and bottom rails to the cleats using the holes drilled in step 6.
- 9 Weld the top and bottom rails to the door stiles above and below the cleat cavity.
- 10 Ensure all joints are sealed with "small gap" type sealant during fabrication.

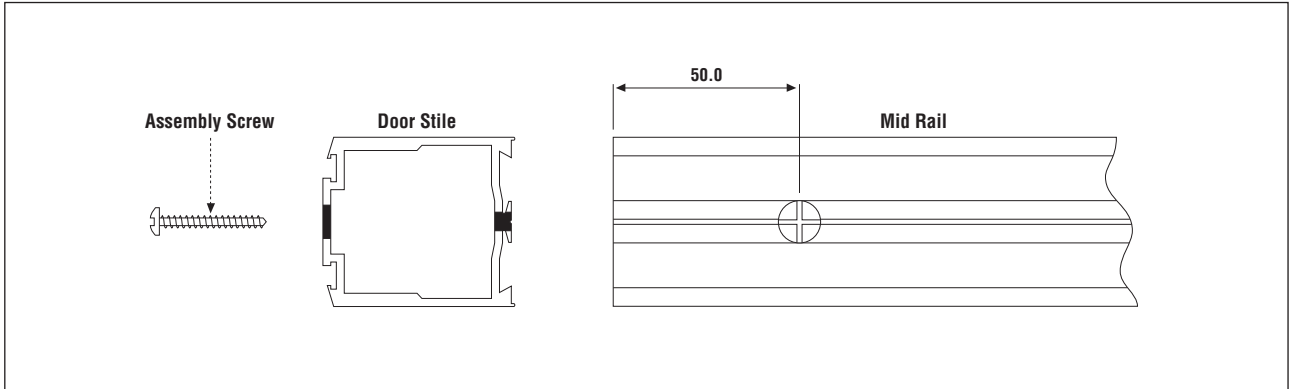
Note: Metal Technology do not recommend this method of construction be used with pre-finished material.





Mid Rail Fabrication - Standard

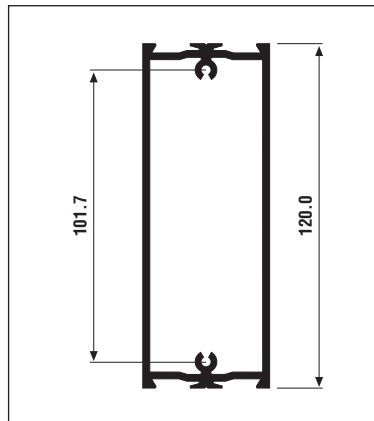
COMMERCIAL DOOR SYSTEM



Drawings - Not to Scale

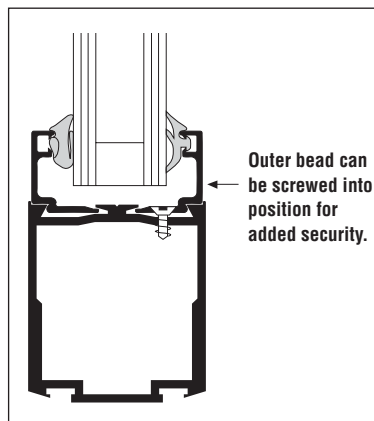
Fabrication Details

- 1 Cut the required lengths from the mid rail profile (see formulae). Square cut ends.
- 2 Drill two 5mm clearance holes at 101.7mm centres along the 'V' groove of the door stiles to align with the mid rail screw ports. On the opposite side of the stile drill two 8.25mm clearance holes to align with the above.
- 3 Ensure the frame is square and secure the mid rail using 25mm x No. 8 pan head self-tapping screws.
- 4 Ensure "small gap" type sealant is applied to all joint faces during fabrication.



Security Option (DG Bead only)

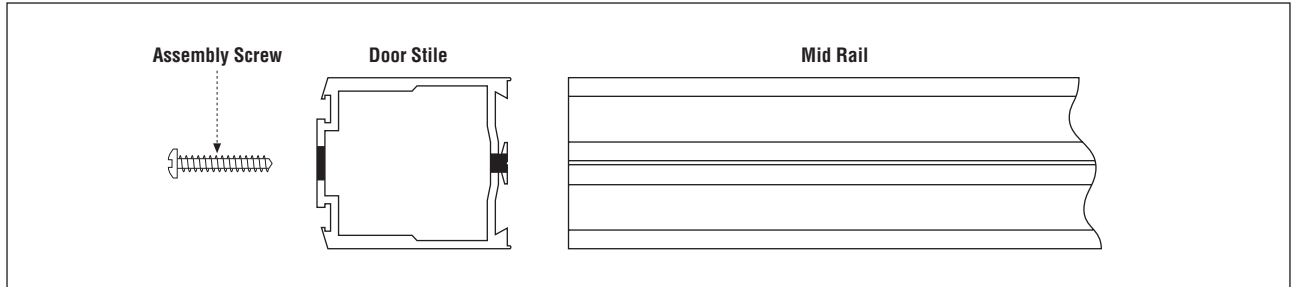
With the double glazed option the outer bead may be secured to the door frame using 6.5mm x No. 6 csk head self-tapping screws to enhance the security of the system. (Drill 4mm csk holes in the bead and 2.5mm pilot holes in the door frame.)





Mid Rail Fabrication - Deep

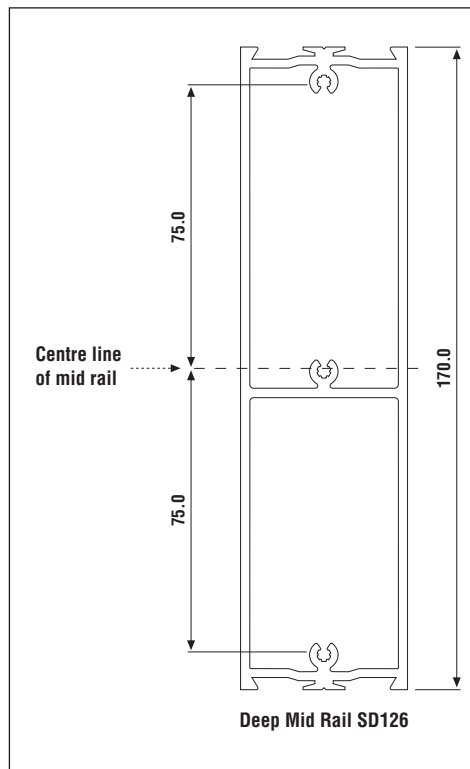
COMMERCIAL DOOR SYSTEM



Drawings - Not to Scale

Fabrication Details

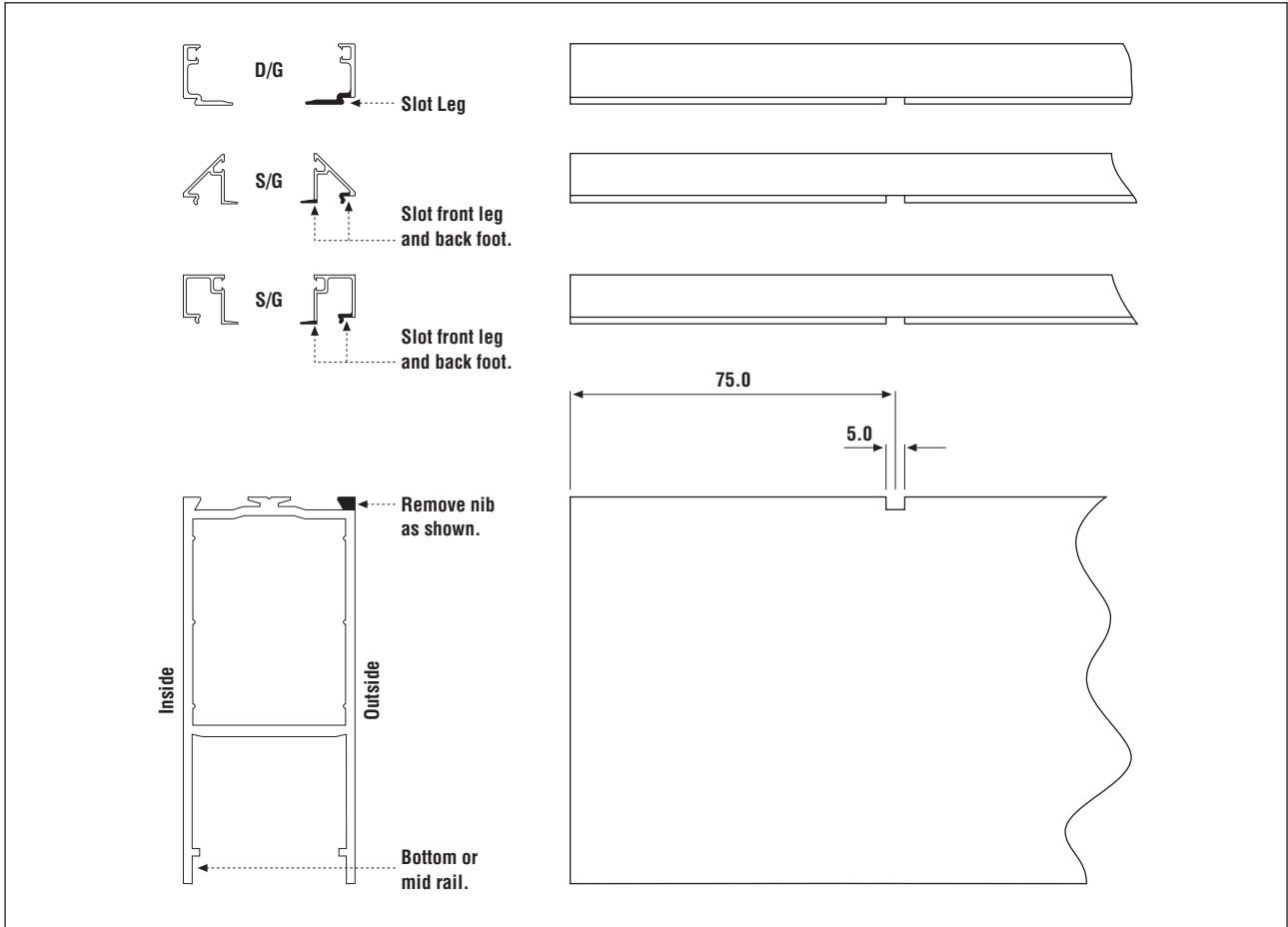
- 1 Cut the required lengths from the mid rail profile (see formulae). Square cut ends.
- 2 Drill three 5.5mm clearance holes at 75mm centres about the centre of the mid rail along the 'V' groove of the door stiles so that they align with the mid rail screw ports. On the opposite side of the stile drill three 10mm clearance holes to align with the above.
- 3 Ensure the frame is square and secure the mid rail using 3 No. 10 x 45mm pan head self-tap pozi screws.
- 4 Ensure "small gap" type sealant is applied to all joint faces during fabrication.





Drainage Details

COMMERCIAL DOOR SYSTEM



Scale 1:2

Drainage Preparation Details

Drainage for the commercial door system is achieved quite simply. Where other Metal Technology Systems are being used in conjunction the appropriate section in their installation and fabrication guides must be consulted.

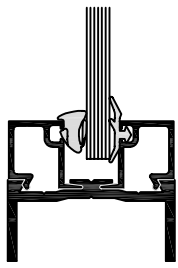
- 1 Notch the front of the bottom rail (and mid rail if used) bead channel as shown, 75mm from each end.
- 2 Cut the slots in the outer beads to align with the notches in the rails, as shown.
- 3 Ensure that the end of the bead channel is completely sealed against the door stiles with "small gap" type sealant.
- 4 For successful drainage to be completed, ensure all the glazing and infill panels are correctly seated on their setting blocks.

Glazing Details

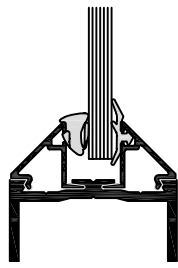


System 10

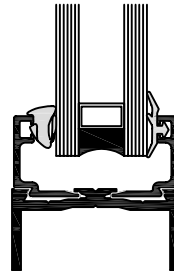
COMMERCIAL DOOR



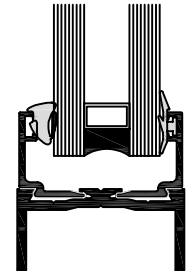
A - Single Glaze Bead SD02



B - Single Glaze Bead (bevel) SD14



C - 24mm Double Glaze Bead SD10

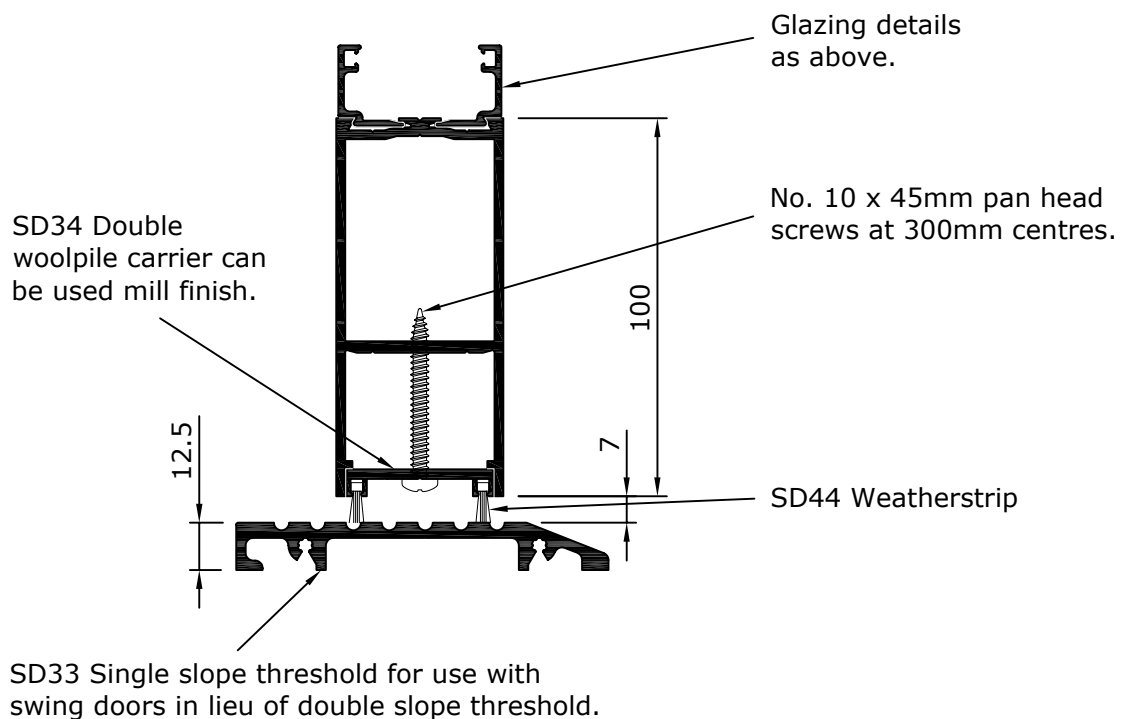


D - 28mm Double Glaze Bead SD35

Ref.	Glass	Description	Inside	Outside
A	6mm 10mm	Single Glaze Bead SD02	CA27 (white wedge) CA26* (orange wedge)	SD37 SD37
B	6mm 10mm	Single Glaze Bead (bevel) SD14	CA27 (white wedge) CA26* (orange wedge)	SD37 SD37
C	24mm	Double Glaze Bead SD10	CA27 (white wedge)	SD37
D	28mm	Double Glaze Bead SD35	CA27 (white wedge)	CA25

* With strip torn off.

DETAIL SHOWING FLAT BACK THRESHOLD AND DOUBLE WOOLPILE CARRIER



Scale 1:2

PAGE 9

rev 2

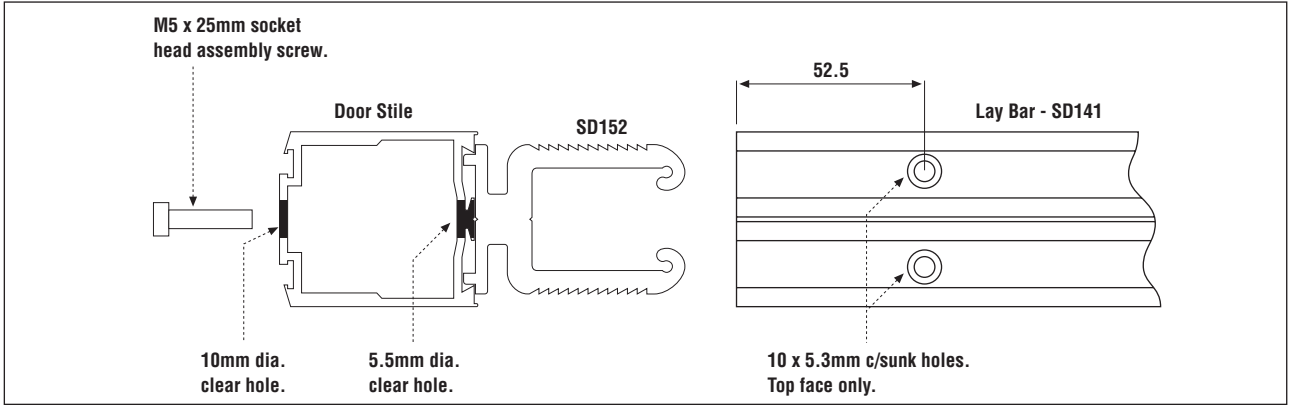
13/03/09



Fabrication Details - SD34 Woolpile Carrier

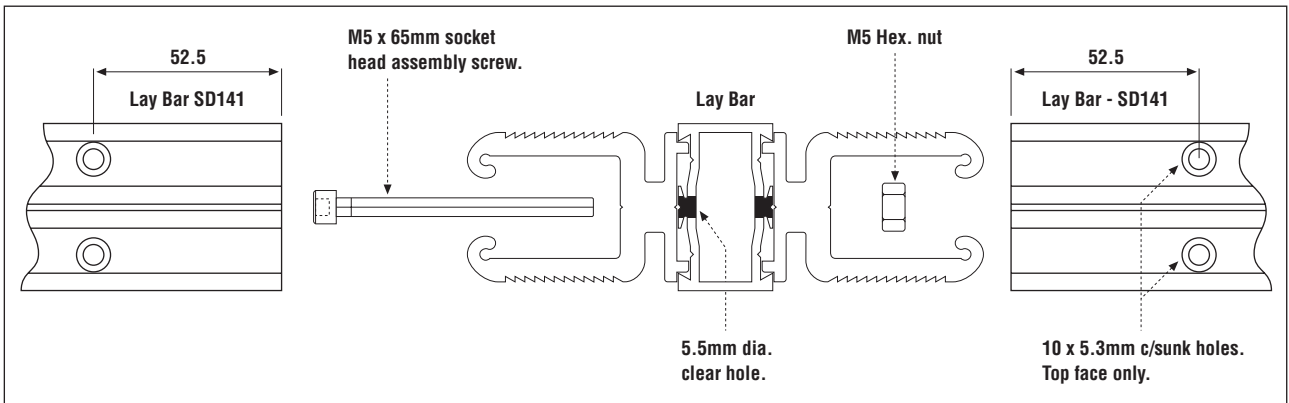
COMMERCIAL DOOR SYSTEM

Details at Lay Bar Junction with Stile Bar



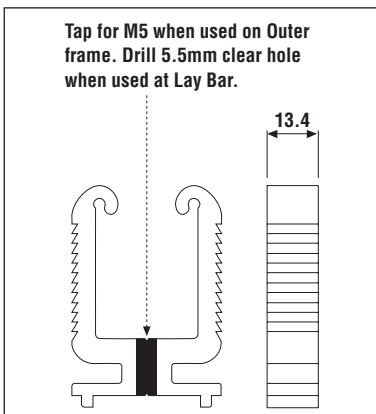
Scale 1:2

Details at Cruciform Junction of Lay Bar



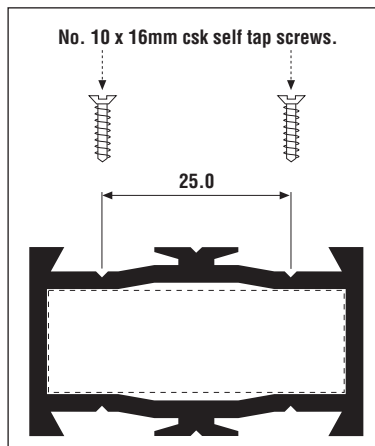
Scale 1:2

SD152 Fixing Cleat for 25mm Lay Bar



Scale 1:2

SD141 25mm Lay Bar

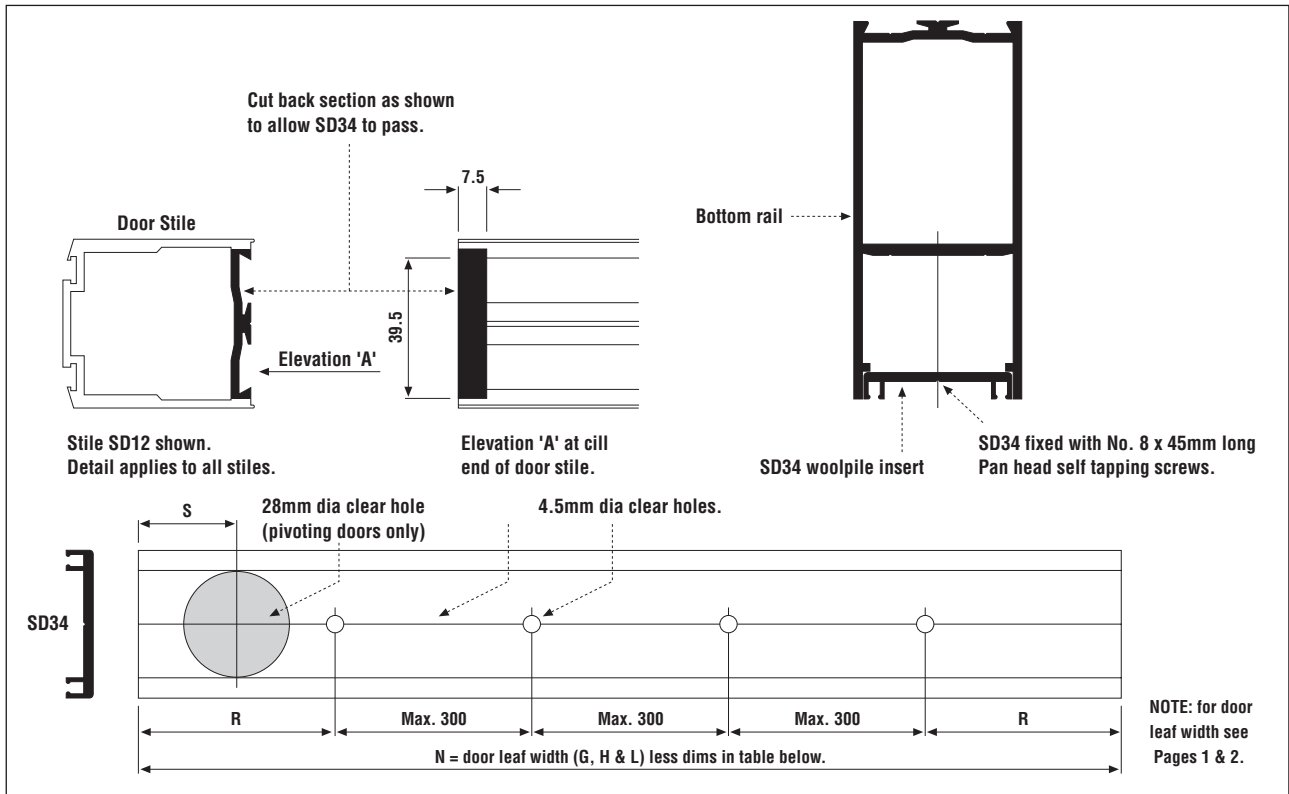


Scale 1:1



Frame Details

COMMERCIAL DOOR SYSTEM



Drawings - Not to Scale

Hinged / Pivotted Stiles			Meeting / Handle Stiles				
Profile	Dim	Dim	Woolpile Stiles			Slave Stiles	
	'R'	'S'	SD12	SD19	SD21	SD26	SD125
SD12	85	61	12	12	-	12	12
SD19	132	108	12	12	-	12	12
SD21	65	-	-	-	12	See Below	
					Dim 'R'	65	115

