

Product Manual



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General Documentation Disclaimer

This manual is intended as a manufacturing and installation advisory document. For correct specifications, sizing of profiles and structural information please consult the Starfront Application. If the information you require is not available through the Starfront Application, please contact your stockist before proceeding. It is advisable to have all sizing and performance criteria checked by a qualified structural engineer to ensure that the required criteria will be met.

All information, recommendations or advice contained in this documentation is given in good faith to the best of Wispeco's knowledge and is based on current procedures in effect.

Since the actual use of this documentation by the user is beyond the control of Wispeco, such use is within the exclusive responsibility of the user. Wispeco cannot be held responsible for any loss incurred through incorrect or faulty use of this documentation. Training of Wispeco systems is important for ensuring correct procedures in the manufacturing of products.

Great care has been taken to ensure that the information provided is correct.

Ensure that you have the latest available manual. The revision number and date can be checked on the latest Starfront version.

Wispeco will accept no responsibility for any errors and/or omissions, which may have inadvertently occurred.

This Guide may be reproduced in whole or in part in any form or by any means provided the reproduction or transmission acknowledges the origin, revision number and copyright date.

Specifications concerning products and applications

This manual is based on standard configurations only. As there are many configurations not covered in this manual, contact your stockist with regards to a configuration not represented herein if required.

AutoDesk drawings (CAD Symbol Library) are available on request and can be issued with the consent of the Wispeco Technical Department.

All mechanical joints must be sealed with a Crealco approved joint sealer. Failure to correctly seal the joints can affect the performance of the system. Information on joint sealing can be found in the Cleaning & Maintenance Manual available for download from the Wispeco website or from Starfront.

All drawings in the Wispeco Documentation are shown NOT to scale and are used for illustrative purposes only. Wispeco will not accept responsibility for the use of standard products since Wispeco does not know where these products are being installed. The hardware recommended in this documentation is suitable for use in most atmospheric environments. When hardware is used in severe coastal environments the manufacturer of the hardware must be consulted.

The use of non-specified hardware or incorrect mechanical fasteners can adversely affect the mechanical and weathering performance of the system and we strongly advise against deviations. A Wispeco Consultant can advise you of any hardware issues and limitations with regard to this system. The use of anti-magnetic stainless steel screws and aluminium pop rivets is recommended to reduce galvanic corrosion in harsh environments.

Fixing lugs on frames must be positioned as per the user manual and used in accordance to the AAAMSA specifications. When profiles are screwed together the screw centers must also be according to the user manual or as specified by an engineer. All glass used within Wispeco products must comply with SAGGA regulations. Laminated glass must not stand in water.

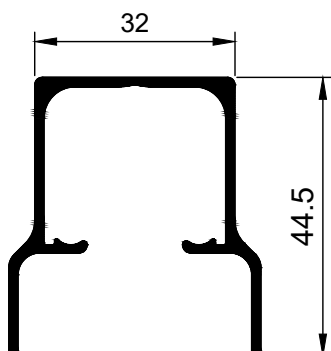
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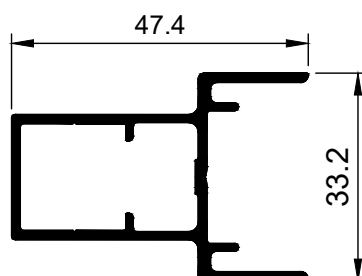
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Profile Identification

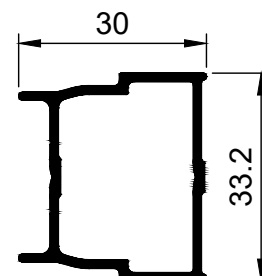
GUARDIAN™ BARRIER PROFILES



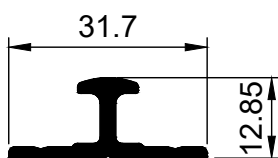
W38001
Guardian Head Rail



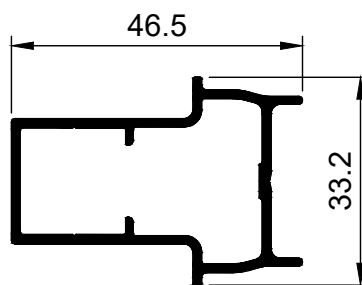
W59150
Guardian Lock Stile



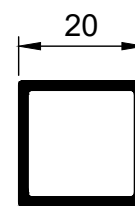
W59151
Guardian Jamb



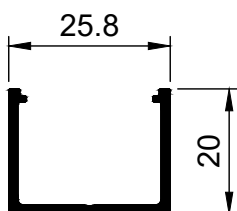
W37997
Guardian Track



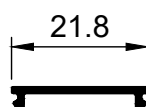
W59152
Guardian Meeting Stile



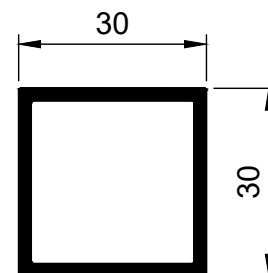
W42179
Square Tube
20 x 20 x 1.5



W38002
U-Channel 25.8 x 20 x 1.5



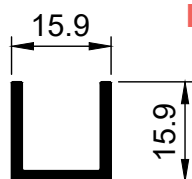
W32321
Clip-on Cover



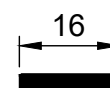
W42886
Square tube 30 x 30 x 2



W10968
Eq. Angle 25 x 1.6



W20042
U-Channel 15.9 x 15.9 x 1.7

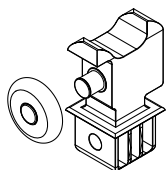


W21197
Flat Bar 16 x 3

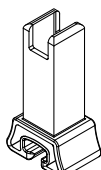
Hardware Components

Hardware Components

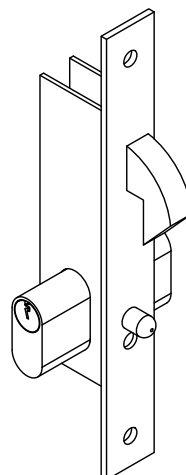
GUARDIAN™ BARRIER COMPONENTS



GSK-FHT-BLK
Guardian Frame Hanger
Top Black



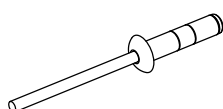
GSK-FGB-BLK
Guardian Frame
Guide
Bottom Black



GSK-GLS
Lock Hook Guardian Slam
and 55mm Cylinder Crealco



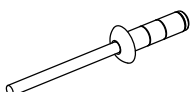
GSK-FRST-4823
Guardian Rivet Flat
Semi-Tubular 4.8x23
(Packs of 100)



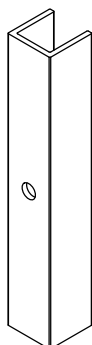
FRD-4818
Pop Rivet Alum Dome
4.8x18
(Packs of 100)



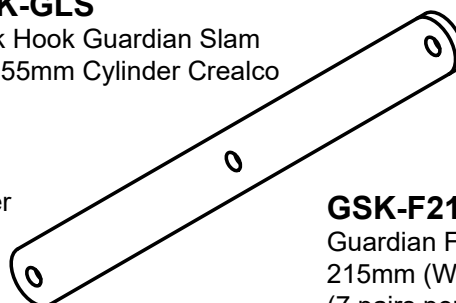
GSK-FRST-4810
Guardian Rivet Flat
Semi Tubular 4.8x10
(Packs of 100)



FRD-4815
Pop Rivet Alum Dome
4.8x15
(Packs of 100)



GSK-UCIS-BRZ
Guardian U Channel Inner
Stile (W20042) Bronze
(Packs of 8)
Available in White



GSK-F214-BRZ
Guardian Flites
215mm (W21197)
(7 pairs per pack)
Available in white



FSN-G105-BLK
Grommets 10.5 mm Black



GSK-WSS0.8
Guardian Washer
Stainless Steel 0.8mm
(Packs of 100)



GSK-WFP1.2-BLK
Guardian Washer Flat
PVC 1.2mm Black
(Packs of 100)

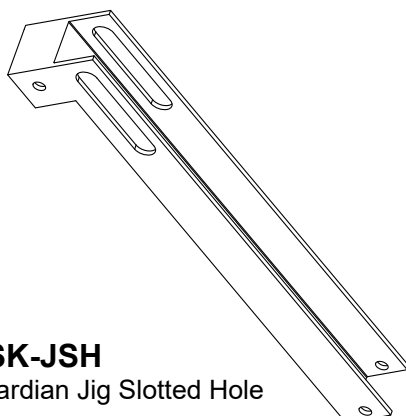


GSK-WFP2.4-BLK
Guardian Washer Flat
PVC 2.4mm Black
(Packs of 100)



GSK-WSP2.4-BLK
Guardian Washer
Shoulder PVC
2.4mm Black
(Packs of 100)

Tooling



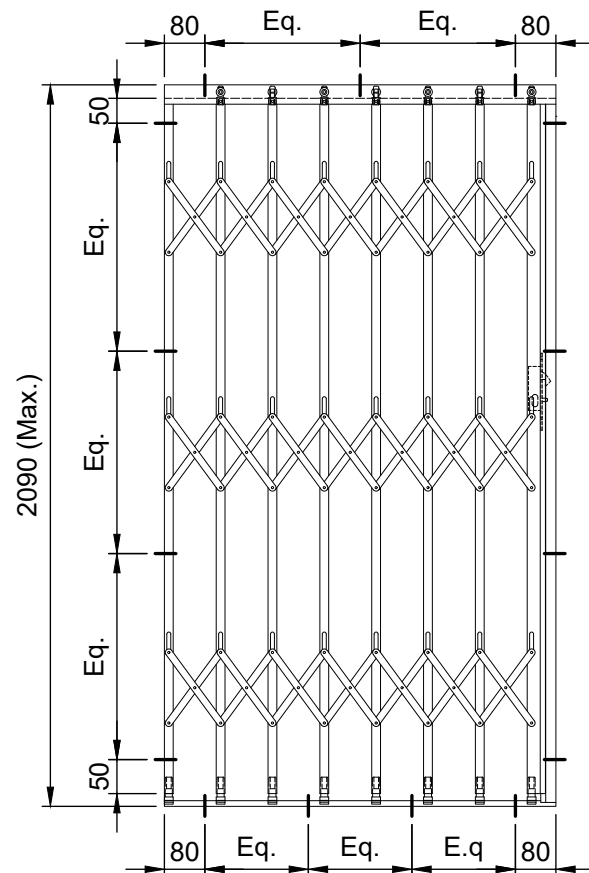
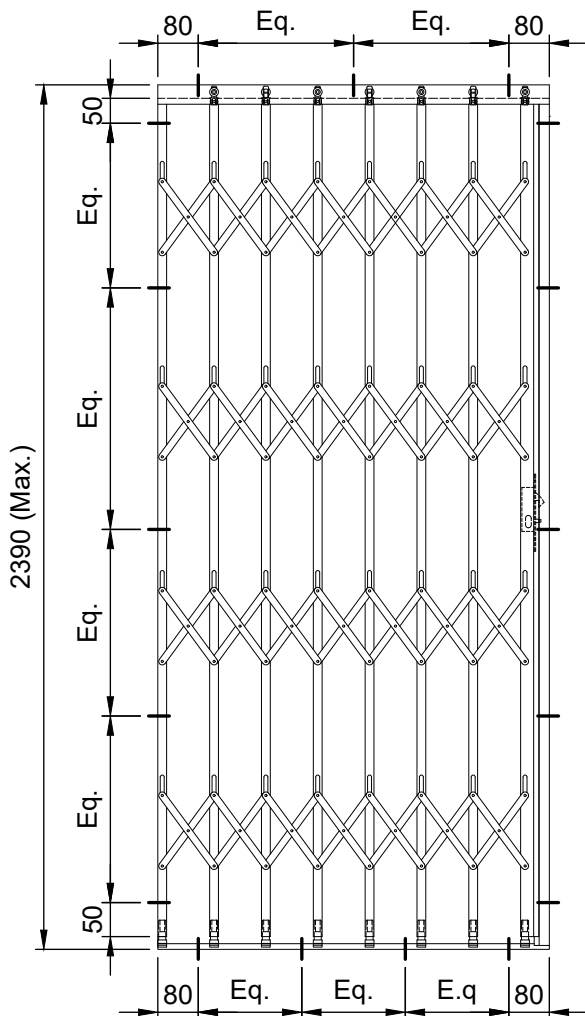
GSK-JSH
Guardian Jig Slotted Hole



GSK-HC
Guardian Rivet Hand Dolly Punch

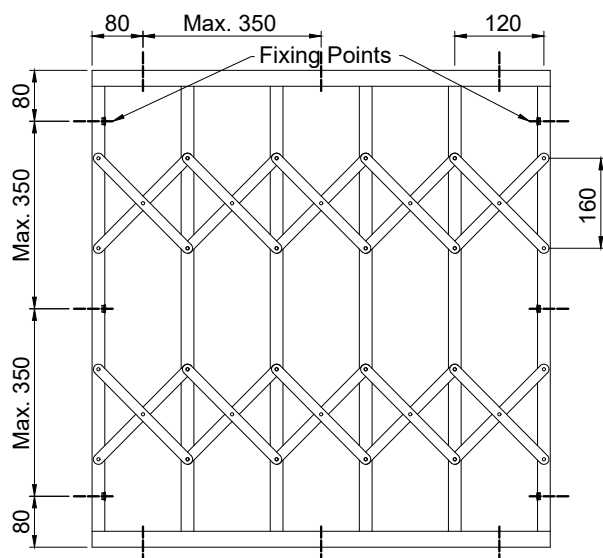
Typical Fixing Positions

SLIDING AND FIXED BARRIERS



Note:

The Max. 30 mm fixing position as shown at the top of the sliding barrier stiles is critical, as the movement of the inner U-Channel in the stiles will be hindered if the slotted hole is placed closer than the recommended 80 mm from the top of the stiles (See detail on page 10).



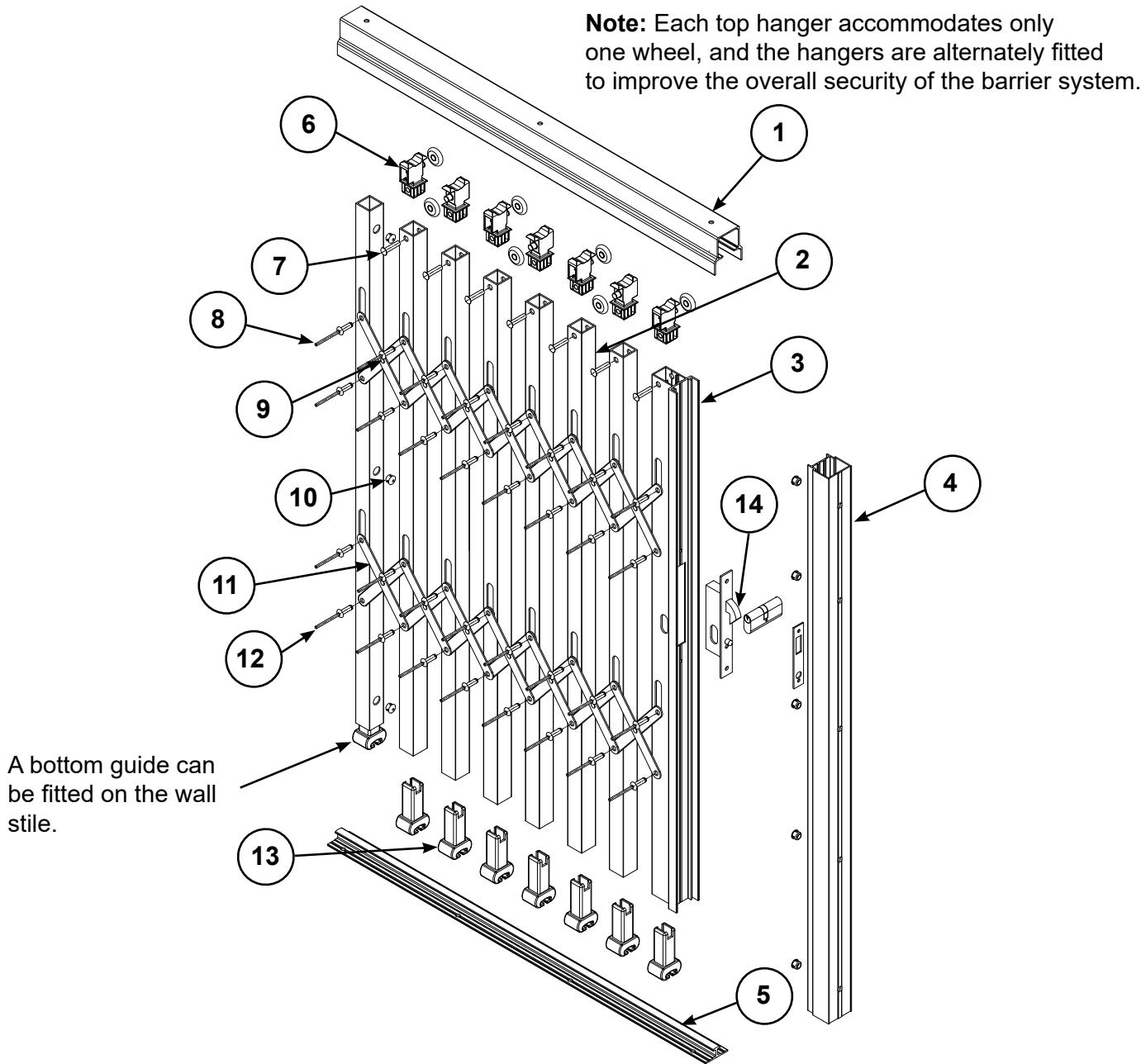
Additional fixings are required where the lock is located. Should an extra row of flites be added, additional fixings are also required.

There are various methods of fixing the barrier system, the illustrations are a general fixation guide. Please ensure that good quality fixings are used as to not compromise the overall security of the barrier. Read the installation notes before proceeding with manufacturing.

Typical Construction

SLIDING AND FIXED BARRIERS

Exploded View of the Guardian™ Sliding Barrier



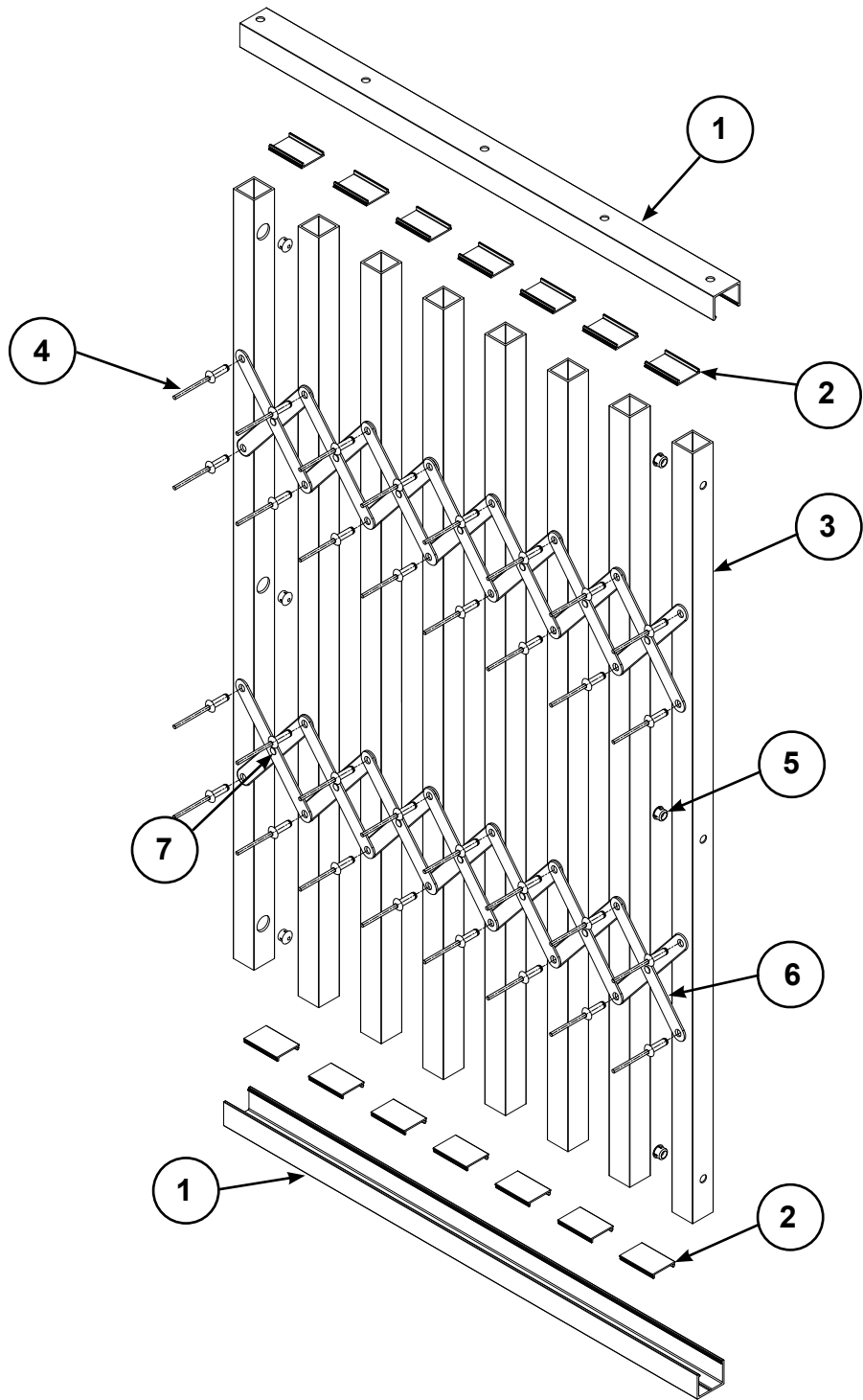
| ITEM | QTY | DIE No. | DESCRIPTION |
|------|-----|---------|---------------------|
| 1 | 1 | W38001 | Guardian Head Rail |
| 2 | 7 | W42179 | 20 x 20 Stiles |
| 3 | 1 | W59150 | Guardian Lock Stile |
| 4 | 1 | W59151 | Guardian Jamb |
| 5 | 1 | W37997 | Guardian Track |

| ITEM | QTY | CODE | DESCRIPTION |
|------|-----|---------------|---|
| 6 | 7 | GSK-FHT-BLK | Guardian Top Hanger/Wheel |
| 7 | 7 | GSK-FRST-4823 | 4823 Flat Semi Tubular Rivets (Top hangers) |
| 8 | 14 | FRD-4818 | 4818 Pop Rivets Alum. Dome/Washers PVC |
| 9 | 14 | GSK-FRST-4810 | 4810 Semi-Tubular Rivets/St. Steel Washers |
| 10 | 8 | FSN-G105-BLK | Grommets |
| 11 | 14 | GSK-F214-BRZ | Flites (Pairs)/1.2 mm Washers Flat PVC |
| 12 | 14 | FRD-4815 | 4815 Pop Rivets Alum. Dome/Washers PVC |
| 13 | 14 | GSK-FGB-BLK | Guardian Bottom Guide |
| 14 | 14 | GSK-GLS | Hooklock with Cylinder/Striker Plate |



Typical Construction

EXPLODED VIEW OF THE GUARDIAN™ FIXED BARRIER



| ITEM | QTY | DIE No. | DESCRIPTION |
|------|-----|---------|----------------|
| 1 | 2 | W38002 | U-Channel |
| 2 | 14 | W32321 | Clip-On Covers |
| 3 | 8 | W42179 | Stiles |

| ITEM | QTY | CODE | DESCRIPTION |
|------|-----|---------------|--|
| 4 | 32 | FRD-4815 | 4815 Pop Rivets Alum. Dome |
| 5 | 6 | FSN-G105-BLK | Grommets |
| 6 | 14 | GSK-F214-BLK | Flites (Pairs - W21197) |
| 7 | 14 | GSK-FRST-4810 | 4810 Semi Tubular Rivets/St. Steel Washers |

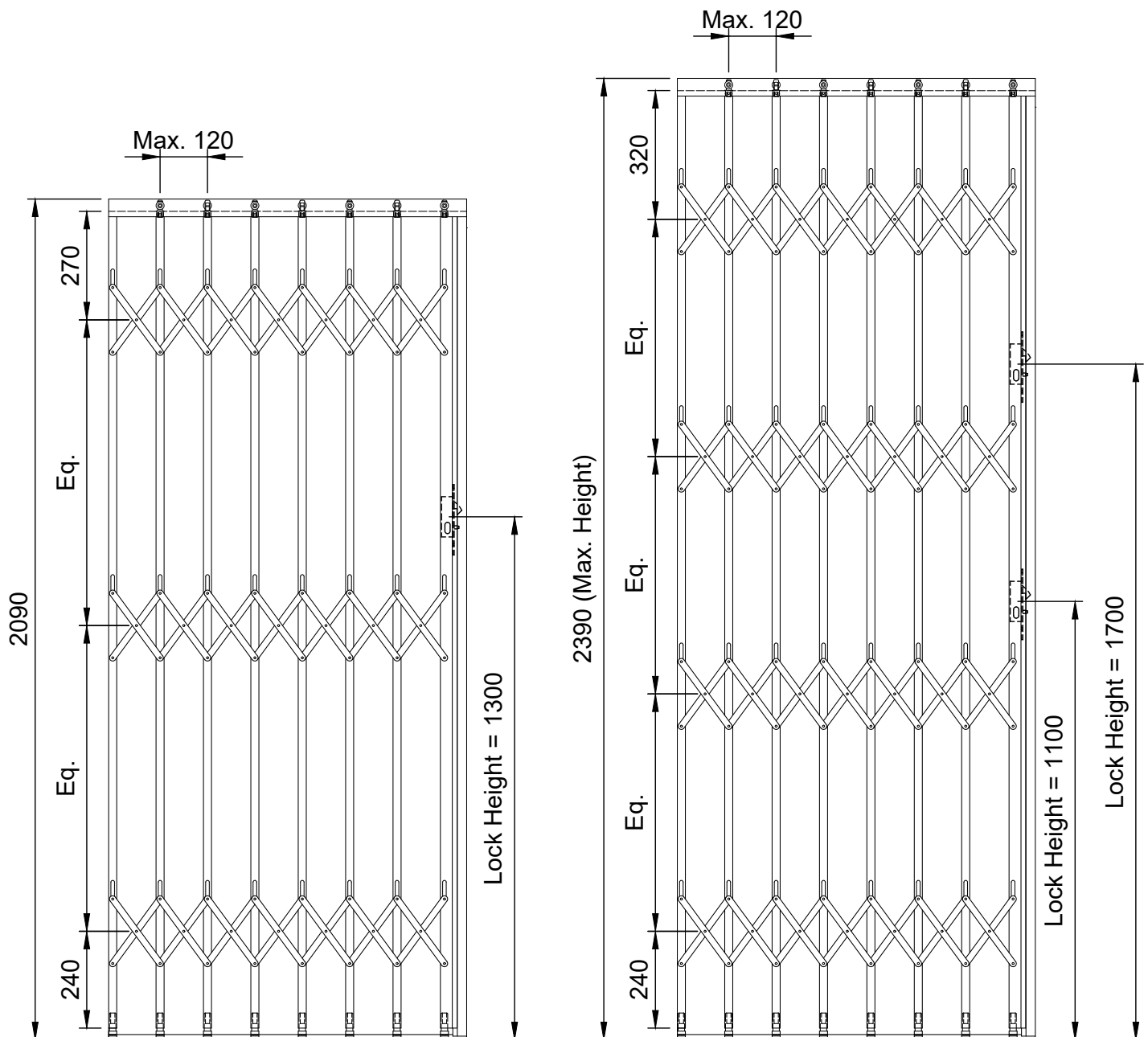


Typical Configurations

TYPICAL SLIDING BARRIER STANDARD SIZES

Sliding Barriers

An extra row of flights and lock is required for barriers over 2100 high.



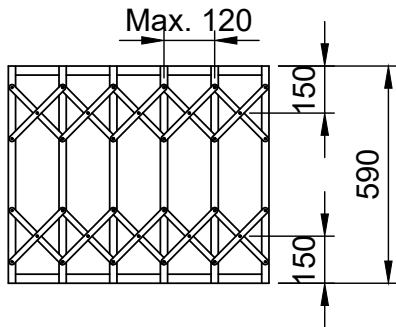
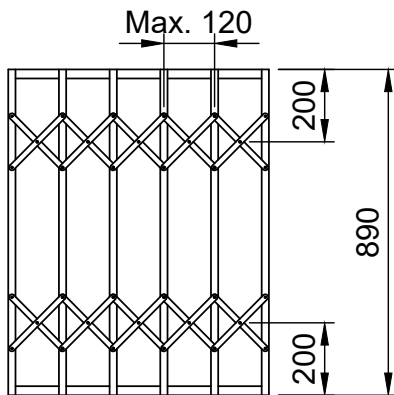
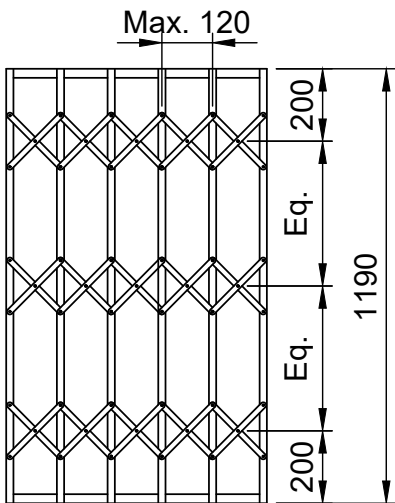
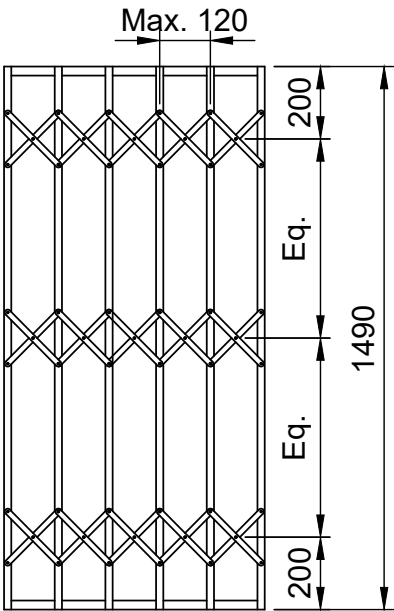
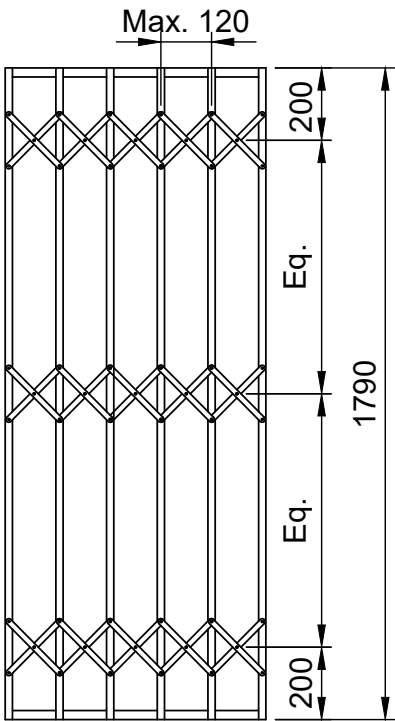
To ensure maximum security of the barrier system, the bottom row of flites should not exceed 240 mm from the bottom of the vertical stiles.

The lock must be placed min 100 mm above the slotted hole. (See detail on page 17)

Typical Configurations

TYPICAL FIXED BARRIER STANDARD SIZES

Fixed Barriers



These elevations are a guide to the various sizes that can be manufactured, showing the recommended rows of flites required.



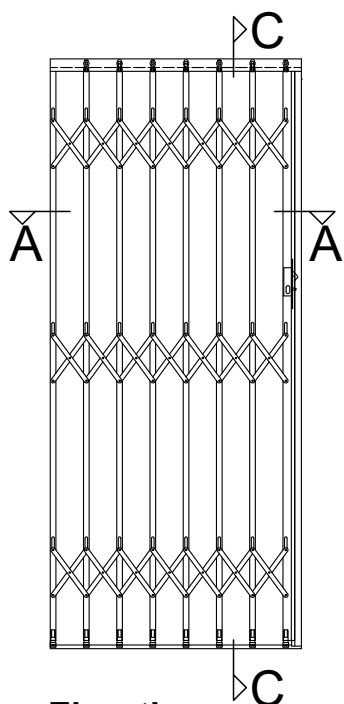
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Wispeco Architectural Products

This manual must be read in conjunction with the Installation, Cleaning & Maintenance Document and the Performance Certificates for the relevant system. The manual must also be used in conjunction with the design and cutting list from the latest version of StarFront.

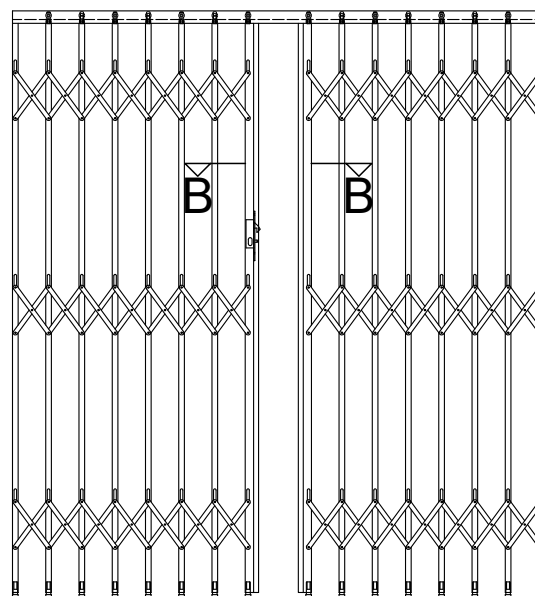
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Typical Section

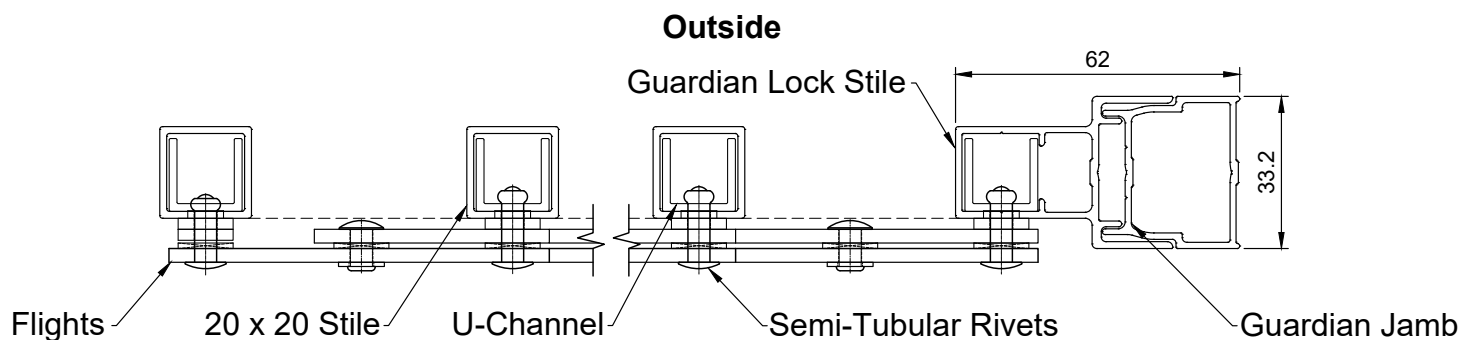
TYPICAL SINGLE AND DOUBLE SLIDING BARRIERS



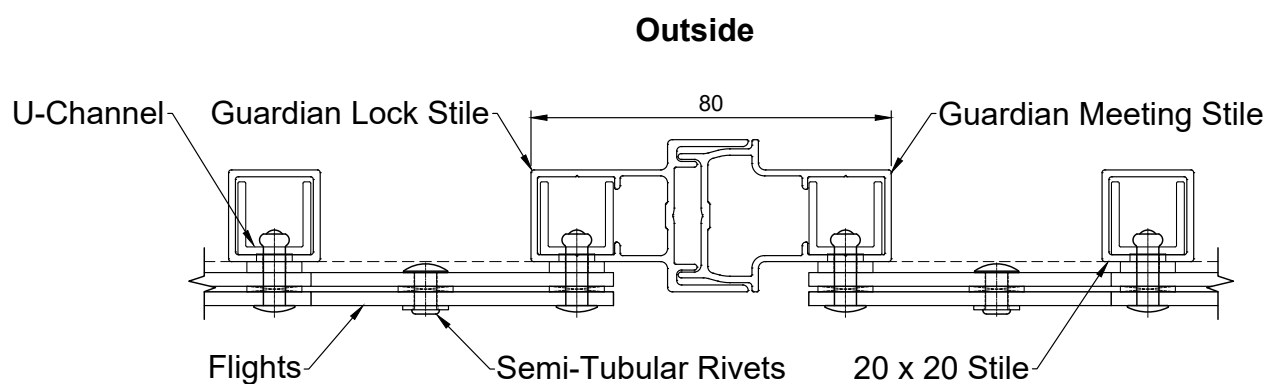
**Elevation
Single Barrier**



**Elevation
Double Barrier**



Section A-A

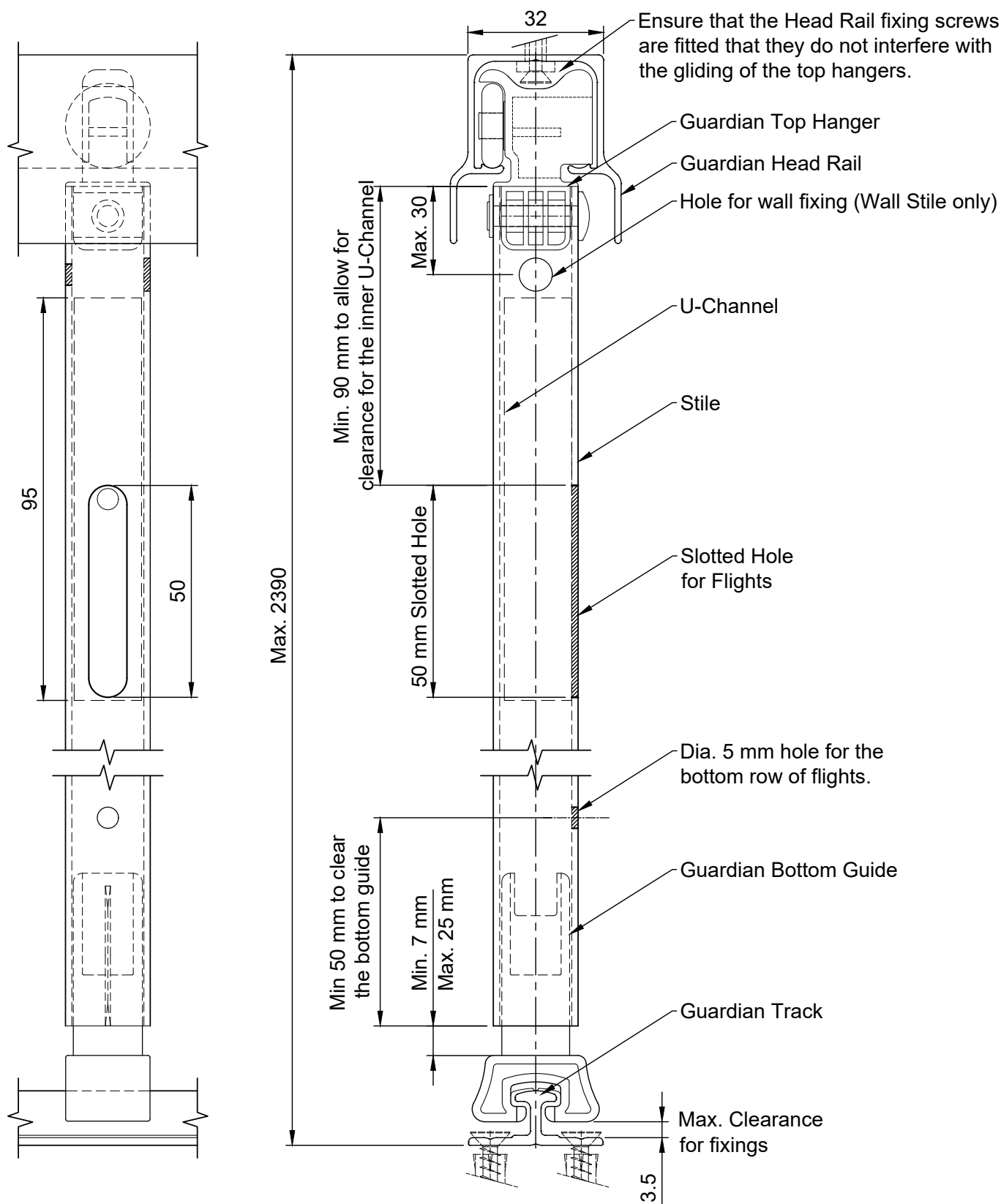


Section B-B



Typical Section

TYPICAL VERTICAL DETAIL OF SLIDING BARRIER



Front Elevation

Section C-C



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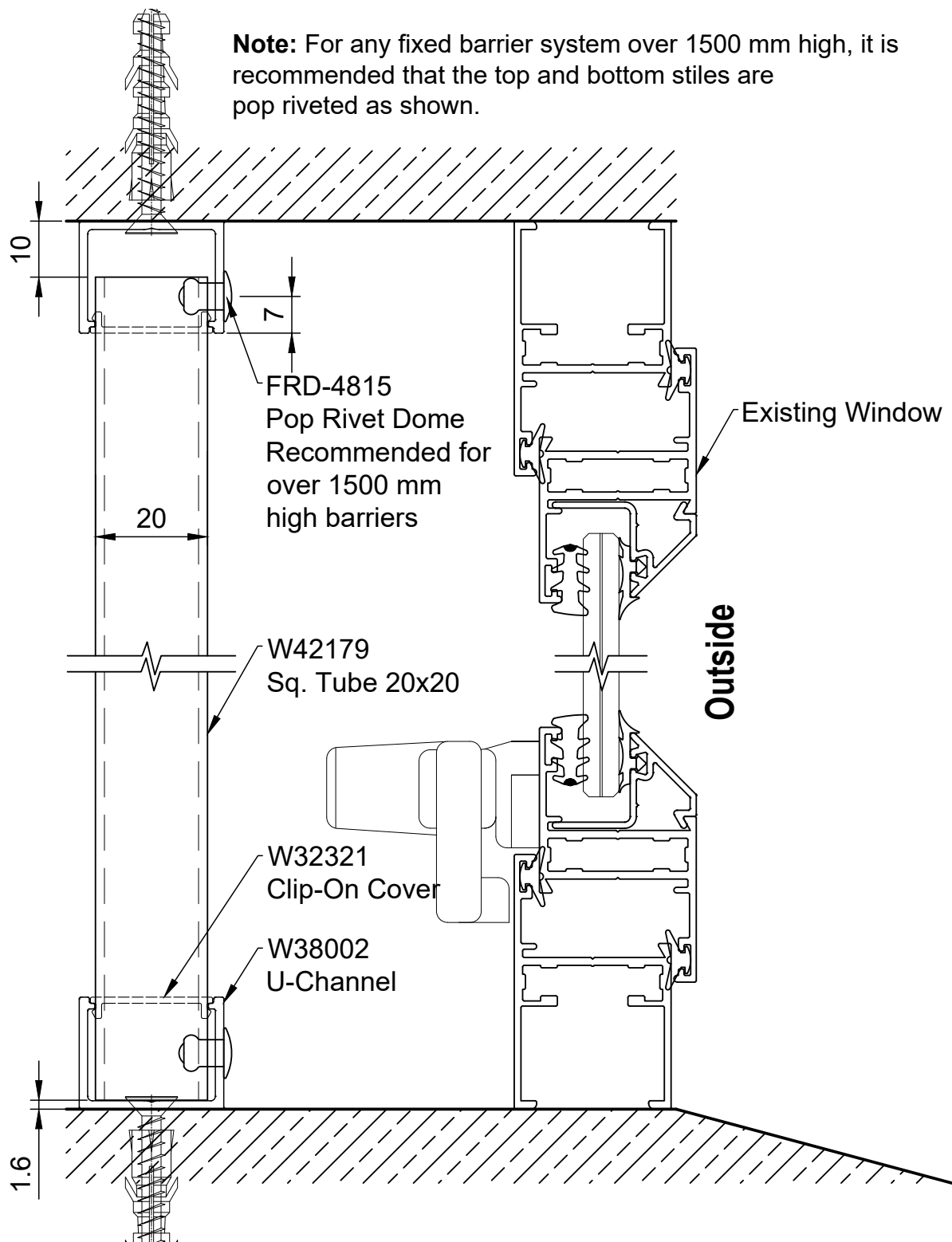
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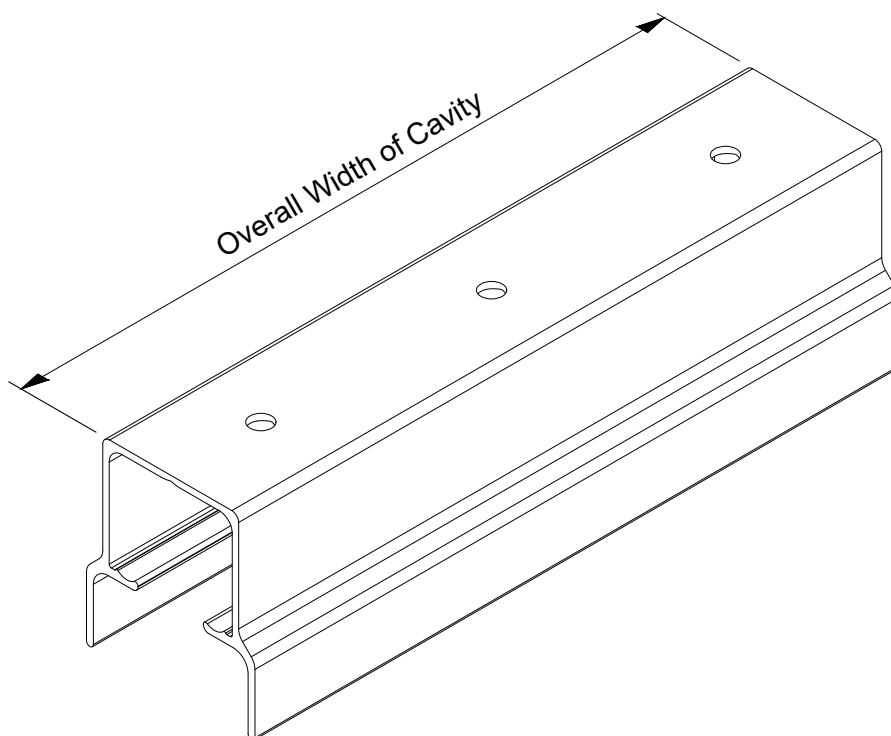
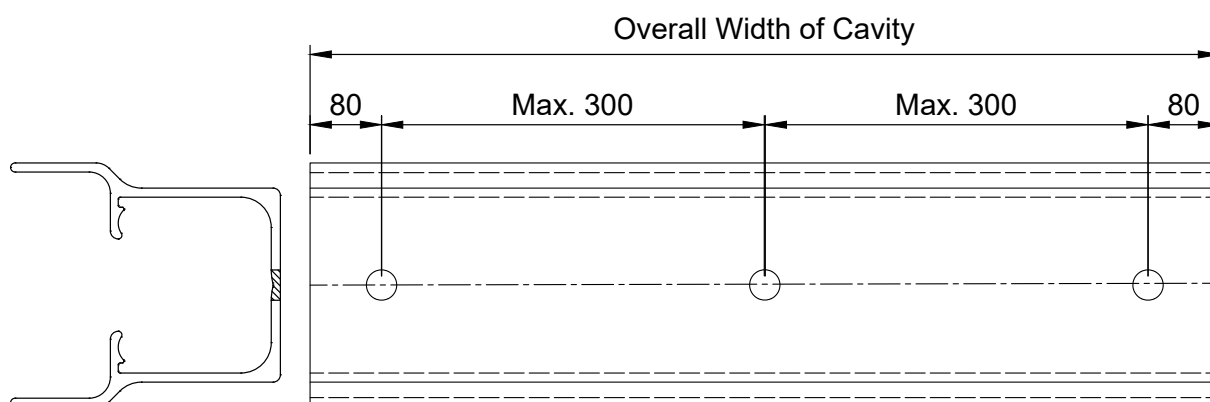
Typical Section

TYPICAL VERTICAL DETAIL OF FIXED BARRIER

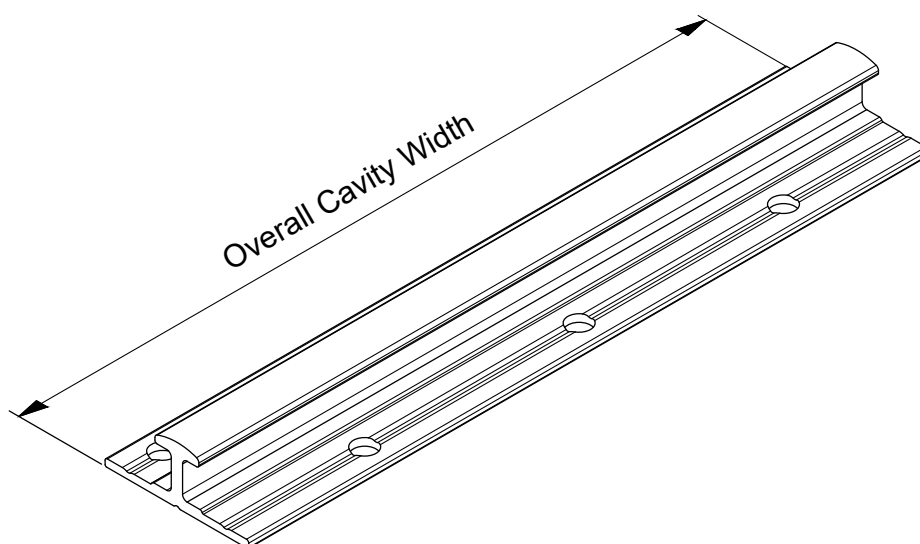
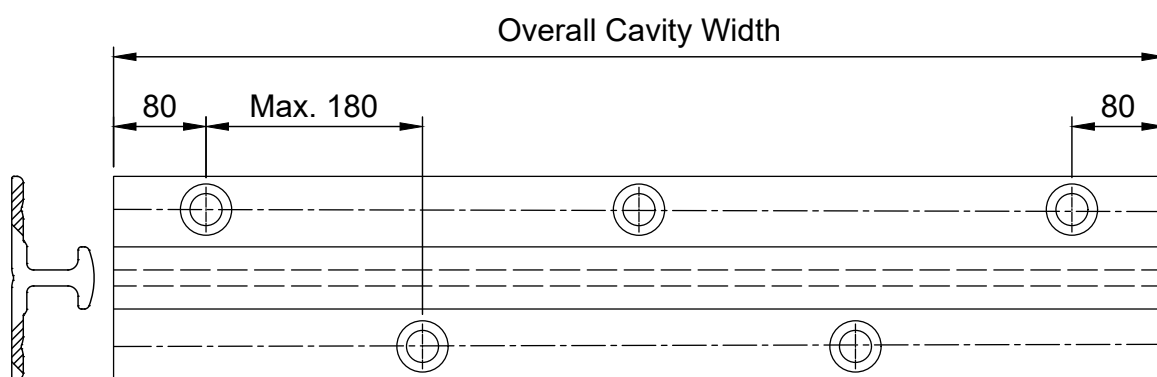


Typical section showing the relation of a fixed barrier
next to a casement window

For working out the correct cutting sizes, please refer to the Installation notes in the manual.

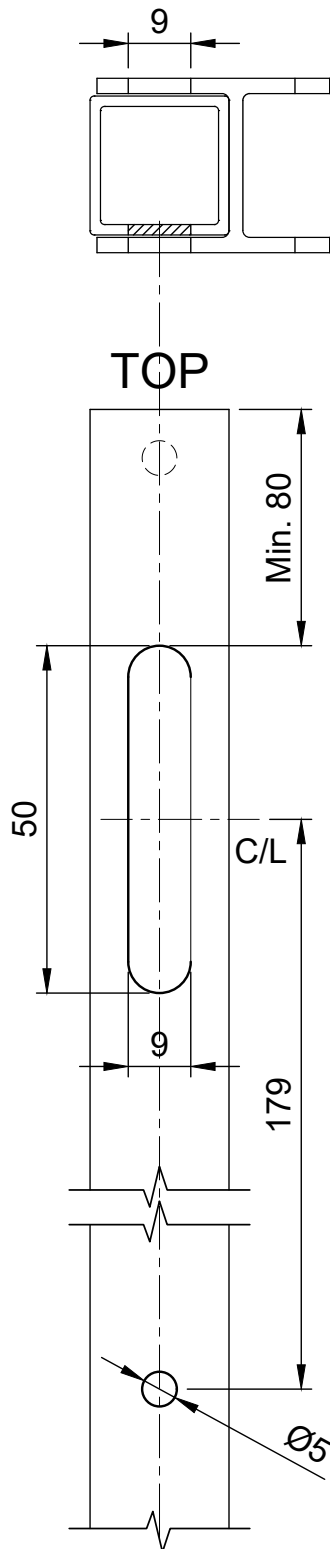


For working out the correct cutting sizes, please refer to the Installation notes in the manual.



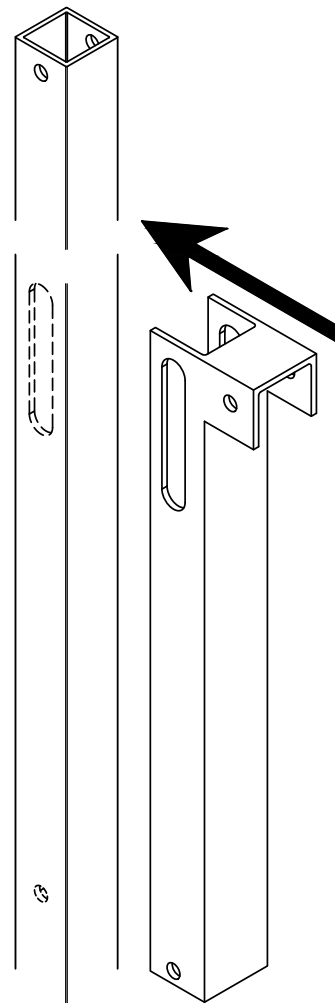
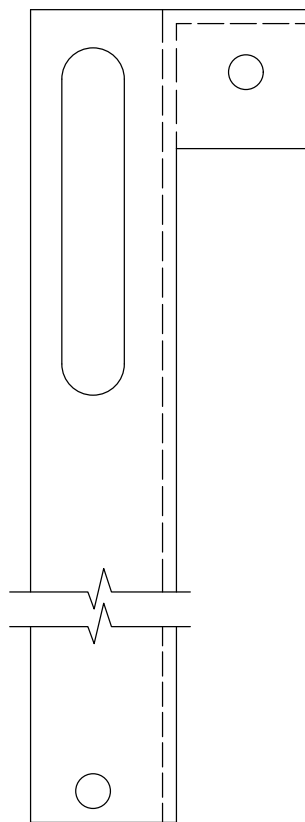
Machining Details

STILES - FOR SLIDING BARRIER FLITES

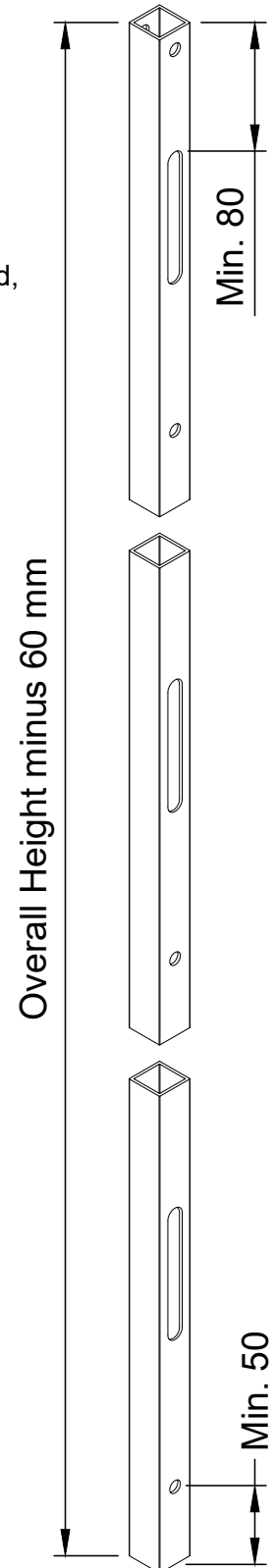


Fit the jig over the 20 x 20 stiles as shown, to be able to drill the slotted holes as well as the dia. 5 mm holes simultaneously for the fixing of the flights.

NB: To prevent any damage to the inner U-Channel, it is recommended to ensure that no burr or any sharp edges caused from routing the slotted hole is removed, and silicone spray is applied to the U-Channel.

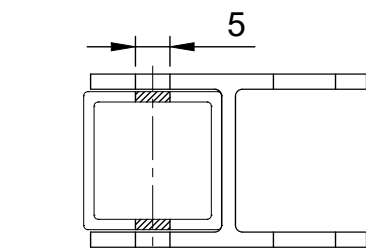


Note: The Guardian Jig is to be used to mark the relevant hole positions and not be used as a template for drilling the holes.

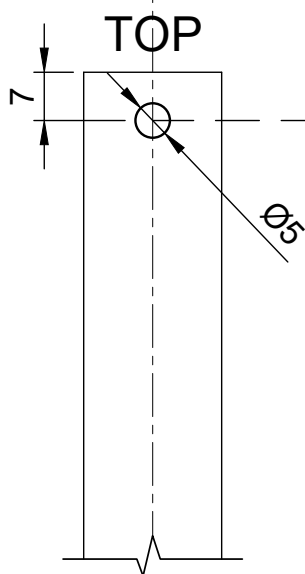


Machining Details

STILES - FOR FITTING OF TOP HANGERS



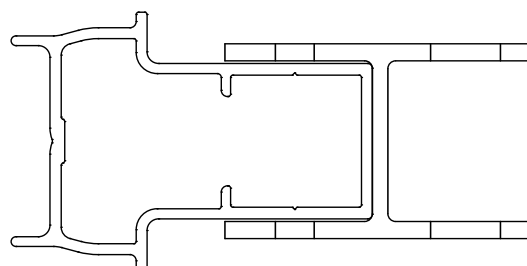
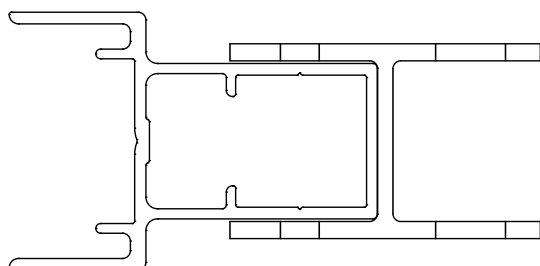
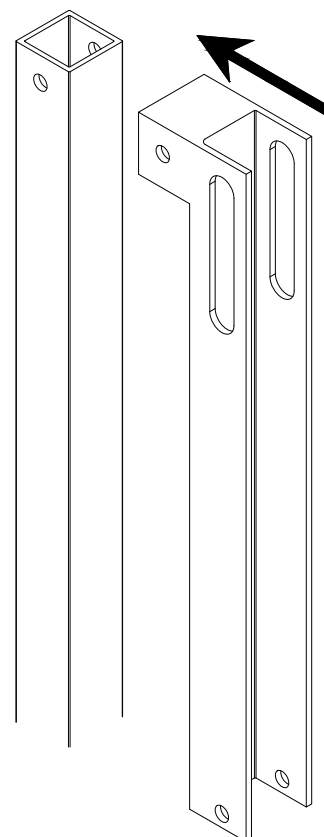
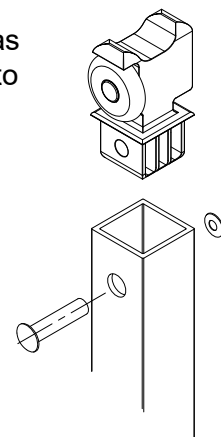
Fit the Guardian Jig over the top of the 20 x 20 stiles as shown to drill the dia. 5 mm holes through both sides to fit the semi-tubular rivets for the fixing of the top hangers.



Note:

The stile which is fixed to the wall does not require any top dia. 5 mm holes.

Note: The Guardian Jig is to be used to mark the relevant hole positions and not be used as a template for drilling the holes.



The Lock Stile and Meeting Stile will also require a dia. 5 mm hole at the top of the profile to fix the top hangers.



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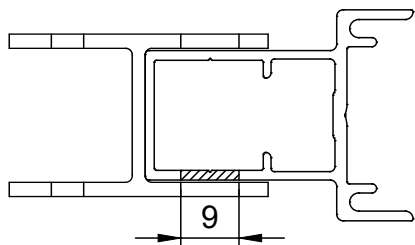
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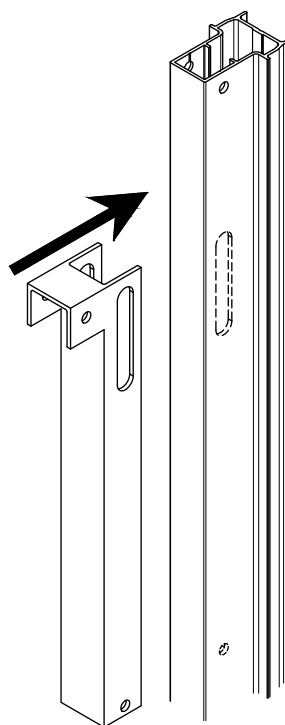
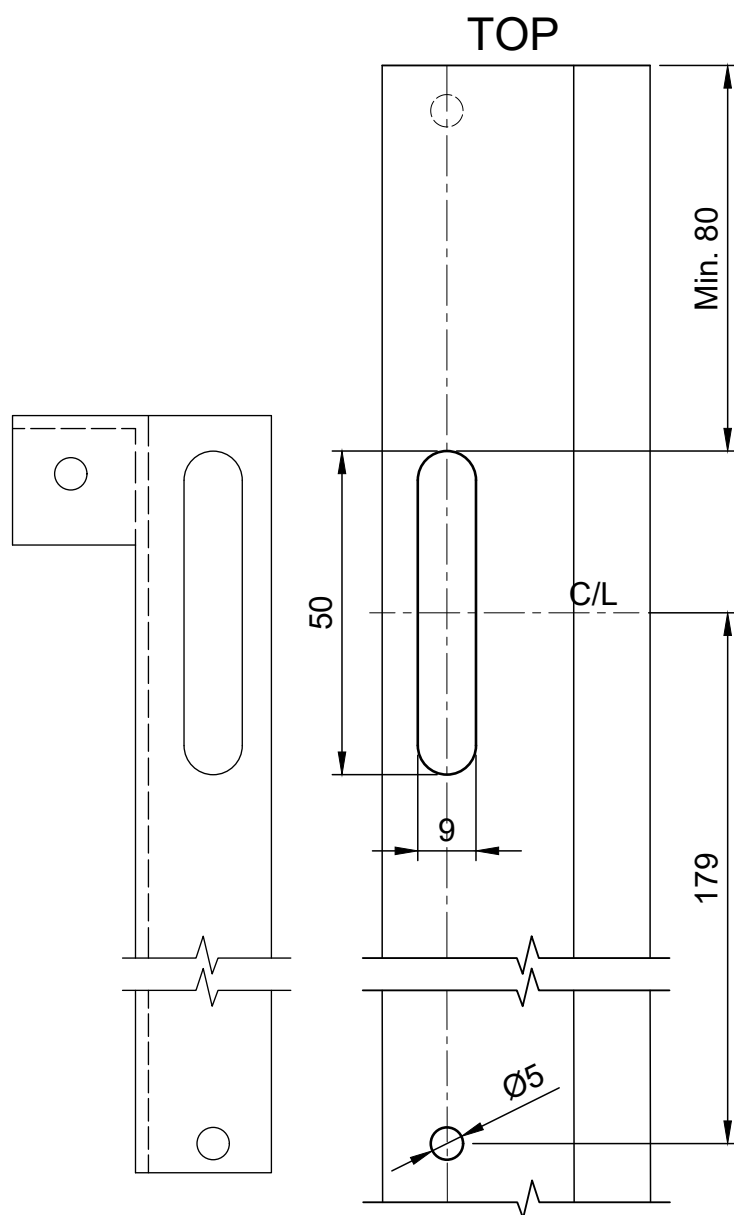
Machining Details

LOCK STILE - FLITES

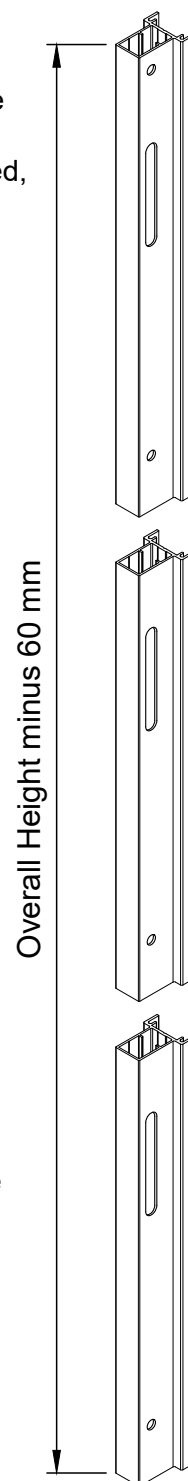
Fit the Guardian Jig over the Lock stile as shown, to drill the slotted holes and the dia. 5 mm holes simultaneously for the fixing of the flites.



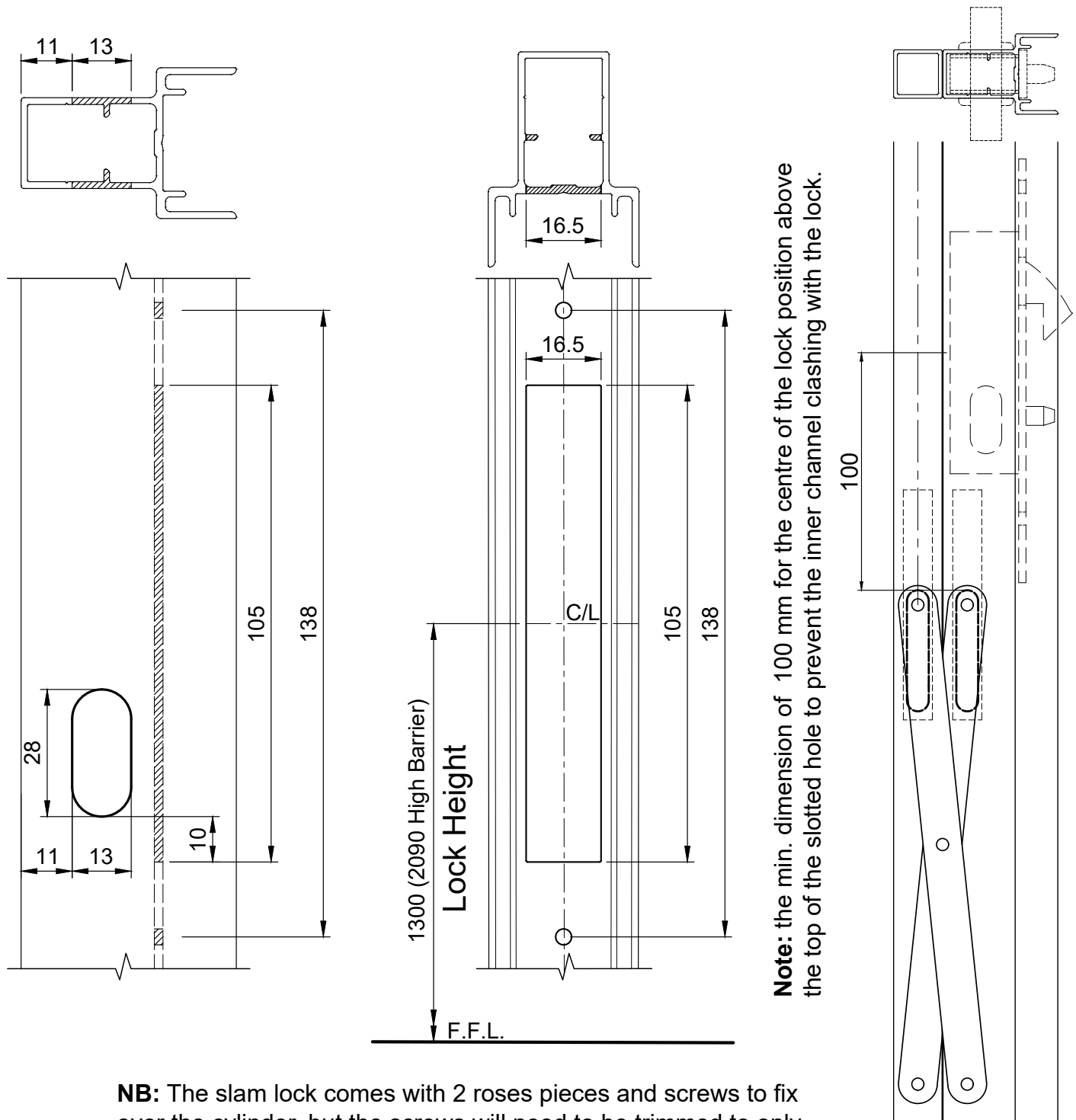
NB: To prevent any damage to the inner U-Channel, it is recommended to ensure that no burr or any sharp edges caused from routing the slotted hole is removed, and silicone spray is applied to the U-Channel.



Note: The Guardian Jig is to be used to mark the relevant hole positions and not be used as a template for drilling the holes.



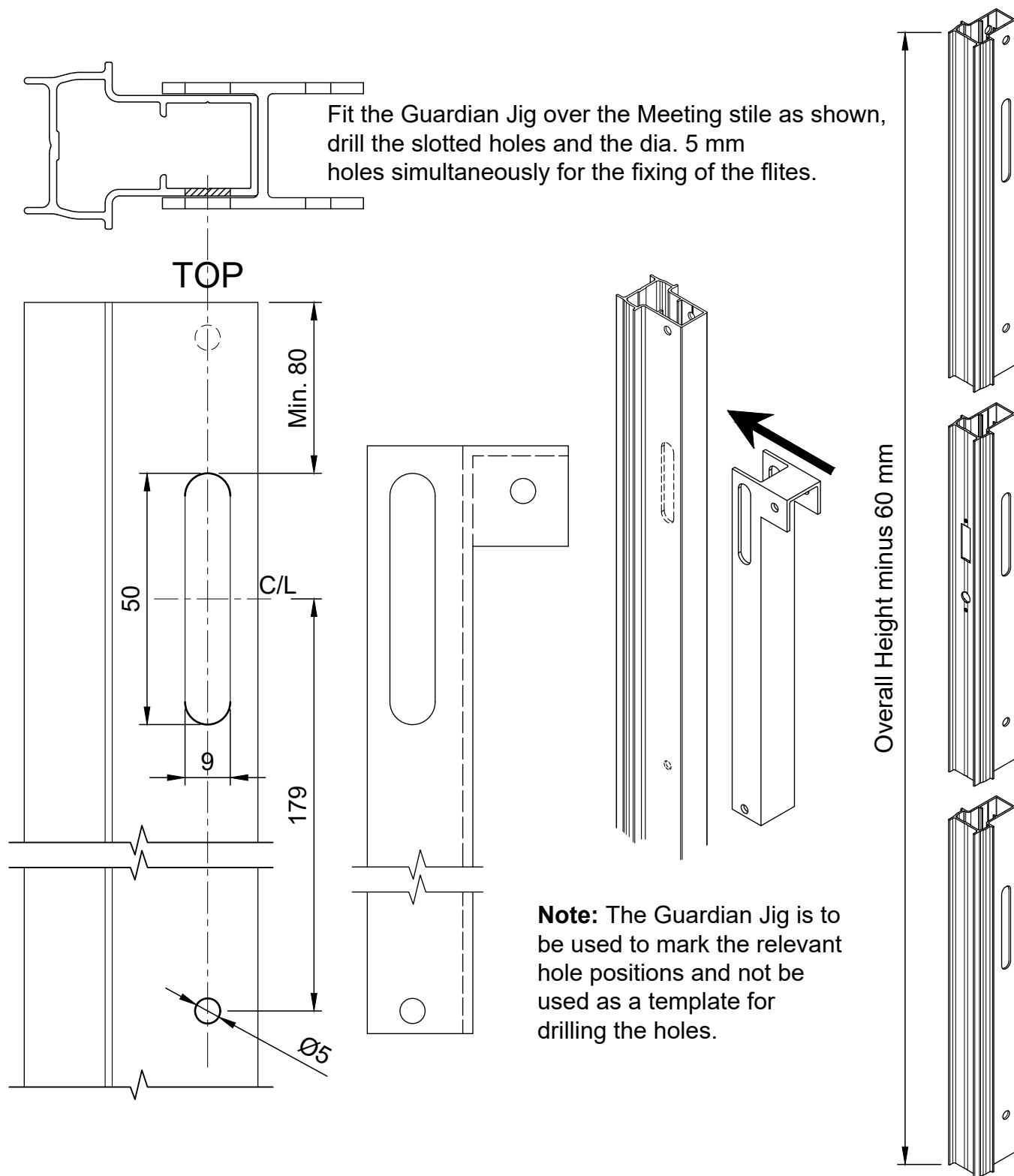
NB: Before machining for the lock cut-out, ensure that the Guardian lock position does not interfere with the handle/lock of any existing door.



NB: The slam lock comes with 2 roses pieces and screws to fix over the cylinder, but the screws will need to be trimmed to only fix into the aluminium profile.

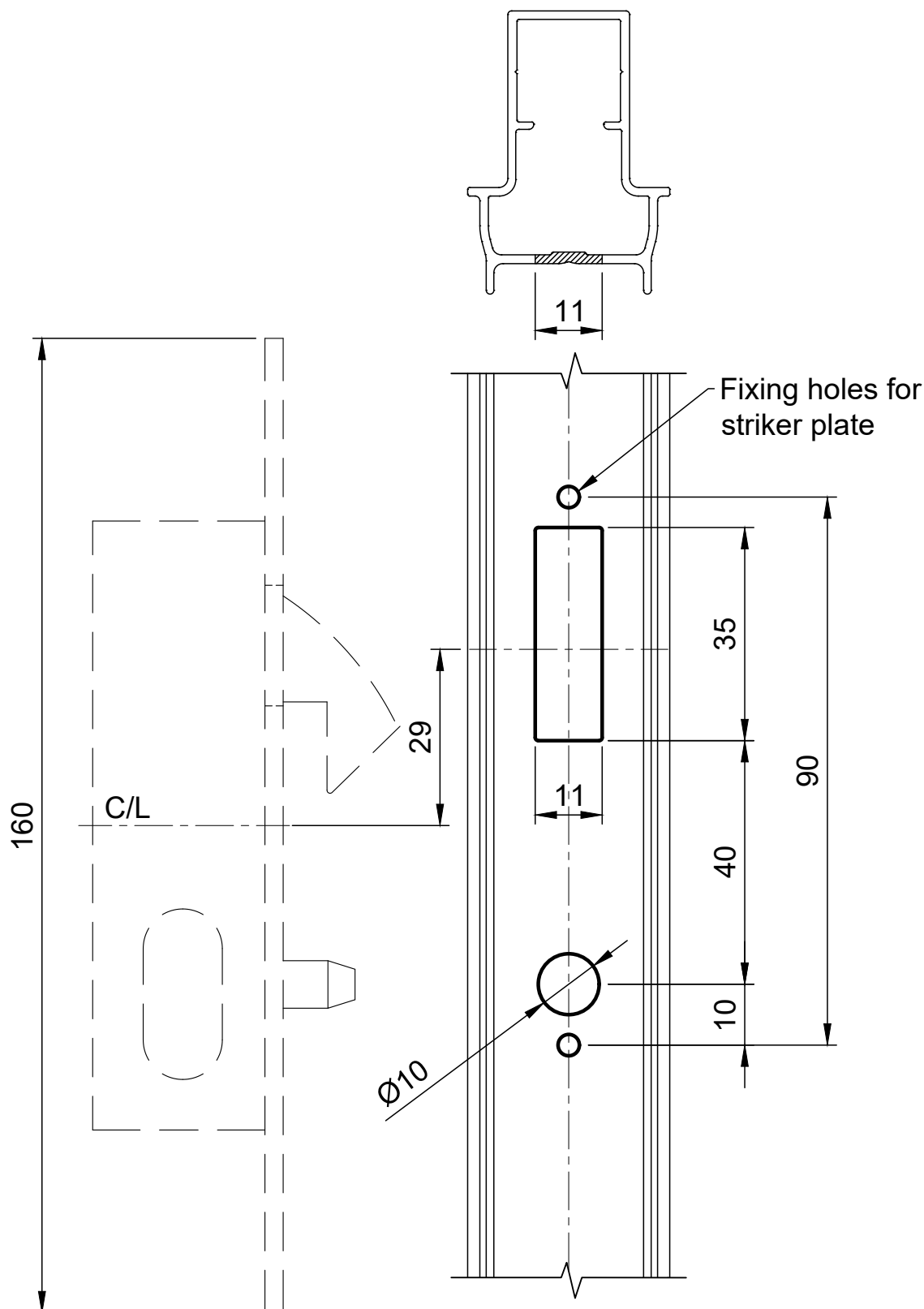
Machining Details

MEETING STILE - FLITES



Machining Details

MEETING STILE - HOOK LOCK CUT OUT



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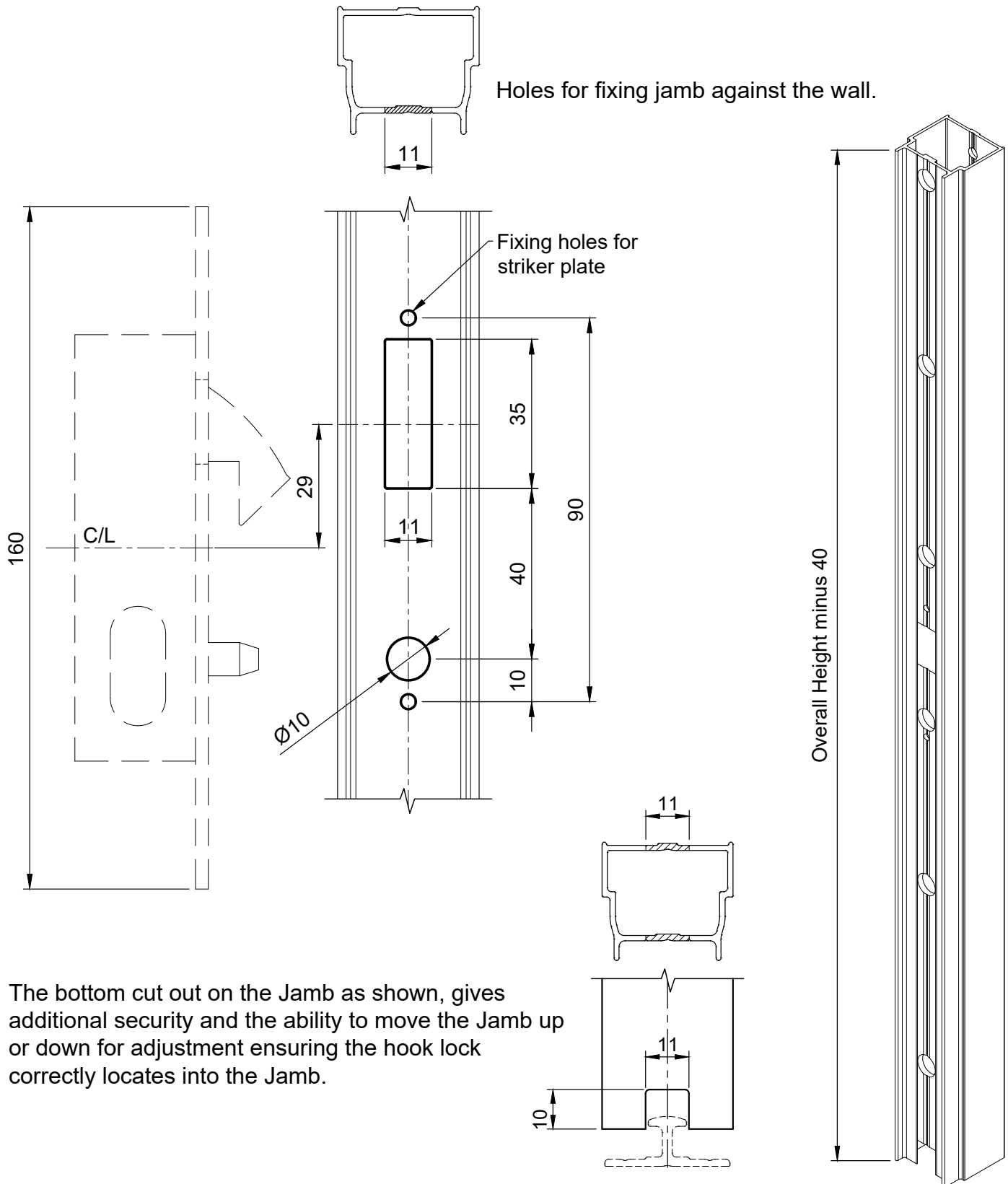
Wispeco Architectural Products

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Machining Details

MEETING STILE - HOOK LOCK CUT OUT

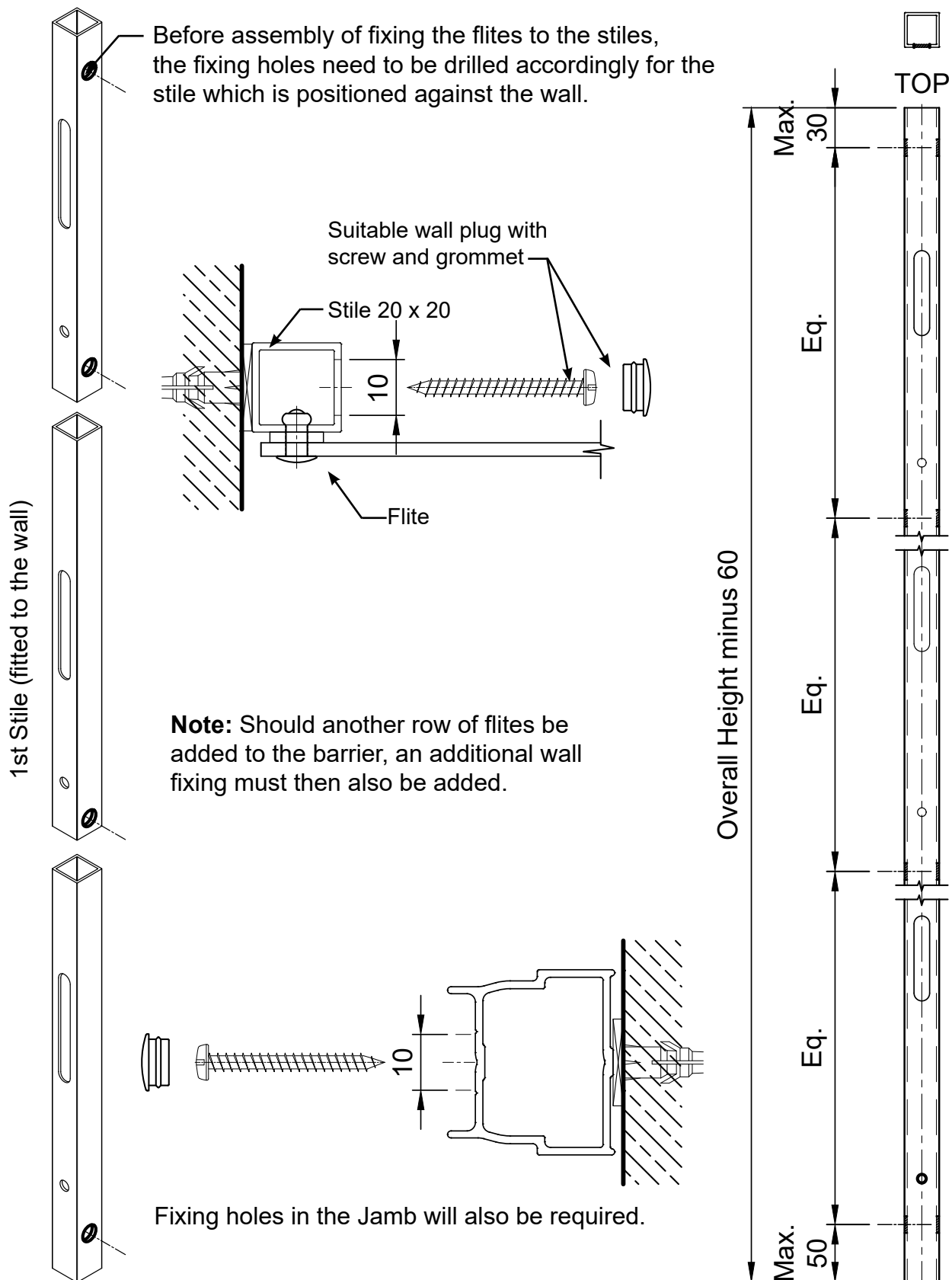


The bottom cut out on the Jamb as shown, gives additional security and the ability to move the Jamb up or down for adjustment ensuring the hook lock correctly locates into the Jamb.



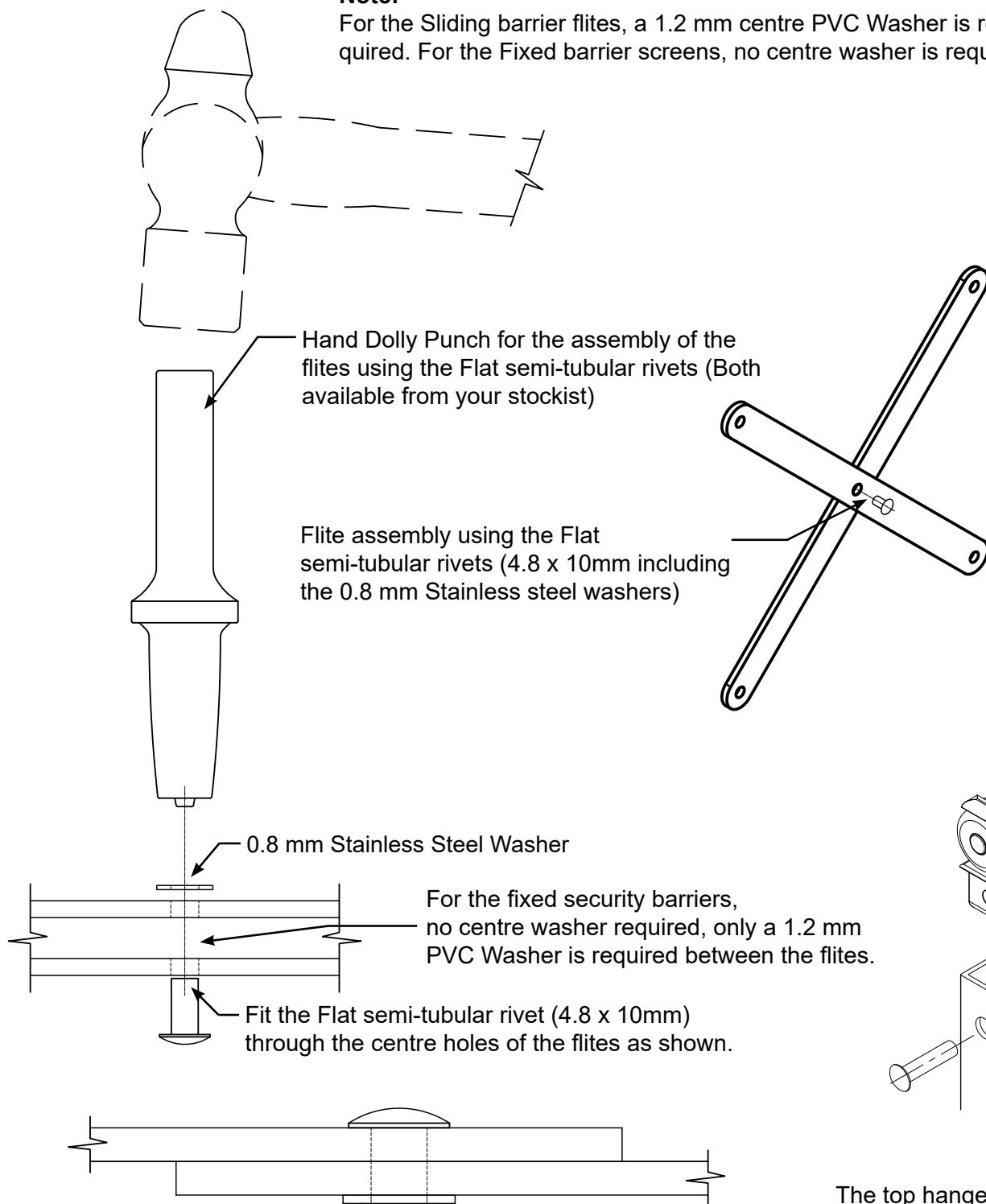
Machining Details

WALL STILE - PREPARATION FOR FIXING HOLES OF SLIDING BARRIERS



Note:

For the Sliding barrier flites, a 1.2 mm centre PVC Washer is required. For the Fixed barrier screens, no centre washer is required.



Hand Dolly Punch for the assembly of the flites using the Flat semi-tubular rivets (Both available from your stockist)

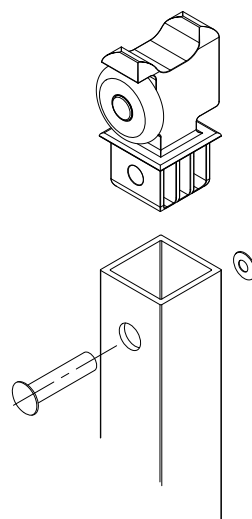
Flite assembly using the Flat semi-tubular rivets (4.8 x 10mm including the 0.8 mm Stainless steel washers)

0.8 mm Stainless Steel Washer

For the fixed security barriers, no centre washer required, only a 1.2 mm PVC Washer is required between the flites.

Fit the Flat semi-tubular rivet (4.8 x 10mm) through the centre holes of the flites as shown.

The Flat Semi-Tubular rivet should not be too loose nor too tight once fitted. Also ensure that the flites cannot be pulled apart.



The top hanger will use the 4.8 x 23 Semi-Tubular rivets which are fitted in the same manner as the rivets for the flites.



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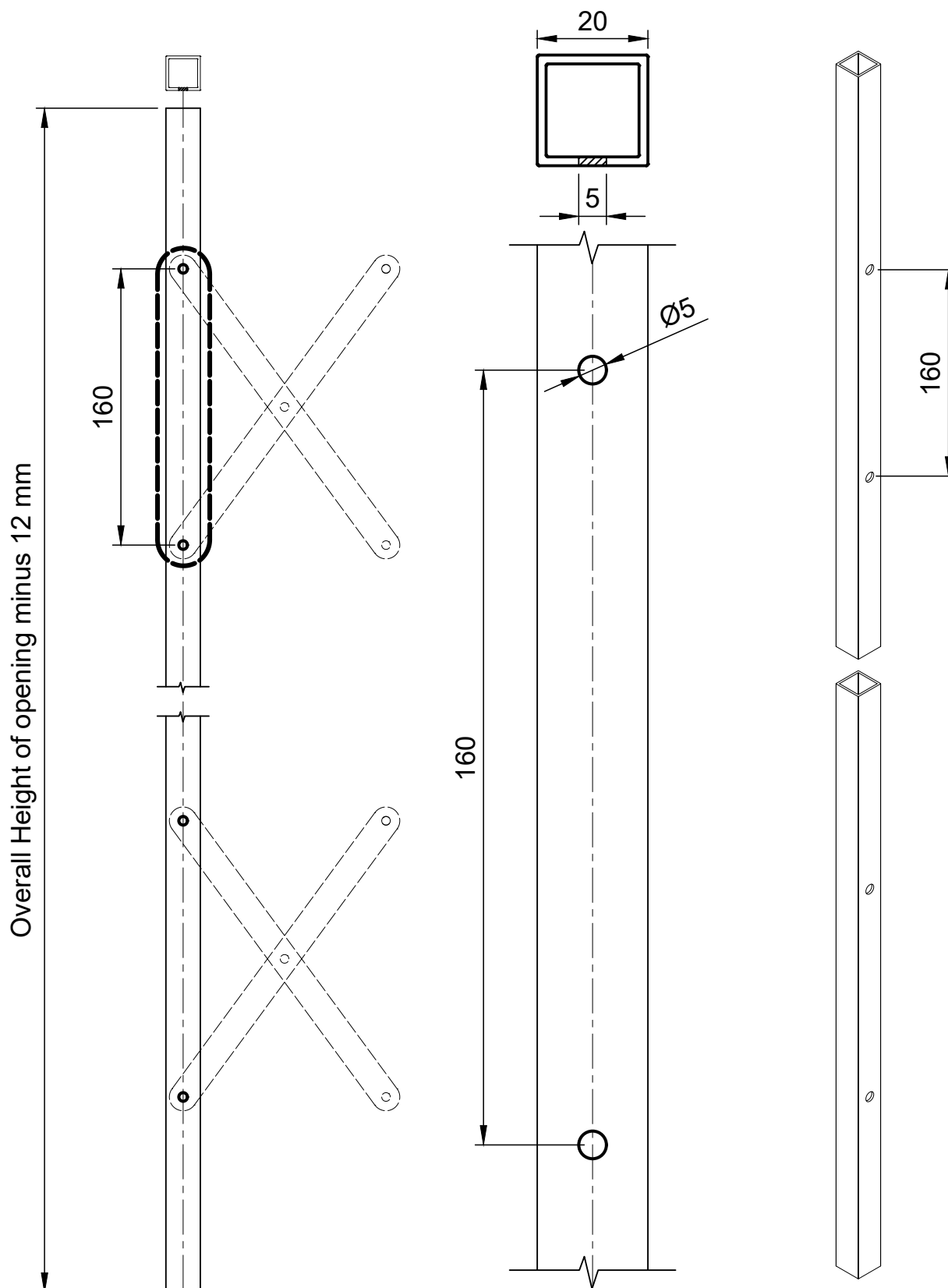
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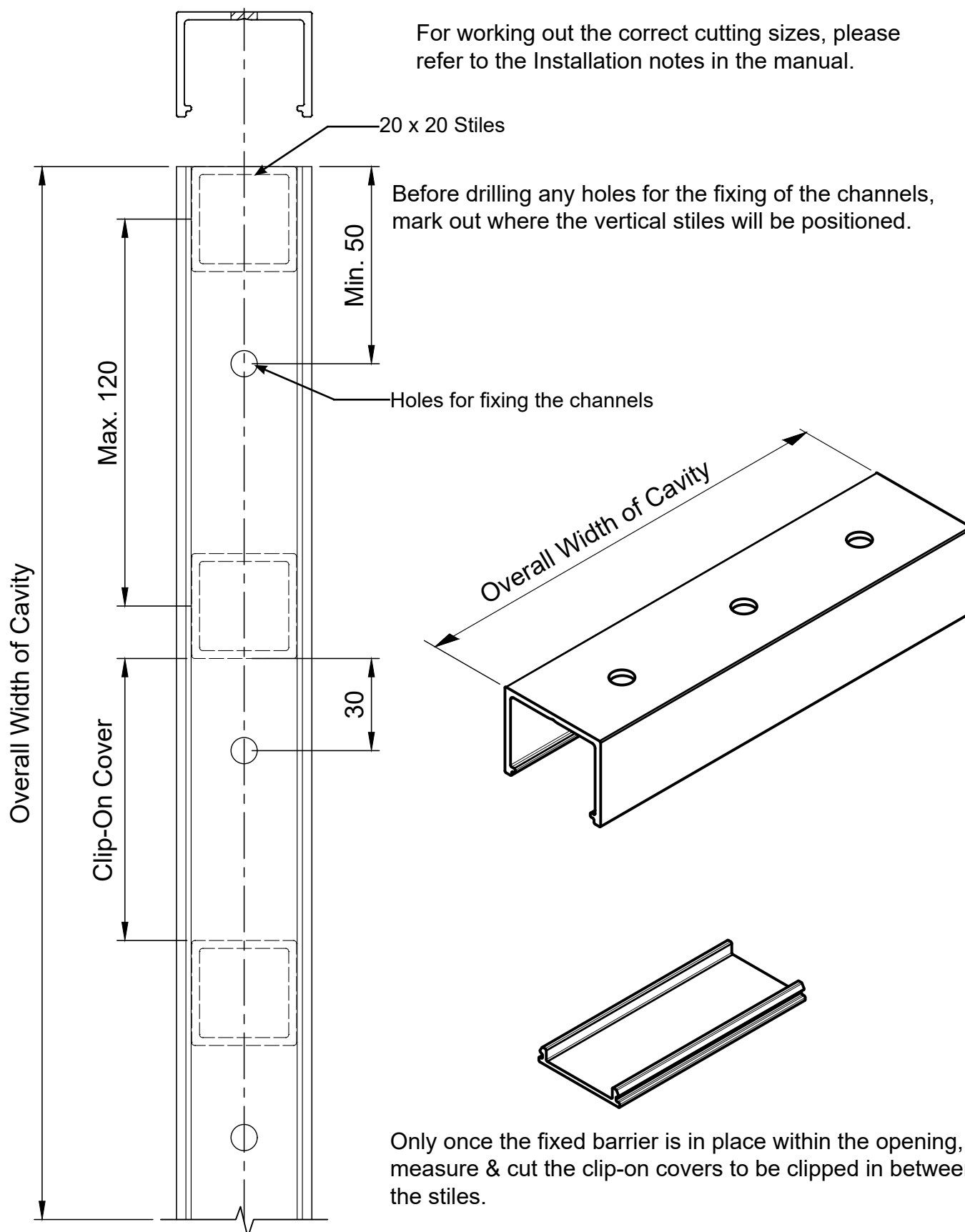
Machining Details

FIXED BARRIER STILES



Machining Details

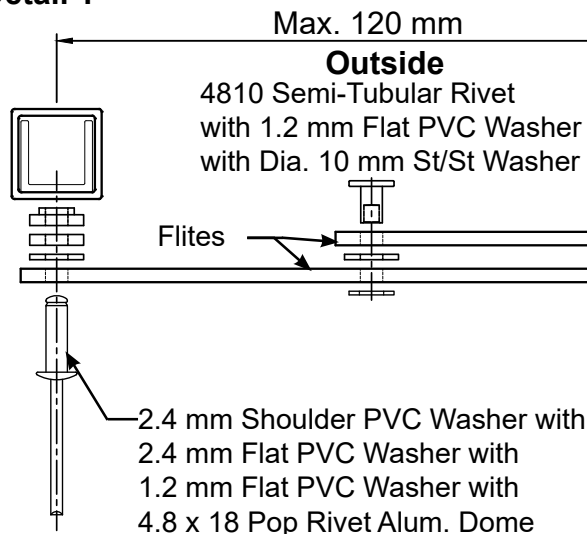
TOP AND BOTTOM CHANNEL - FIXED BARRIER



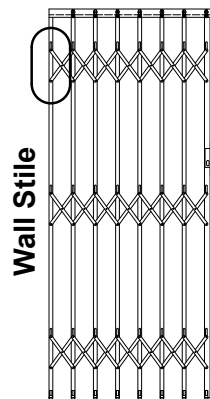
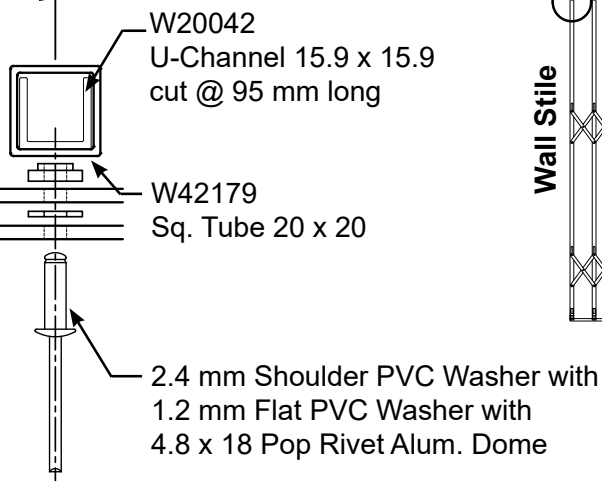
Assembly Details

FITTING OF FLITES FOR SLIDING BARRIERS

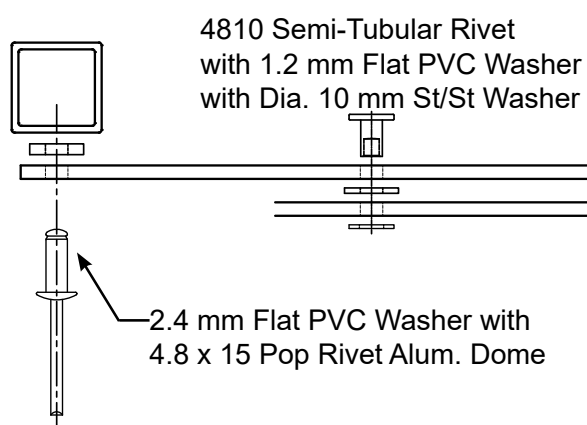
Detail 1



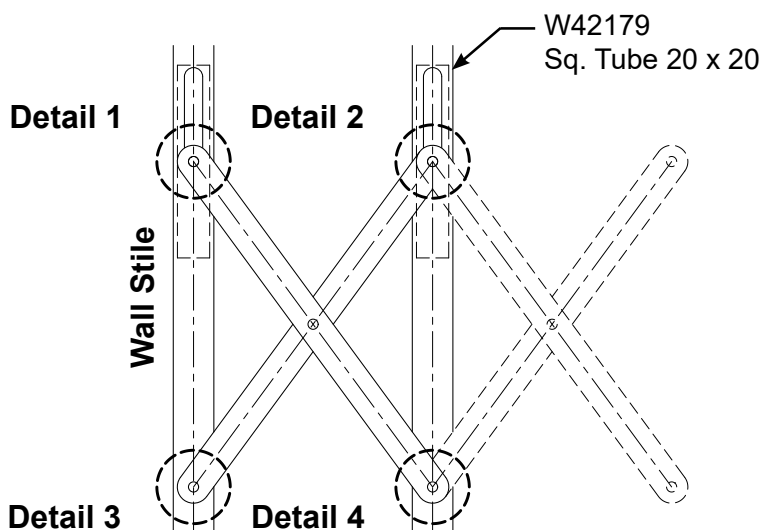
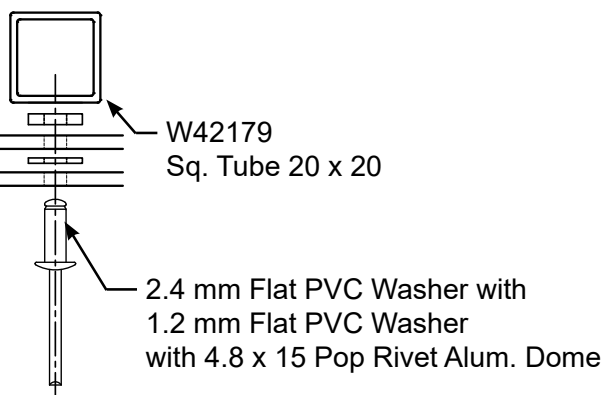
Detail 2



Detail 3



Detail 4



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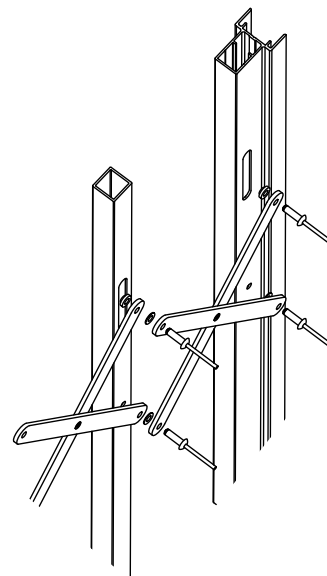
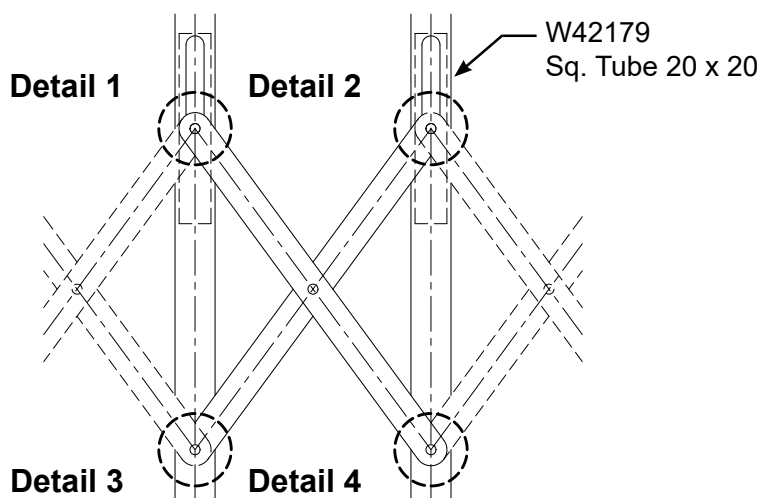
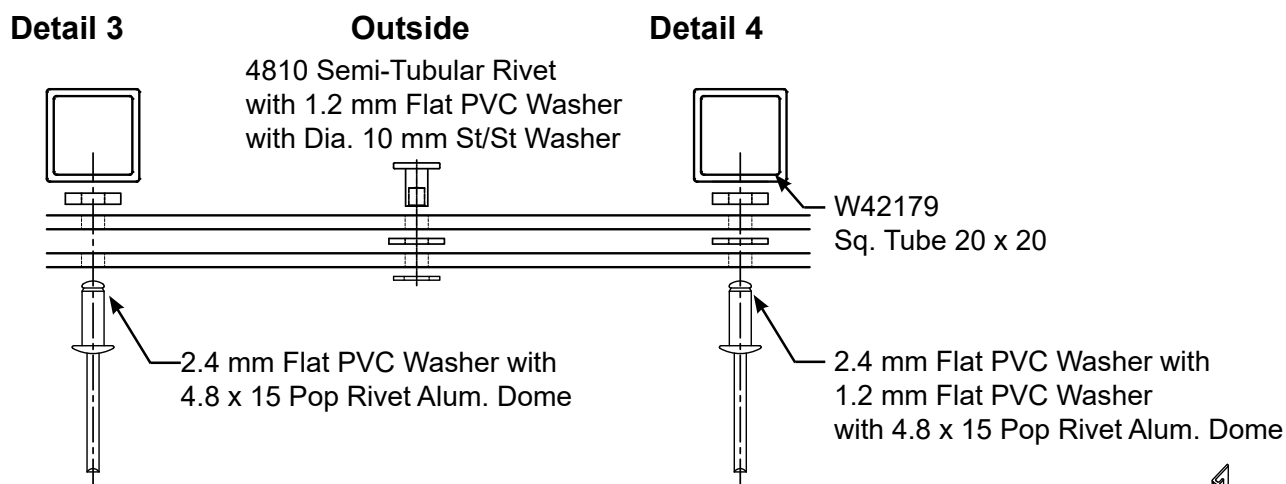
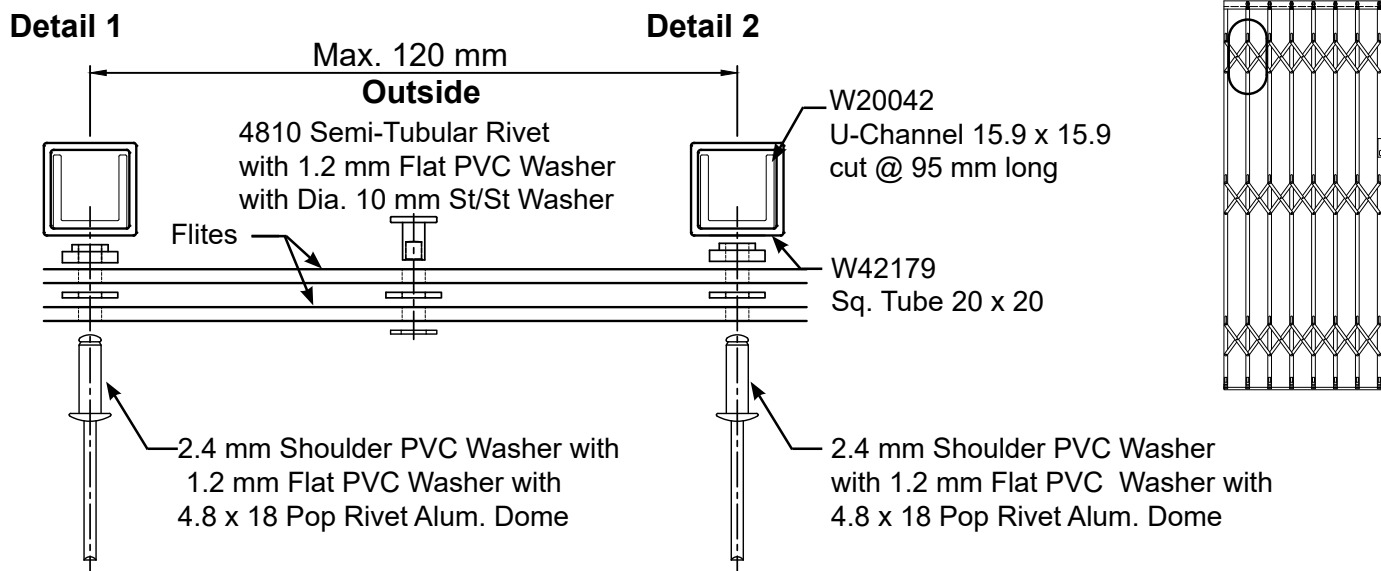
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Assembly Details

FITTING OF FLITES FOR SLIDING BARRIERS



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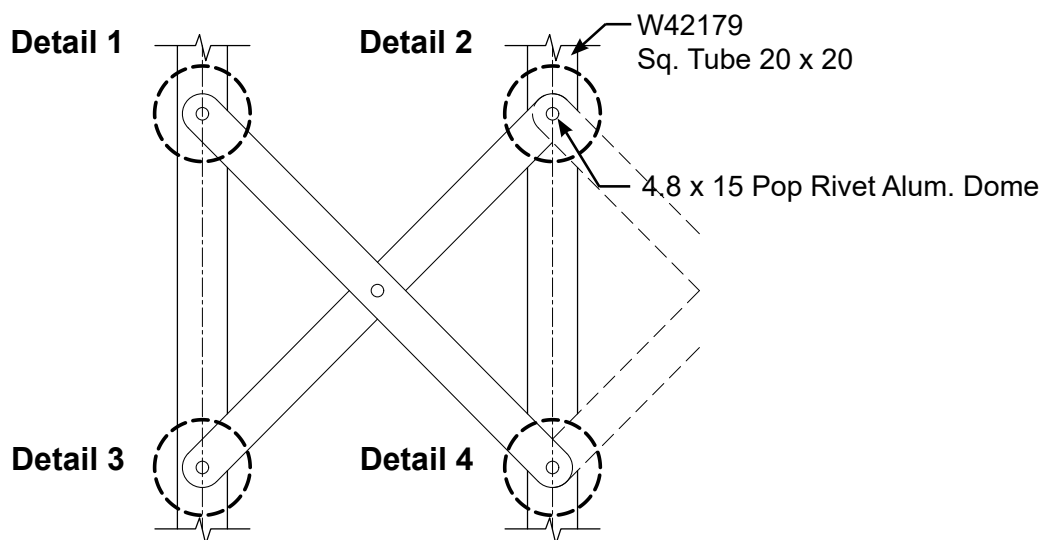
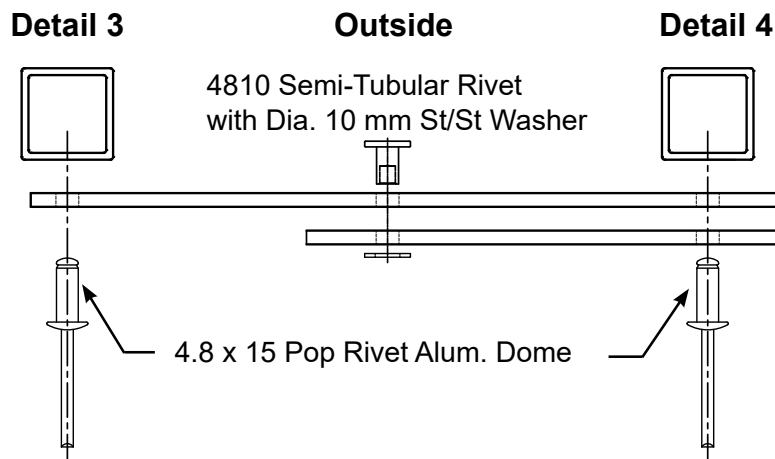
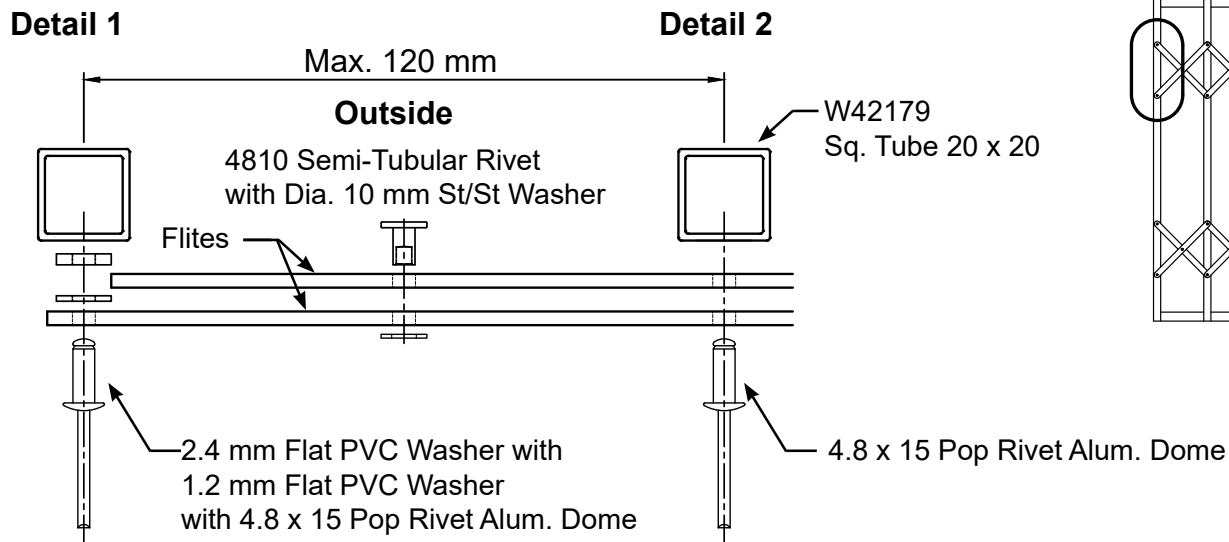
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Assembly Details

FITTING OF FLITES FOR FIXED BARRIERS - END STILES

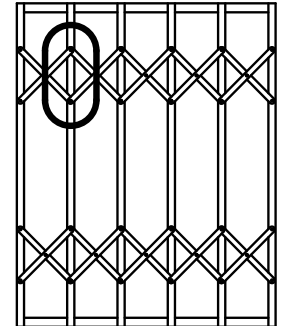
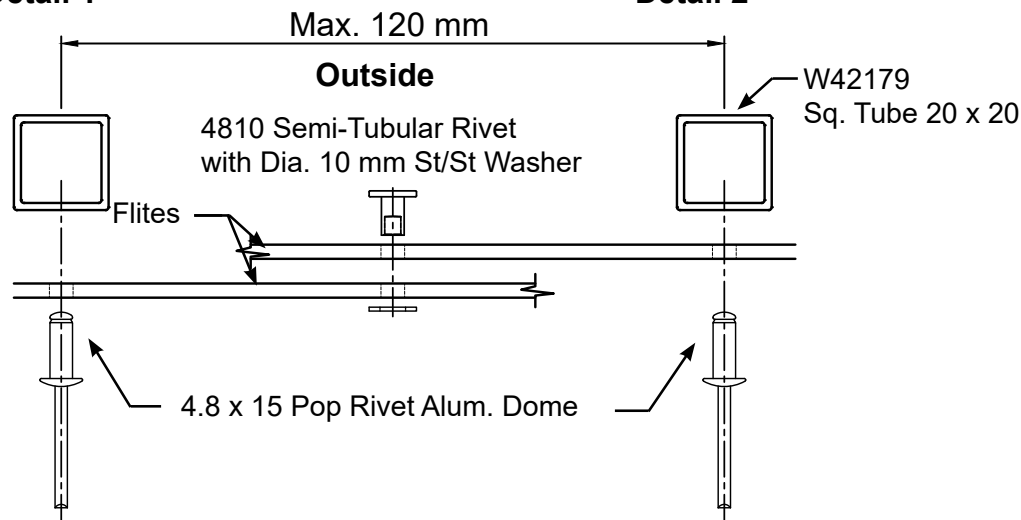


Assembly Details

FITTING OF FLITES FOR FIXED BARRIERS

Detail 1

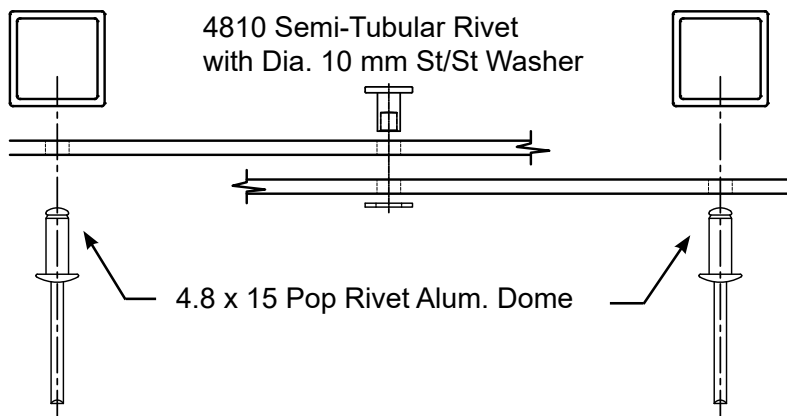
Detail 2



Detail 3

Outside

Detail 4



Detail 1

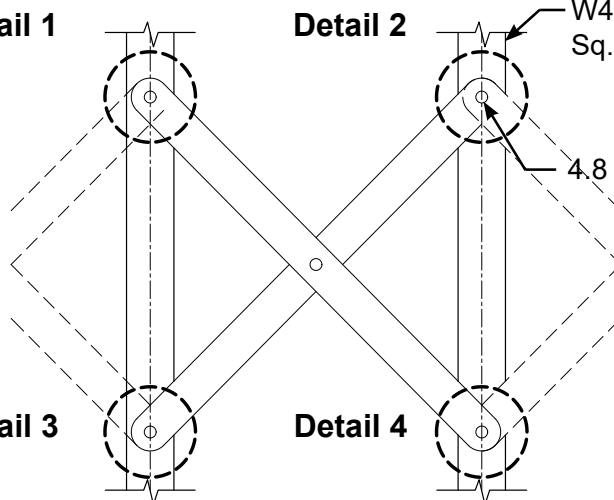
Detail 2

W42179
Sq. Tube 20 x 20

4.8 x 15 Pop Rivet Alum. Dome

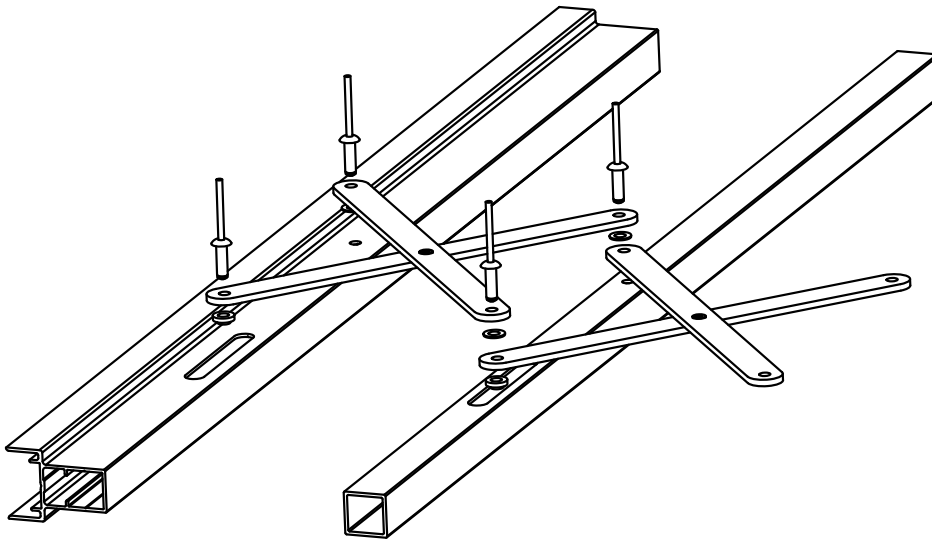
Detail 3

Detail 4



Assembly Details

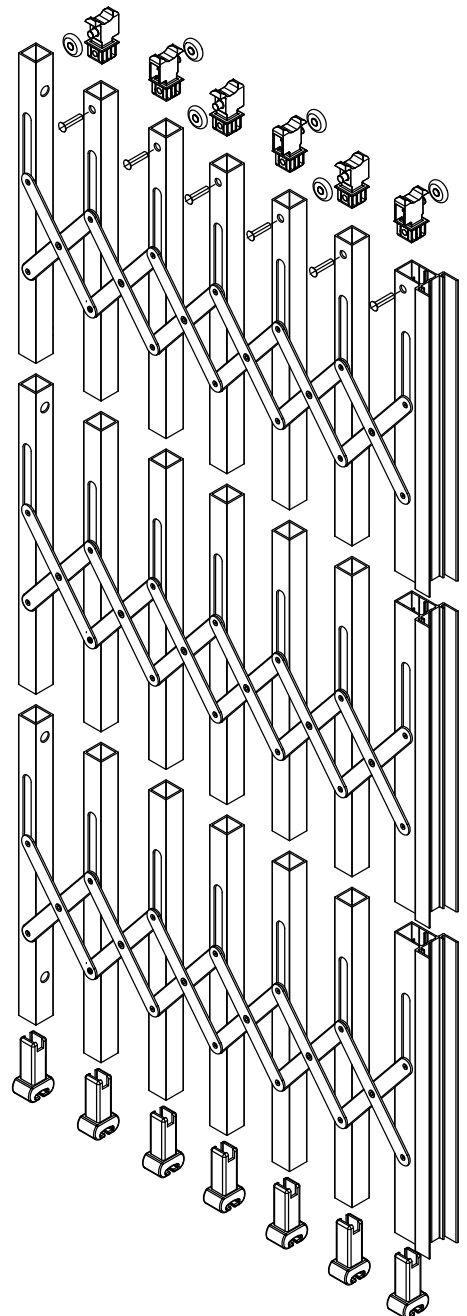
FITTING OF FLITES TO THE STILES- SLIDING BARRIERS



Note:

The flites are to be fitted with the head of the Flat semi-tubular rivets facing to the outside. Once the flites have been assembled together and fitted to the stiles as required, the hook lock can be fitted into the lock stile, and the striker plate can be fitted to the jamb as shown. (Fig. A)

Recommended that the top hangers be fitted first using the 4.8 x 23 Flat semi-tubular rivets, then the bottom guides can be inserted when ready to fit the barrier system into the opening.



NB: The slam lock comes with 2 roses pieces (optional to fit) and screws to fix over the cylinder, but the screws will need to be trimmed to only fix into the aluminium profile.

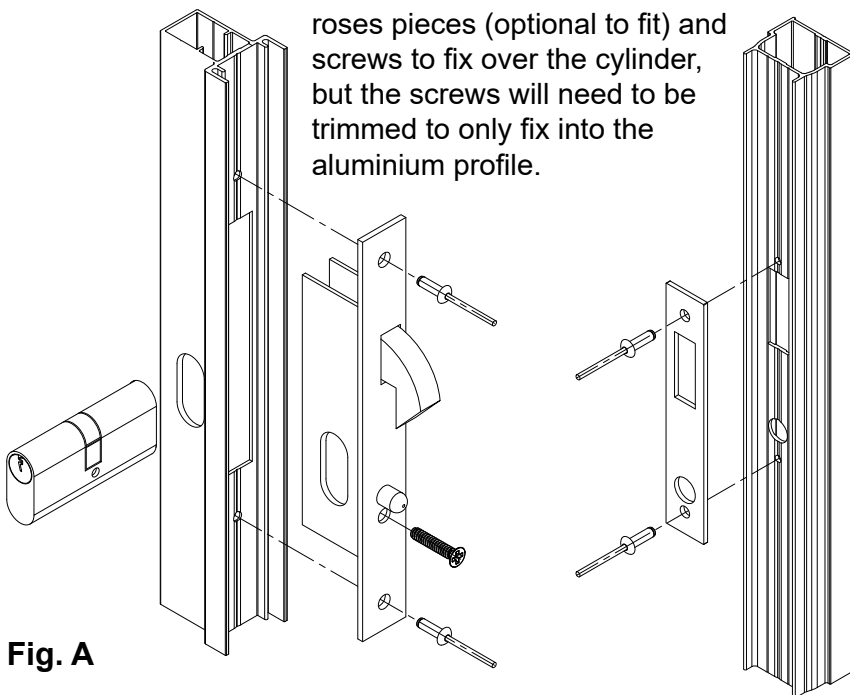
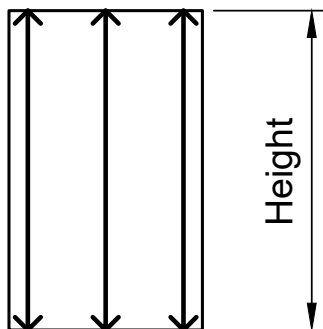


Fig. A

NB: Should the hook lock stick, the screw holding the cylinder could be too tight.



Step 1 - Opening Height

- Measure the opening height in at least 3 places as shown. Check for any obstructions that may interfere with the positioning and operation of the Guardian barrier.
- Identify the smallest dimension and deduct 60 mm for the stiles (20 x 20 Tubing) as well as for the Lock Stile and Meeting stile. (meeting stile for double barrier system)
- For the Guardian Jamb deduct 40 mm from the smallest dimension.

NB: Should the Guardian barrier snag on any protruding door handle or frame as shown in Fig. 1, then it is recommended to fit a 30 x 30 tube to the jamb as shown in Fig. 2.

A minimum distance of 50 mm from the reveal edge is required, as drilling too close to the reveal edges could damage the brickwork/plaster.

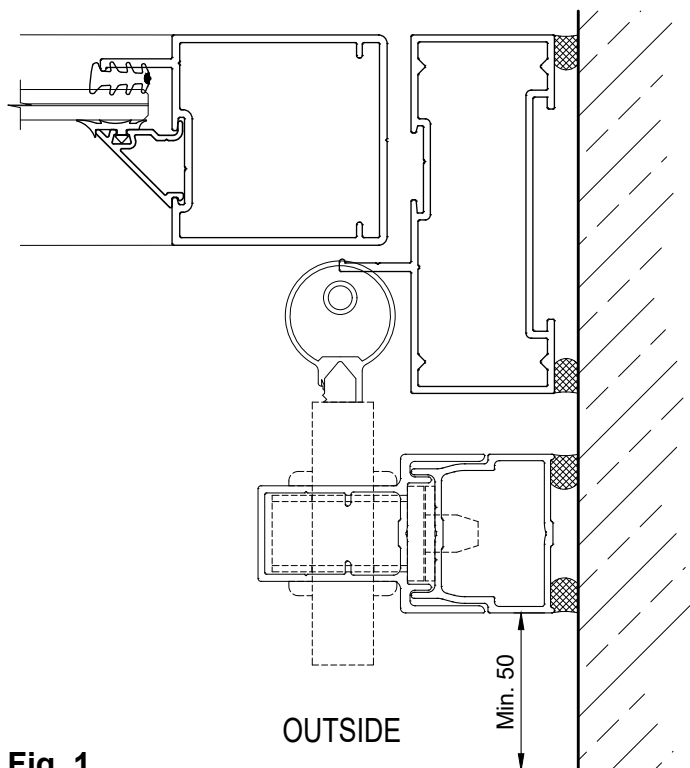


Fig. 1

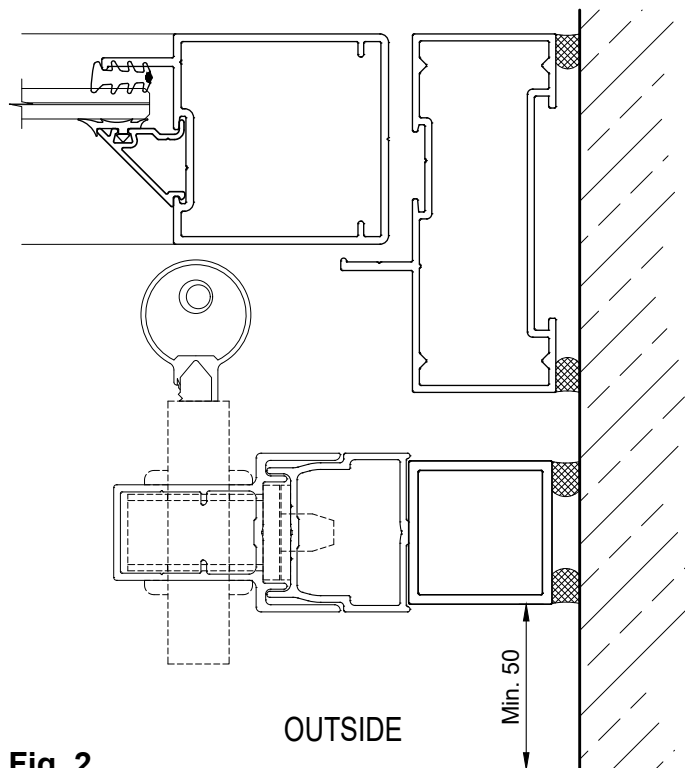


Fig. 2

Step 2 - Opening Width

a) Measure the opening width in at least 3 places as shown.

b) Cut the Guardian Head Rail and the Guardian Track according to the smallest measurement. Should a 30 x 30 tube be required as shown in the previous page, then cut the track minus 30 mm.

c) Place the Guardian Head Rail into the relevant position, mark the holes on the underside of the soffit from the drilled holes of the Guardian Head Rail, then drill the holes into the soffit to suit the plug size, ensure the holes in the head rail align with the holes in the soffit & then fit the plugs. Do not fit the head rail at this stage

d) Now place and align the Guardian Track into position, ensure the track is correctly placed below the Guardian Head Rail on the floor as shown in Fig. 1. Mark the holes from the drilled holes in the track & drill accordingly into the floor. Use the 'V' groove on the underside of the track to align the track according to the head rail. (Fig. 2) Do not fit the track at this stage.

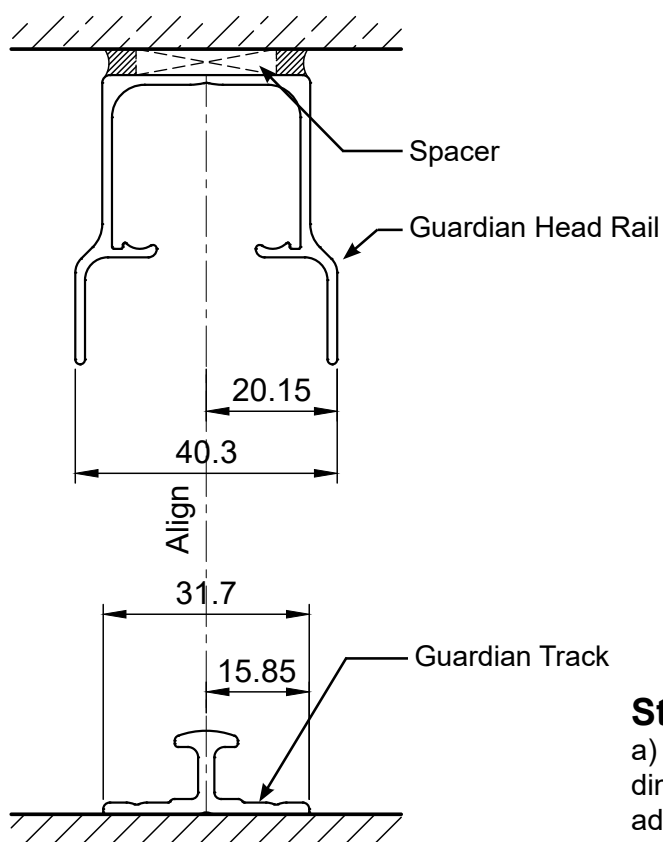
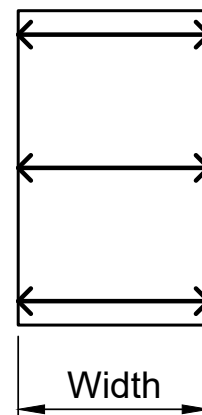


Fig. 1

The Guardian Track has a 'V' groove for ease of aligning the track on the floor.

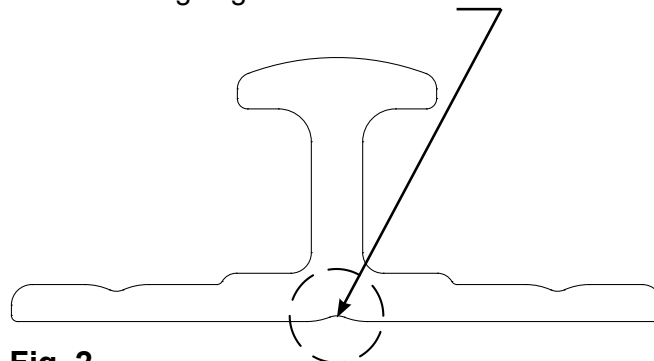


Fig. 2

Step 3 - Calculating the Stiles Quantity

a) Take the smallest width dimension, divide that dimension by 120 mm, take the whole number, then add one to give the total number of stiles required.

Eg. Width = 1100 mm, divide by 120 mm = 9.16.
Just take 9 + 1 = 10 stiles.

Step 4 - Fitting the Barrier system into position

a) Once the holes in the opening have been drilled where the head rail and track will be located, the assembled stiles can now be fitted simultaneously into the head rail and track as shown. Ensure the barrier system is facing in the correct direction, with the flites to the inside of the building. (Fig. 2)

b) Maneuver the door system into the reveal, and begin to fit the fixings into the head rail/soffit and track/floor as shown.(Fig. 3)

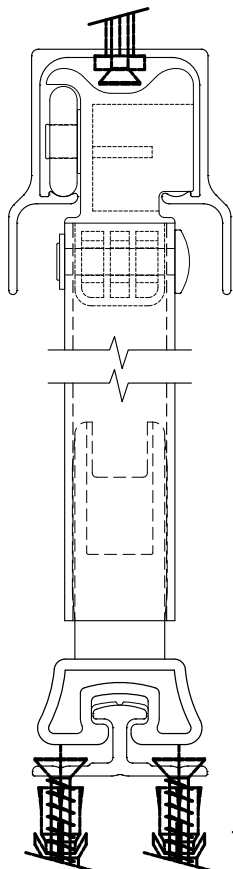


Fig. 3

Ensure that the fixings, both for the head rail and the track, are fitted firmly and that the fixings do not interfere with the sliding action of the barrier system.

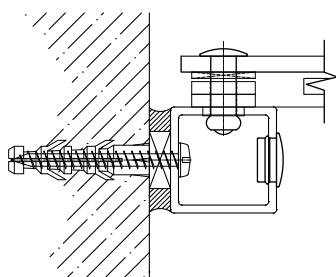


Fig. 4

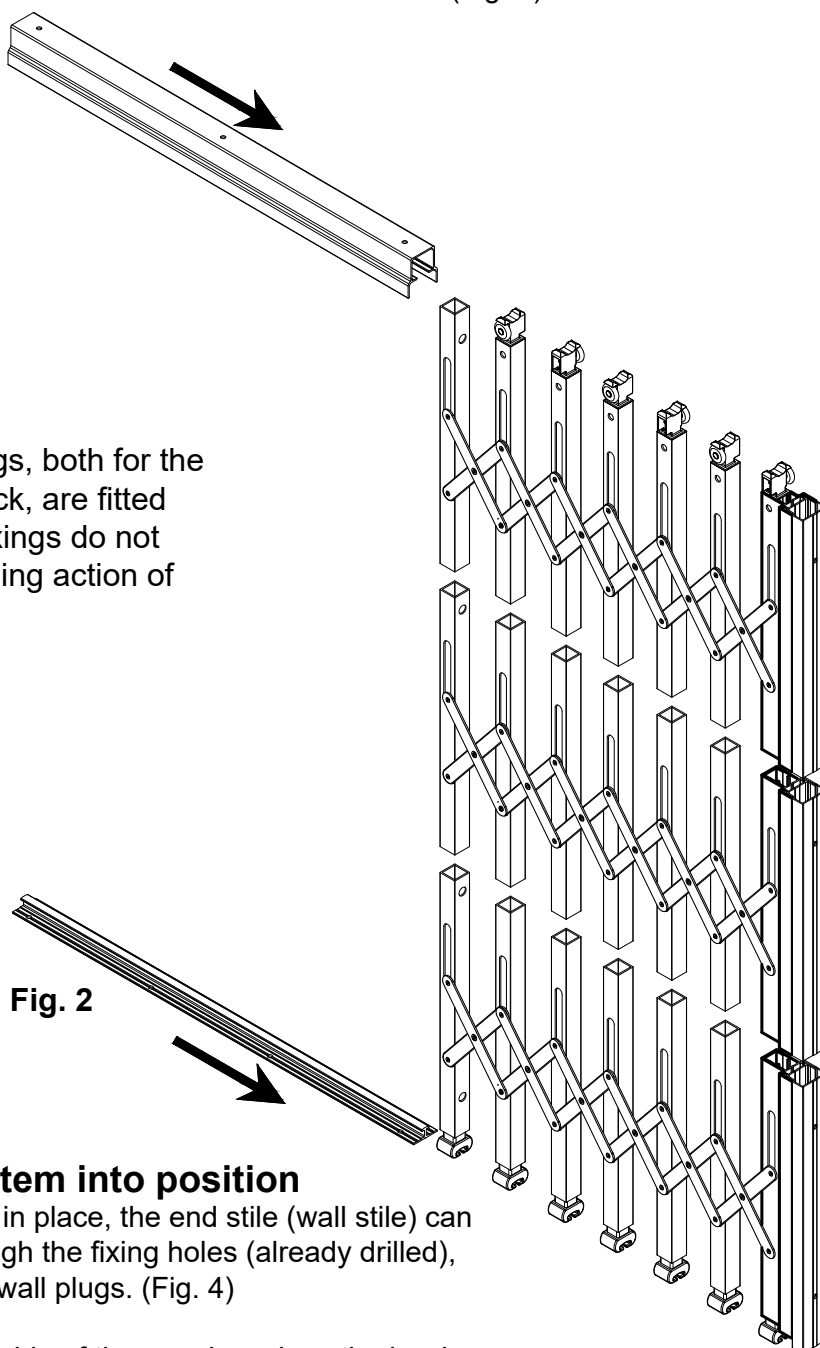


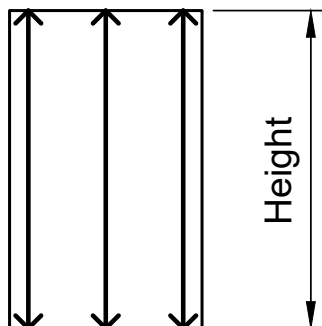
Fig. 2

Step 5 - Fixing the Barrier system into position

c) Once the head rail and track are fixed in place, the end stile (wall stile) can be positioned accordingly and then through the fixing holes (already drilled), mark where to drill into the wall to fit the wall plugs. (Fig. 4)

d) Before fixing the jamb to the opposite side of the opening, close the barrier system and mark the position of the jamb to ensure the lock locates correctly.





Step 1 - Opening Height

a) Measure the opening height in at least 3 places as shown. Check that the position of the fixed barrier will not interfere with any obstruction or hinder the existing operation of the window handle.

b) Identify the smallest dimension and deduct 12 mm for the stiles.
(20 x 20 Tubing)

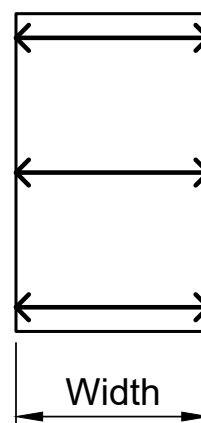
Step 2 - Opening Width

a) Measure the opening width in at least 3 places as shown.

b) Cut the Guardian Channel (top and bottom) according to the smallest width.

c) Place the top & bottom Guardian channels into the opening, mark the relevant holes in the opening from the drilled holes of the channel where the fixings will be fitted. Be sure to not drill the relevant holes in the channels/opening where the stiles will be located, as the stiles will prevent one from accessing the screws for fixing. (Fig. 2)

Ensure the top and bottom channels are level and square within the opening. Do not fit the channels at this stage. (Fig. 1)



c) Before fitting the top and bottom Guardian channels over the top and bottom of the fixed barrier system, ensure that the fixing holes have been drilled in the end stiles and walls. Now the top and bottom channels can be fitted over the fixed barrier. The fixed barrier system can now be positioned into the opening.

d) The wall fixings can be fitted into the end stiles/walls. The clip-on covers can be cut to fit between the stiles.

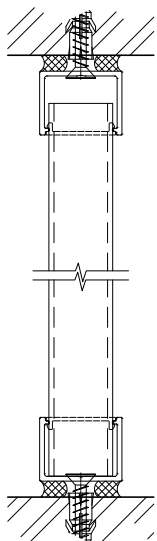


Fig. 1

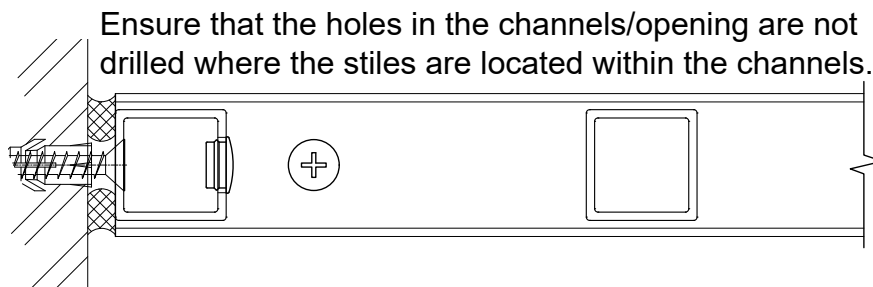


Fig. 2

To maintain the optimal performance of the Guardian barrier system, routine maintenance needs to be carried out on a regular basis.

Please refer to the Crealco Maintenance and Cleaning manual. (www.crealco.co.za)

- 1) The head rail on which the top hanger rollers slide, should be cleaned to allow for smooth operation. Check that the wheels have not been worn down over time. (Fig. 1)
- 2) The track will require to be wiped to prevent dirt hindering the bottom guides sliding smoothly. (Fig. 2)
- 3) For smooth locking & unlocking of the cylinder, Graphite lubricant is recommended.

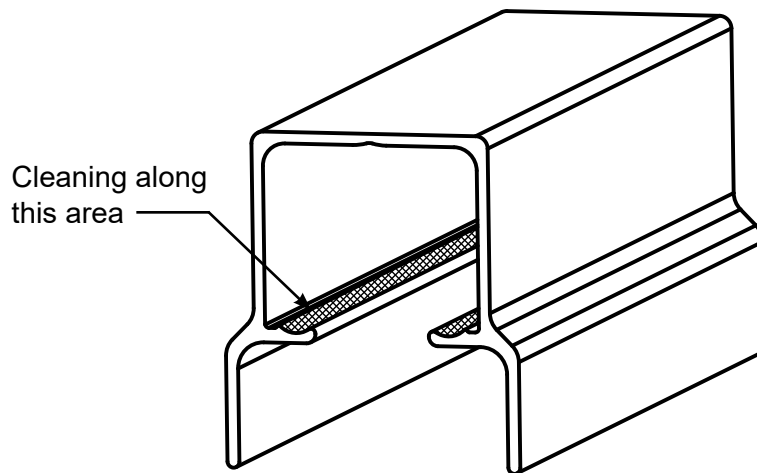


Fig. 1

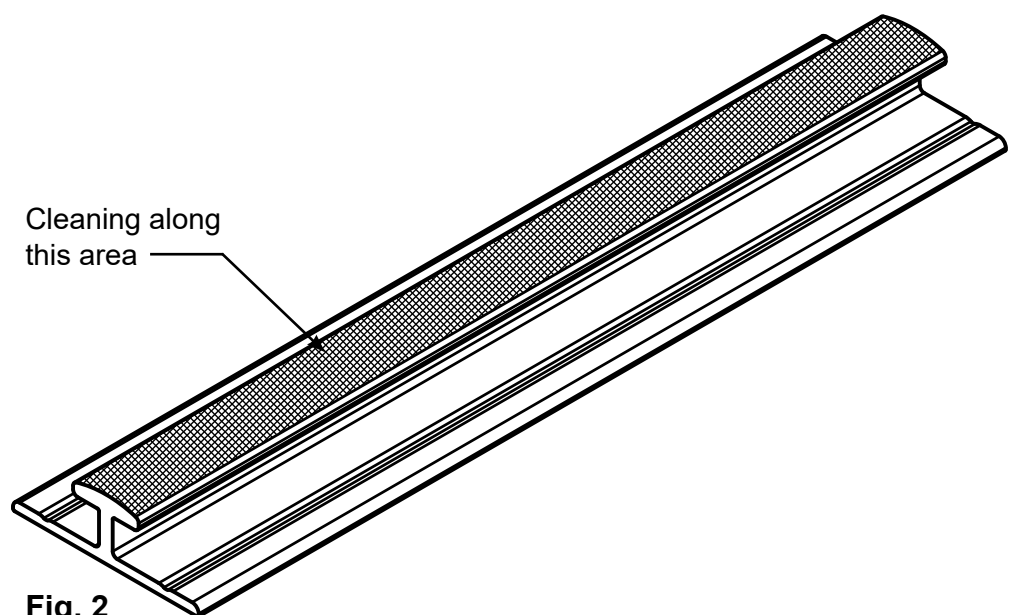


Fig. 2