SKYLINE

HEAVY DUTY CASEMENT WINDOW SYSTEM

crealco

PRODUCT MANUAL

REV. 1.3

AUG. 2017

A product of

WISPECO Aluminium

INDEX

SKYLINE
CASEMENT WINDOW (41 mm)

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.

LEGAL DISCAIMER

SKYLINE
CASEMENT WINDOW (41 mm)

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 procuderes 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 & Mainanace 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 illustative 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 mechanisal fasteners can adversly 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.

By continuing to use this documentation you acknowledge that you understand and accept the legal disclaimer.

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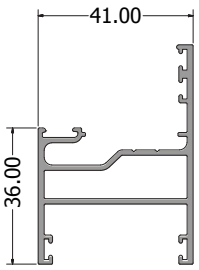
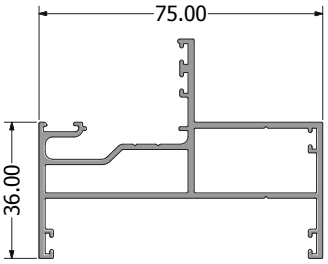
PROFILE IDENTIFICATION

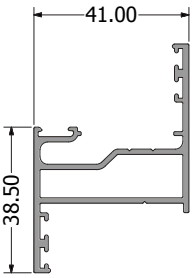
WINDOW PROFILES



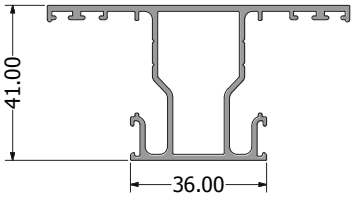
DIE No. W57611 Skyline Frame



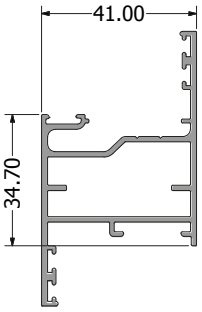
DIE No. W57610 Skyline Frame 75 mm



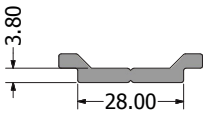
DIE No. W57608 Skyline Sash Standard



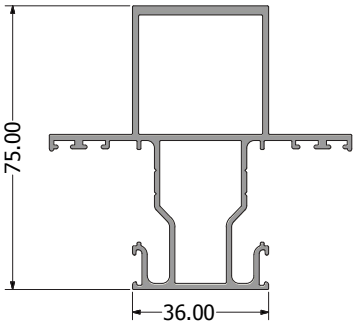
DIE No. W57612 Skyline Mullion 41 mm



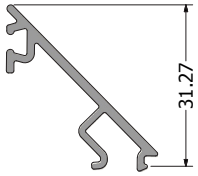
DIE No. W57609 Skyline Sash HD



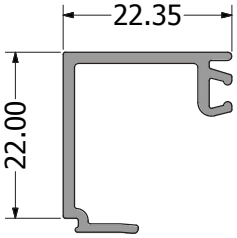
DIE No. W29131 Locking Bar



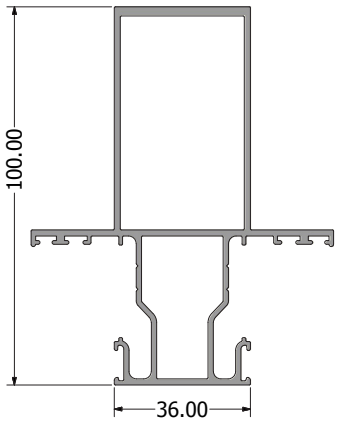
DIE No. W57613 Skyline Mullion 75 mm



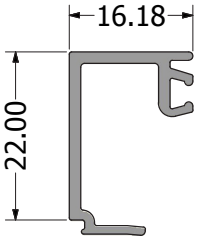
DIE No. W35632 Skyline Bead Angled 15 mm Gap



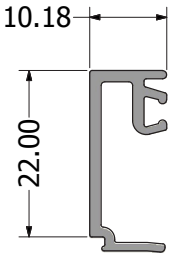
DIE No. W35774 Skyline Bead SQ.15 mm Gap



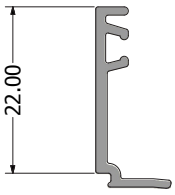
DIE No. W57614 Skyline Mullion 100 mm



DIE No. W35773 Skyline Bead SQ. 21 mm Gap



DIE No. W35772 Skyline Bead D/G 27 mm Gap



DIE No. W35631 Skyline Bead D/G 33 mm Gap

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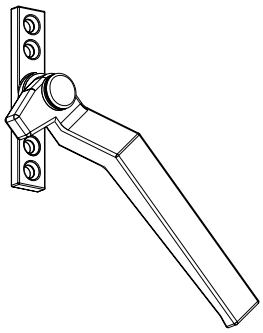
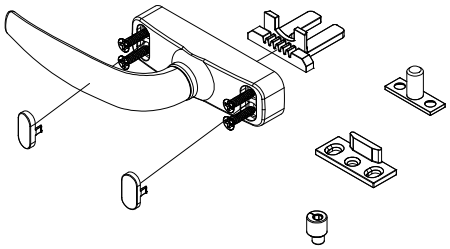
HARDWARE IDENTIFICATION

COMPONENTS

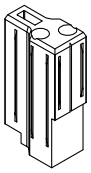
HANDLES & ACCESSORIES



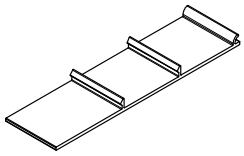


HPT-ES — Euro Sash Handle Kits

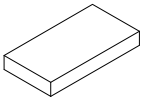
HPT-CWPHR-BLK — Crealco Wedgless PT Handles



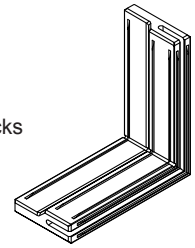
LGR-CC41 — Cross Connectors



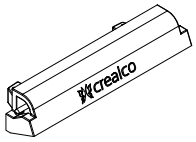
LGF-FL41 — Fixing Lugs



GSN-GSBDG40 — Double Glazing setting Blocks

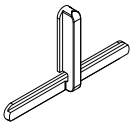


LGR-CRC41 — Corner Connectors (No Crimper req.)

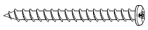


PEX-WDC — Drainage Covers

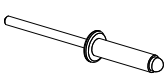
SGD-FMG48 — Frame Mitre Guides



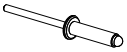
SGD-TG4.8 — T-Guides



FSP-0830-SS — Screws



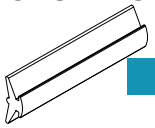
FRC-4810 — Pop Rivets 4.8 x 10



FRC-410 — Pop Rivets 4 x 10

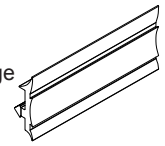
Note: The Euro sash handles can be ordered in Black & White

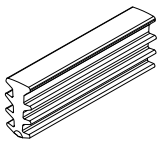
GASKETS & SETTING BLOCKS



GSL-AL-H602 — Y-Seal Gasket

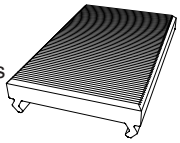
GBF-ORG — Butterfly Orange





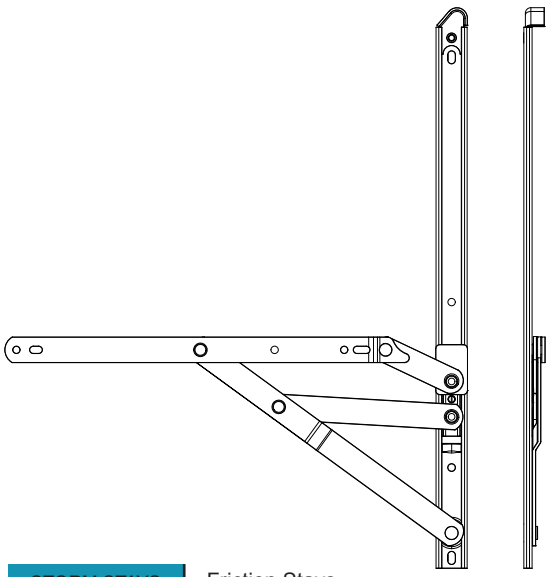
GWG-01G — Wedges

FSN-GLSB — Glass Support Blocks



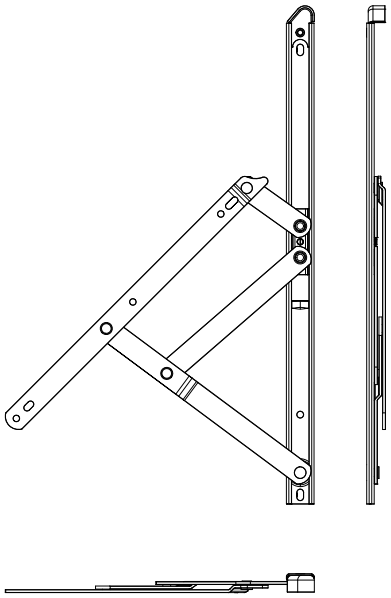
FSN-GSB — Glass Setting Blocks

FRICTION STAYS



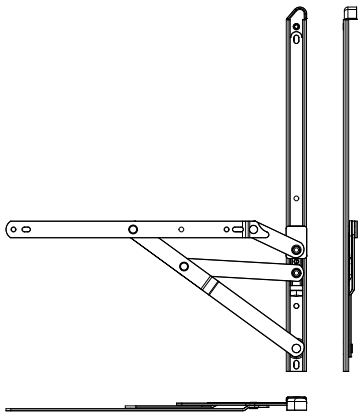
STORM STAYS — Friction Stays

FRICTION STAY LIMITATION CHART



Top Hung Friction Stays

Friction Stay Code	Stay Size	Maximum Vent Weight	Stack Height	Maximum Opening Angle
STF-TH250ST-304	259mm	37kg	16mm	50°
STF-TH300ST-304	310mm	45kg	16mm	50°
STF-TH400ST-304	412mm	55kg	16mm	50°
STF-TH550ST-304	567mm	75kg	16mm	45°
STF-TH680ST-304	680mm	120kg	16mm	20°



Side Hung Friction Stays

Friction Stay Code	Stay Size	Maximum Vent Weight	Stack Height	Maximum Opening Angle
STF-SH250ST-304	259mm	38kg	16mm	80°
STF-SH400ST-304	412mm	47kg	16mm	90°

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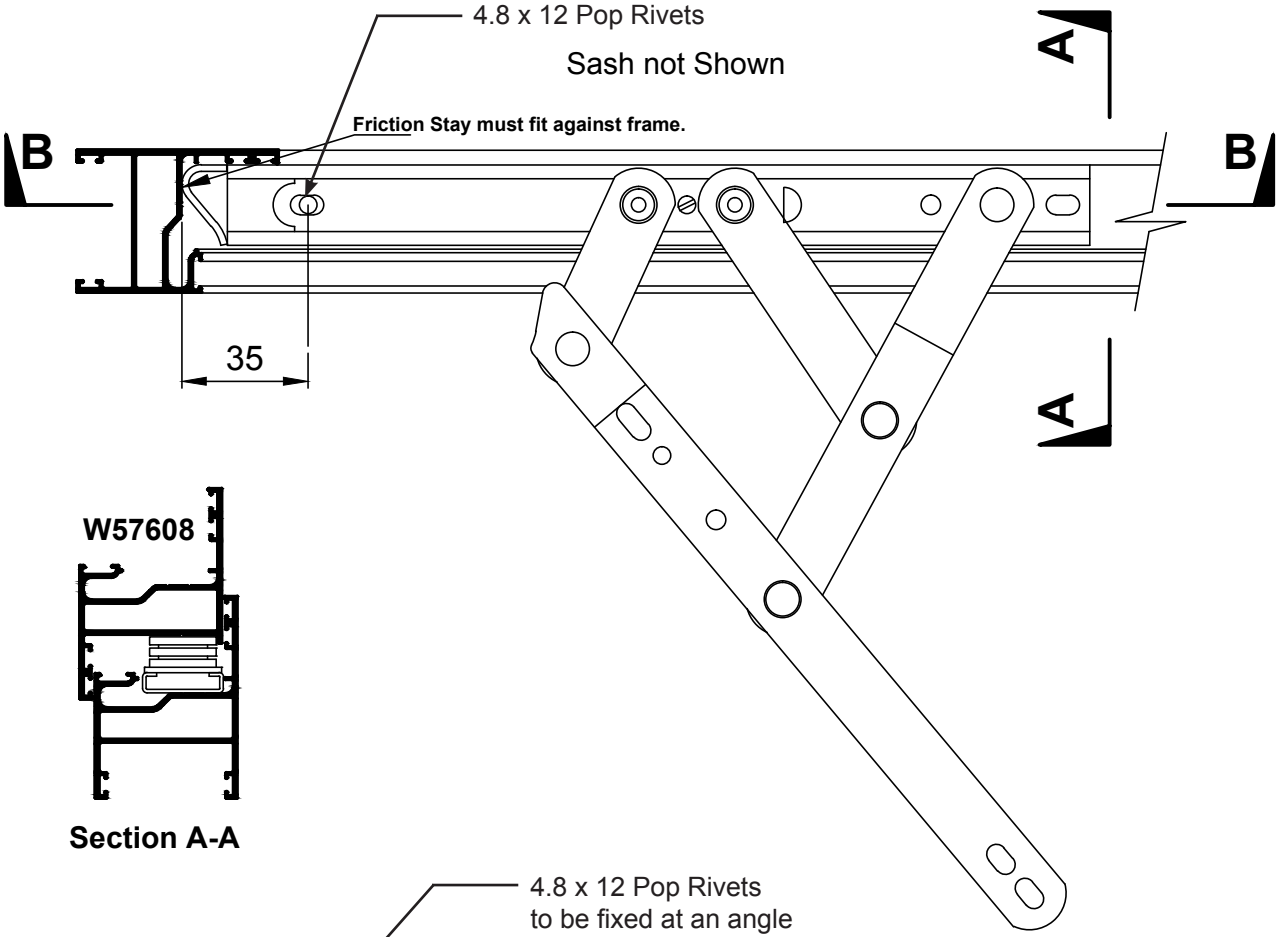
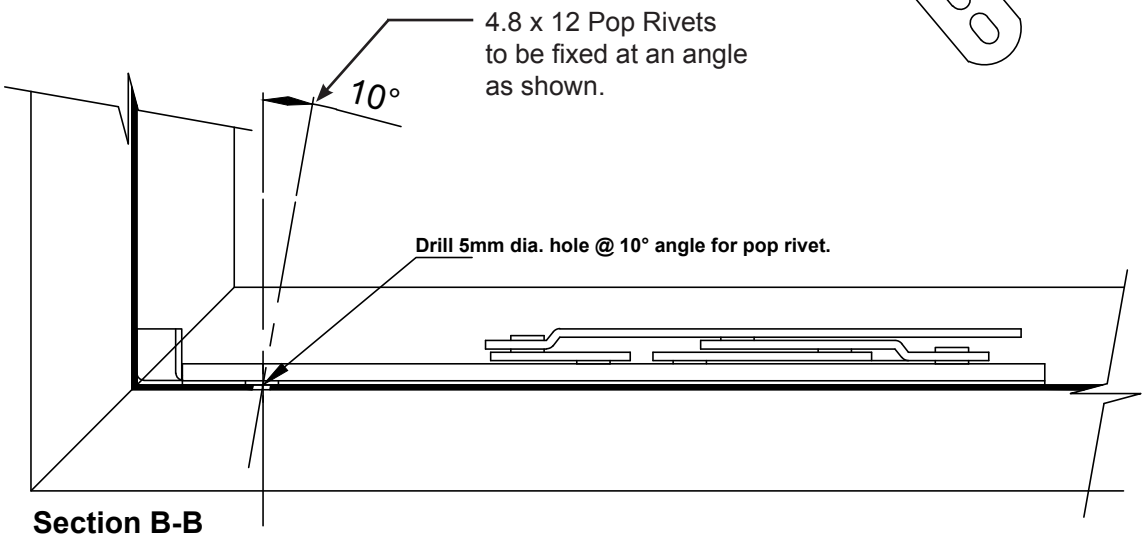
POSITIONING OF FRICTION STAYS - STANDARD SASH

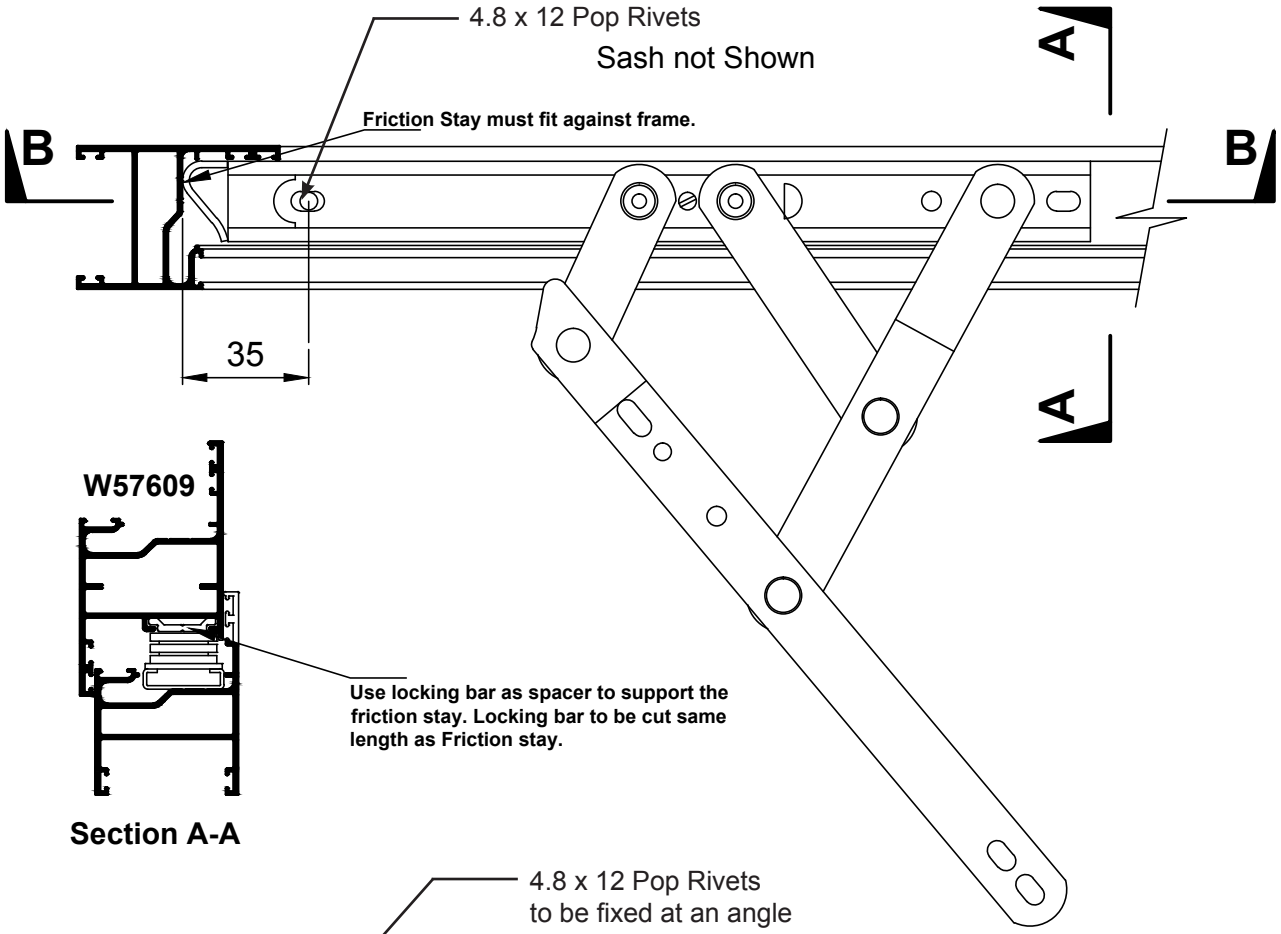


Section A-A



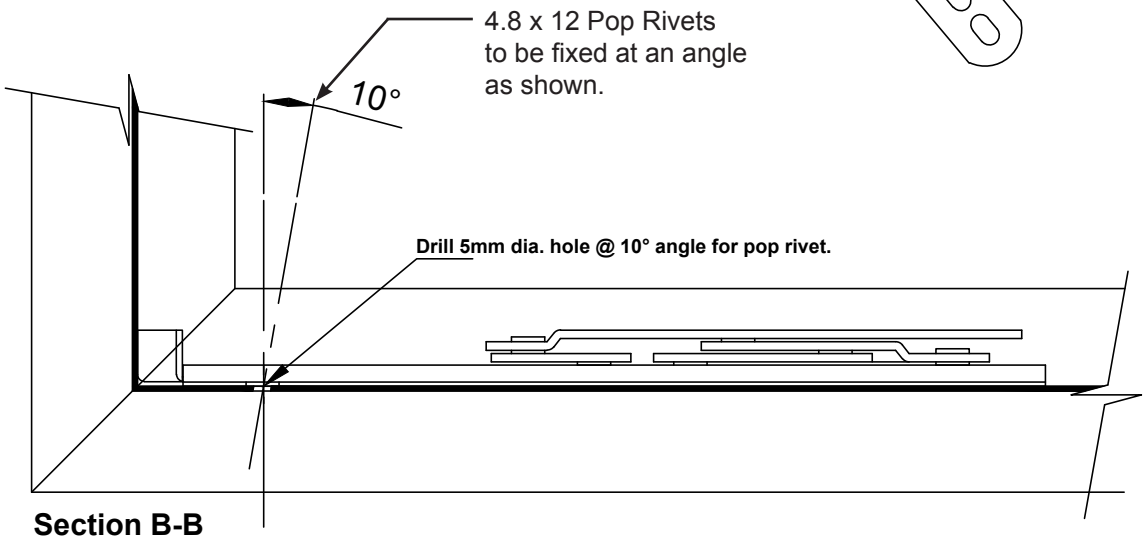
Section B-B
Sash not Shown

POSITIONING OF FRICTION STAYS - HEAVY DUTY SASH

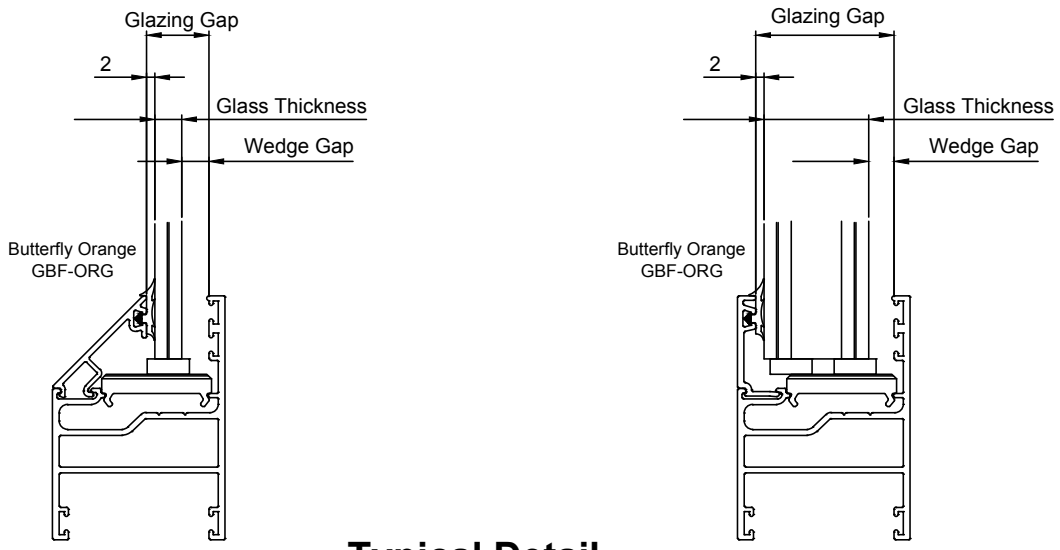


Use locking bar as spacer to support the friction stay. Locking bar to be cut same length as Friction stay.

Section A-A



Section B-B
Sash not Shown



Typical Detail

Wedge Gasket Chart

Code	Description	Wedge Gap To Fit
GWG-01G	Wedge 01 Green 6mm & 6.38mm Glass	4.10mm To 5.50mm
GWG-02B	Wedge 02 Blue 5mm Glass	5.60mm To 6.70mm
GWG-03R	Wedge 03 Red 4mm Glass	6.80mm To 7.50mm
GWG-05P	Wedge 01 Purple 20mm Double Glazing	7.60mm To 8.80mm

Wedge Gap Calculator
Wedge Gap = Glazing Gap - 2 - Glass Thickness

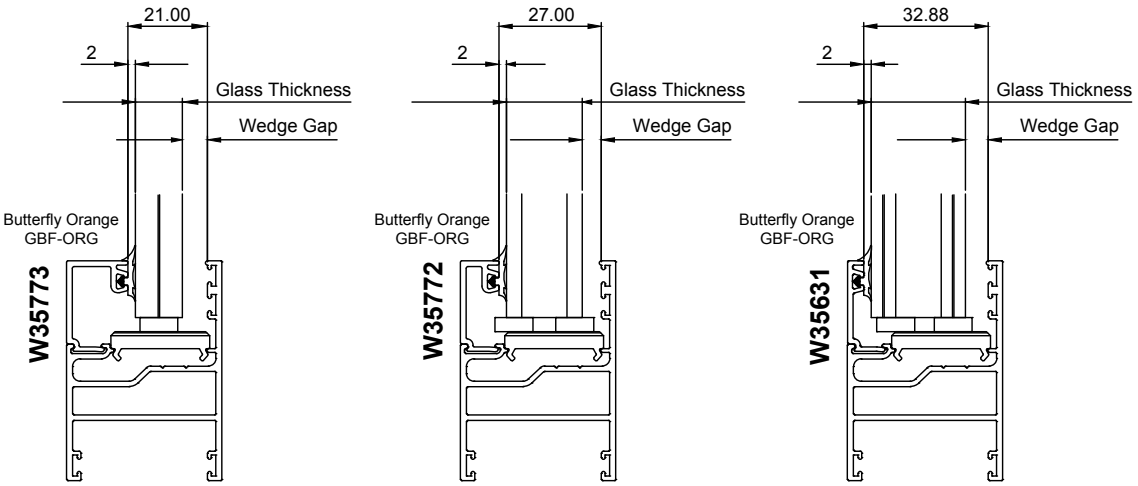
Example:
Beading W35744
Glass Thickness = 6.38 mm
Glazing Gap = 14.85

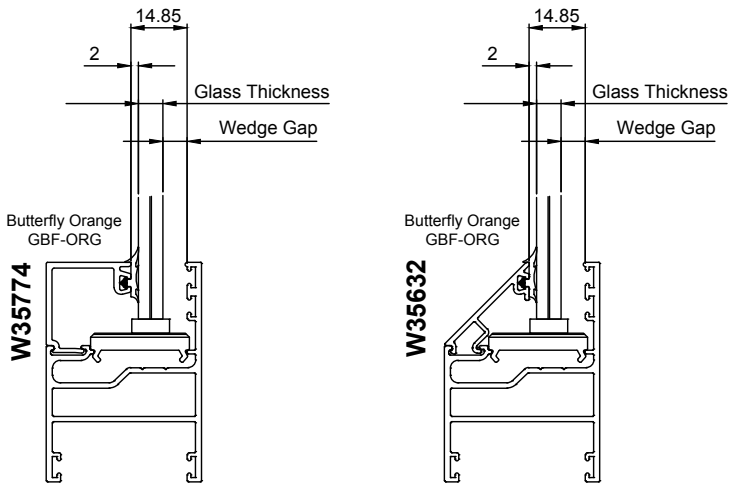
Wedge Gap = Glazing Gap -2 - Glass Thickness
= 14.85 - 2 - 6.38
= 6.47 mm

Note:
1. Glass thicknesses may vary due to manufacturing procedures & suppliers.
2. The chart & calculations used is only a guide line for the wedge gaskets to be used.
3. The wedge gasket must be compressed by -+ 20%.
4. Wedge gaskets should be checked to make sure that is seals without any leakages.

Glazing/Wedge Chart

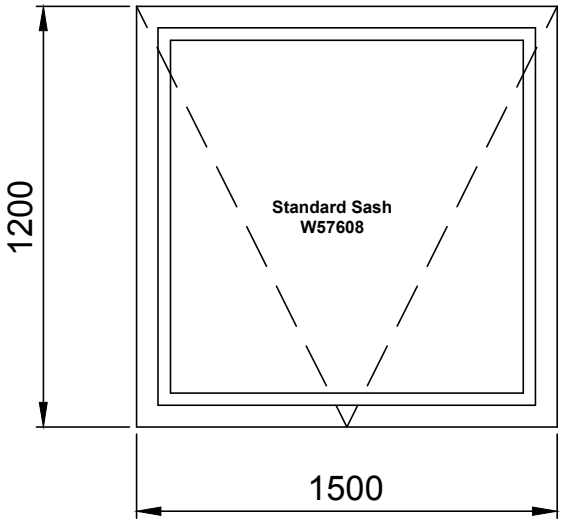
NOTE:
1. Glass thicknesses may differ (manufacturing process and suppliers).
2. The chart and calculations used is only a suggestion for the wedg gaskets to be used.
3. The wedge gasket must be compressed by ±20%.
4. Wedge gasket should be checked to make sure that it seals withoutout any leakages.

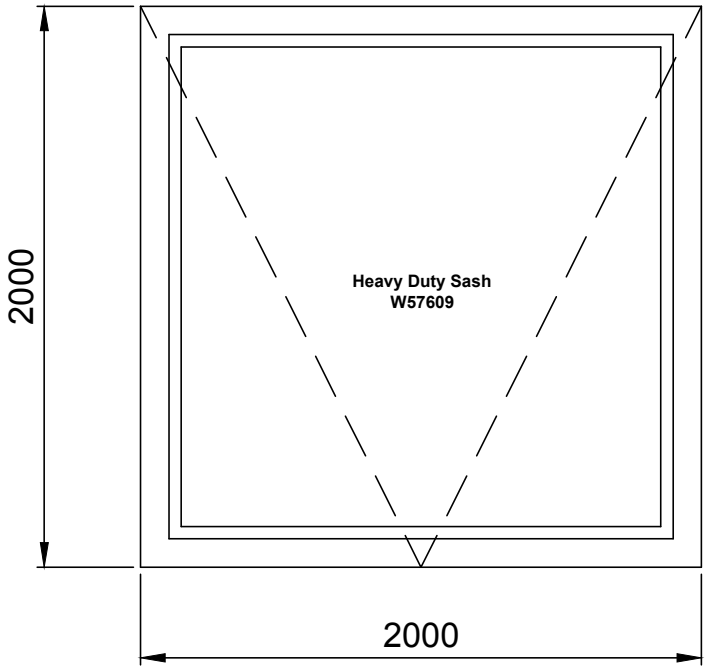




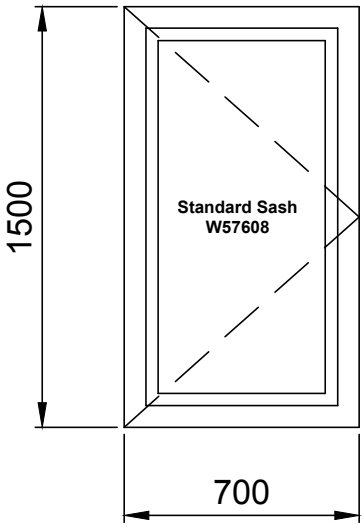
NOTE:
For the Wedge Gasket Chart and Wedge Gap Calculator please see the previous page.

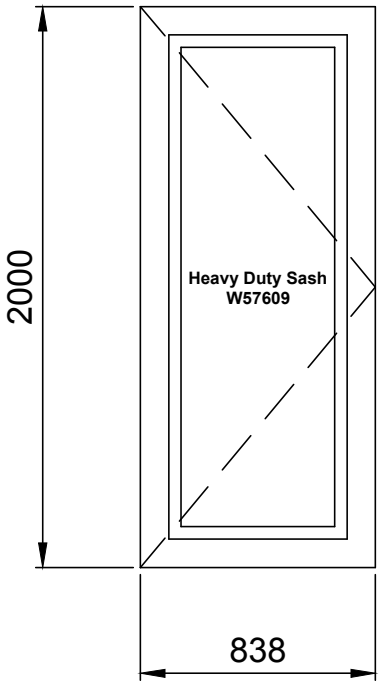
Top Hung Sashes



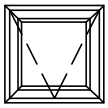


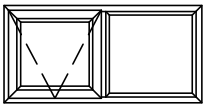
Side Hung Sashes

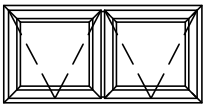


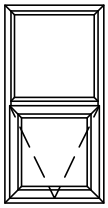


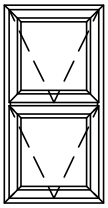
TOP HUNG

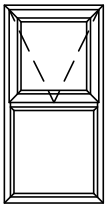

Single Top Hung

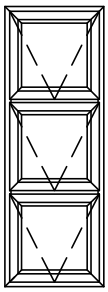

Top Hung next to fixed

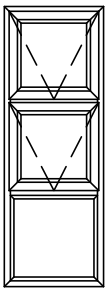

Top Hung next to Top Hung

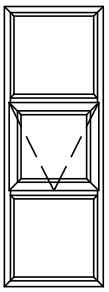

Fixed over Top Hung


Top Hung over Top Hung

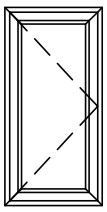

Top Hung over fixed

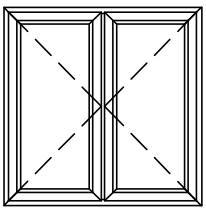

Triple Top Hung

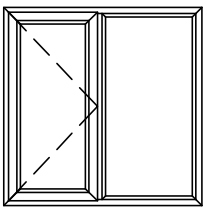

Double Top Hung over fixed

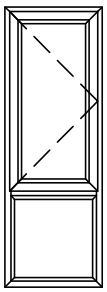

Fixed over Top Hung over fixed

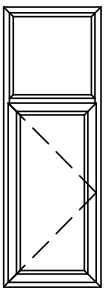
SIDE HUNG

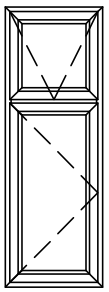

Single Side Hung


Side Hung next Side Hung


Side Hung next to fixed

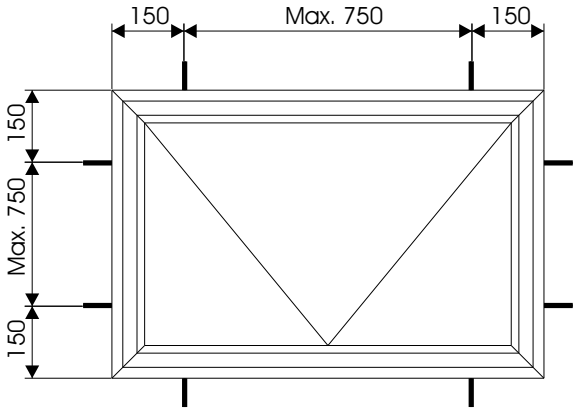

Side Hung over fixed

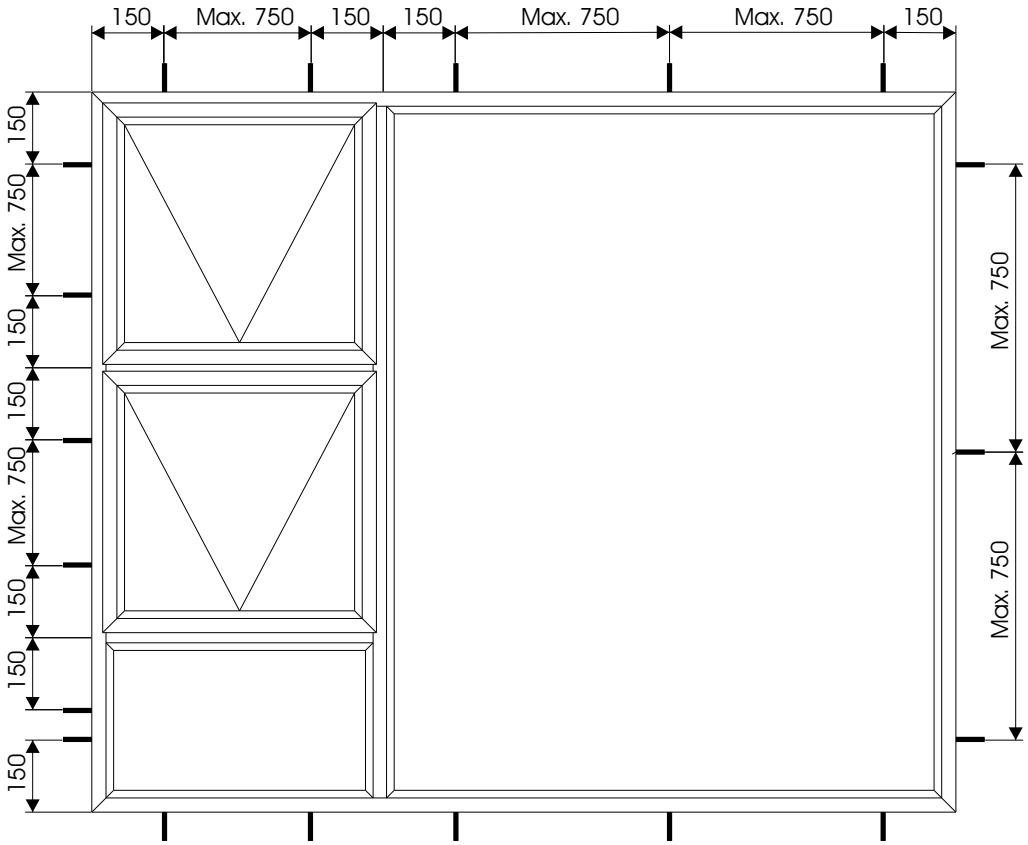

Fixed over Side Hung


Top Hung over Side Hung

GENERAL

TYPICAL FIXING POSITIONS





IMPORTANT: As there are many different methods of fixing the door to the structure, the illustration is a general fixation detail. The illustration defines the general method and hole fixings. Before installation or machining of the holes, please ensure that you have checked the required fixing method with the appropriated building engineer and that your chosen methods meets their specifications.

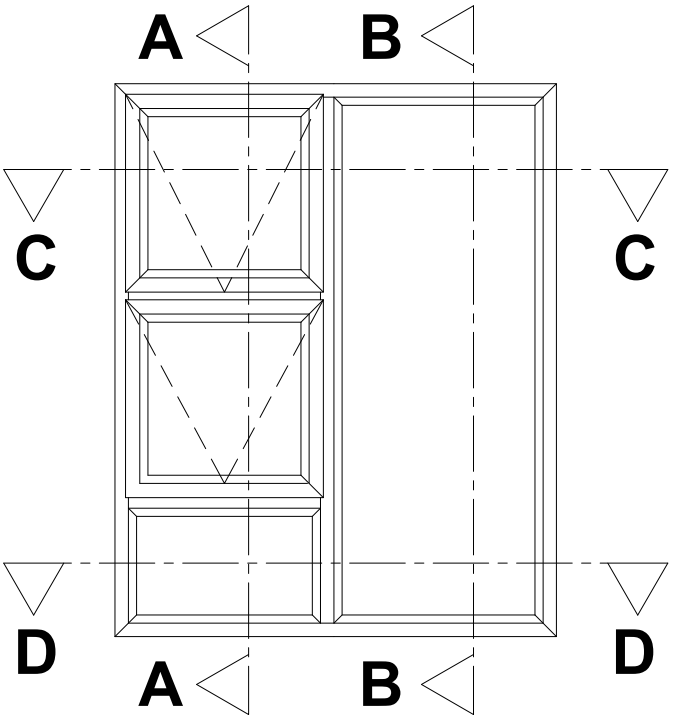
Failure to fix the door to correct building or engineer specifications will result in the door not meeting the required specifications.

DISCLAIMER: Please note that fixation of the frame to the structure is an element which MUST be specified and certified by an appropriate engineer and is not the responsibility of Wispeco.

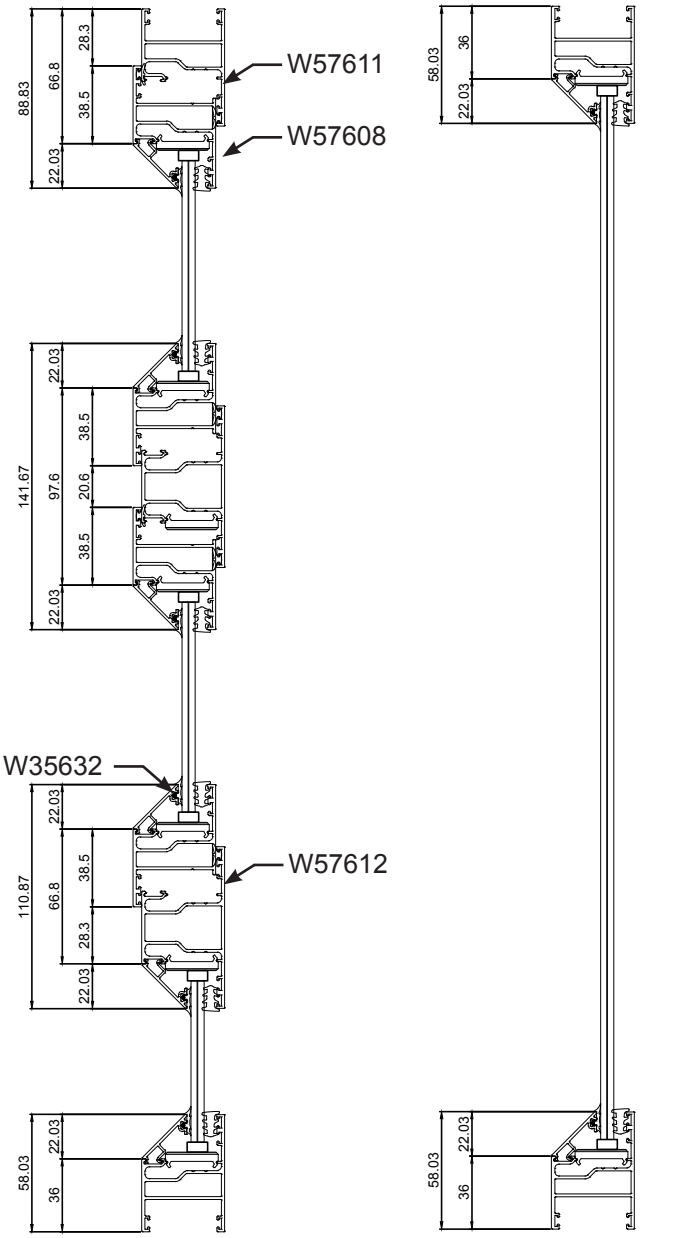
CROSS SECTIONAL DETAILS

TYPICAL TOP HUNG

Drawing not to scale.

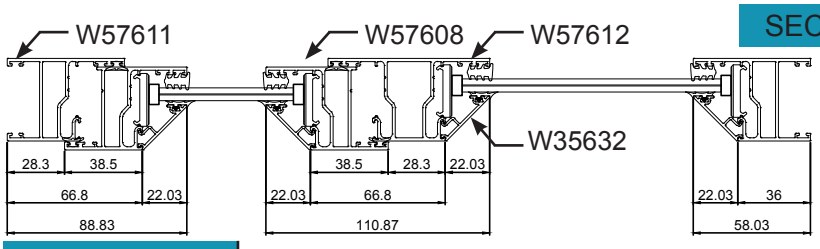


ELEVATION

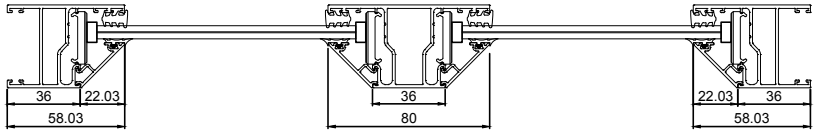


SECTION A-A

SECTION B-B



SECTION C-C



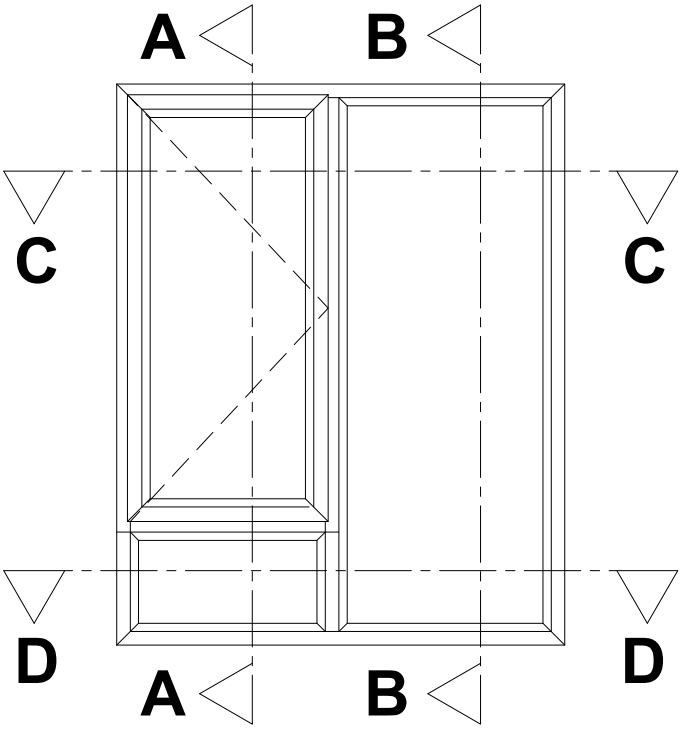
SECTION D-D

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.

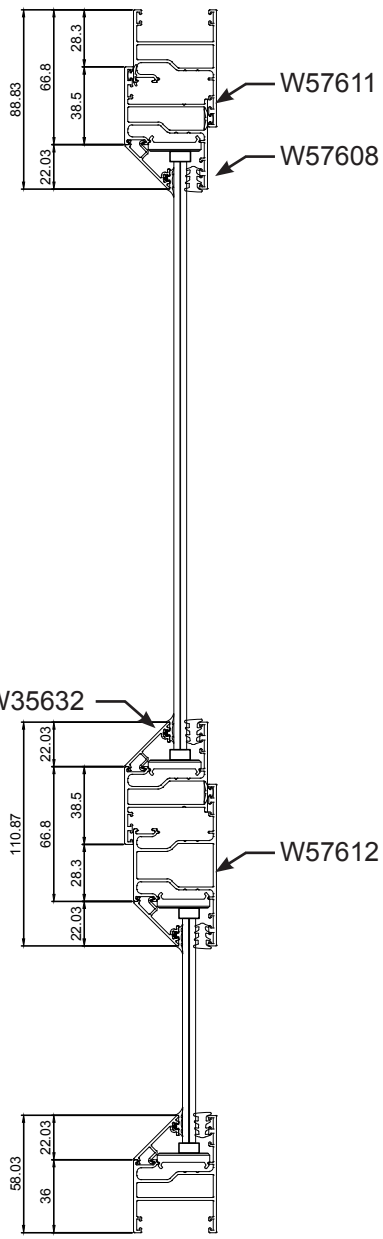
CROSS SECTIONAL DETAILS

TYPICAL SIDE HUNG

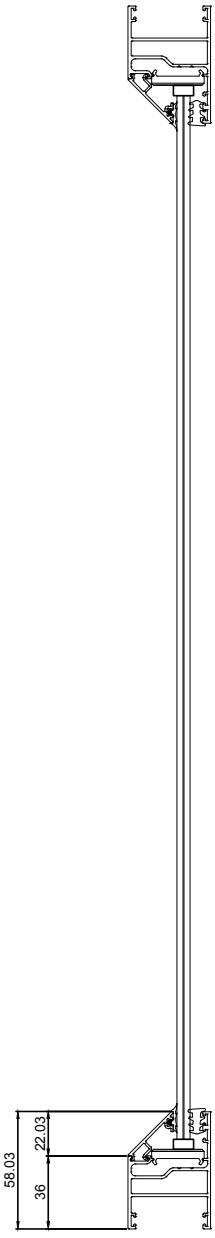
Drawing not to scale.



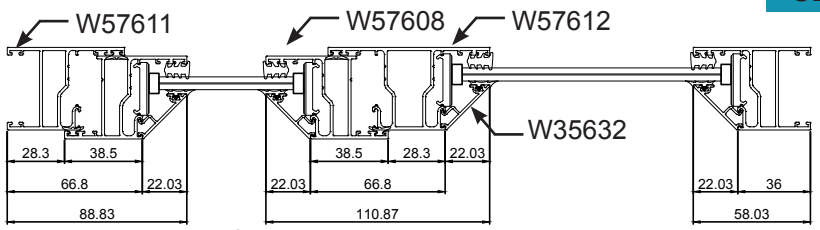
ELEVATION



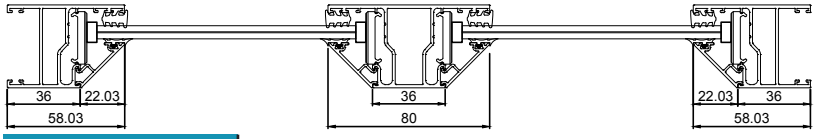
SECTION A-A



SECTION B-B



SECTION C-C

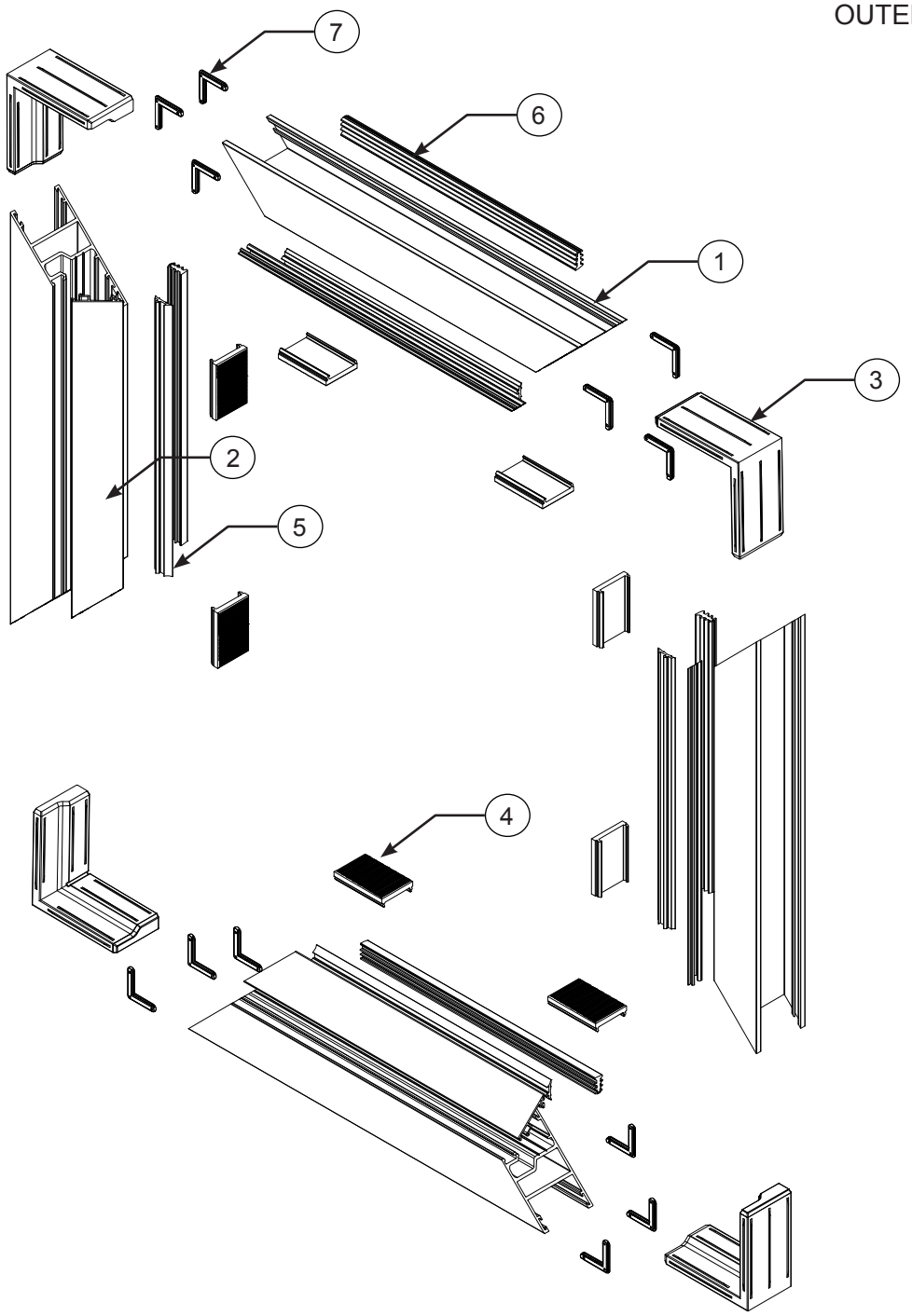


SECTION D-D

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.

CONSTRUCTION DETAILS

OUTER FRAME



All mechanical joints to be silicone sealed.

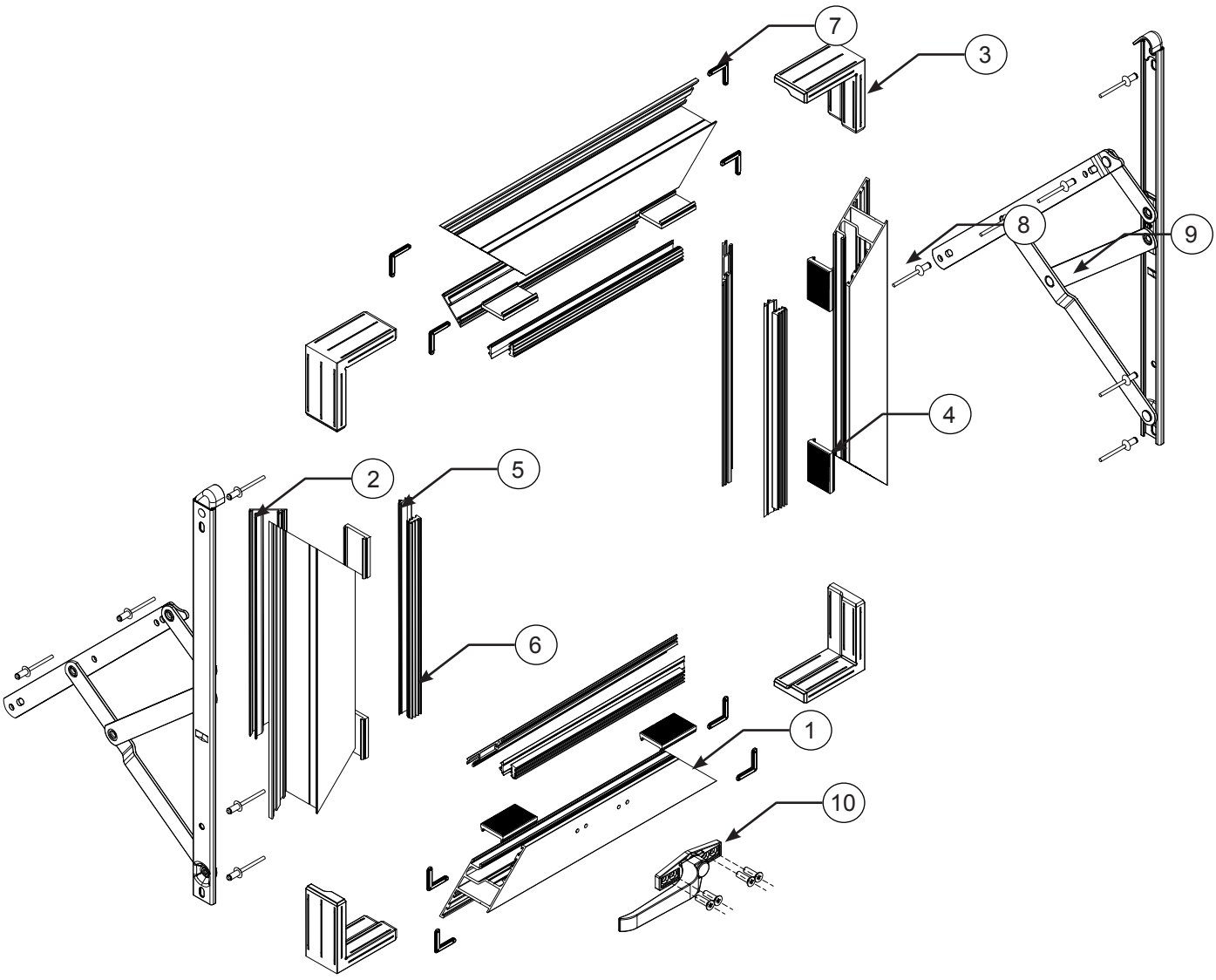
ITEM	QTY	DIE No.	DESCRIPTION
1	4	W57611	Skyline Frame
2	4	W35632	Skyline Bead Angled 15 mm Gap

ITEM	QTY	COMP.	DESCRIPTION
3	4	LGR-CRC41	Corner Connector (No Crimping)
4	8	FSN-GSB	Glass Support Blocks
5	4	GBF-ORG	Butterfly Orange
6	4	GWG-01G	Back Wedge
7	12	SGD-FMG48	Frame Mitre Guides

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.

CONSTRUCTION DETAILS

STANDARD SASH FRAME



All mechanical joints to be silicone sealed.

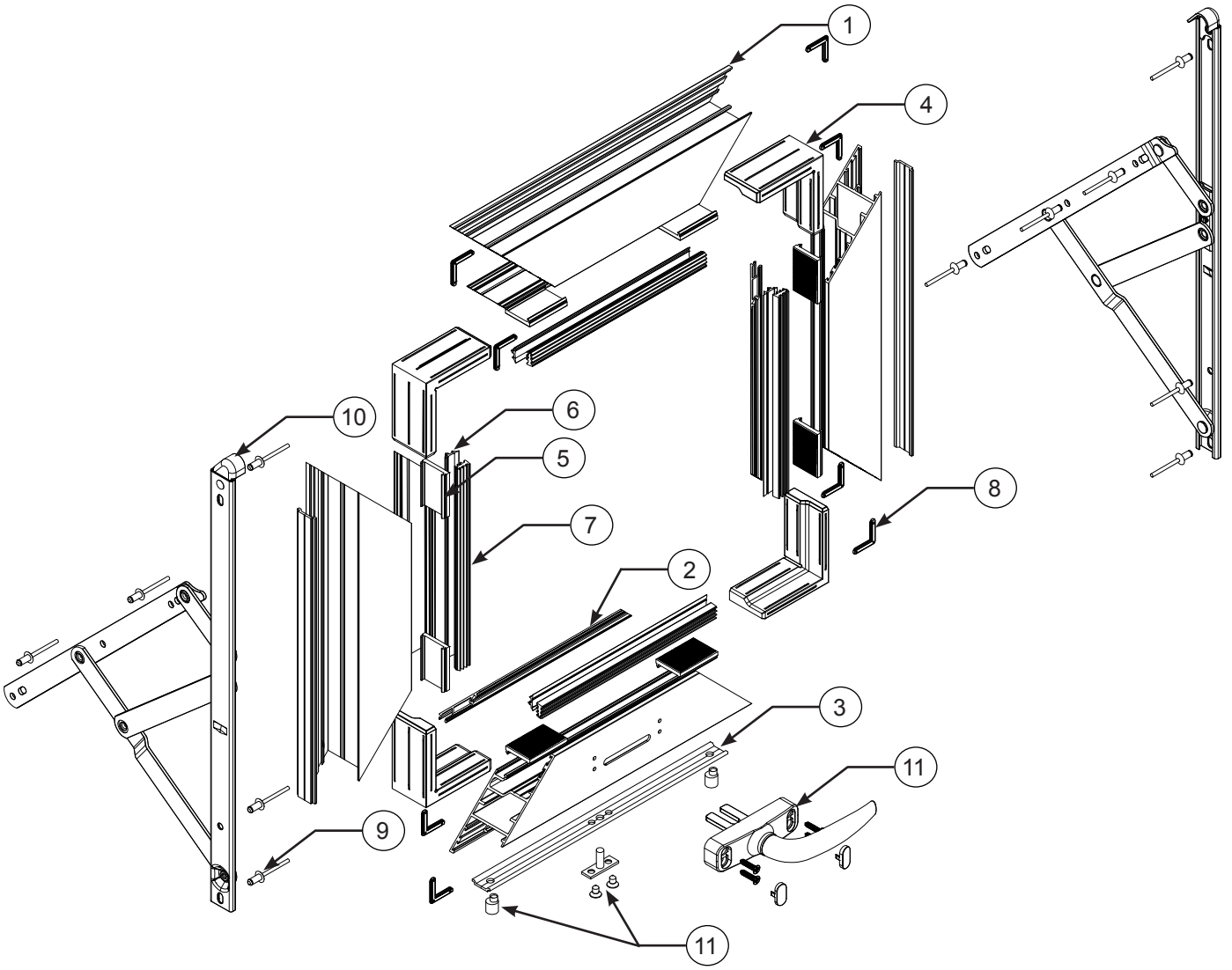
ITEM	QTY	DIE No.	DESCRIPTION
1	4	W57608	Skyline Standard Sash
2	4	W35632	Skyline Bead Angled 15 mm Gap

ITEM	QTY	COMP.	DESCRIPTION
3	4	LGR-CRC41	Corner Connector (No Crimping)
4	8	FSN-GSB	Glass Support Blocks
5	4	GBF-ORG	Butterfly Orange
6	4	GWG-01G	Back Wedge
7	8	SGD-FMG48	Frame Mitre Guides
8	12	FRC-4810	Pop Rivets
9	1 P	See Chart	Storm Friction Stays
10	1	HPT-CWPHR	Crealco Wedgeless PT Handle

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.

CONSTRUCTION DETAILS

HEAVY DUTY SASH FRAME



All mechanical joints to be silicone sealed.

ITEM	QTY	DIE No.	DESCRIPTION
1	4	W57609	Skyline Sash H/D
2	4	W35632	Skyline Bead Angled 15 mm Gap
3	3	W29131	Locking Bar

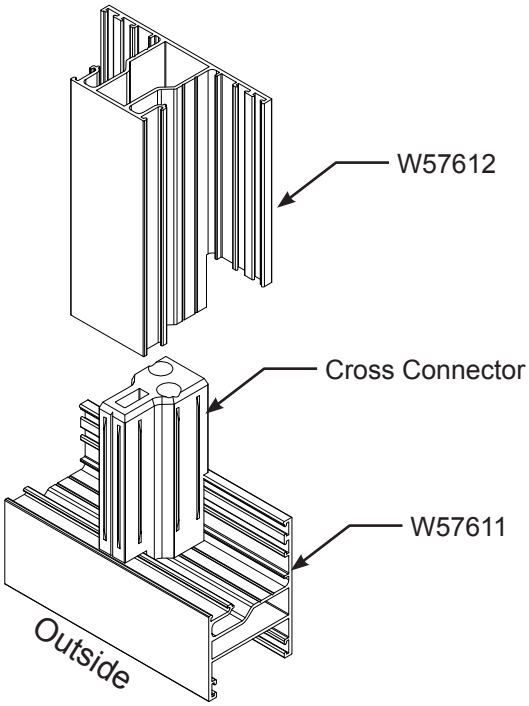
ITEM	QTY	COMP.	DESCRIPTION
4	4	LGR-CRC41	Corner Connector (No Crimping)
5	8	FSN-GSB	Glass Support Blocks
6	4	GBF-ORG	Butterfly Orange
7	4	GWG-01G	Back Wedge
8	8	SGD-FMG48	Frame Mitre Guides
9	12	FRC-4810	Pop Rivets
10	1 P	See Chart	Storm Friction Stays
11	1	HPT-ES	Euro Sash Handle Kit

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.

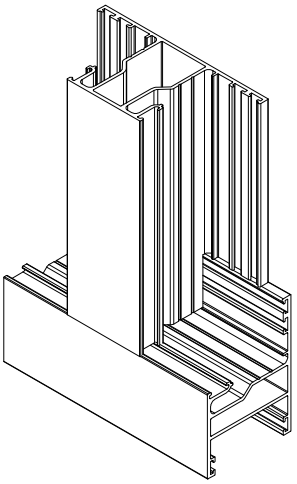
MACHINING DETAILS

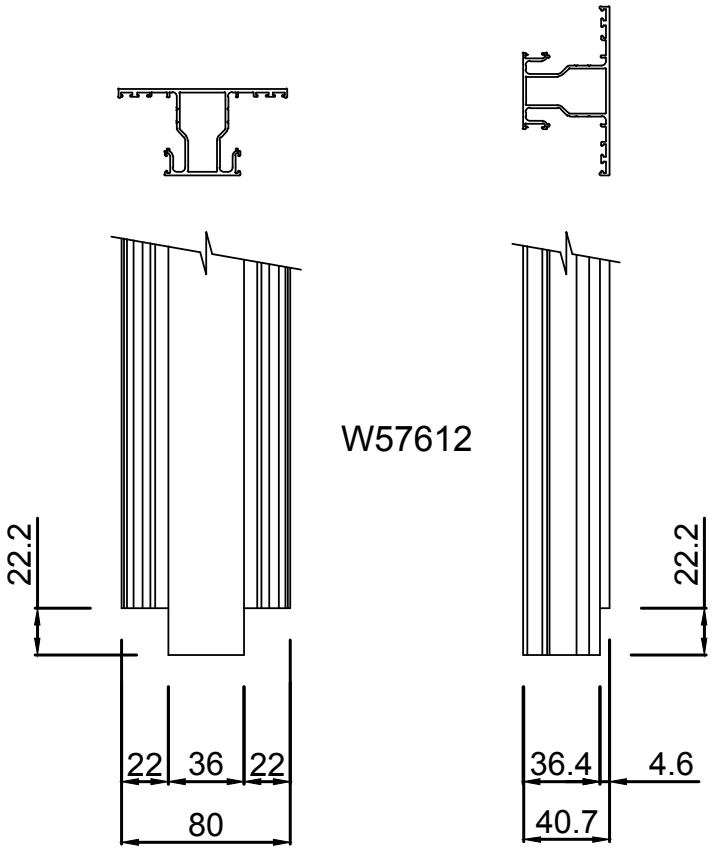
STANDARD MULLION ON STANDARD OUTER FRAME

DIE No. W57612 | Skyline Mullion 41 mm



Exploded view showing standard mullion to be fitted against the standard outer frame with the cross connector & the T-Guides (see assembly details).



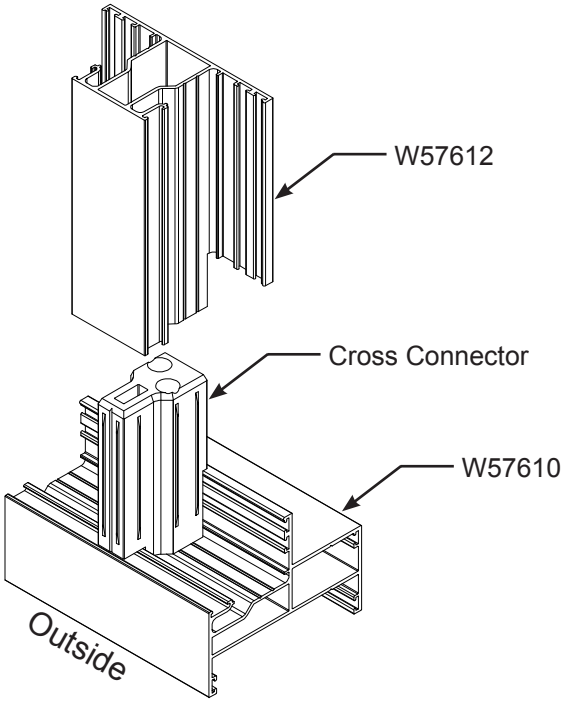


Note:
All mechanical joints to be sealed with Crealco silicone sealer.

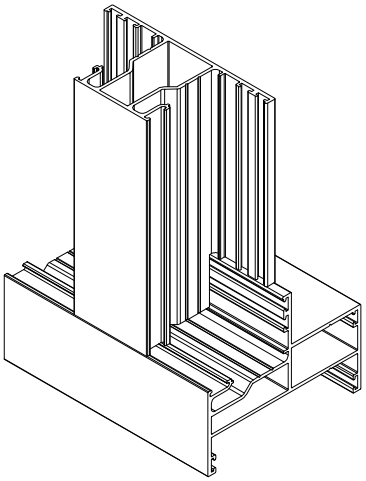
MACHINING DETAILS

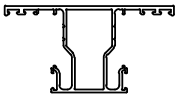
STANDARD MULLION ON 75 OUTER FRAME

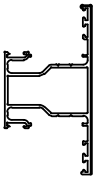
DIE No. W57612 | Skyline Mullion 41 mm

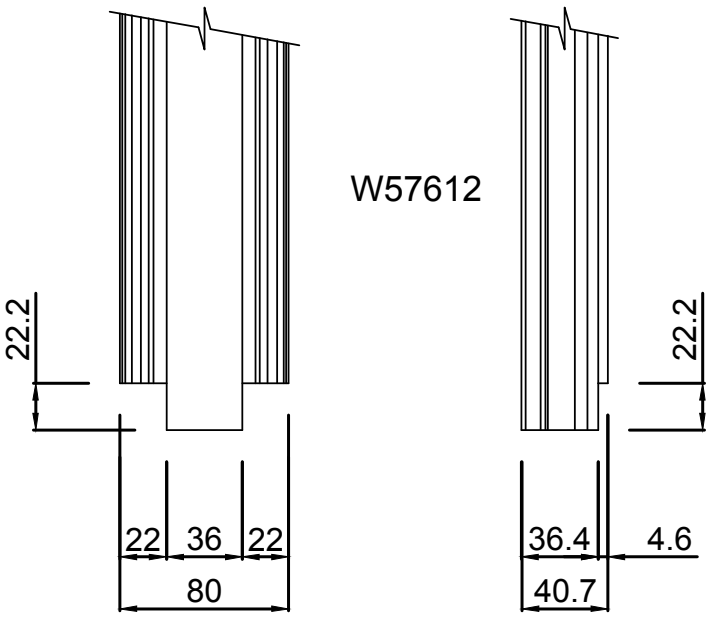


Exploded view showing standard mullion to be fitted against the 75 mm outer frame with the cross connector & T-Guides (see assembly details).









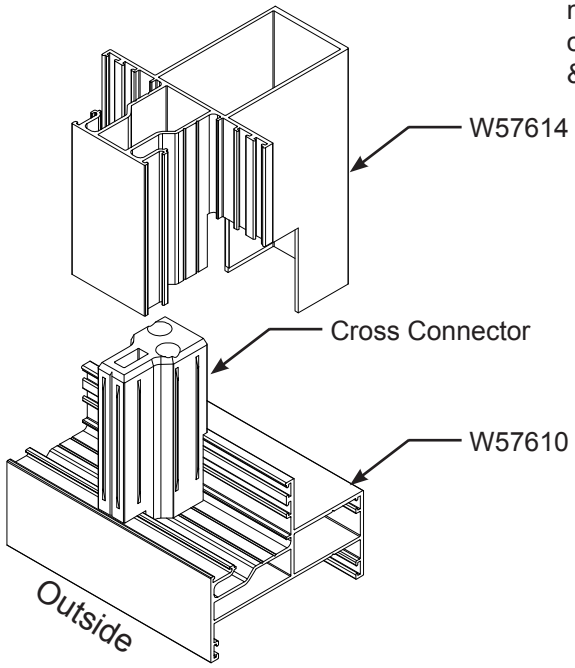
Note:
All mechanical joints to be sealed with Crealco silicone sealer.

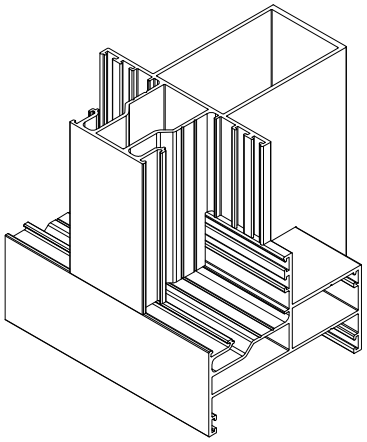
MACHINING DETAILS

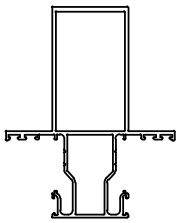
100 MM MULLION ON 75 OUTER FRAME

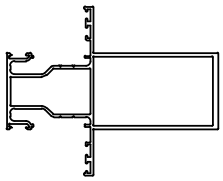
DIE No. W57614 | Skyline Mullion 100 mm

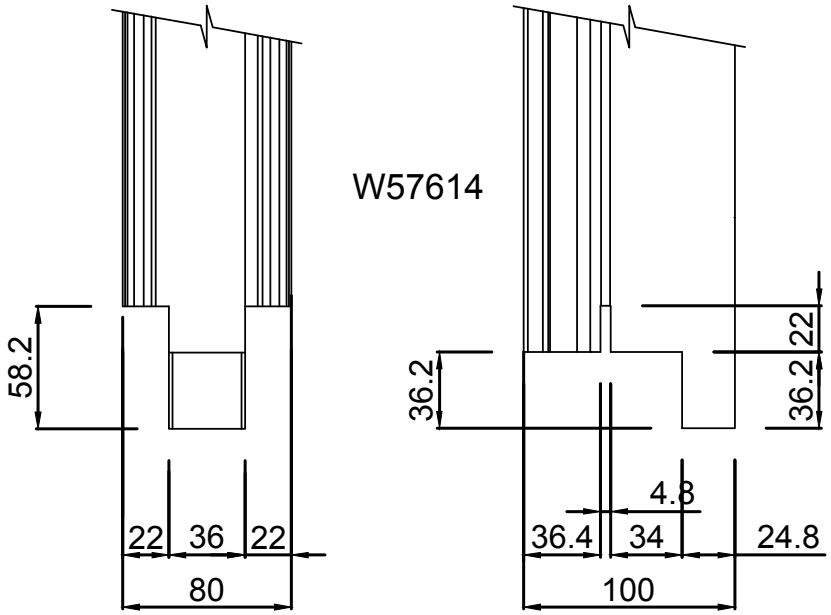
Exploded view showing the 100 mm mullion to be fitted against the 75 mm outer frame with the cross connector & T-Guides(see assembly details).









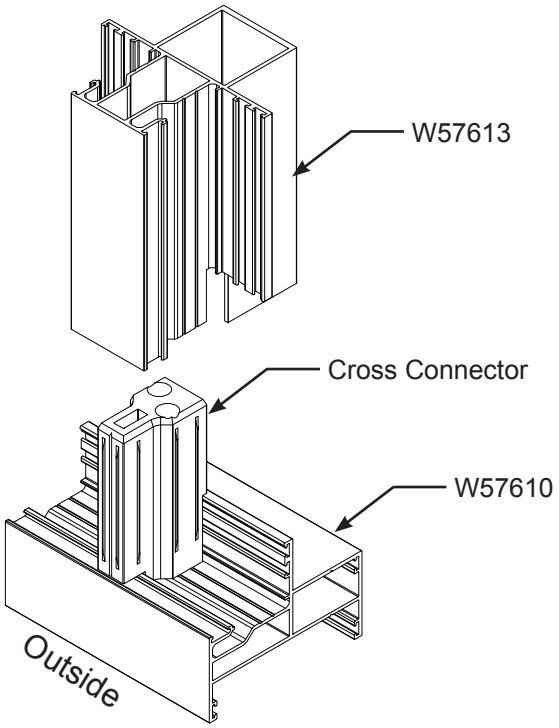


Note:
All mechanical joints to be sealed with Crealco silicone sealer.

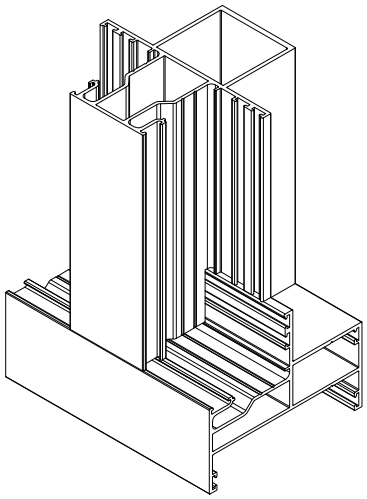
MACHINING DETAILS

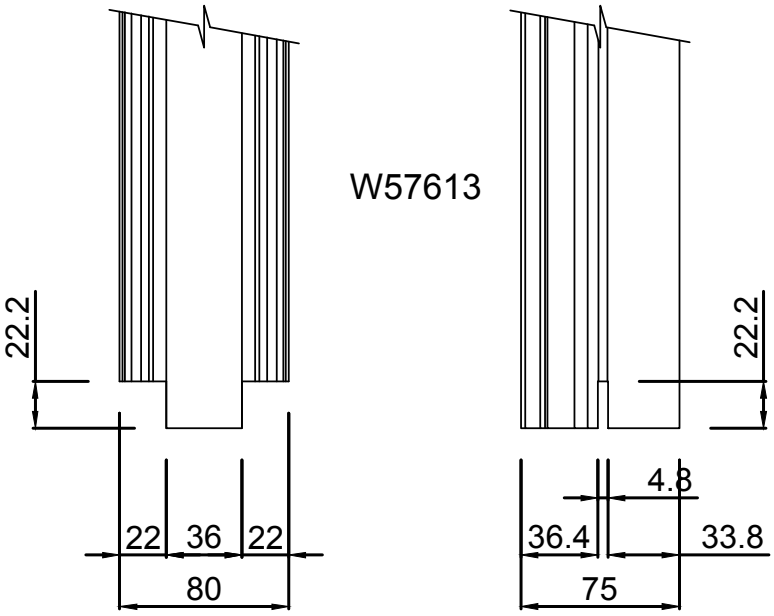
75 MM MULLION ON 75 OUTER FRAME

DIE No. W57613 | Skyline Mullion 75 mm



Exploded view showing the 75 mm mullion to be fitted against the 75 outer frame with the cross connector & T-Guides (see assembly details).



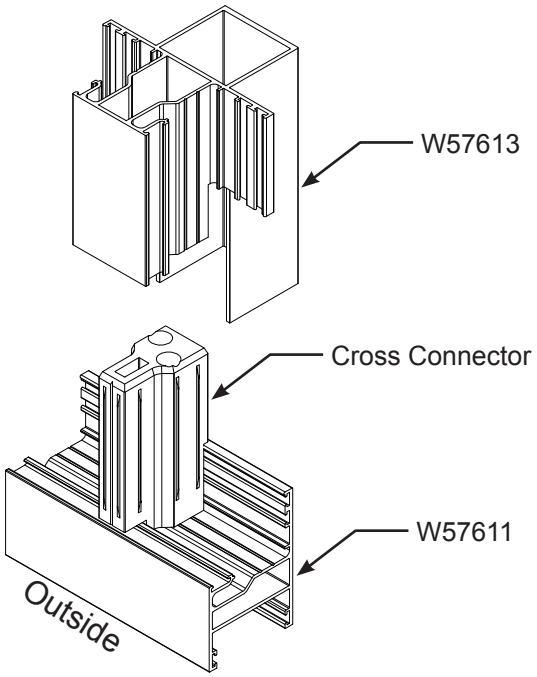


Note:
All mechanical joints to be sealed with Crealco silicone sealer.

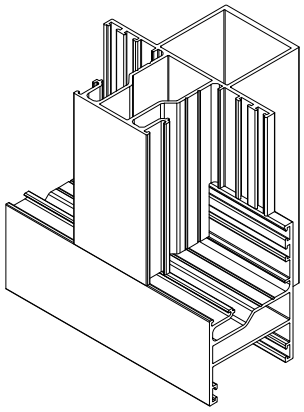
MACHINING DETAILS

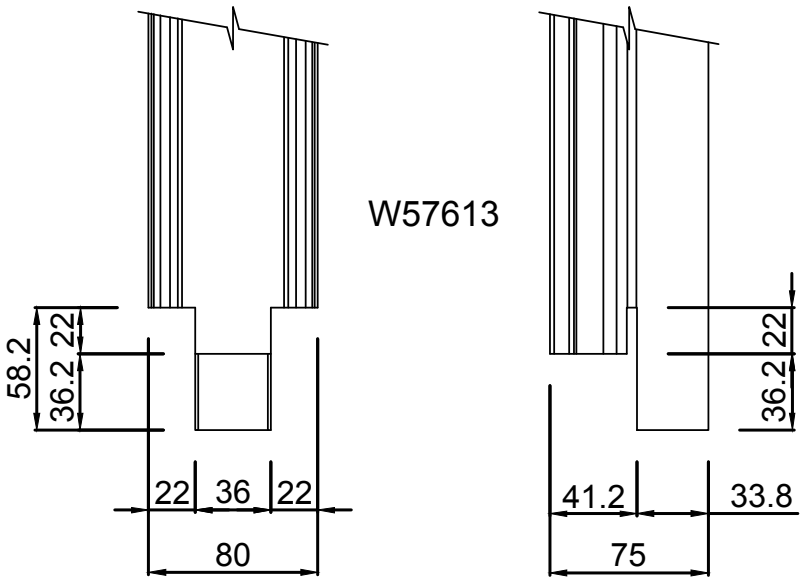
75 MM MULLION ON STANDARD FRAME

DIE No. W57613 | Skyline Mullion 75 mm



Exploded view showing the 75 mm mullion to be fitted against the standard outer frame with the cross connector & T-Guides (see assembly details).



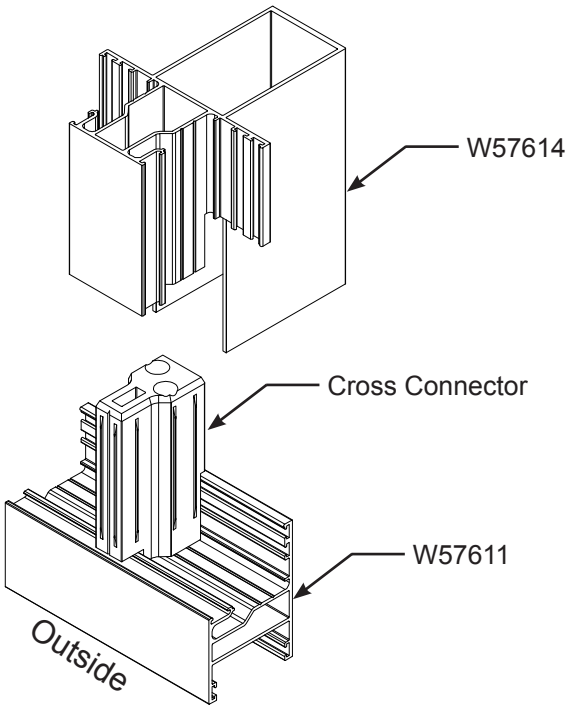


Note:
All mechanical joints to be sealed with Crealco silicone sealer.

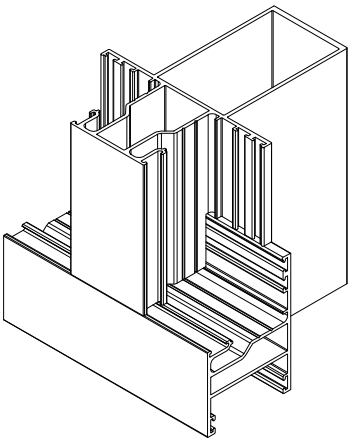
MACHINING DETAILS

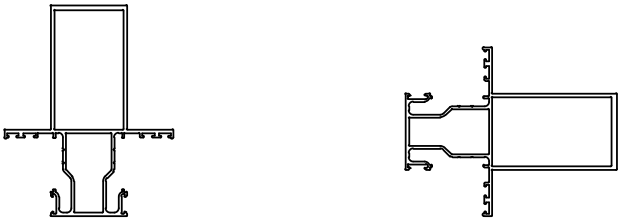
100 MM MULLION ON STD. OUTER FRAME

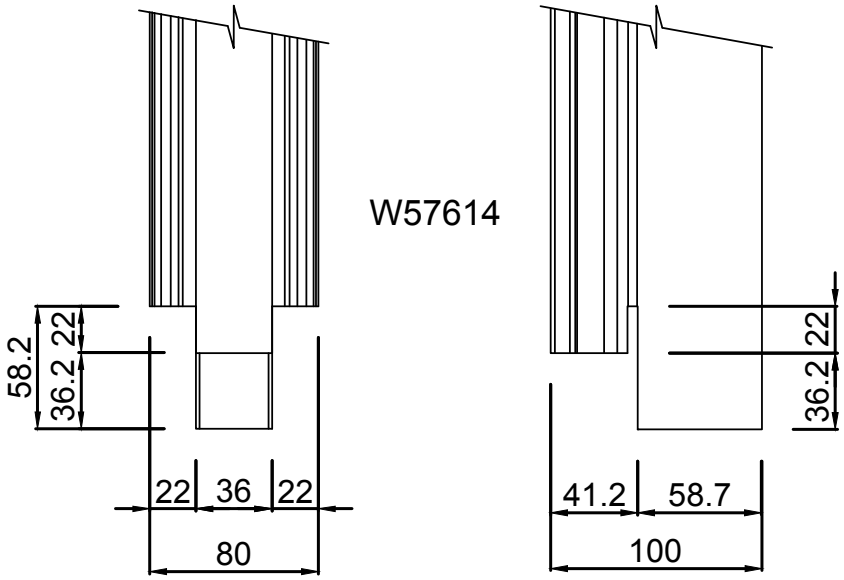
DIE No. W57614 | Skyline Mullion 100 mm



Exploded view showing the 100 mm mullion to be fitted against the Std.outer frame with the cross connector & T-Guides (see assembly details).



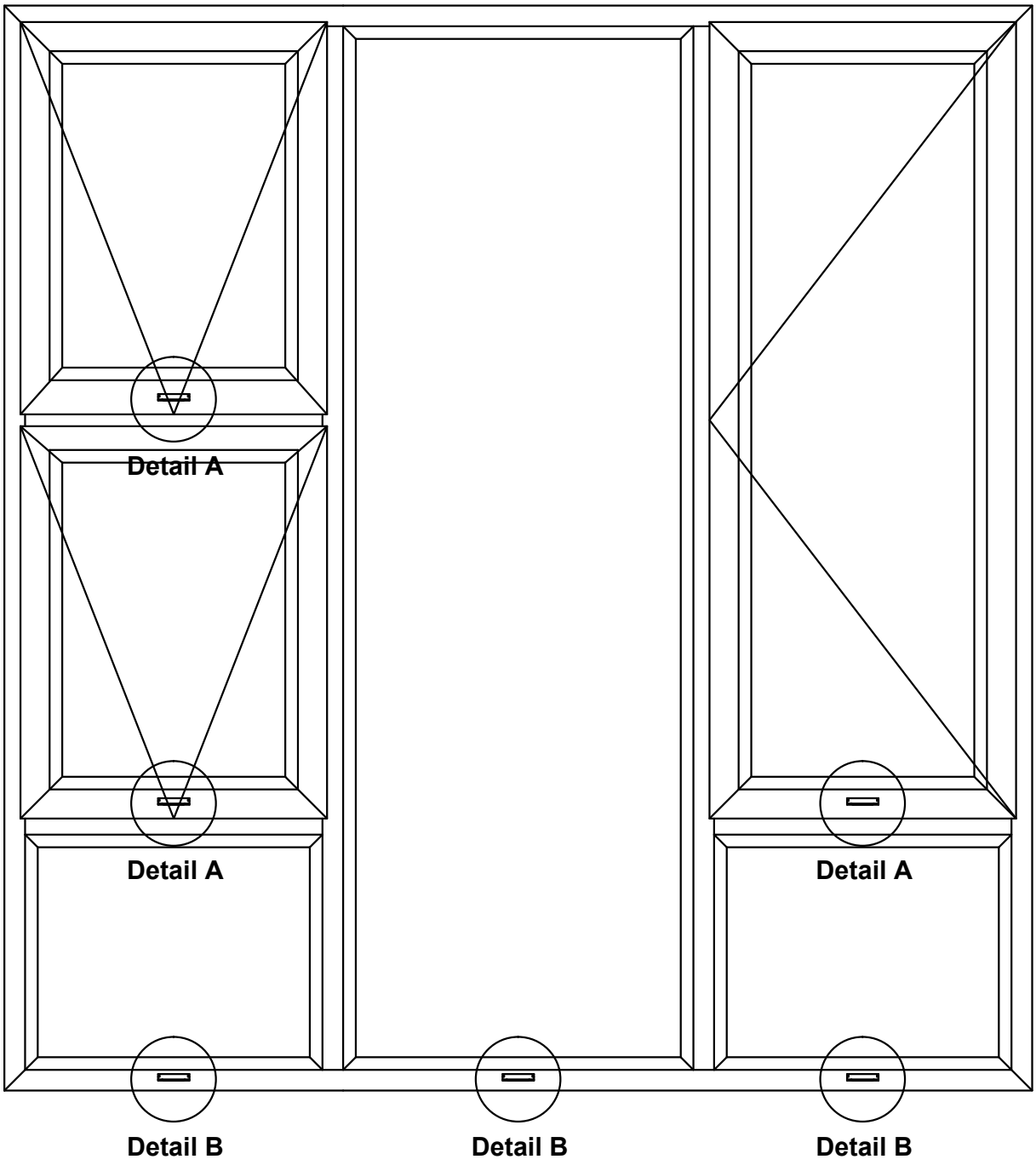




Note:
All mechanical joints to be sealed with Crealco silicone sealer.

MACHINING DETAILS

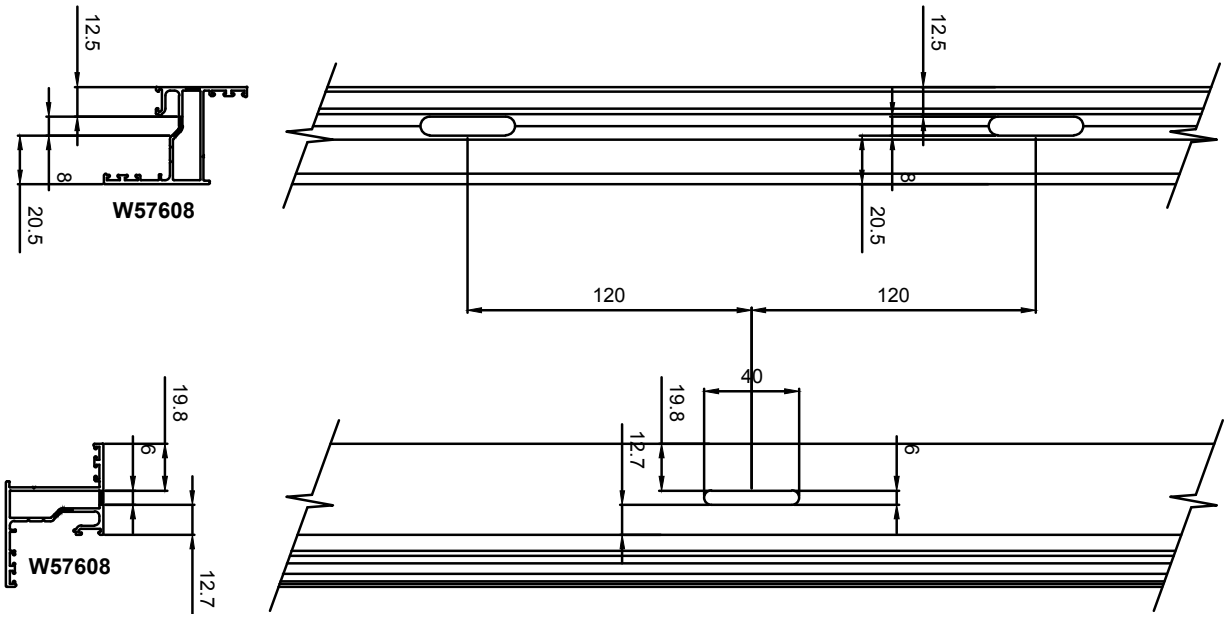
TYPICAL DRAINAGE POSITIONS



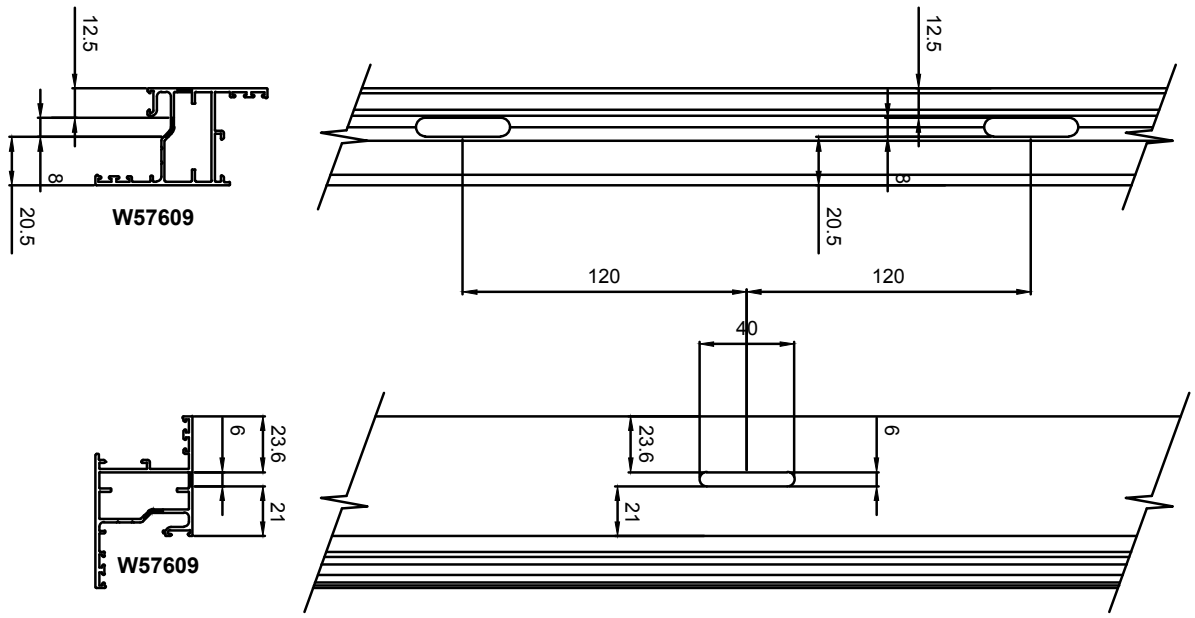
This manual must be read in conjunction with the Installation, Cleaning & Maintenance Document and the Performance Certificates for the relevant system. The manual must also be used in conjunction with the design and cutting list from the latest version of StarFront.

MACHINING DETAILS

DRAINAGE POSITIONS FOR SASHES



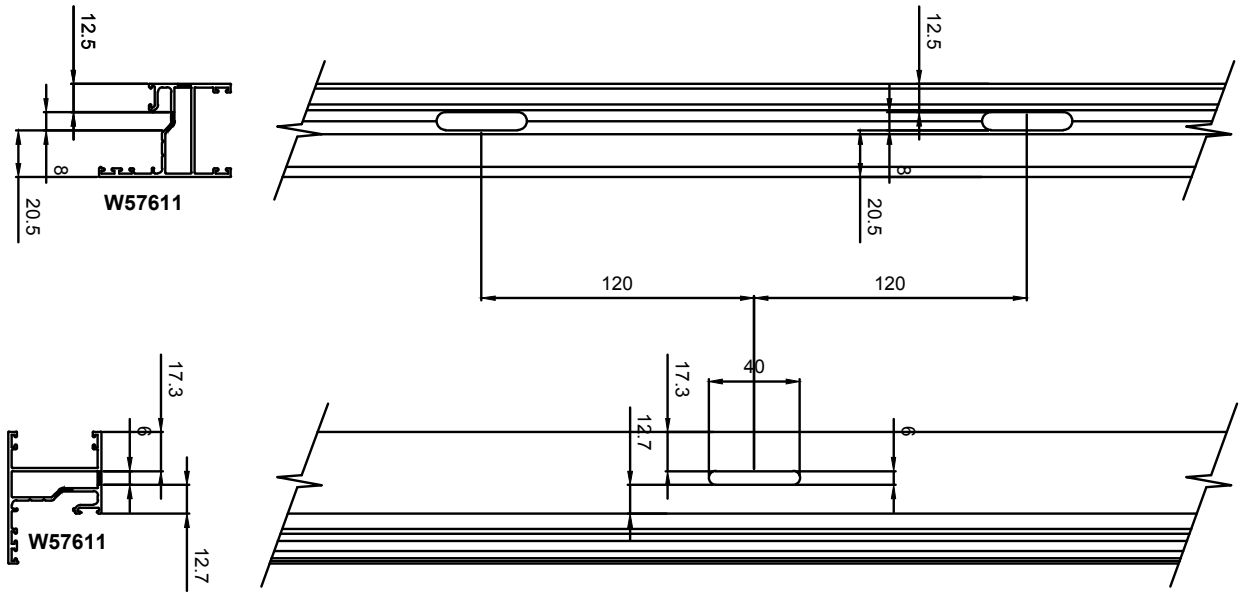
Detail A For Standard Sash



Detail A For H/D Sash

MACHINING DETAILS

DRAINAGE POSITIONS FOR OUTER FRAME

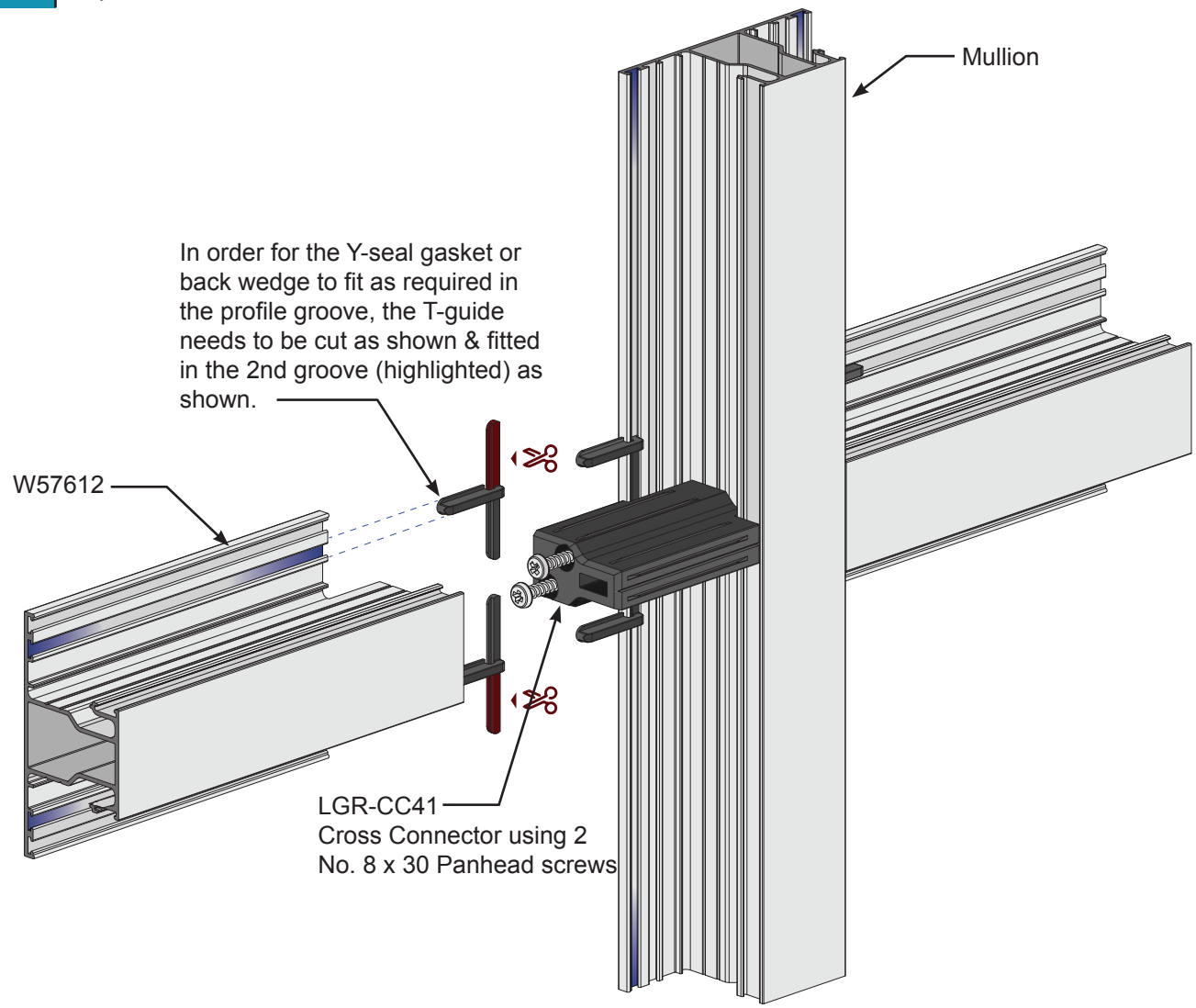


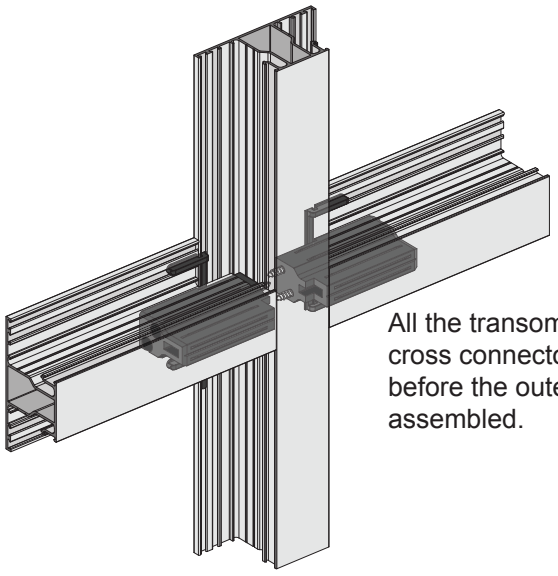
Detail B For Skyline Frame

ASSEMBLY DETAILS

TRANSOME FIXING DETAIL TO MULLION

DIE No. W57612 | Skyline Mullion 41 mm





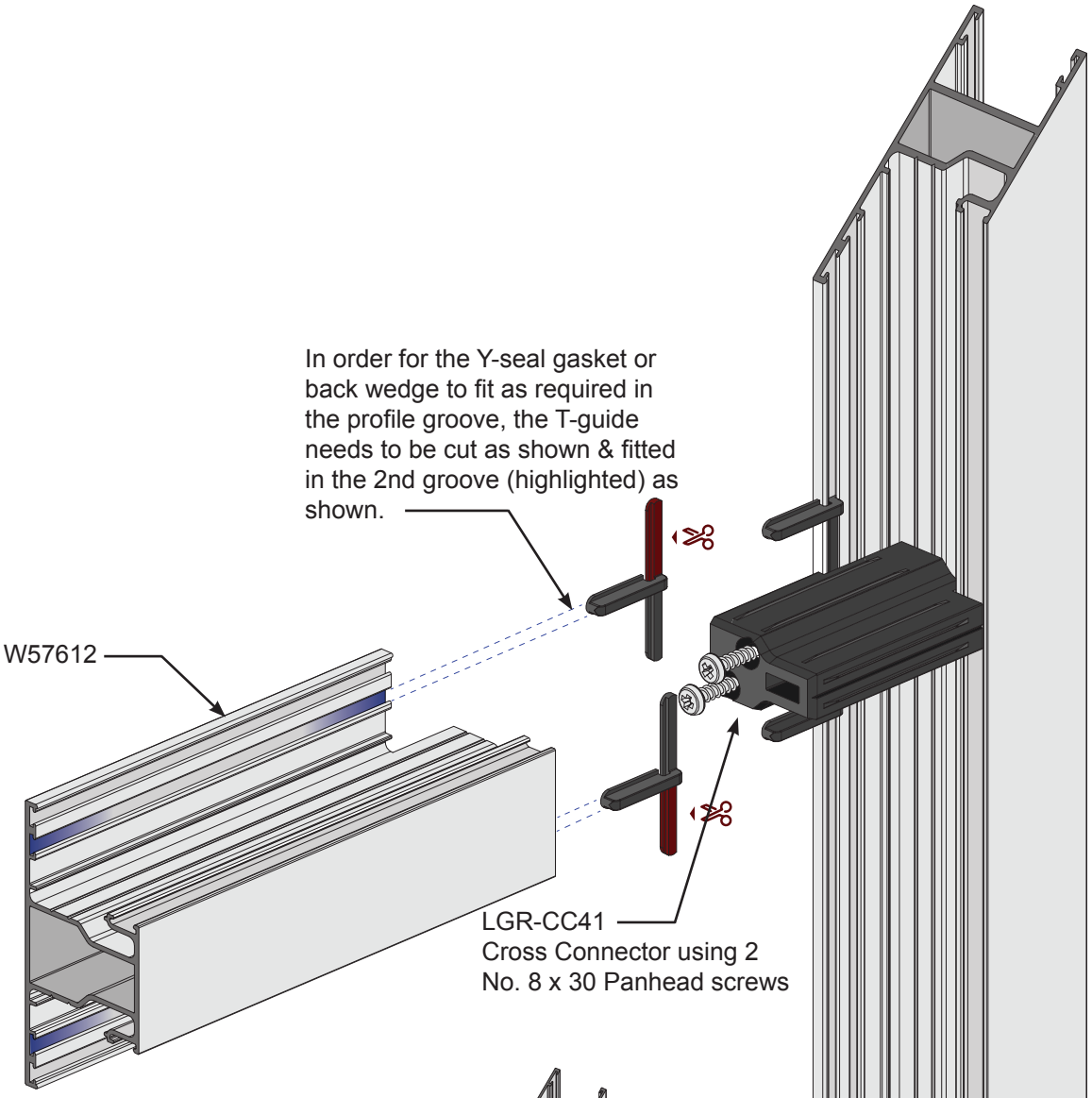
All the transomes & transome cross connectors need to be fitted before the outer frame can be assembled.

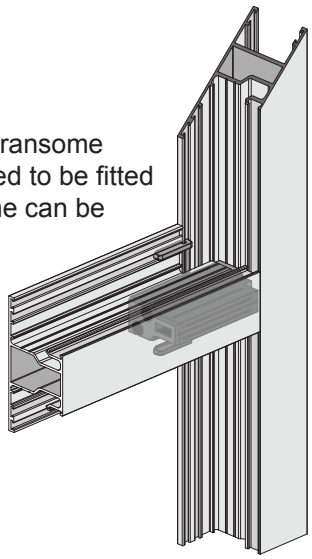
Note:
All mechanical joints to be sealed with Crealco silicone sealer.

ASSEMBLY DETAILS

TRANSOME FIXING DETAIL TO OUTER FRAME

DIE No. W57612 | Skyline Mullion 41 mm





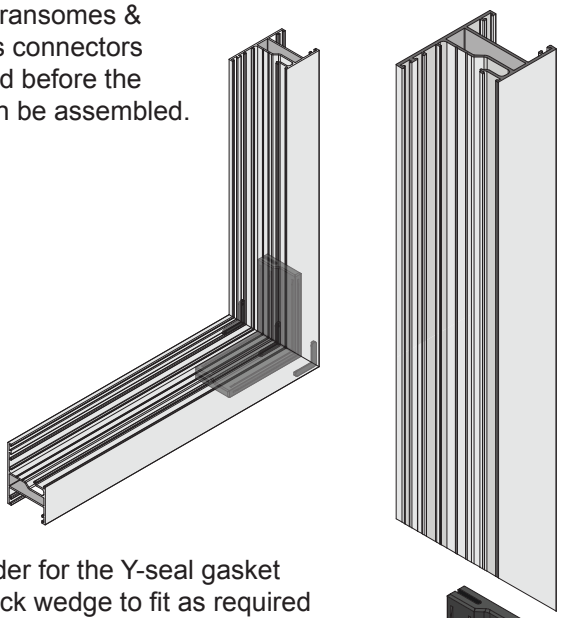
All the transomes & transome cross connectors need to be fitted before the outer frame can be assembled.

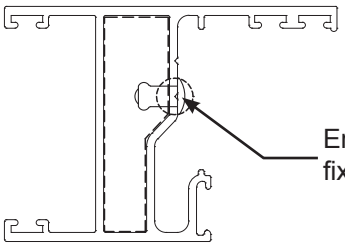
Note:
All mechanical joints to be sealed with Crealco silicone sealer.

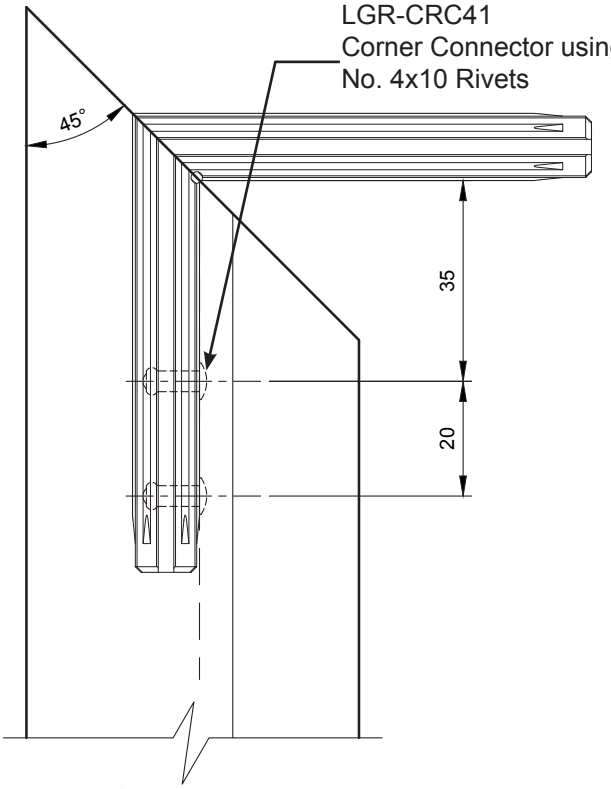
ASSEMBLY DETAILS

OUTER FRAME ASSEMBLY

NOTE: All the transomes & transome cross connectors need to be fitted before the outer frame can be assembled.

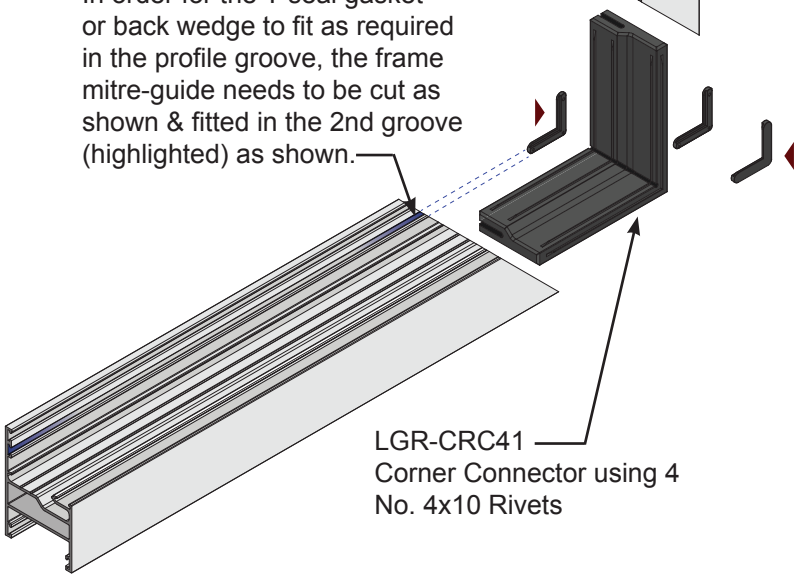


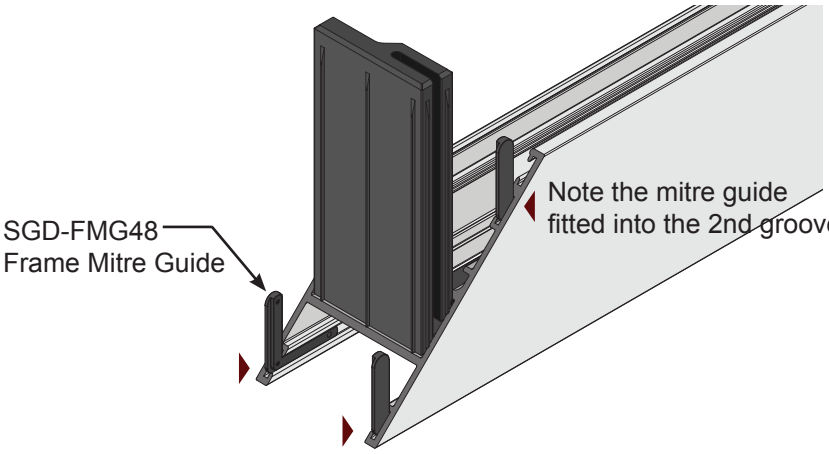




Note:
No crimping is required using the corner connector.

In order for the Y-seal gasket or back wedge to fit as required in the profile groove, the frame mitre-guide needs to be cut as shown & fitted in the 2nd groove (highlighted) as shown.



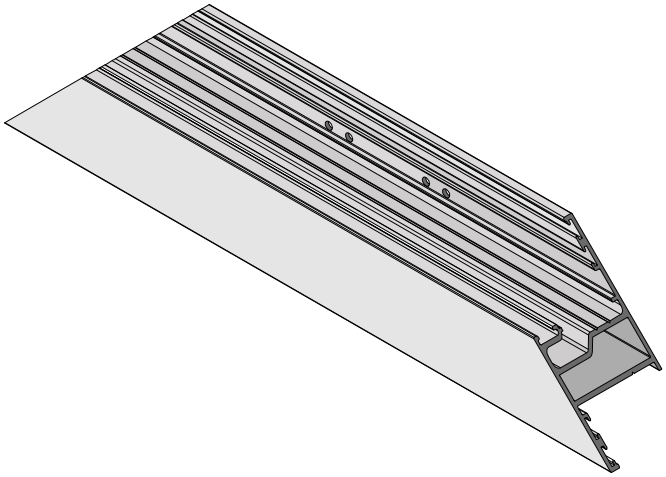


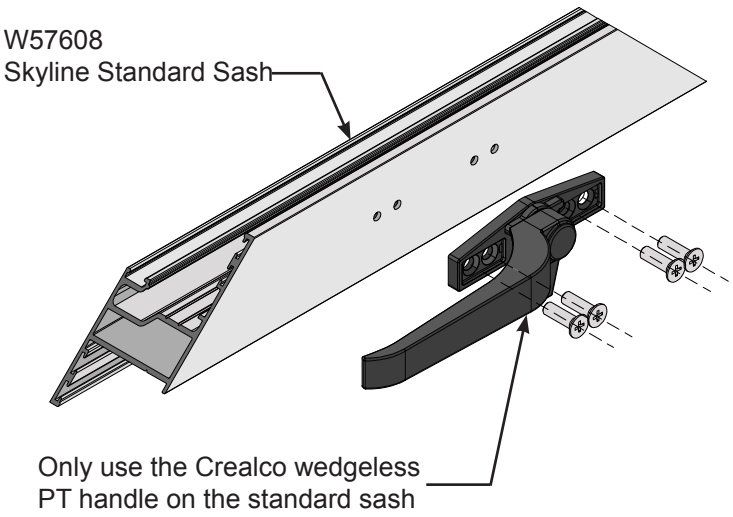
Note:
All mechanical joints to be sealed with Crealco silicone sealer.

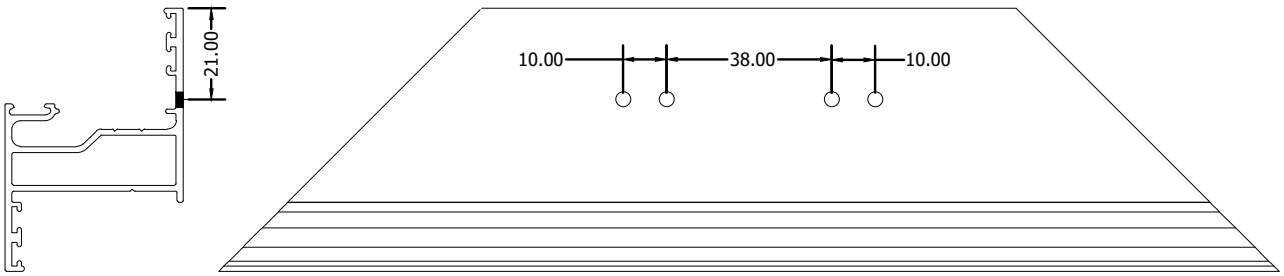
ASSEMBLY DETAILS

FITTING OF WEDGELESS HANDLES

DIE No. W57608 | Skyline Sash Standard





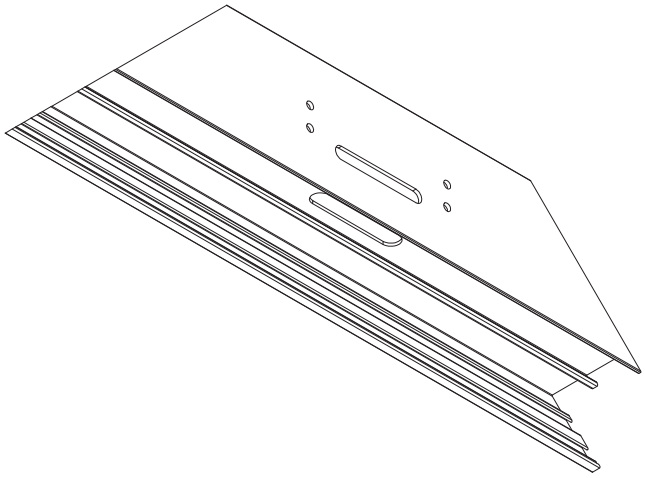


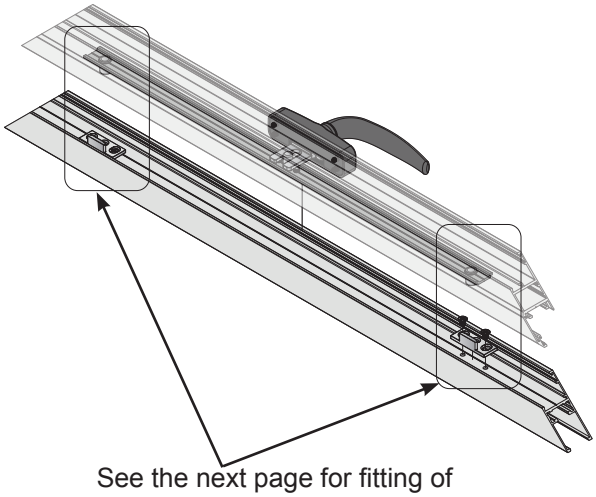
ASSEMBLY DETAILS

FITTING OF LOCKING BAR

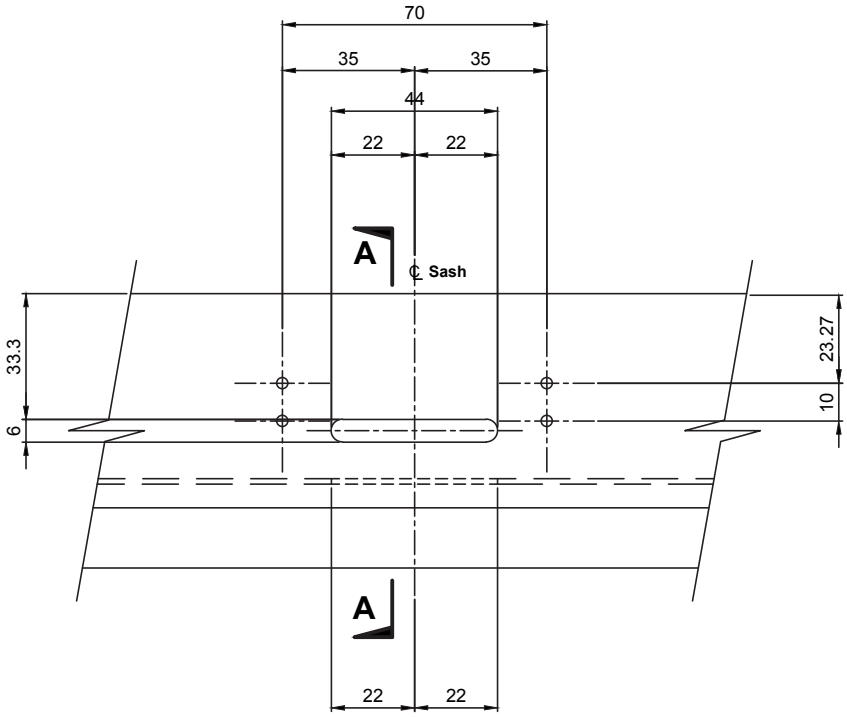
DIE No. W57609 | Skyline Sash HD

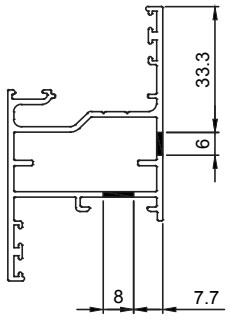
Only use the H/D sash when fitting the Euro sash handle.





See the next page for fitting of locking bar & locking pins etc.

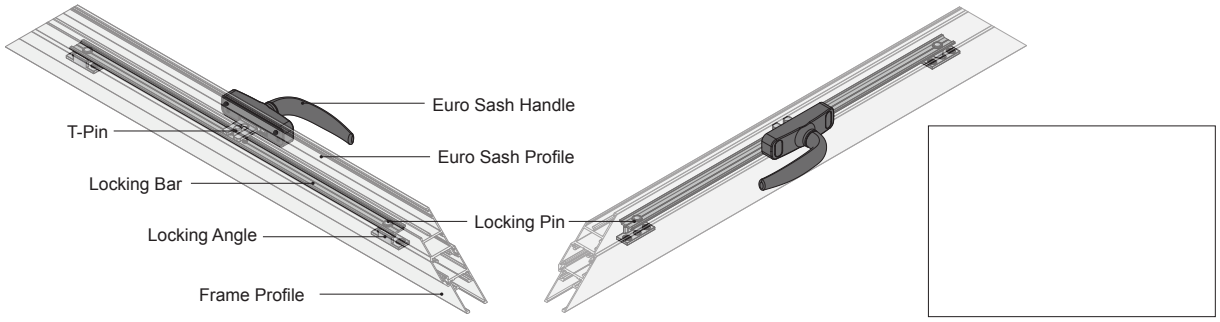




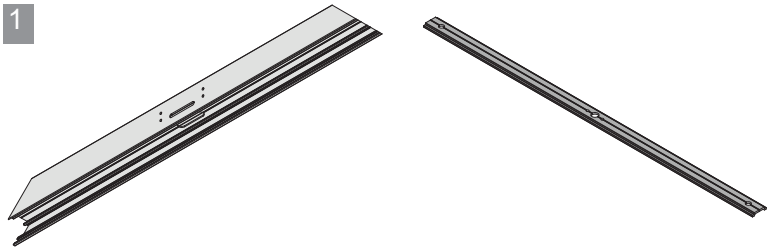
Section A-A

ASSEMBLY DETAILS

FITTING OF MULTI LOCKING SYSTEM



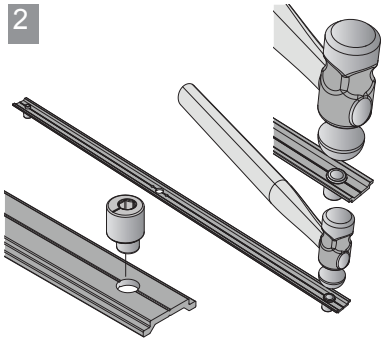
1



Once all frame profiles have been cut to length and deburred, machine the handle profile accorting to Machining details as shown on the previous page.

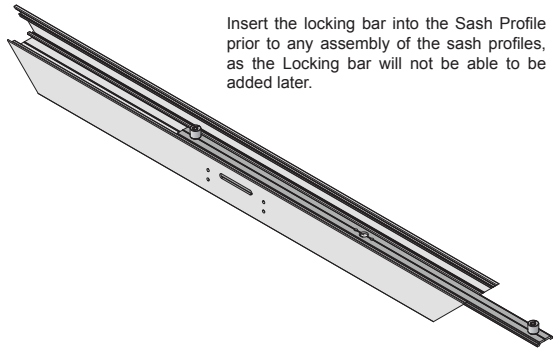
Cut the locking bar as per starfront & machine as shown in diagram 2.

2



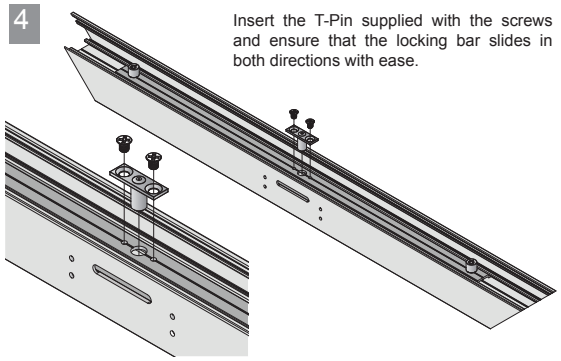
Insert the locking pins into the locking bar. Deform the prutruding part of the pin using a ball peen hammer or punch to fix them onto the locking bar.

3



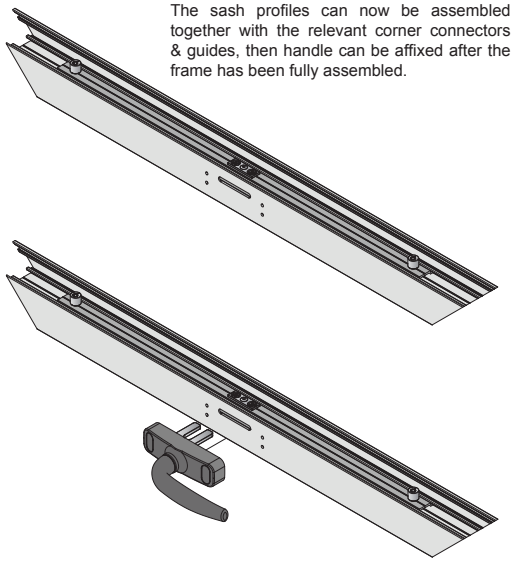
Insert the locking bar into the Sash Profile prior to any assembly of the sash profiles, as the Locking bar will not be able to be added later.

4



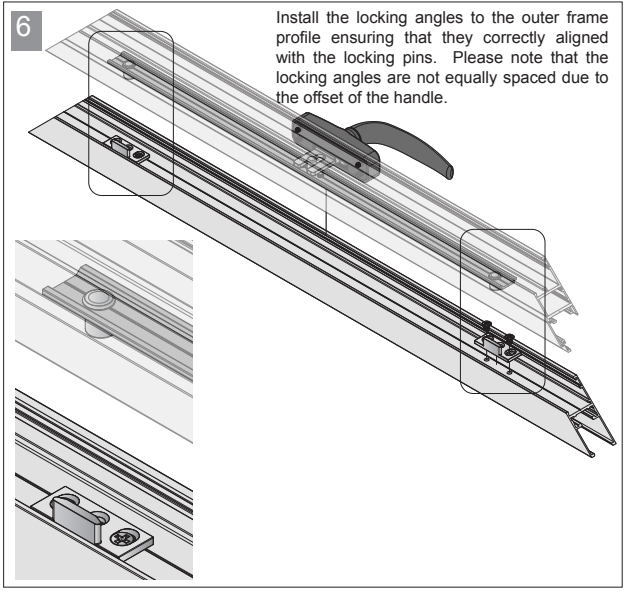
Insert the T-Pin supplied with the screws and ensure that the locking bar slides in both directions with ease.

5



The sash profiles can now be assembled together with the relevant corner connectors & guides, then handle can be affixed after the frame has been fully assembled.

6

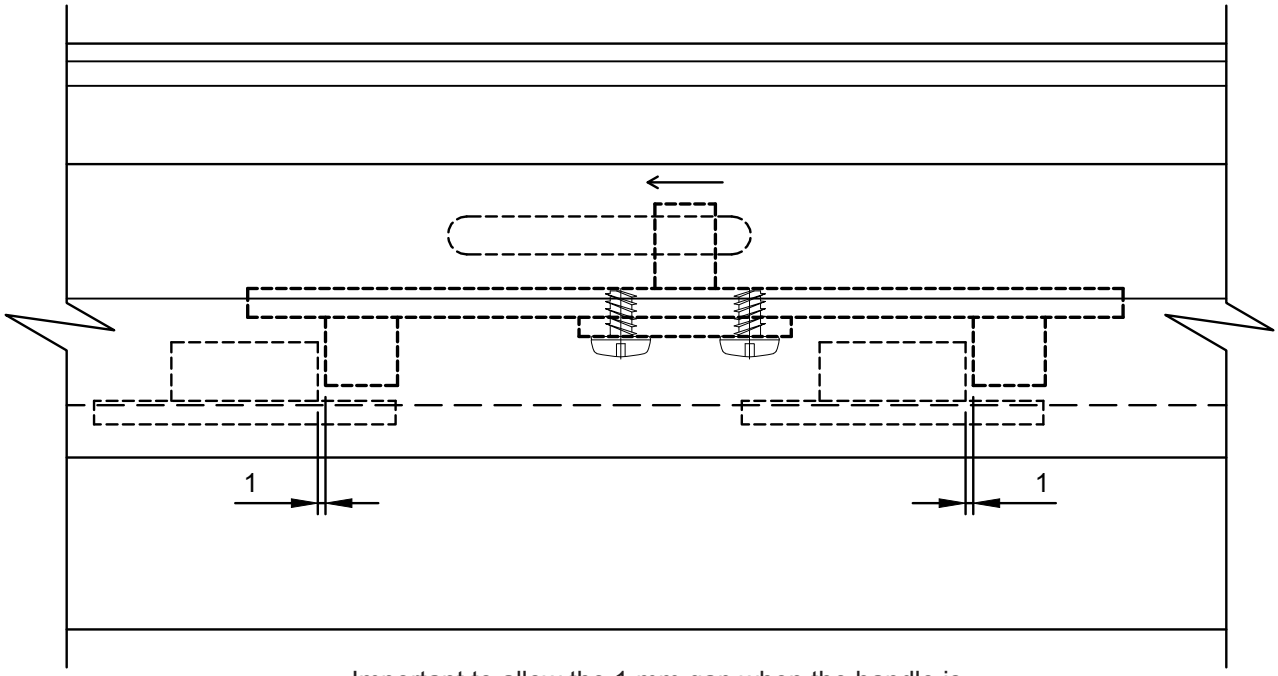


Install the locking angles to the outer frame profile ensuring that they correctly aligned with the locking pins. Please note that the locking angles are not equally spaced due to the offset of the handle.

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.

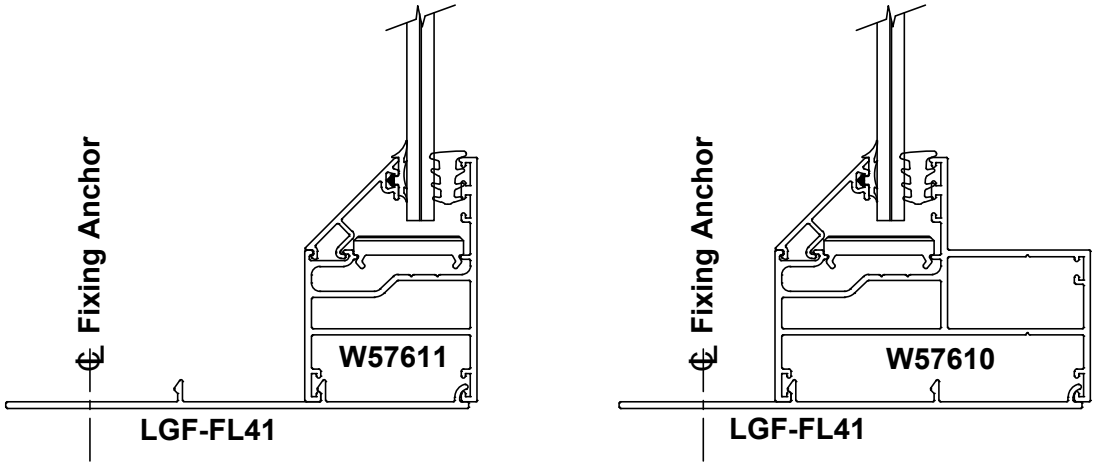
ASSEMBLY DETAILS

POSITIONING OF LOCKING ANGLES ON OUTER FRAME

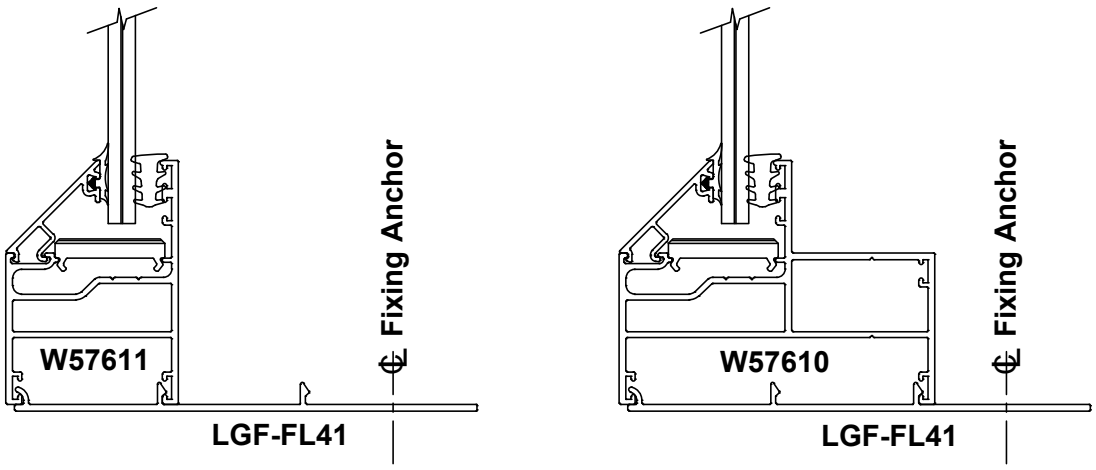


Important to allow the 1 mm gap when the handle is in the open position as shown. A larger gap will not allow the sash to close securely.

Fixing Lugs With Fixing Anchors On Outside



Fixing Lugs With Fixing Anchors On Inside



Note:
Please refer to the Fastening Positions for quatities and positioning of the fixing lugs.

GLAZING PROCEDURES

GASKET INSTALLATION

Note:

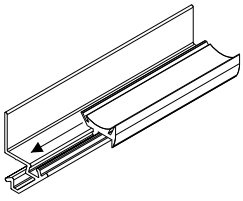
Insert the pull-in vinyl gasket into the glazing bead by sliding or pressing it into the groove (1). Before cutting the gasket, ensure that it has not been stretched & cut 6 mm longer so that the corners are in compression at all times.

Position the bottom glazing bead in the glazing bead rebate of the relevant profile (2).

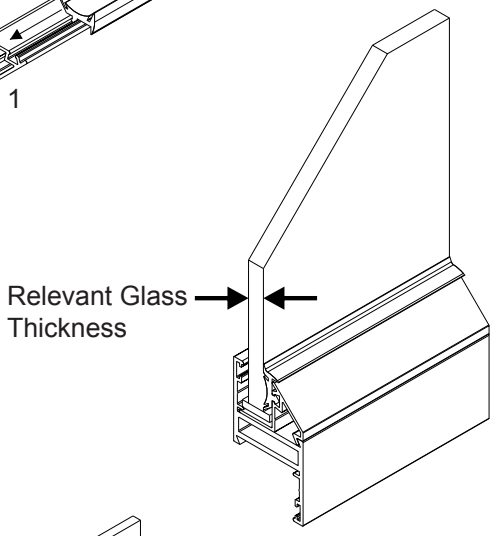
Place the glass onto the crealco glass setting blocks (3).

Insert the top then the side glazing beads ensuring that they are correctly positioned into place.

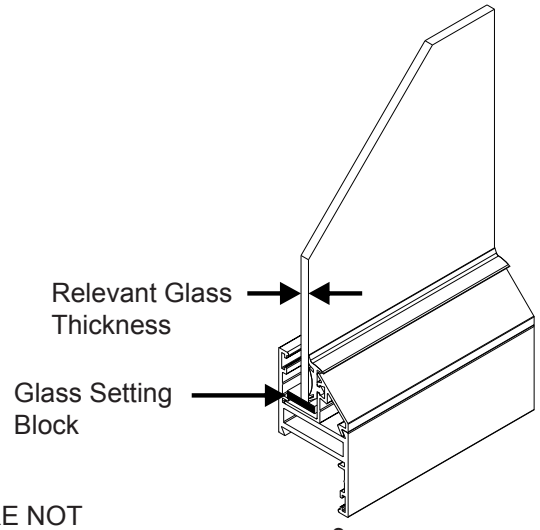
Starting from the top centre, insert the wedge gasket (4) without stretching it. Stop 150mm from the corner & partly cut the wedge gasket 6 mm longer than the vertical bead. Insert the gasket into the corner & then roll in remaining 150 mm (5). Repeat this on the other sides. Where the gasket end meets, cut the gasket 6 mm longer, then insert.



1

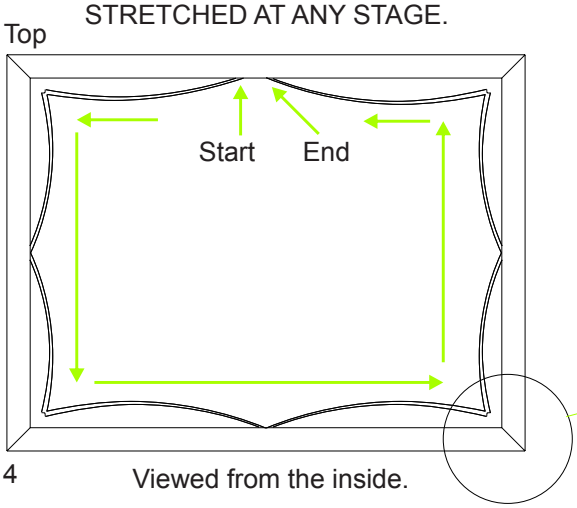


2



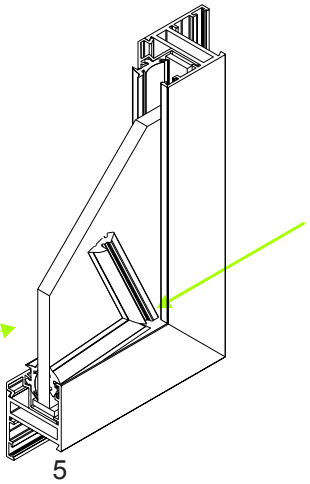
3

ENSURE GASKETS ARE NOT STRETCHED AT ANY STAGE.



4

Viewed from the inside.

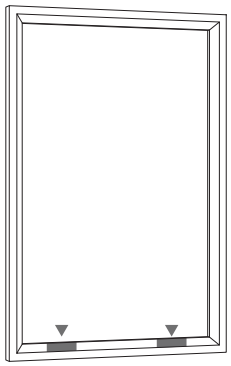


5

GLAZING PROCEDURES

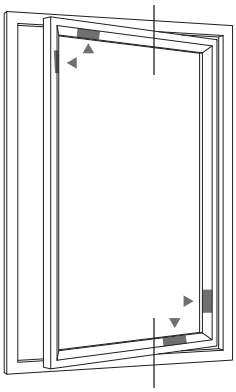
POSITIONING OF SETTING BLOCKS

FIXED

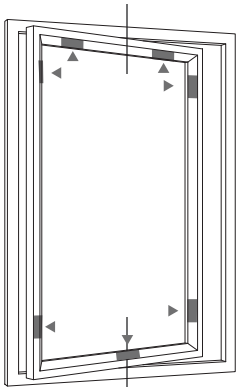


Fixed Light

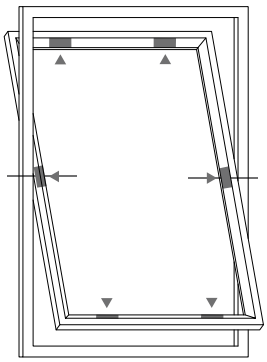
PIVOTING



Vertical Pivot
(hung off-centre)

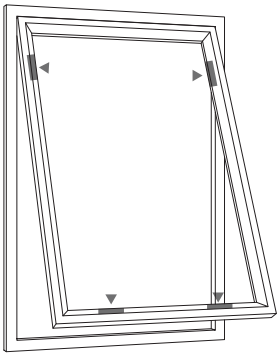


Vertical Pivot
(hung centrally)

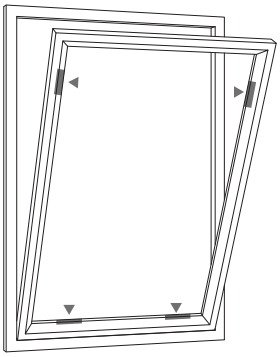


Horizontal Pivot
and reversible

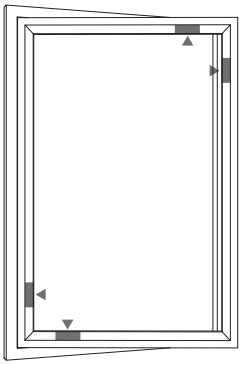
CASEMENT



Top Hung

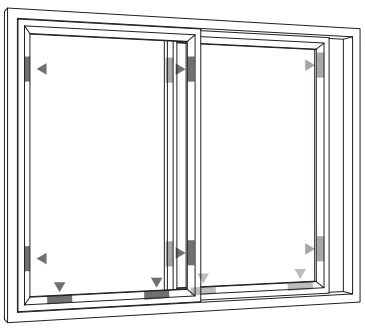


Bottom Hung

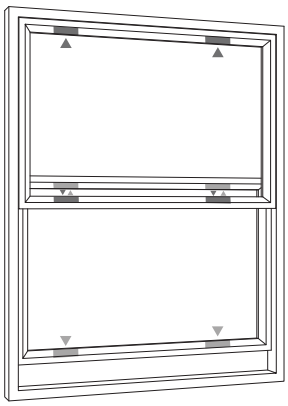


Side Hung

SLIDING



Horizontally sliding
6 setting blocks per pane



Vertically sliding
6 setting blocks per pane

GLAZING

1. Selection of glazing methods.

1.1 Glass Setting Blocks.

Glass to metal contact must be avoided at all times by using approved crealco setting blocks which have a shore hardness of 50 to 90 shore hardness.

Use only setting blocks made of Neoprene, EPDM, Silicone or other elastomeric materials.

Setting blocks are to have a minimum thickness of 3 mm & must be at least 27 mm in length per square metre of glass area.