



origin

DOORS AND WINDOWS

Premium Window (OW-80) Specification Guide

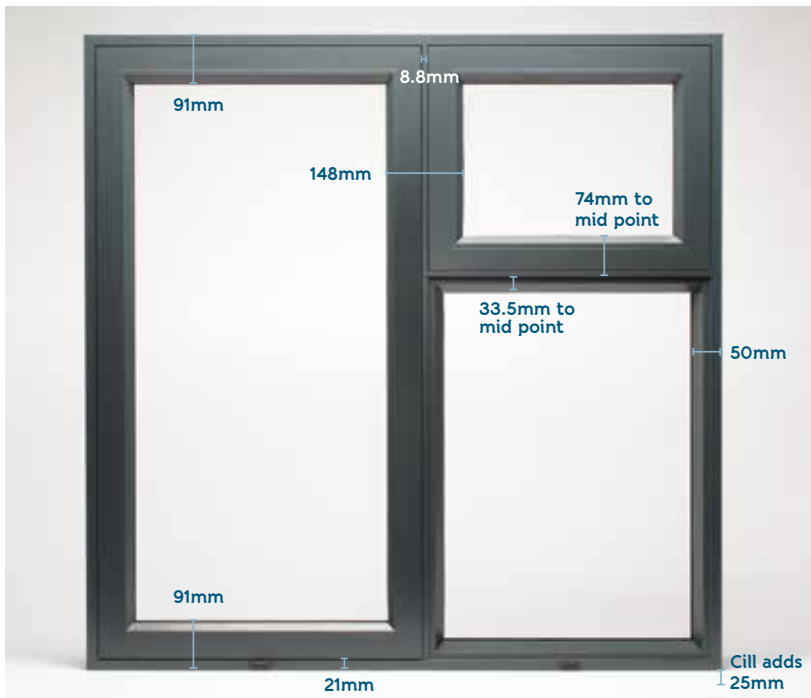


Contents

Specification Overview	3
Security	7
Optional Extras	8
Window Make-Up	11
Size Limitations	12
Performance and Limitations	21
Master Configurations	34
Technical Drawings	38
Handles	58
Gaskets	59
Popular Configurations	62
Installation Guide	65
Door-to-Window Installation Guide	71
Glazing Bar Installation Guide	72
Variable Cell Cleats Installation Guide	74
Universal Coupler Installation Guide	75
Accreditations	77

Specification Overview

Thermally Broken Aluminium Window



External view
of the OW-80



Internal view
of the OW-80

Profile Specification

Outer Frame Depth	80mm
Sash Depth	80mm
Frame and Sash Sightline	91mm
Mullion and Sash Sightline	148mm

Features

- ▶ Up to a 20-year guarantee*
- ▶ Internal and external flush casement. The sash closes into the frame, sitting in line with both the inside and outside of the window
- ▶ Chamfered bead
- ▶ Mechanically double crimped corners
- ▶ Easi-clean mechanism on side hung configurations that are between 400-700mm
- ▶ Yale Encloser locking mechanism
- ▶ Stainless steel friction stay hinges
- ▶ Night vent function

Options and extras

- ▶ Casement, fixed, bay, gable and French window configurations available
- ▶ Accommodates double and triple glazing, with unit sizes of 28mm, 32mm or 44mm
- ▶ Open-out or fixed
- ▶ Cill options available: 95, 155, 180 and 225mm (see page 54)
- ▶ Available in over 150 different RAL colours
- ▶ Gasket colours: black, white, light grey, graphite grey, light oak bronze or chestnut brown
- ▶ Colour matched handle options
- ▶ Fixing strap option (see page 68)**
- ▶ 15 or 35mm frame extender
- ▶ Restrictor hook option
- ▶ Egress hardware
- ▶ Aerogel insulation option (see page 10)
- ▶ Door-to-window and window-to-window coupling available
- ▶ 2500EA, 4000EA and 5000EA trickle vents available
- ▶ Marine finish option
- ▶ Georgian bar style trim available

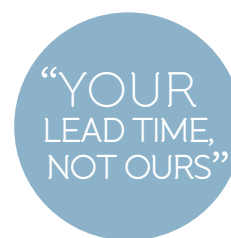
*Guarantee based on location of where the windows will be installed.

Full terms and conditions can be found on the Origin website - origin-global.com/terms-and-conditions.

**When selected as an optional extra on OSS, fixing straps will be delivered in the components box.

Specification Overview

The OW-80 is available on our 'Your Lead Time, Not Ours' delivery promise in our most popular colours, meaning your windows could be available in as little as 24-hours.



Dark Silver Metallic (9007M)



Black Grey (7021M)



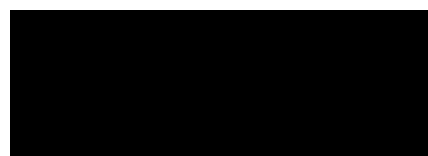
Slate Grey (7015M)



Hipca White (9910G and 9910M)



Anthracite Grey (7016M)



Jet Black (9005M)



9910G in/ 7016M out

This popular dual colour option is available on a 24-hour lead time



Alternatively, dual coloured or any RAL coloured windows can be selected on a 3-week lead time

Lead Times

Popular colour casement and French windows:	24-hours
Special colour casement and French windows:	3-weeks
Popular colour gables:	2-weeks
Special colour gables:	4-weeks
Aerogel windows:	4-weeks

For the full range of colours and most up to date lead times, visit origin-global.com

Even the gasket colour is your choice



The following are also available:



Drainage cap colours

Popular Colour	Gasket Colour	Drainage Cap Colour	X3 Code
9007M (Dark Silver Metallic)	Light Grey	No. 38 Grey	C01349
7021M (Black Grey)	Anthracite Grey	Dark Grey	C01350
9005M (Jet Black)	Black	Black	C01163
7015M (Slate Grey)	Slate Grey	Dark Grey	C01350
9006M (Light Silver Metallic)	Light Grey	Cement Grey	C01352
9910G (Hipca White)	White	White	C01353
7016M (Anthracite Grey)	Anthracite Grey	Dark Grey	C01350

Other gasket and cap colours available

Gasket Colour	Drainage Cap Colour	X3 Code
Light Oak	Oak	C01354
Light Oak	Tan	C01355
Bronze	Black	C01163
Chestnut Brown	Black	C01163

Security

OW-80 Security Features



The OW-80 is PAS 24:2016 certified and Secured by Design Accredited.

Casement windows* have been impact tested up to 2633Pa and fixed windows tested to 3591Pa without failure or any sign of weakness in the crimps.

Hinges are made of ferritic stainless steel (to BS EN 10088-2 Grade, previously known as 304) for enhanced corrosion resistance. The hinges are tested to 50,000 cycles and feature a friction adjustment which has no metal to metal contact, ensuring minimum wear.

Hinge guards featuring patented anti-slip and lock technology are fitted as standard along the hinged side of the window.

The Yale Encloser lock is fitted to accurately align with the keeps. The cams are manufactured to be finely adjustable, if necessary.

For more information on Secured by Design, please see page 80.



**Testing was conducted on a 1,525mm x 2,641mm double top hung specimen.*

Optional Extras

Trickle Vents

Trickle vents have to meet the minimum air flow rates as defined in the British Building Regulations (see specifics below).

Can be fitted through the sash or through a 35mm frame extender*

(See page 46 and 47 for cross-section drawings).



Trickle vents

Additional Information

England and Wales:

Equivalent Air Rates of 2500EA and 5000 EA as required by Approved Document "F" 2006 for England and Wales.

Scotland and Northern Ireland:

2000, 3000, 4000, 6000 and 8000 free air models available for use in Scotland and Northern Ireland.

Restrictor Hooks

Variable restrictor hooks limit the sash opening to 70mm, but can be unhooked to allow the window to open fully.



*Minimum sash width applies.

Optional Extras

Cills

Choose from our 4 cill options which can also be powder-coated to match the windows.



95mm cill



155mm cill



180mm cill



225mm cill

Handles

Whether in a premium brushed metallic or one of Origin's industry-unique colour coordinated options, the handle has been designed to offer a faultless performance, mirroring that of the window itself.

Popular colour range



9005M - Jet Black



7015M - Slate Grey



9007M - Dark Silver



7021M - Black Grey



7016M - Anthracite Grey



9910G - Hipca White

Metallic range



Chrome



Satin Grey



Gold



Brushed Aluminium

The handle is available in any RAL colour to match or contrast against the window.

Glazing Bars

Glazing bars are available to order with the OW-80 system and allow for both a contemporary steel replacement look or a Georgian sash style window.

The bars are available with 3M fixing tape and are fitted to the glass after installation.

See page 72 for installation instructions.



Aerogel



What is Aerogel?

Aerogel is a synthetic, highly porous solid material derived from a silica dioxide gel in which the liquid has been extracted and replaced with air. The gel is critically heated and the liquid evaporated, leaving a bonded, cross-linked macromolecule framework.

The name Aerogel may be misleading at first, as aerogels are dry, rigid or elastic foam-like materials, but the name originates from the fact that aerogels are usually derived from wet gels, physically similar to that of edible jelly.

A brief history of Aerogel

Aerogel is believed to have been discovered in 1931 as a result of a bet between two chemists, Samuel Kistler and Charles Learned, over who could replace the liquid in jelly with gas without causing the remaining solid to shrink. It was Kistler that first succeeded.

Since then, aerogels have been used in a wide range of applications from space exploration (Stardust launch and Mars exploration rovers) to the commercial manufacture of building insulation, clothing, tennis rackets, supercapacitors and thickening agents in cosmetics.

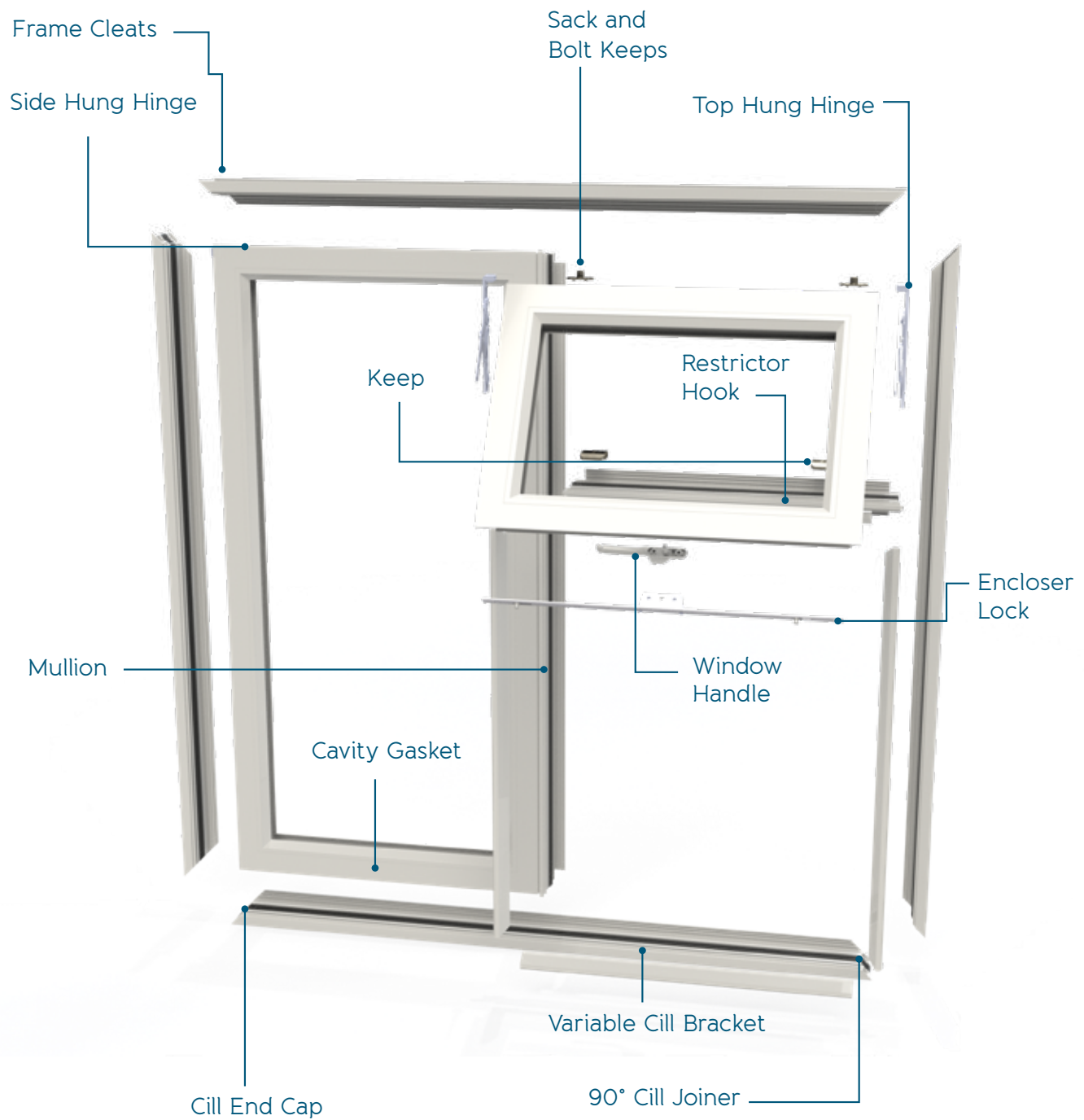
Due to the expensive processes involved in its production, commercial manufacture of it has only become viable since the dawn of the 21st century.

Why is Aerogel such a good insulator?

Aerogel can withstand very high temperatures, delivering 39 times more insulation than fibreglass. It is a fantastic insulator because it limits two of the three methods of heat transfer (convection, conduction and radiation). Firstly, they are excellent conductive insulators because they are composed of 99.8% gas (air) and gases are very poor at conducting heat. The remaining 0.02% of the aerogel is made of silica, which is incidentally also a poor conductor of heat. Secondly, the lattice structure of the solid is highly effective at minimising convection because air cannot circulate through it. While aerogels are poor radiative insulators (infrared radiation transfers heat) within an aluminium window frame, the aluminium blocks any infrared radiation.



Window Make-Up



Size Limitations

Size and Weight Limitations

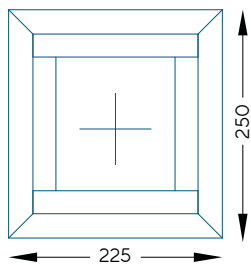
	Width	Height	Weight
Minimum Dimensions:			
Fixed frame	160mm	160mm	Refer to OSS
Dummy sash	325mm	350mm	Refer to OSS
Top hung	400mm	425mm	Refer to OSS
Side hung	400mm	425mm	Refer to OSS
French window	866mm	499mm	Refer to OSS
Maximum Dimensions:			
Fixed frame	7m ² total		Refer to OSS
Dummy sash	4.8m ² total		50kg*
Top hung	1,500mm	1,500mm	50kg*
Side hung	1,000mm	1,800mm	40kg*
French window	1,800mm	1,425mm	40kg*

Please note: The minimum and maximum sizes are from the edge of the frame to edge of the frame. Minimum and maximum sash sizes are available on request.



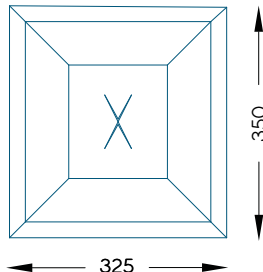
*Max width and height refers to the individual sash limitations. Please refer to OSS for exact restrictions on both weight and size.

Minimum Dimensions



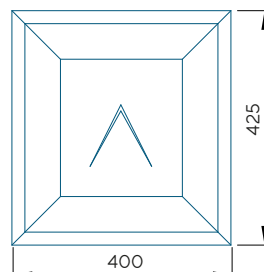
Fixed frame

Min height: 250mm
Min width: 225mm



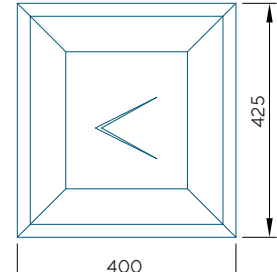
Dummy sash

Min height: 350mm
Min width: 325mm



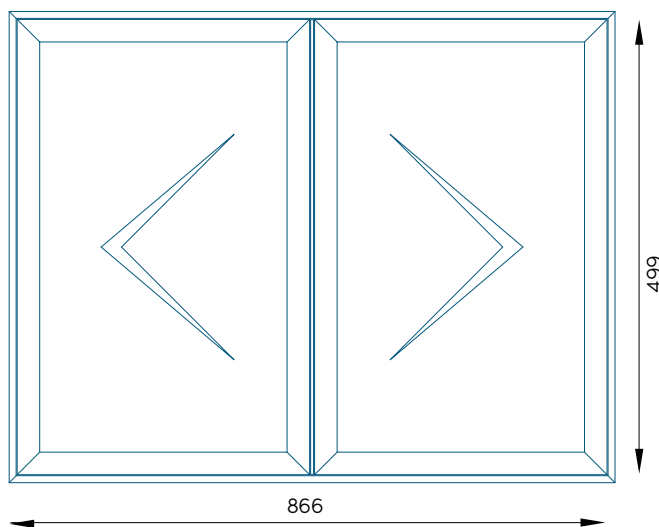
Top hung

Min height: 425mm
Min width: 400mm



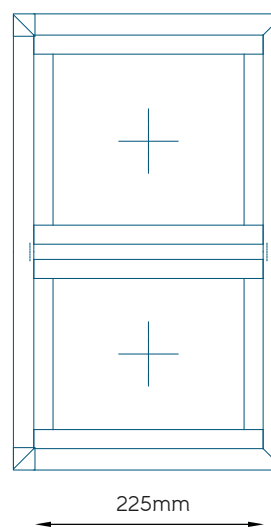
Side hung

Min height: 425mm
Min width: 400mm



French window

Min height: 499mm
Min width: 866mm



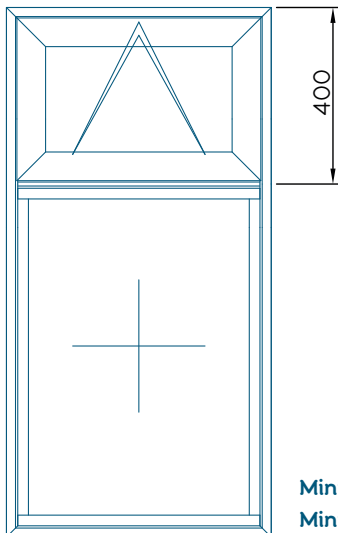
Fixed Transom/ Mullion

Min length: 225mm

Minimum height will be greater with a cill.

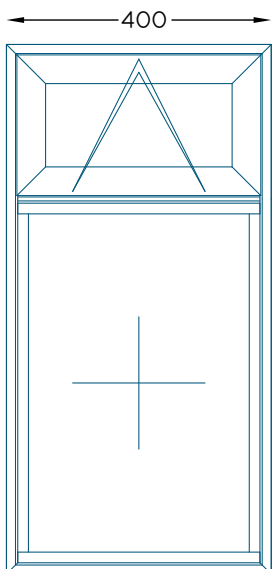
Minimum width will be greater with a frame extender.

Minimum Transom Drop



Minimum transom drop with 15mm frame extender: 415mm
Minimum transom drop with 35mm frame extender: 435mm

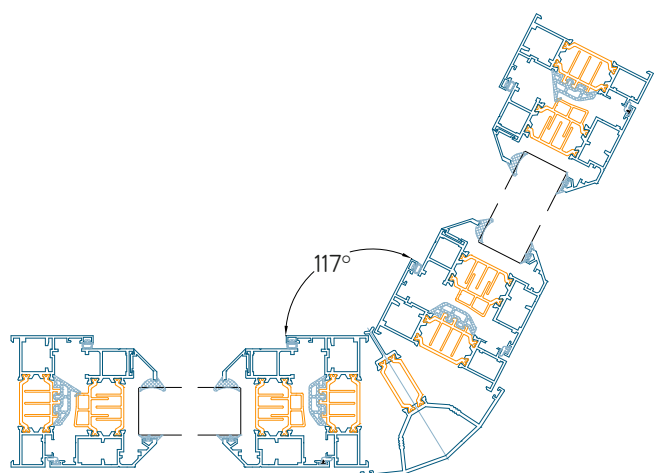
Minimum Sash Width With Trickle Vent



The minimum width for a 2500EA trickle vent to go through a 35mm add-on is 400mm.*

Bay Window Tightest Angle

Tightest bay angle: 117°

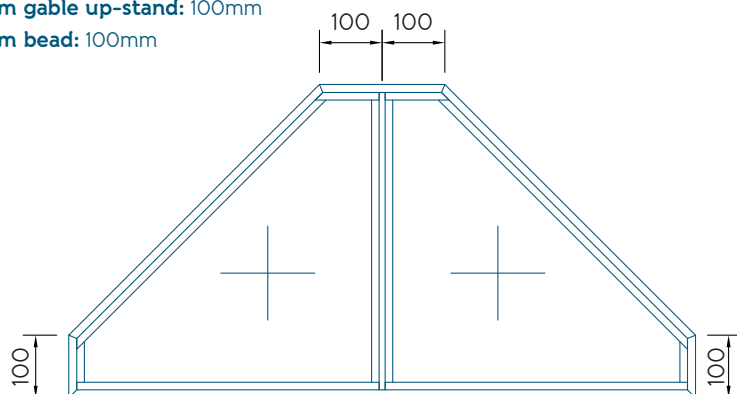


*Minimum airflow requirements to be adhered to as per building regulations.

Minimum Gable Up-Stand

Minimum gable up-stand: 100mm

Minimum bead: 100mm



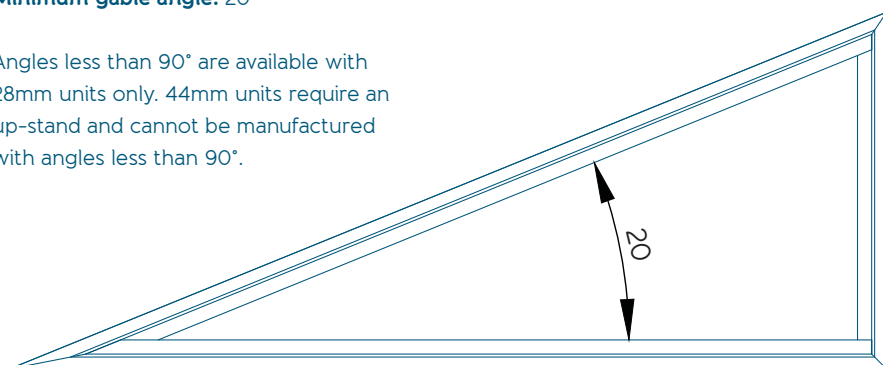
The minimum up-stand on a gable is 100mm.

Similarly, in the diagram above, if a mullion splits a small section of frame, there must be at least 100mm of profile either side of the mullion.

Minimum Gable Angle

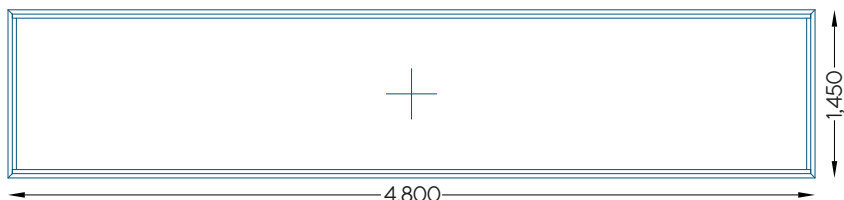
Minimum gable angle: 20°

Angles less than 90° are available with 28mm units only. 44mm units require an up-stand and cannot be manufactured with angles less than 90°.



Maximum Fixed Frame Dimensions

Example 1

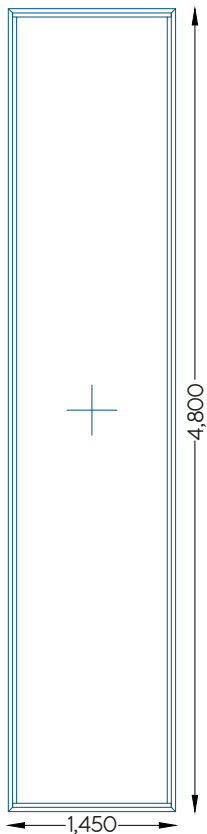


Maximum fixed width and area

Maximum area: 4,800mm x 1,450mm = approx 7m²

Maximum width: 4,800mm

Example 2

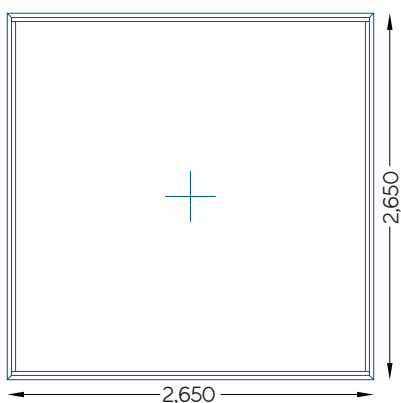


Maximum fixed height and area

Maximum area: 4,800mm x 1,450mm
= approx 7m²

Maximum height: 4,800mm

Example 3



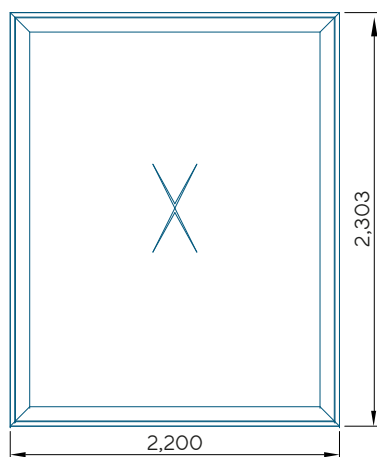
Maximum fixed area

Maximum area: 2,650mm x 2,650mm = approx 7m²

Maximum height: 2,650mm

Fixed windows over 4.8m² cannot be coupled using Origin couplers.

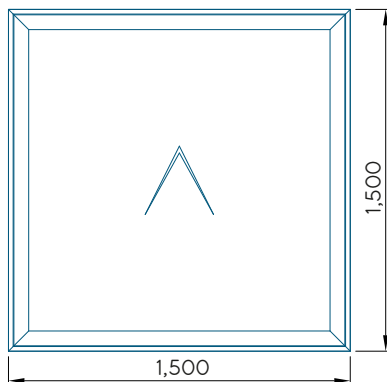
Maximum Dimensions



Dummy sash

Max area: 2,200mm x 2,303mm - approx 4.8m²

Max sash weight: 50kg

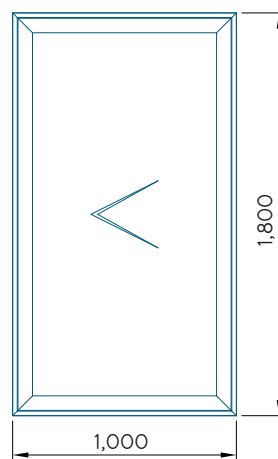


Top hung

Max height: 1,500mm

Max width: 1,500mm

Max sash weight: 50kg

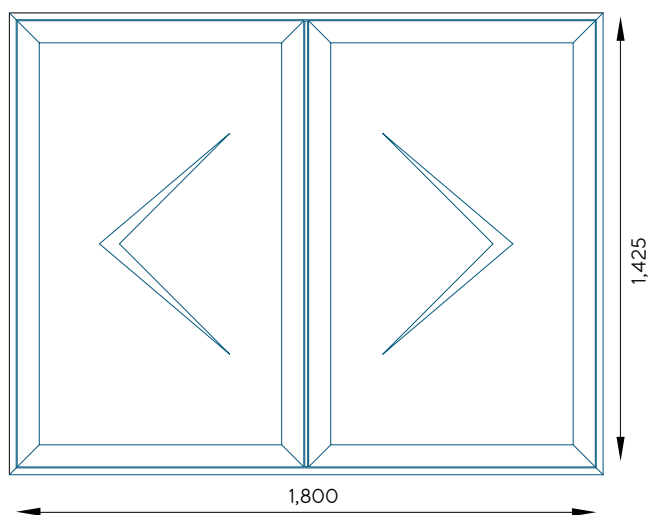


Side hung

Max height: 1,800mm

Max width: 1,000mm

Max sash weight: 40kg



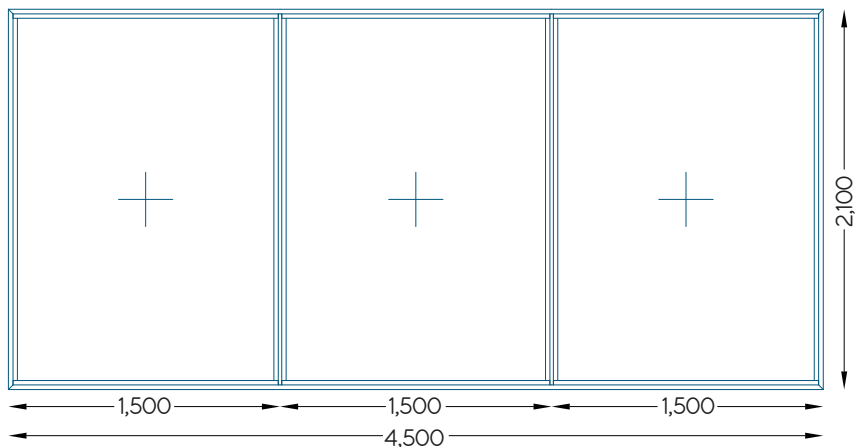
French window

Max height: 1,425mm

Max width: 1,800mm

Maximum Mullion / Transom Length

Example 1



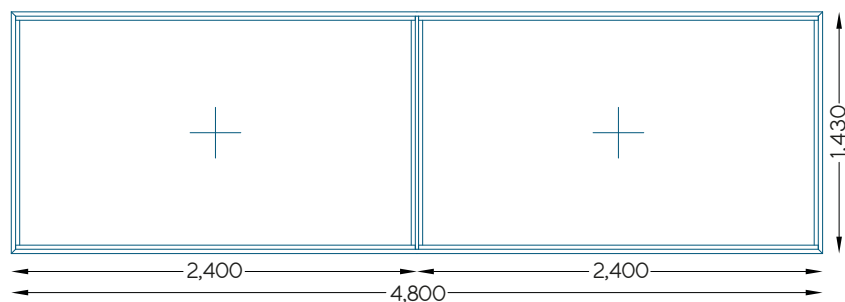
Maximum mullion length and glazed area next to a mullion or transom

Maximum glazed area next to mullion/ transom: $1,500\text{mm} \times 2,100\text{mm} = 3.15\text{m}^2$

Maximum height: 2,100mm

(Window width of 4,500mm is under maximum of 4,800mm)

Example 2



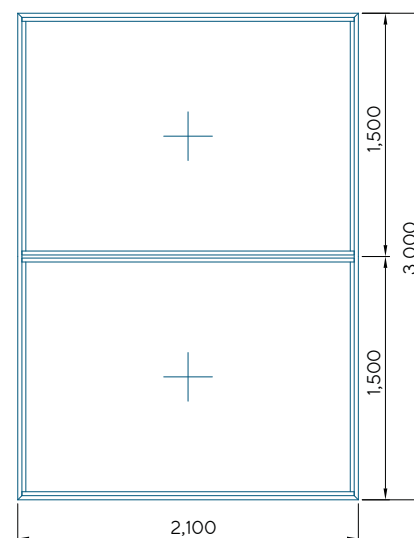
Maximum glazed area next to a mullion or transom

Maximum glazed area: $2,400\text{mm} \times 1,430\text{mm} = 3.15\text{m}^2$

Maximum window width: 4,800mm

(Mullion is under maximum height of 2,100mm)

Example 3



Maximum transom

Transom under maximum width of 2,100mm

Maximum glazed area: $2,100\text{mm} \times 1,500\text{mm} = 3.15\text{m}^2$

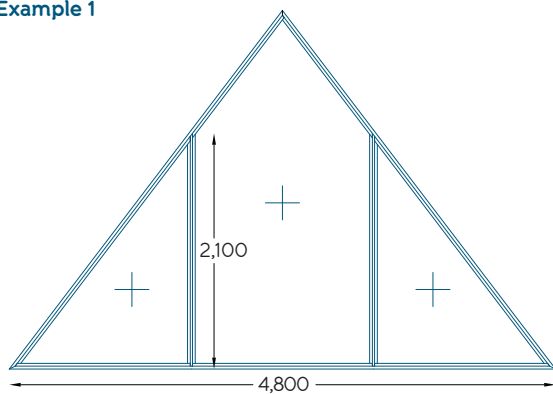
Maximum Gable Size

Maximum mullion length: 2,100mm

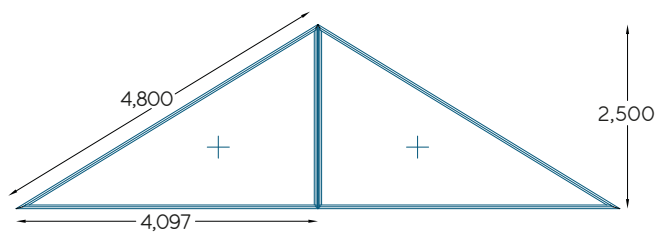
Maximum profile length: 4,800mm

Maximum coupled length: 2,500mm

Example 1

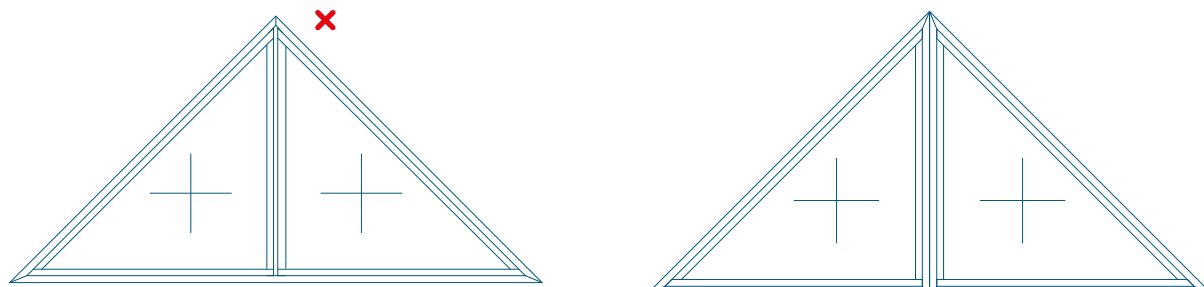


Example 2



Gables Mullion Restrictions

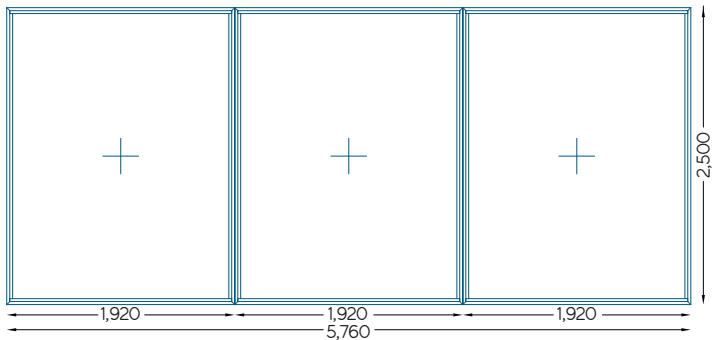
Mullions cannot be joined to another joint or apex in the frame:



In this instance, the gable must be made out of two parts and coupled together.

Maximum Coupled Length

Example 1

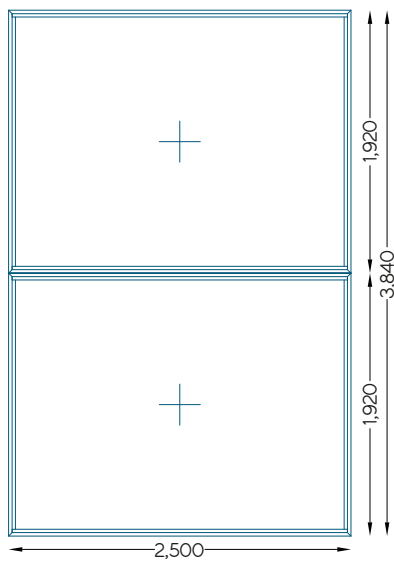


Example 2

Maximum coupled height with
maximum individual glazed area

Maximum glazed area: 1,920mm x 2,500mm = 4.8m²
(Overall width at 5,760mm is fine as each frame is coupled)
Maximum coupled height: 2,500mm

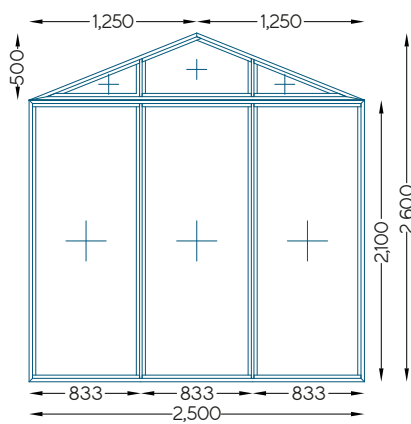
Example 3



Maximum coupled width

Maximum glazed area: 2,500mm x 1,920mm = 4.8m²
Maximum coupled length: 2,500mm

Example 4



Maximum coupled gable width,
minimum gable corner angle and
maximum mullion

Maximum coupled length: 2,500mm
Maximum mullion length: 2,100mm
Tightest gable corner angle: 20°

Performance and Limitations

Origin Thermal Ratings

U-Value

OW-80 Double Glazed	1.4 W/m ² K ●
OW-80 Double Glazed with Aerogel	1.2 W/m ² K
OW-80 Triple Glazed	0.9 W/m ² K
OW-80 Triple Glazed with Aerogel	0.8 W/m ² K
Energy Rating	From B to A++ (see page 24 - 30)

Glazing

U-Value

1.2 centre pane ●	1.4 W/m ² K ●
1.2 centre pane with Aerogel	1.3 W/m ² K
1.1 centre pane ●	1.4 W/m ² K ●
1.1 centre pane with Aerogel	1.2 W/m ² K
1.0 centre pane ●	1.4 W/m ² K ●
1.0 centre pane with Aerogel	1.2 W/m ² K
0.9 centre pane ●	1.2 W/m ² K
0.9 centre pane with Aerogel	1.1 W/m ² K
0.8 centre pane ●	1.2 W/m ² K
0.8 centre pane with Aerogel	1.0 W/m ² K
0.6 centre pane ●	1.0 W/m ² K
0.5 centre pane	0.9 W/m ² K
0.5 centre pane with Aerogel	0.8 W/m ² K

● Minimum value for compliance with Building Regulations Part L for replacements

● Argon Gas Fill

Weather Rating

Performance

Air Permeability	Class 4, 600Pa
Resistance to Window Load	Class B5, 2000Pa
Water Tightness	Class E1500, 1500Pa

Performance Testing

PAS 24:2016 Certified (Document Q Compliant)

BS EN 10088-2 Grade Certified

Secured by Design accredited

Passed 50,00 operational cycles

Building Regulation Requirements

New Build

Limiting Value	1.6 W/m ² K
----------------	------------------------

Replacements	1.4 W/m ² K
--------------	------------------------

Energy Rating	B or better
---------------	-------------

All windows must conform to these requirements.

Thermal Efficiency

The OW-80 is fitted as standard with a 35mm polyamide thermal break that features interlocking barriers to minimise air flow through the system.

A bespoke cavity gasket is fitted into the internal chamber of the window between the sash and the frame (excl. the locking side) in order to further improve thermal efficiency.

The OW-80 is available with Aerogel as an optional upgrade. Aerogel is the most insulating material on the planet and allows the OW-80 to achieve an Energy Rating of A++ or up to a 0.8 U-Value.

For more information on Aerogel, refer back to page 10 or visit www.origin-global.com/aluminium-windows

See the Window Energy Rating Specification Sheet on page 30 for certified test results.

Egress Application

Approved Document B of the Building Regulations 2010 specifies the following provisions with regards to egress application:

Section 2.8 Emergency egress windows and external doors

Any window provided for emergency egress purposes and any external door provided for escape should comply with the following conditions:

- a. The window should have an unobstructed openable area that is at least 0.33m² and at least 450mm high and 450mm wide. In practice, this means the opening should be at least 450mm high by 750mm wide or 750mm high and 450mm wide (the route through the window may be at an angle rather than straight through). The bottom of the open-able area should be no more than 1100mm above the floor.
- b. The window or door should enable the person escaping to reach a place free from danger and free from fire. This is a matter for judgement in each case, but, in general, a courtyard or back garden from which there is no exit other than through other buildings would have to be at least as deep as the dwelling house is high to be acceptable.

Note 1. Approved Document K protection from falling, collision and impact specifies a minimum guarding height of 800mm, except in the case of a window in a roof where the bottom of the opening may be 600mm above the floor.

Note 2. Locks (with or without removable keys) and stays may be fitted to egress windows, subject to the stay being fitted with a release catch, which may be child resistant.

Note 3. Windows should be designed such that they will remain in the open position without needing to be held by a person making their escape.

.....


OW-80

Certificate of thermal simulation

PRODUCT:	OW 80 Casement Window
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO 2D
GLASS CENTRE PANE U/VALUE	1.2 W/m2K
INSULATION	NONE

Thermal Transmittance (U- Value):
1.4 W/(m2K)

*All thermal simulations carried out in accordance with:
BS EN ISO 10077 - 2: 2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.*

TESTED BY: David Ginger (Product Compliance Director)
DATE: May 2022
SIGNED: 

Email: enquiry@origin-global.com | Web: www.origin-global.com
Origin Global HQ, Stuart House, Castle Estate, Coronation Road, Cresser
Business Park, High Wycombe, Buckinghamshire, HP12 3TA.
OFDL38149.3

origin
DOORS AND WINDOWS


OW-80

Certificate of thermal simulation

PRODUCT:	OW 80 Casement Window
SIM - SOFTWARE:	Physibel Building Physics Software - BISCO 2D
GLASS CENTRE PANE U/VALUE	1.2 W/m ² K
INSULATION	Aerogel

Thermal Transmittance (U- Value):
1.3 W/(m²K)

*All thermal simulations carried out in accordance with:
BS EN ISO 10077 - 2: 2017, Thermal Performance of windows, doors and shutters - calculation of thermal transmittance.*

TESTED BY: David Ginger (Product Compliance Director)
DATE: May 2022
SIGNED: 

Email: enquiry@origin-global.com | Web: www.origin-global.com
Origin Global HQ, Stuart House, Castle Estate, Coronation Road, Cresser
Business Park, High Wycombe, Buckinghamshire, HP12 3TA.
OFDL38149.3

origin
DOORS AND WINDOWS

OW-80

Classification of weather tightness

PRODUCT TESTED:

Double Side Hung Casement Window

- Air permeability tests in accordance with BS EN 1026:2000

- Watertightness test in accordance with BS EN 1027:2000

- Wind resistance tests in accordance with BS EN 12211:2000

- Exposure category classification in accordance with BS 6375-1:2009 (clauses, 7 and 8)

Results:

UK exposure category	Air permeability		Water tightness		Resistance to wind load			
	Class	Maximum test pressure	Class	Maximum test pressure	Class	P1	P2	P3
2000	4	600 Pa	E1500	E1500 Pa	A5	2000	1000	3000

TESTED BY: Build Check Ltd

REFERENCE: W14060-4

DATE: 29/05/14

Email: enquiry@origin-global.com | Web: www.origin-global.com

Origin Global HQ, Stuart House, Castle Estate, Coronation Road, Cressex Business Park, High Wycombe, Buckinghamshire, HP12 3TA

OFDL_18.149.1

origin

DOORS AND WINDOWS

OW-80

Classification of weather tightness

PRODUCT TESTED:

Double Side Hung Casement Window

- Air permeability tests in accordance with BS EN 1026:2000

- Watertightness test in accordance with BS EN 1027:2000

- Wind resistance tests in accordance with BS EN 12211:2000

- Exposure category classification in accordance with BS 6375-1:2009 (clauses, 7 and 8)

Results:

UK exposure category	Air permeability		Water tightness		Resistance to wind load			
	Class	Maximum test pressure	Class	Maximum test pressure	Class	P1	P2	P3
2000	4	600 Pa	E1500	E1500 Pa	A5	2000	1000	3000

TESTED BY: Build Check Ltd

REFERENCE: W14060-4

DATE: 29/05/14

Email: enquiry@origin-global.com | Web: www.origin-global.com

Origin Global HQ, Stuart House, Castle Estate, Coronation Road, Cressex Business Park, High Wycombe, Buckinghamshire, HP12 3TA

OFDL_18.149.1

origin

DOORS AND WINDOWS

OW-80

Classification of weather tightness

PRODUCT TESTED:

Aluminium Top Hung Casement Window

- Air permeability tests in accordance with BS EN 1026:2000

- Watertightness test in accordance with BS EN 1027:2000

- Wind resistance tests in accordance with BS EN 12211:2000

- Exposure category classification in accordance with BS 6375-1:2009 (clauses, 7 and 8)

Results:

UK exposure category	Air permeability		Water tightness		Resistance to wind load			
	Class	Maximum test pressure	Class	Maximum test pressure	Class	P1	P2	P3
2000	4	600 Pa	E1500	1050 Pa	E1050	2000	1000	3000

TESTED BY: Build Check Ltd

REFERENCE: W14060-2

DATE: 29/05/14

Email: enquiry@origin-global.com | Web: www.origin-global.com

Origin Global HQ, Stuart House, Castle Estate, Coronation Road, Cressex Business Park, High Wycombe, Buckinghamshire, HP12 3TA

OFDL_18.149.1

origin

DOORS AND WINDOWS

OW-80

origin

28

OW-80

Classification of weather tightness

PRODUCT TESTED:

Combination & Fixed Casement Window

- Air permeability tests in accordance with BS EN 1026:2000

- Watertightness test in accordance with BS EN 1027:2000

- Wind resistance tests in accordance with BS EN 12211:2000

- Exposure category classification in accordance with BS 6375-1:2009 (clauses ,7 and 8)

Results:

UK exposure category	Air permeability		Water tightness		Resistance to wind load			
	Class	Maximum test pressure	Class	Maximum test pressure	Class	P1	P2	P3
1200	3	600 Pa	9A	E900 Pa	A3	1200	600	1800

TESTED BY: Build Check Ltd

REFERENCE: W15375-1

DATE: 12/11/15

Email: enquiry@origin-global.com | Web: www.origin-global.com

Origin Global HQ, Stuart House, Castle Estate, Coronation Road, Cressex Business Park, High Wycombe, Buckinghamshire, HP12 3TA

OFDL_18.149.1

origin

DOORS AND WINDOWS

OW-80

Window Energy Rating Spec Sheet

The following profiles, beads and glass specifications must be adhered to in order to achieve the associated energy rating.

BFRC Energy Rating B- 10

Profile Spec	OW-80 (frame:W66-67, Sash:W83-84)
Bead	28mm (ie. double glazed)
Glass Spec	4mm Diamant - 20mm 90% Argon - 4mm Planitherm Total +
Spacer Bar	20mm Swiss Ultimate

BFRC Energy Rating A+6

Profile Spec	OW-80 Aerogel (frame:WA03-04, Sash: WA05-06)
Bead	28mm (ie. double glazed)
Glass Spec	4mm Diamant - 20mm 90% Argon - 4mm Planitherm Total +
Spacer Bar	20mm Swiss Ultimate

BFRC Energy Rating A+6

Profile Spec	OW-80 (frame:W66-67, Sash:W83-84)
Bead	44mm (ie. triple glazed)
Glass Spec	4mm Diamant - 2x16mm 90% Argon - 2x4mm Planitherm Total +
Spacer Bar	2 x 16mm Swiss Ultimate

BFRC Energy Rating A++ +23

Profile Spec	OW-80 Aerogel (frame:WA03-04, Sash: WA05-06)
Bead	44mm (ie. triple glazed)
Glass Spec	4mm Diamant - 2x16mm 90% Argon - 2x4mm Planitherm Total +
Spacer Bar	2 x 16mm Swiss Ultimate

OFDL_5.32.3

origin

OW-80

BS 6180:2011

Building Regulations Part K Compliance

BS 6180:2011

Barriers in and about buildings

REPORT REFERENCE:	CW17513-2
ISSUE DATE:	31 January 2018
PROJECT:	Multi-light Barrier Window
PREPARED FOR:	Origin Frames Ltd Stuart House, Coronation Road, Cressex Business Park, High Wycombe, Buckinghamshire, HP12 3TA
TEST HOUSE:	Build Check Ltd

SAMPLE 1	TEST	LOAD	PASS/FAIL
	Line load	0.74 kN	Pass
	Point load	0.5 kN	Pass
	Uniform distribution load (UDL)	1.0 kN/m ²	Pass

TEST 1	LOAD	DEFLECTION	PASS/FAIL
Line load	0.96 kN	14.75	Pass
Point load glazing	0.5 kN	4.25	Pass
Point load frame	0.5 kN	4.10	Pass
Uniform distribution load (UDL)	1.06 kN/m ²	9.89	Pass

TEST 2	LOAD	RESULT
Line load	1.44 kN	Pass
Point load glazing	0.75 kN	Pass
Point load frame	0.75 kN	Pass
Uniform distribution load (UDL)	1.6 kN/m ²	Pass

enquiry@origin-global.com | Web: www.origin-global.com

Stuart House, Coronation Road, Cressex Business Park, High
Wycombe, Buckinghamshire, HP12 3TA

OFDL_18.133.1

origin
DOORS AND WINDOWS

Windows

Security Report

PRODUCT TESTED:

Origin Casement Window

	SUMMARY OF TESTING PROCEDURE:	RESULT:
Top Hung	PAS 24: 2016 - Clause C.4.3, C.4.4.2, c.4.4.3, C.4.5, C.4.6 and C.4.7	Pass
Fixed Light	PAS 24: 2016 - Clause C.4.4.2 and C.4.4.3	Pass
Side Hung	PAS 24: 2016 - Clause C.4.4, C.4.4.3, C.4.4.3, C.4.5 and C.4.6	Pass

TESTED BY:

REFERENCE:

DATE:

Build Check Ltd.

BM Trada
TR 357-14

30/06/2014
20/02/2015

origin

DOORS AND WINDOWS

Email: info@origin-global.com | Web: www.origin-global.com

Origin Frames Ltd, Sands 10 Industrial Estate, Hillbottom Road, High Wycombe, HP12 4HS

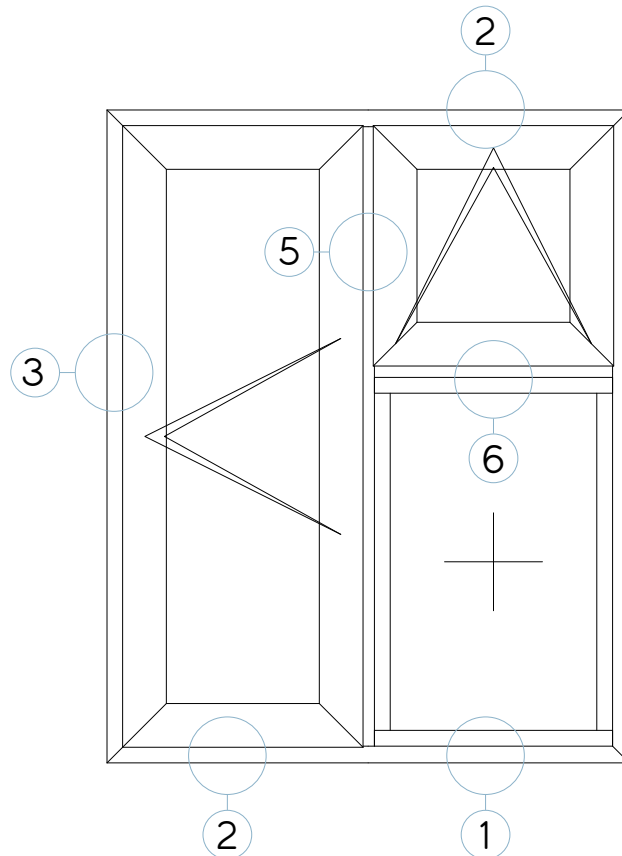
OFDL_3.171.2

OW-80	
Certificate of PAS 24	
PRODUCT:	ORIGIN WINDOW OW-80
SUMMARY OF TESTING PROCEDURE: PAS 24: 2016 - CLAUSE C4.3, C.4.4.2, C4.4.3, C.4.5, C.4.6, C.4.7	RESULT: PASS
TO COMPLY A BSEN 356 P1A CERTIFIED GLASS UNIT MUST BE INSTALLED.	
 Police Preferred Specification	
TESTED BY:	Build Check Ltd
REFERENCE:	securedbydesign.com/member-companies/sbd-members
DATE:	01/08/2019
Email: enquiry@origin-global.com Web: www.origin-global.com	
Origin Global HQ, Stuart House, Castle Estate, Coronation Road, Cressex Business Park, High Wycombe, Buckinghamshire, HP12 3TA	
OFDL_18.144.1	
 DOORS AND WINDOWS	

Master Configurations

Master Configuration: Casement

See Configuration Key for section detail ►



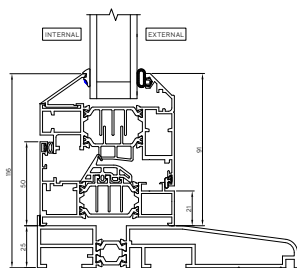
Key features

- Secured by Design locking system
- Can be specified for egress

See page 62 for popular configurations

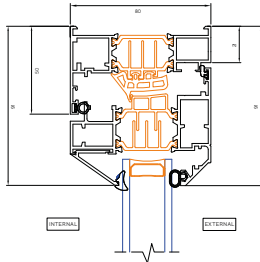
Configuration Key

1 - Cill, Frame and Sash Detail



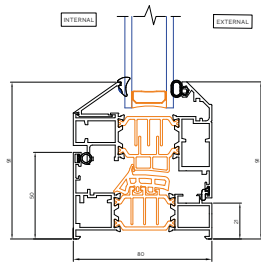
See page 38

2 - Sash Below Frame Detail



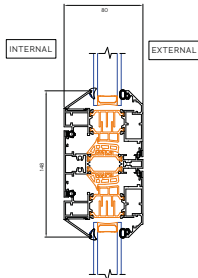
See page 39

3 - Frame Next to Sash Detail



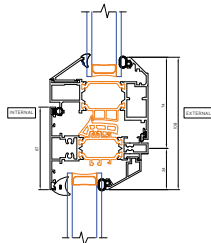
See page 40

5 - Mullion Sightlines
Sash-to-Sash Detail



See page 42

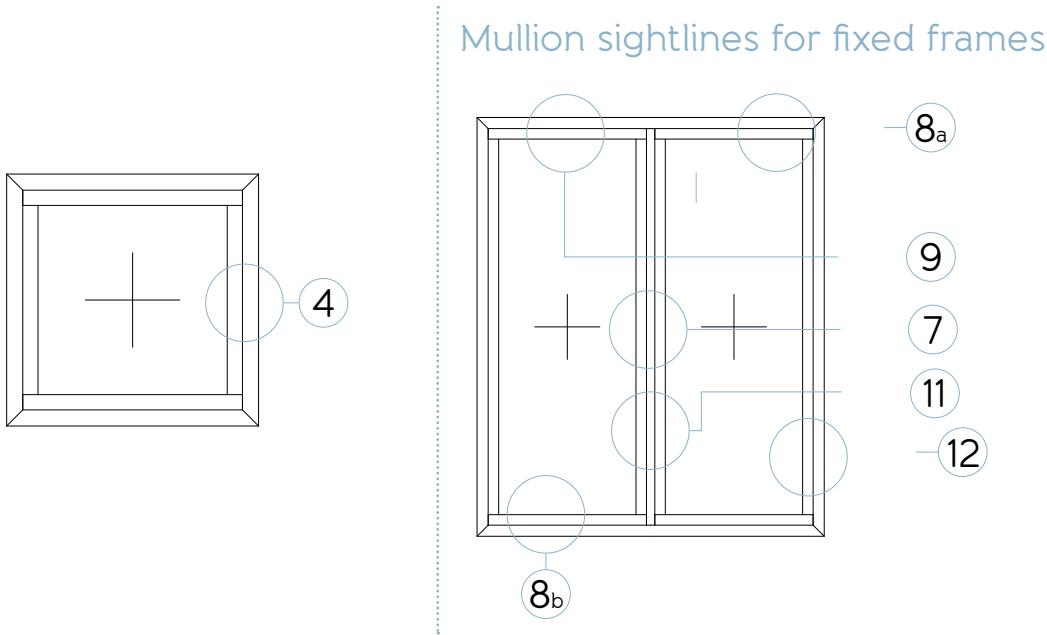
6 - Top Hung Sash Over
Mullion Detail



See page 43

Master Configuration: Fixed

See Configuration Key for section detail ▶



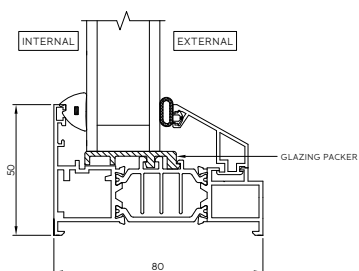
Key features

- ▶ Secured by Design locking system
- ▶ Can be specified up to 7m²

See page 62 for popular configurations

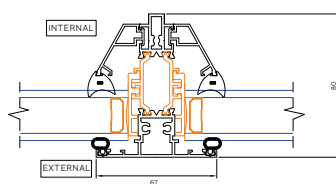
Configuration Key

4a-4b - Fixed Frame Detail



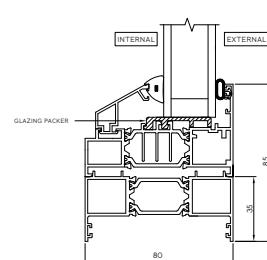
See page 41

7 - Mullion Sightline For Vertically Beaded Fixed Frame Detail



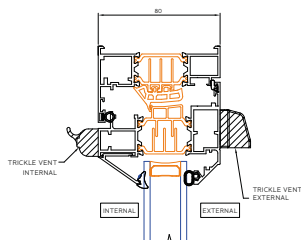
See page 44

8a-8b - Frame Extender Detail



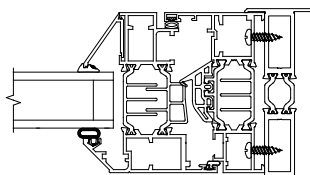
See page 45

9a-9b - Trickle Vent Trough Sash / Frame Detail



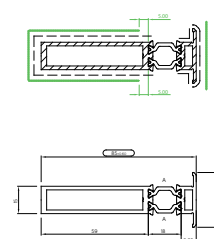
See pages 46 - 47

11b - Window-to-Window Coupler Detail



See page 49

12 - Window-to-Door Coupler Details

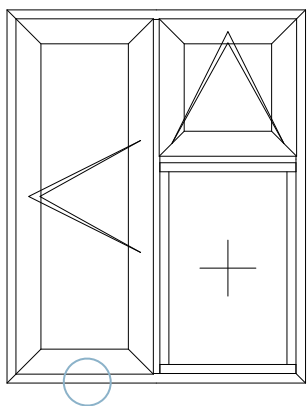
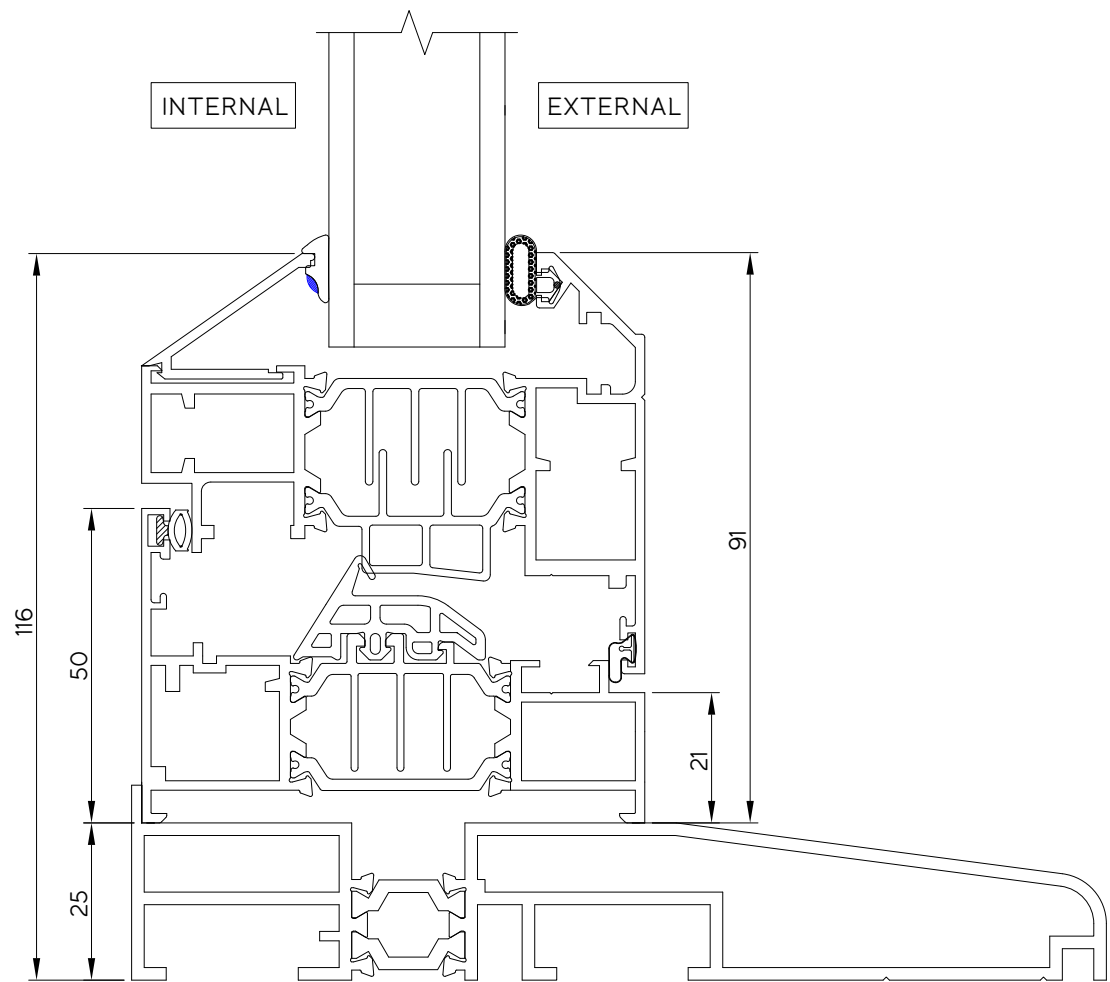


See page 51

Technical Drawings

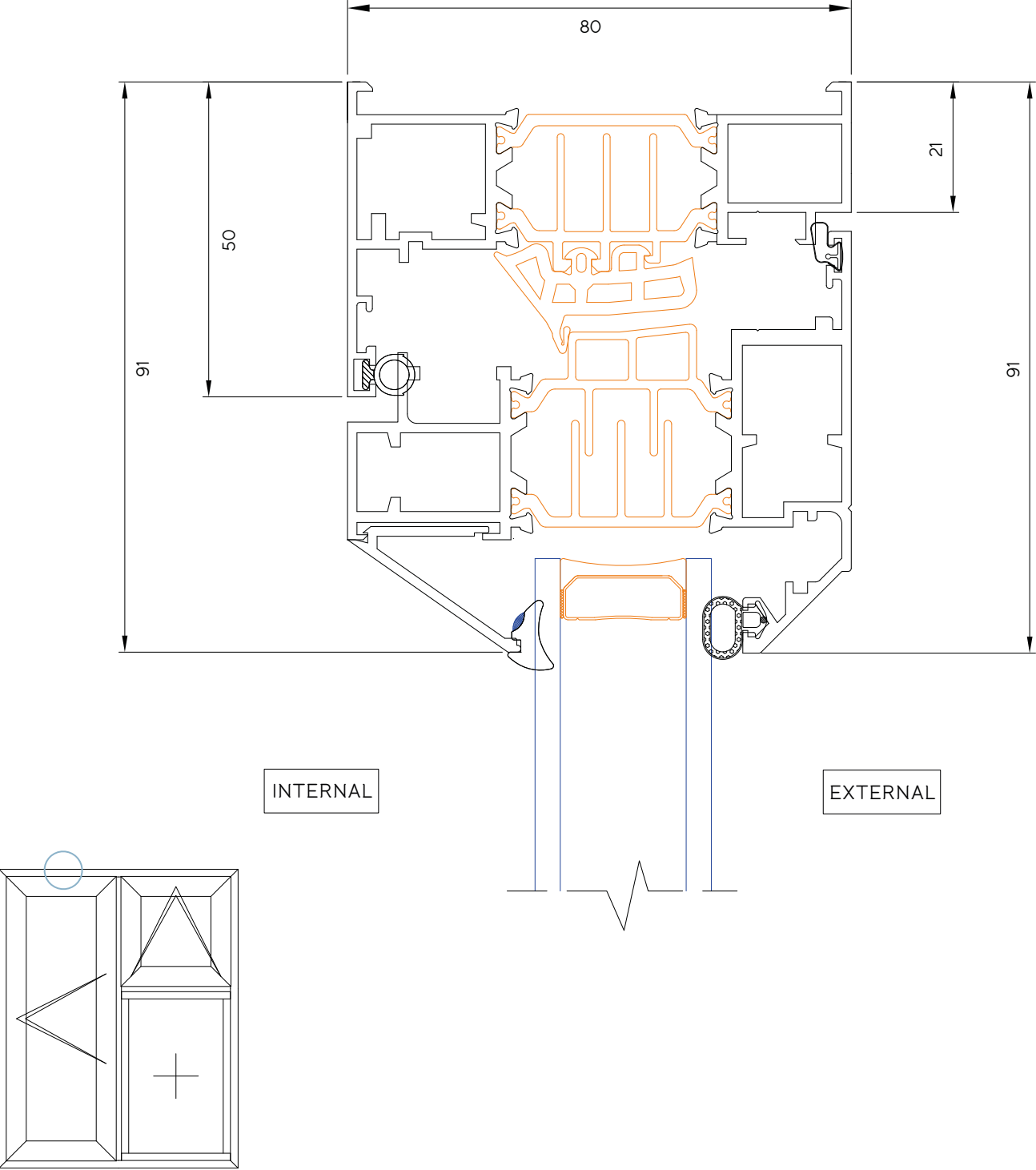
1

Cill, Frame and Sash Detail



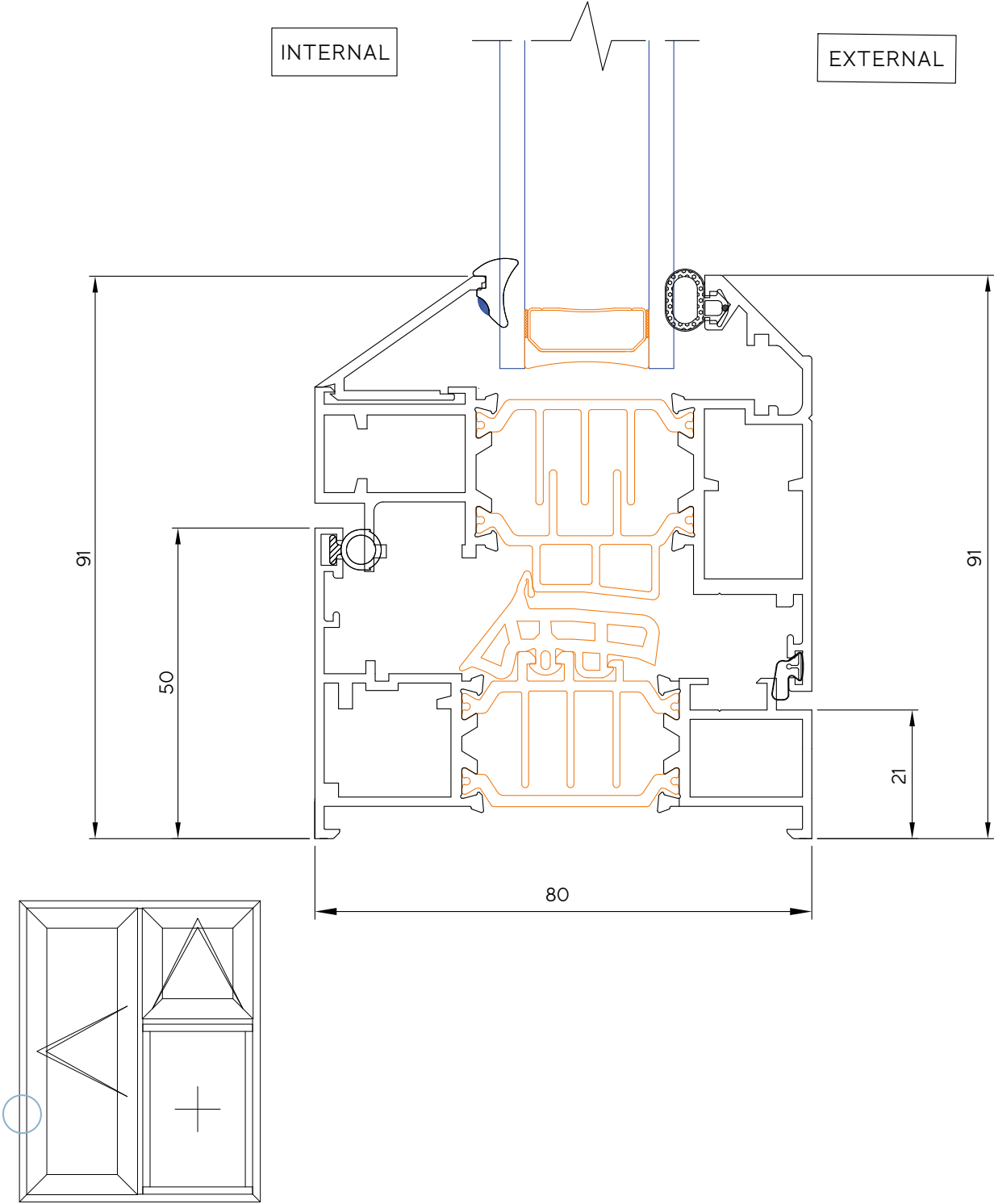
2

Sash Below Frame Detail

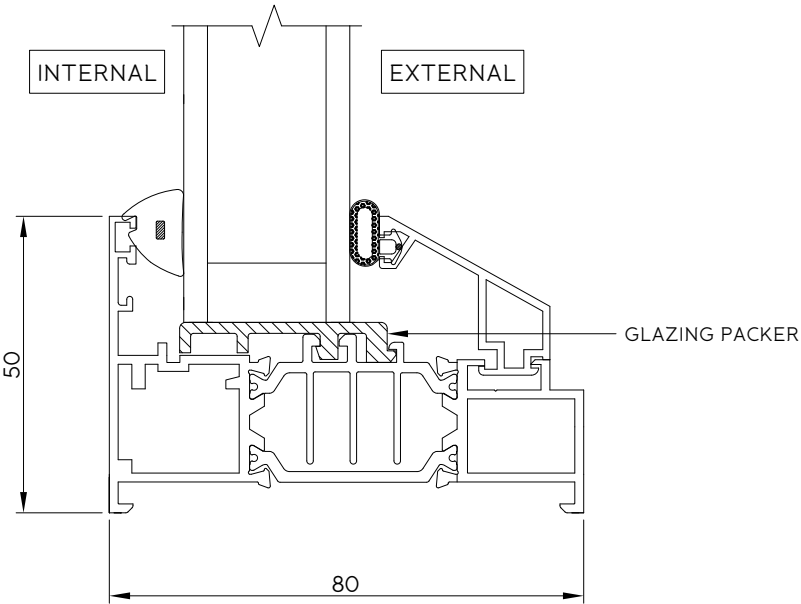


3

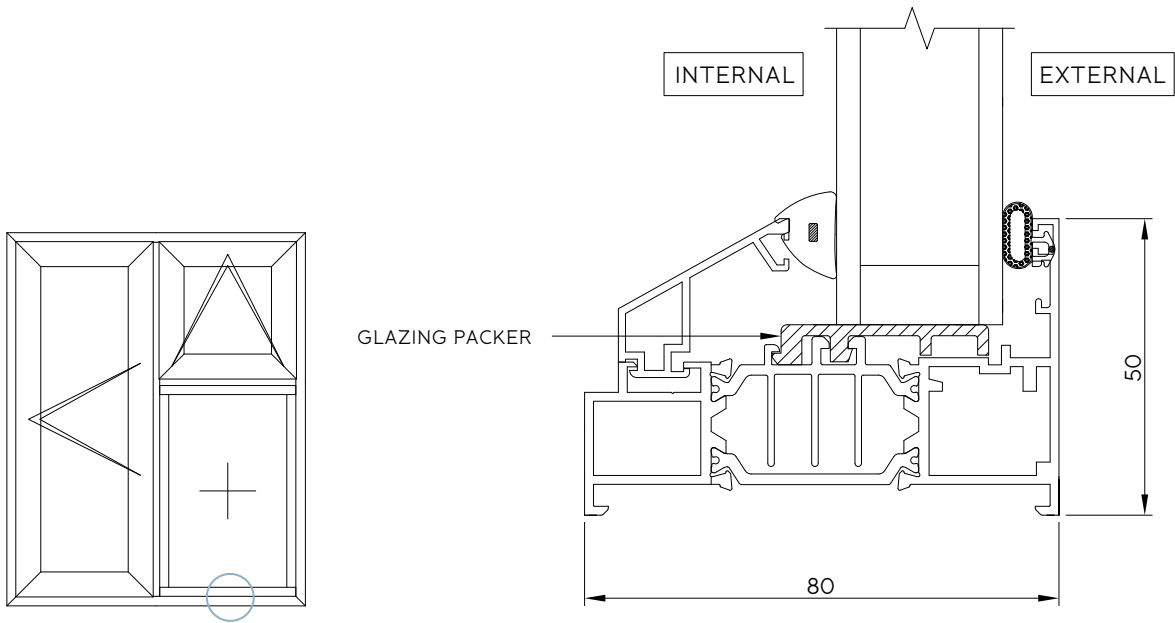
Frame Next to Sash Detail



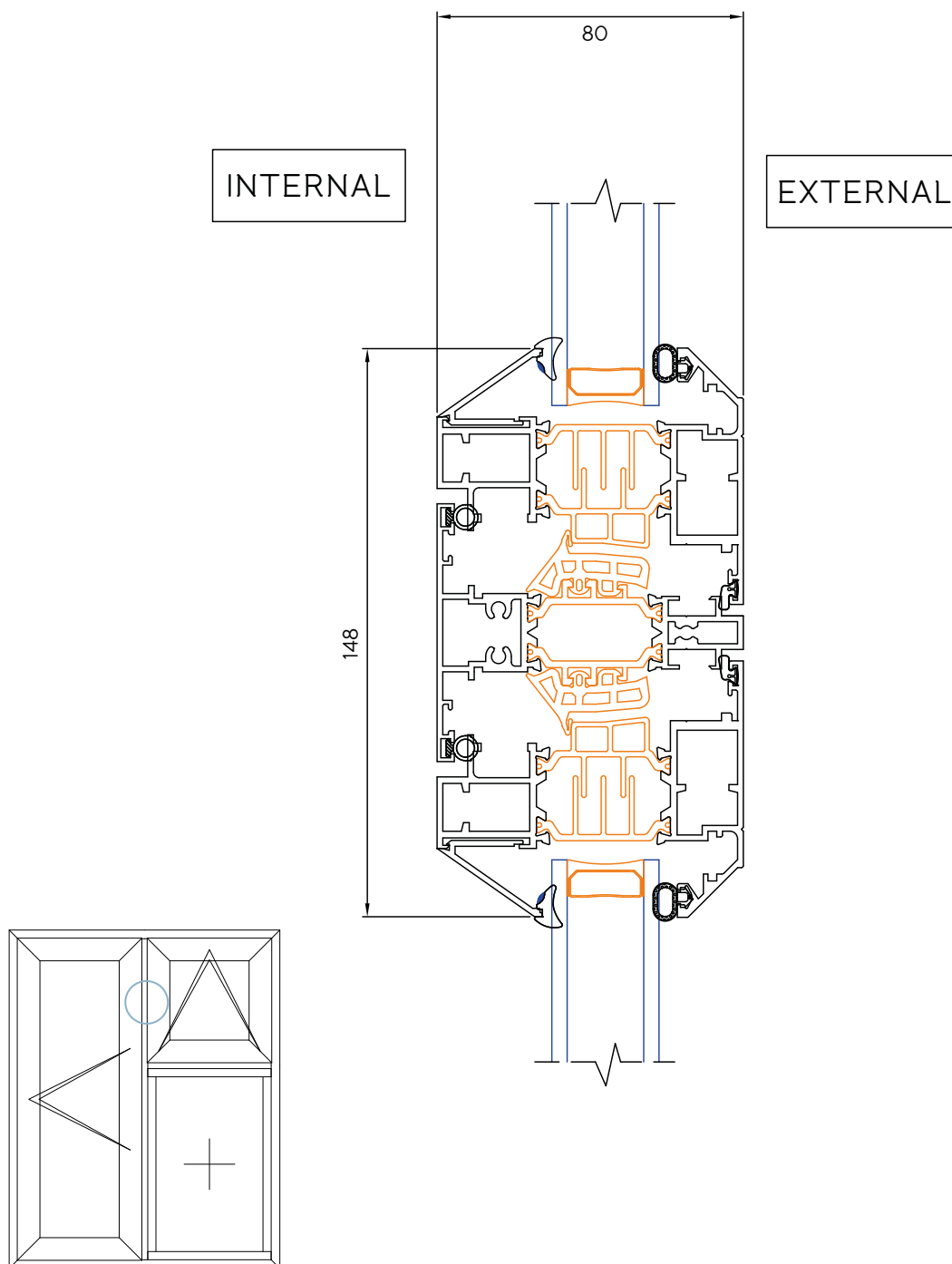
4a Fixed Frame - External Bead Detail



4b Fixed Frame - Internal Bead Detail

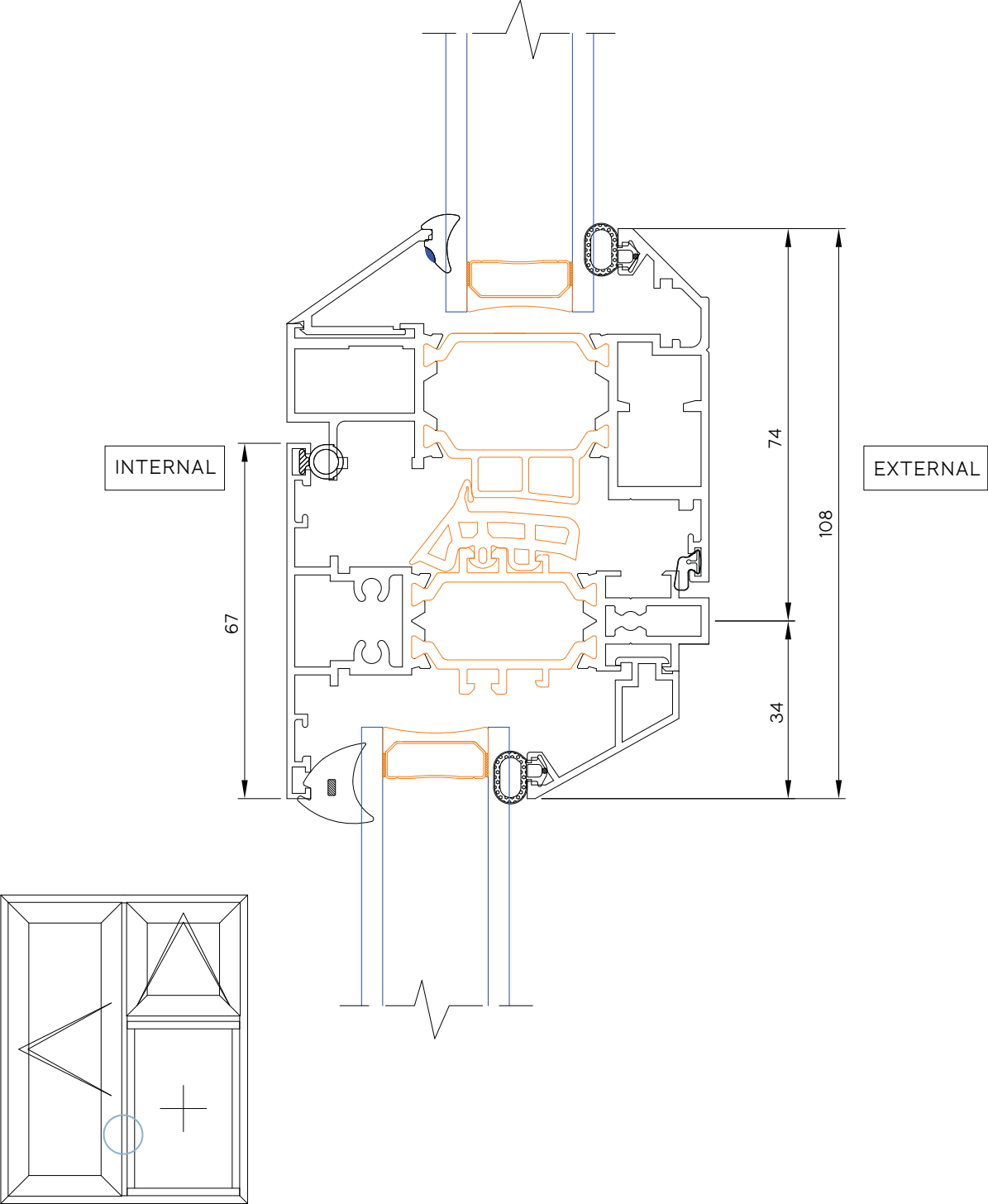


5 Mullion Sightlines - Sash-to-Sash Detail

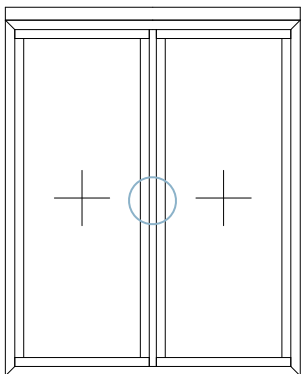
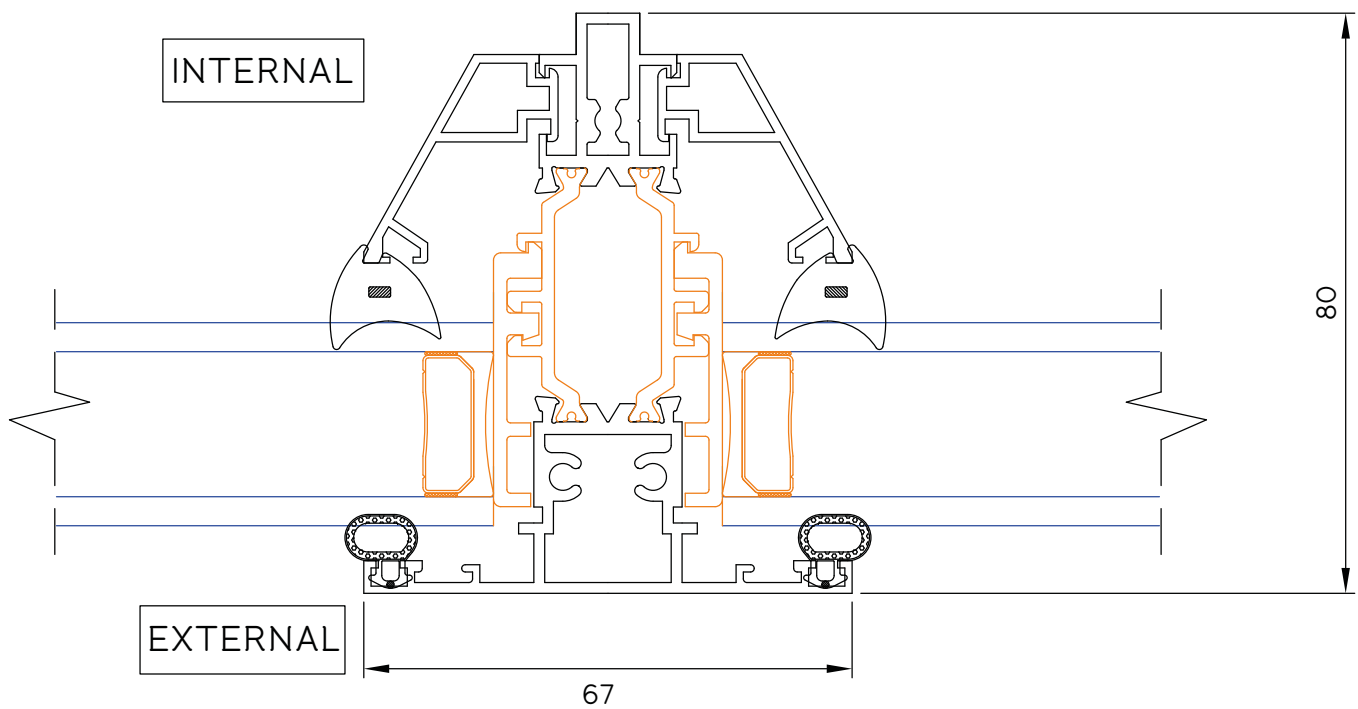


6

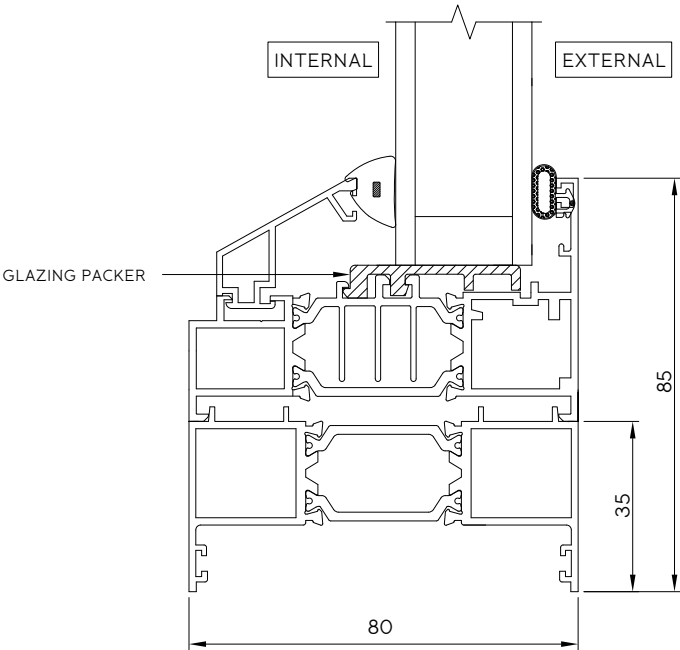
Top Hung Sash Over Mullion Detail



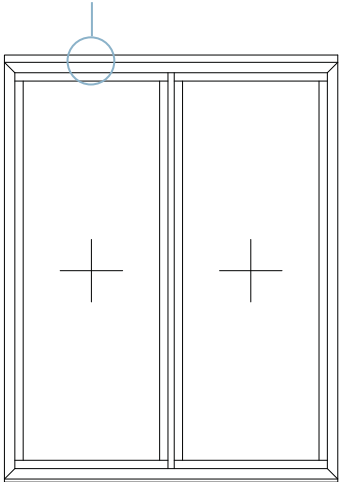
7 Mullion Sightlines For Internally Beaded Fixed Frames Detail



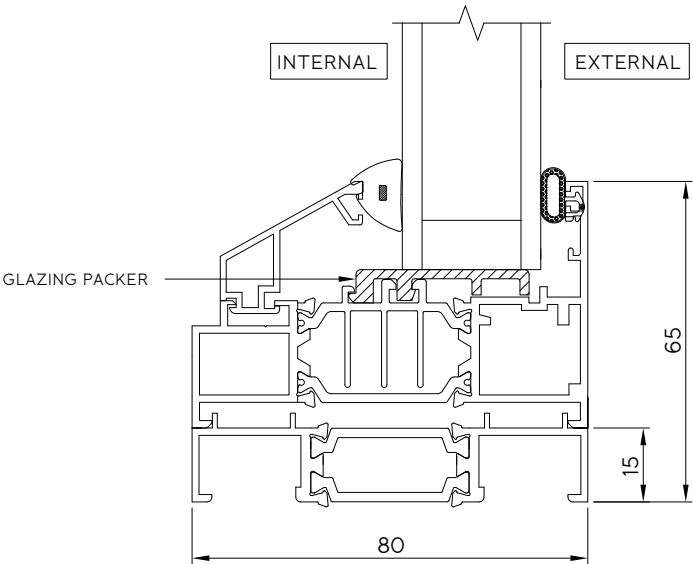
8a 35mm Frame Extender Detail



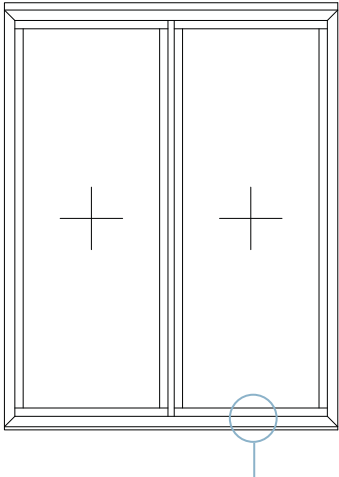
35mm frame
extender with
fixed frame



8b 15mm Frame Extender Detail

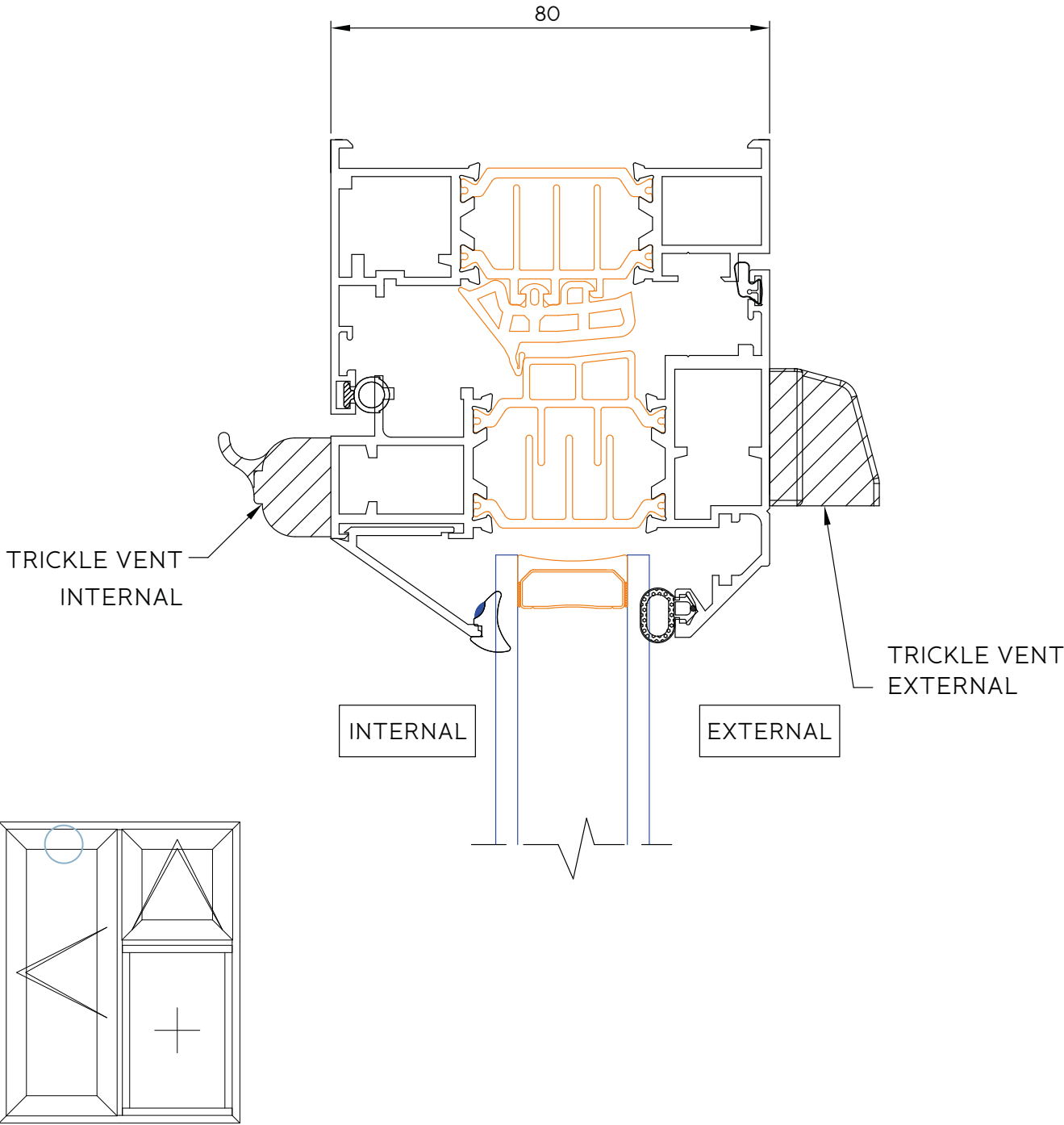


15mm frame
extender

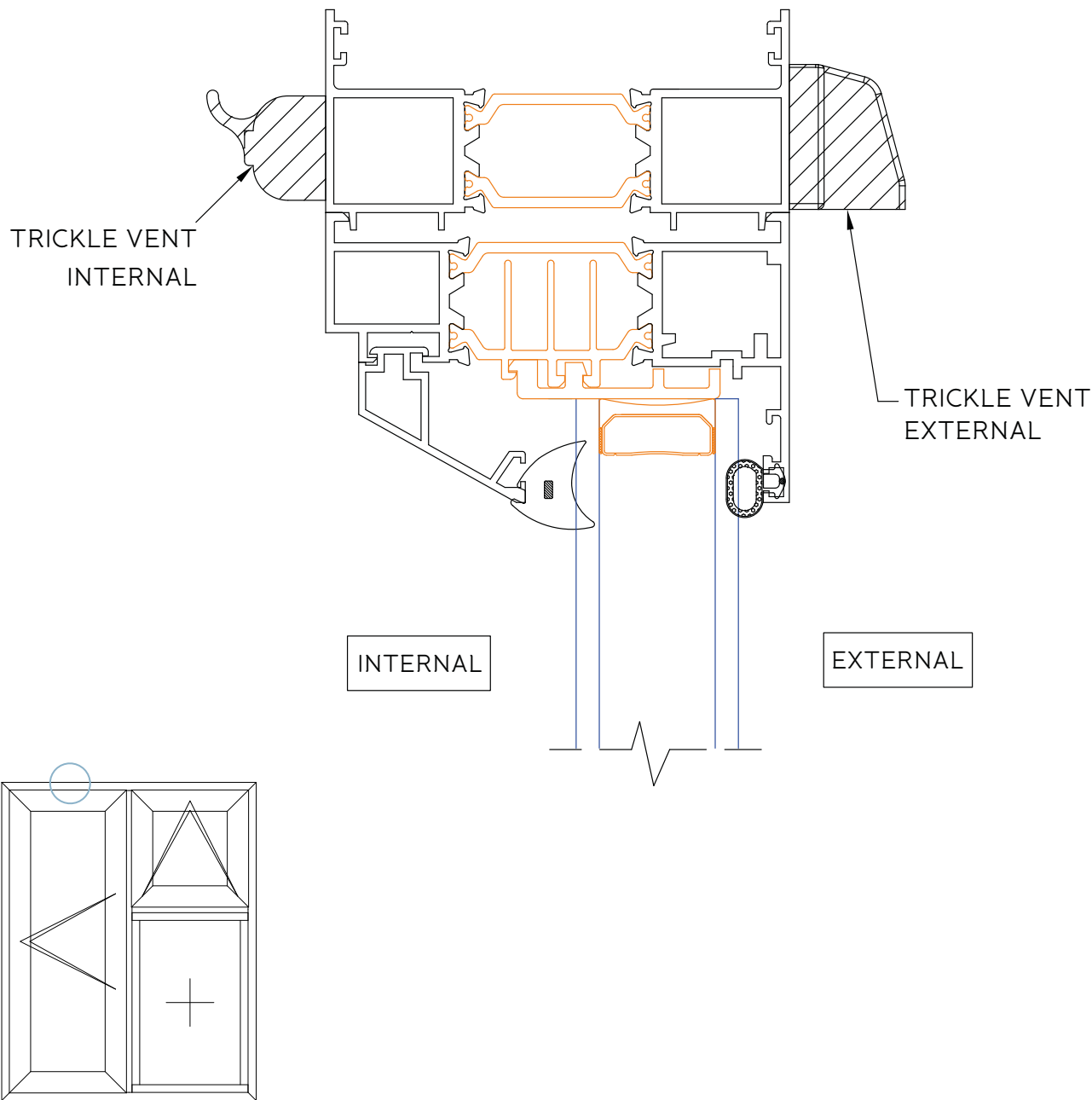


9a

Trickle Vent Through Sash Detail

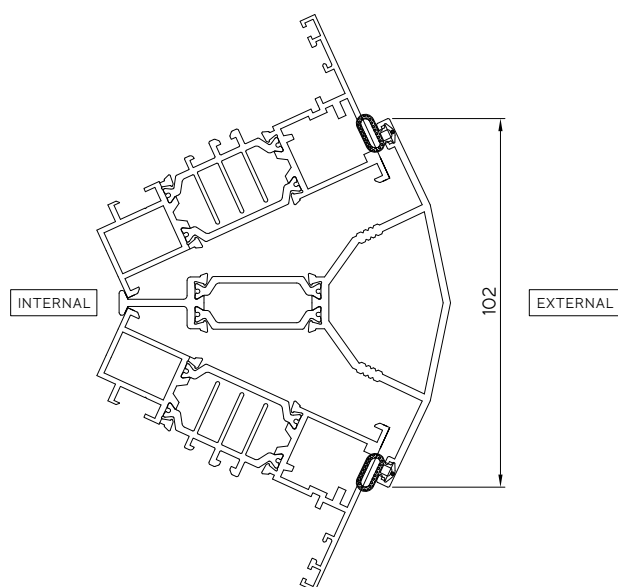


9b Trickle Vent Through 35mm Frame Extender Detail

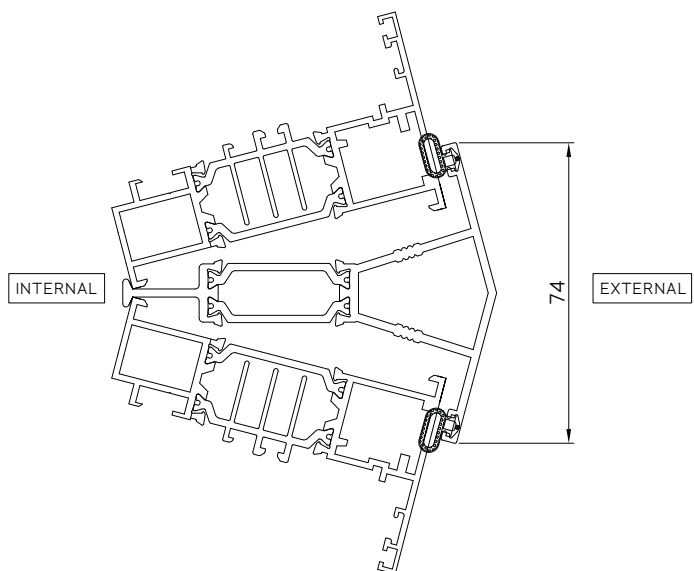


10a-c Variable Bay Mullion Detail

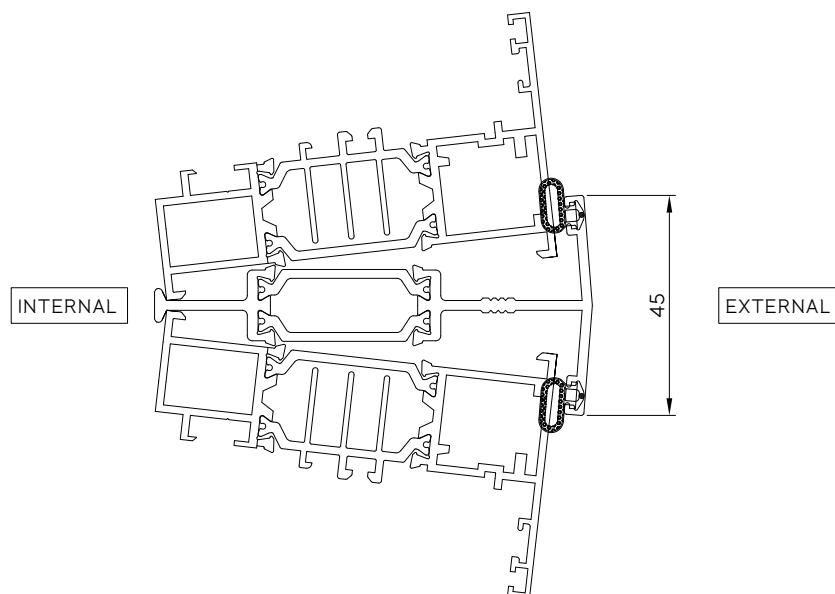
Internal angles: 117° - 138°



Internal angles: 138° - 159°

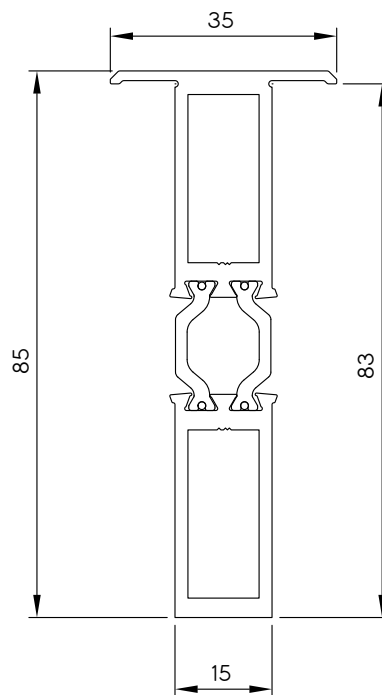


Internal angles: 159° - 175°



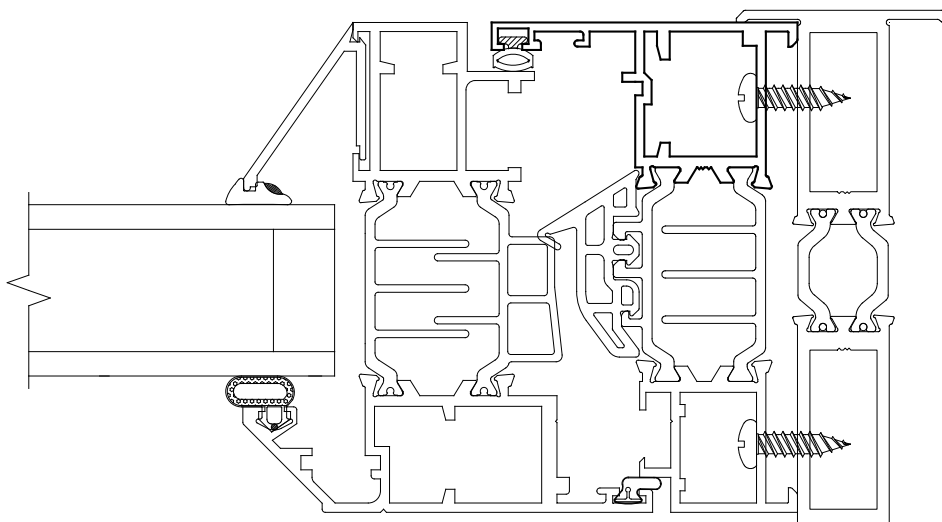
11a

Window-to-Window Coupler Detail

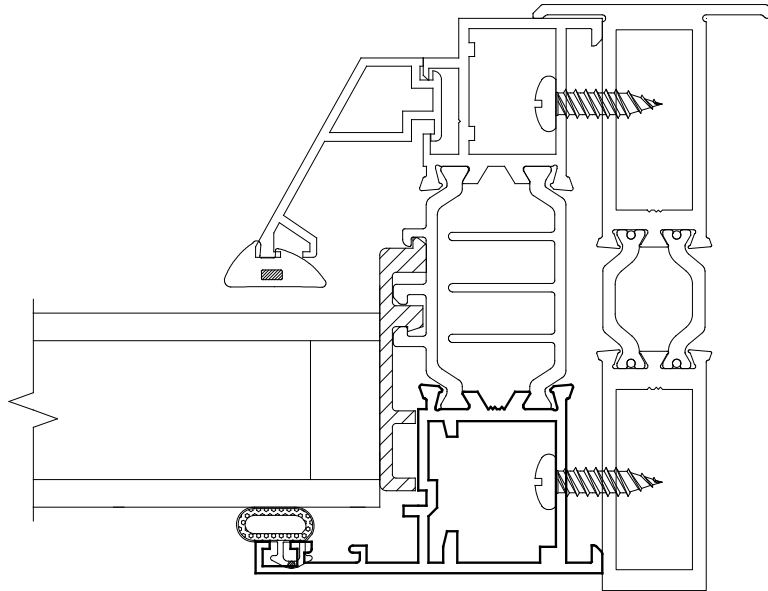


11b

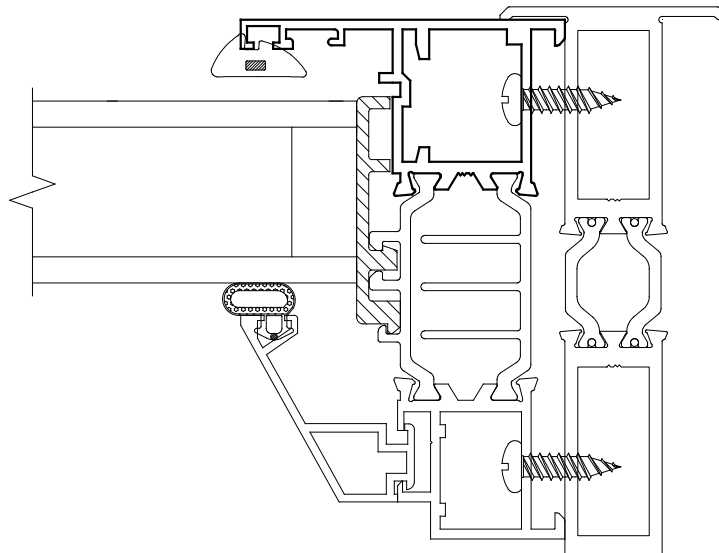
Window-to-Window Coupler (Casement) Detail



11c Window-to-Window Coupler (Fixed, Internally Glazed) Detail



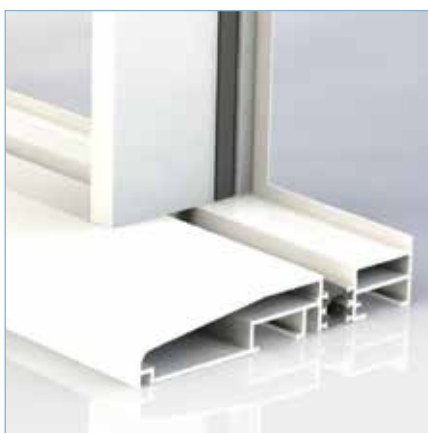
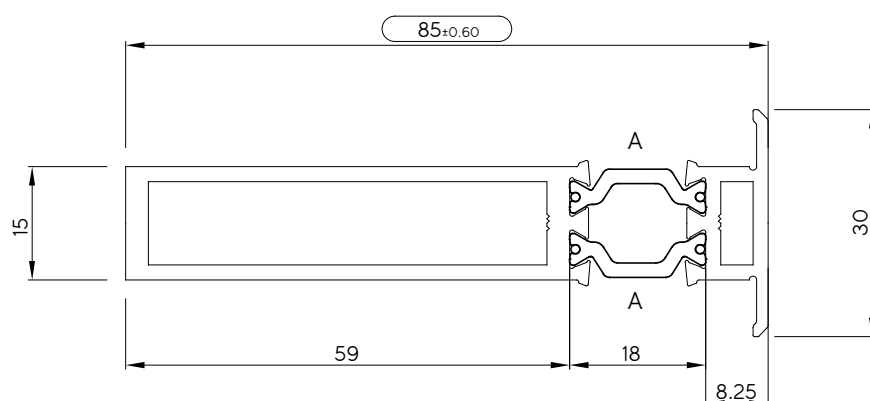
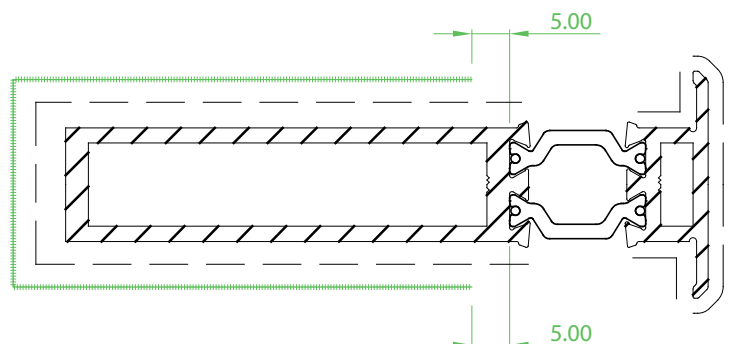
11d Window-to-Window Coupler (Fixed, Externally Glazed) Detail



12

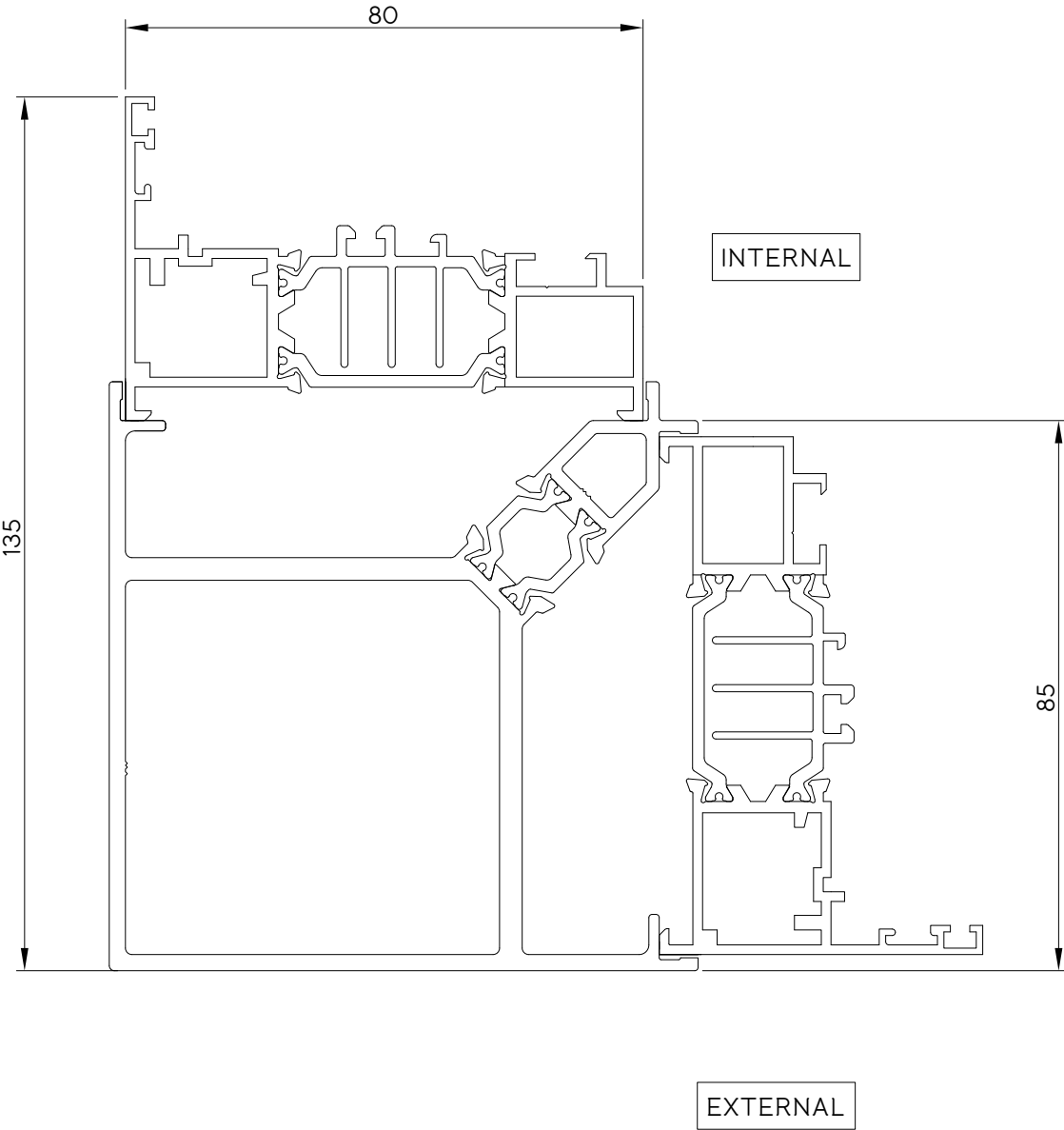
Window-to-Door Coupler Detail

See p71 for install instructions



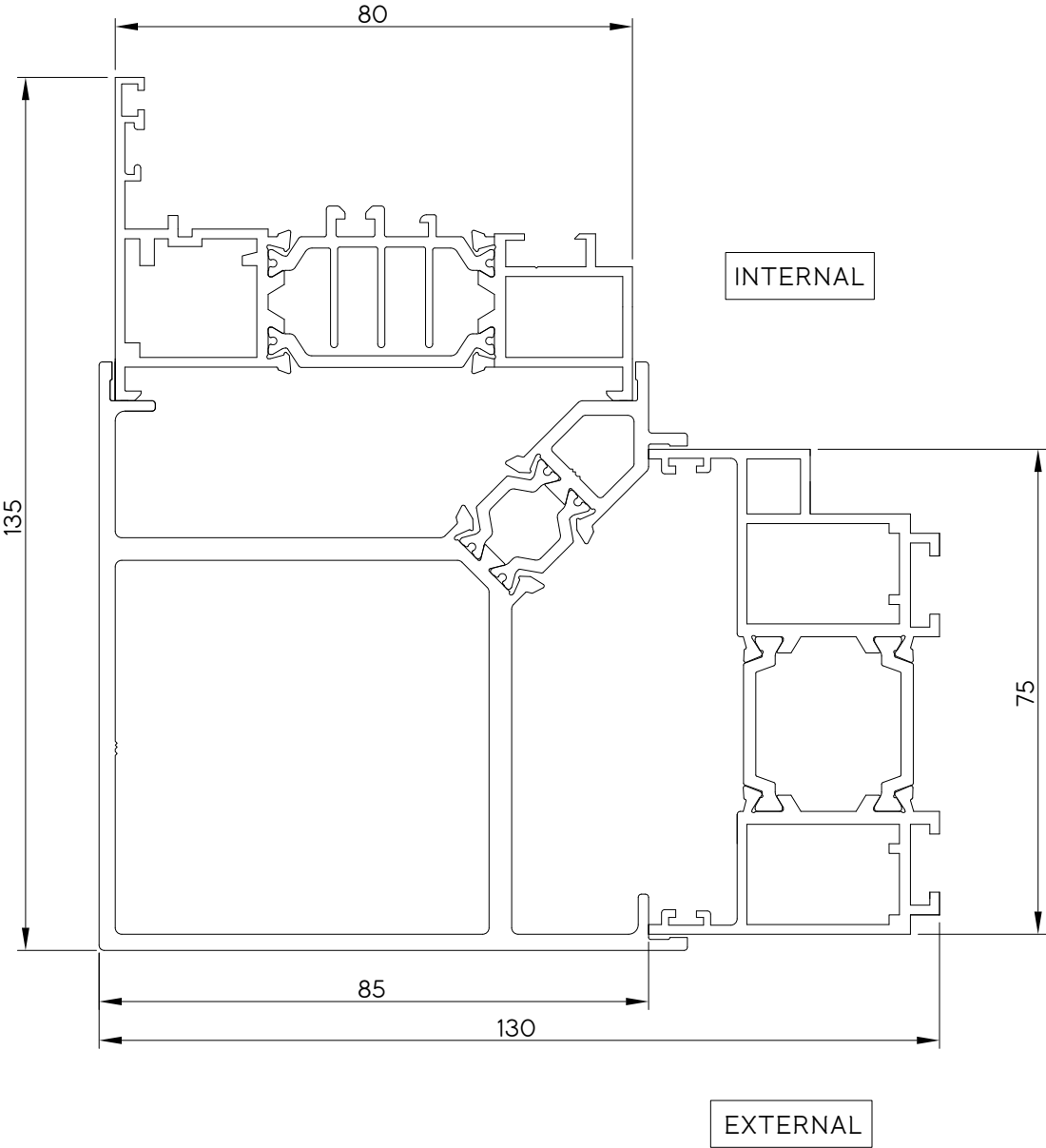
13

Window-to-Window Corner Post Detail



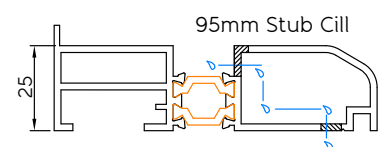
14

Window-to-Door Corner Post Detail

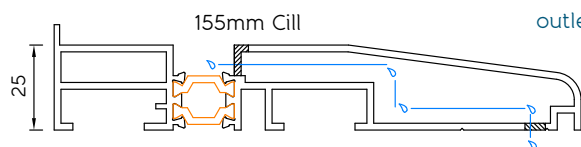


15

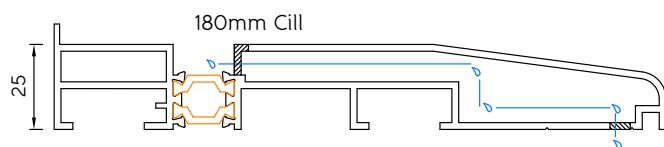
Cills



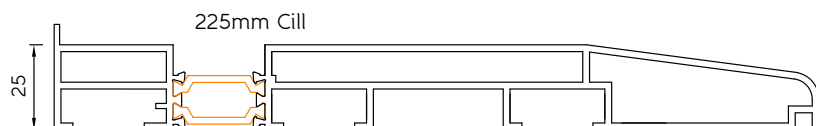
95mm Stub Cill



155mm Cill



180mm Cill

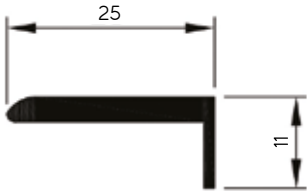


225mm Cill

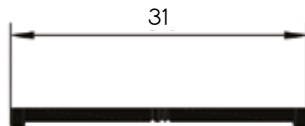
The 95mm stub cill can only be prepared with concealed drainage if the water can drain away towards the outside of the reveal. There must be a gap of at least 20mm between the drainage hole and the substrate in order to ensure the water can drain effectively. The substrate must be sloped to ensure the water doesn't drain back into the building. It is the installers responsibility to ensure the drainage outlets are clear and free to drain water away from the substrate.

16

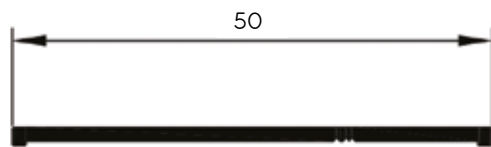
Trim Options



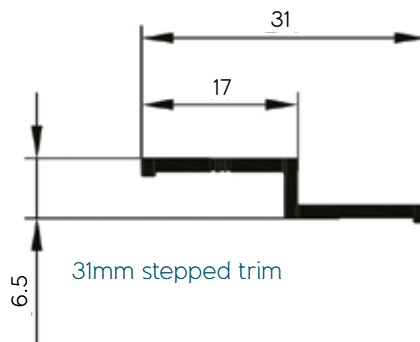
25mm trim



31mm flat trim



50mm flat trim

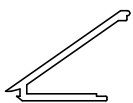


31mm stepped trim

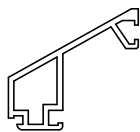
17

Bead Options

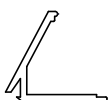
28mm Sash Bead



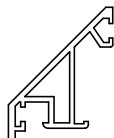
28mm Frame Bead



44mm Sash Bead

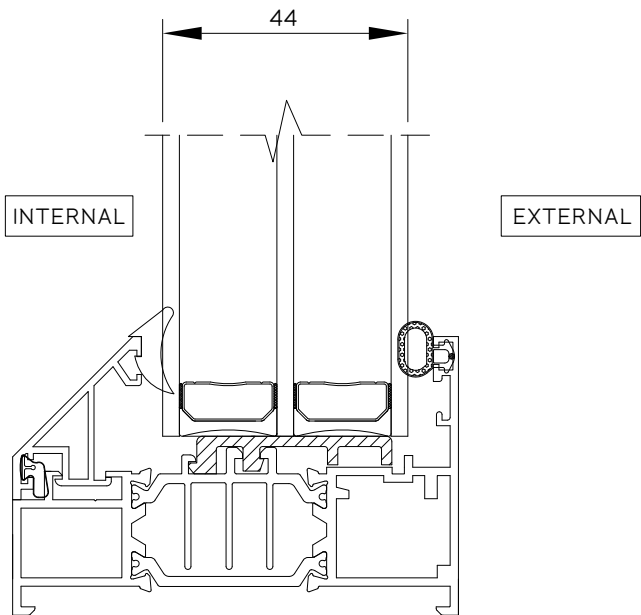
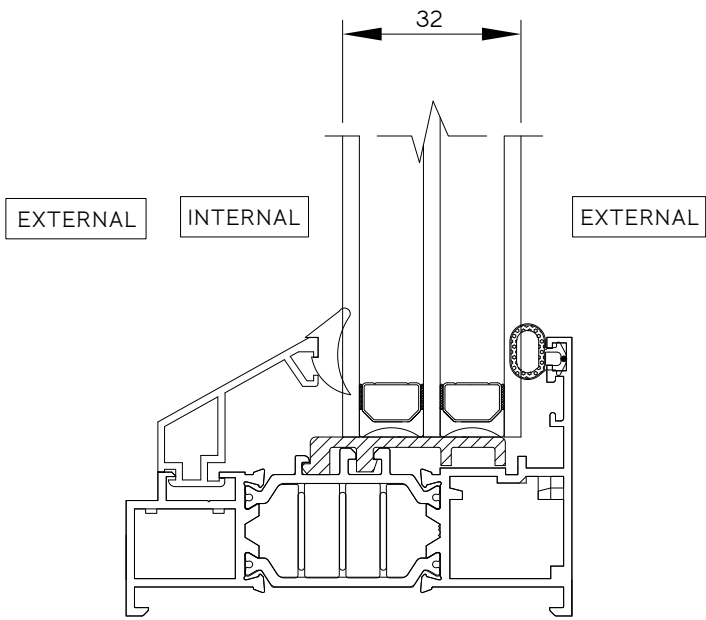
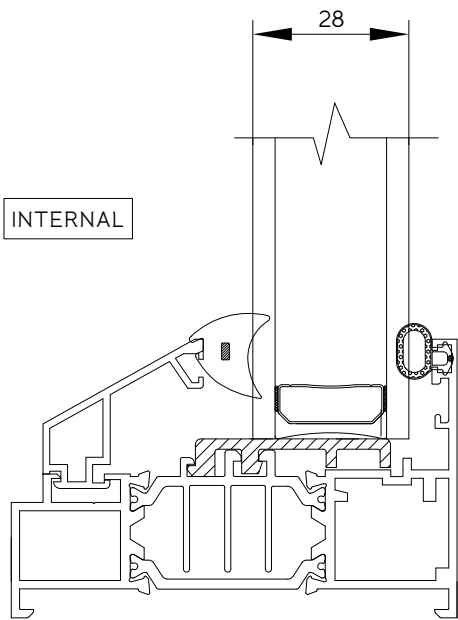


44mm Frame Bead

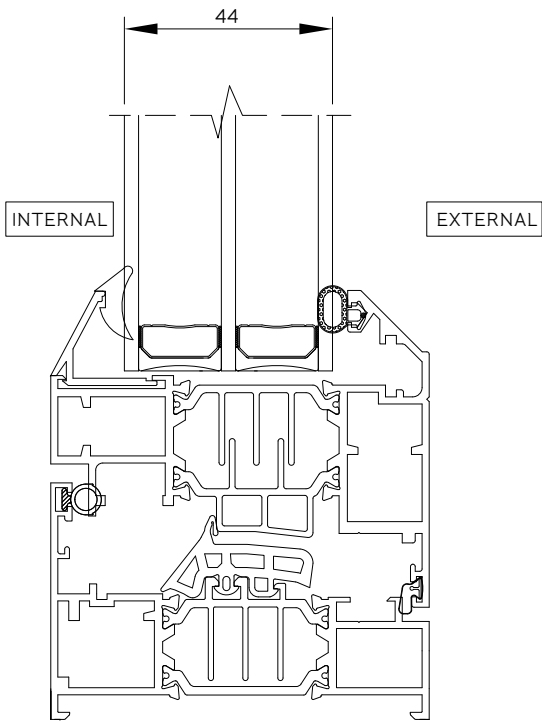
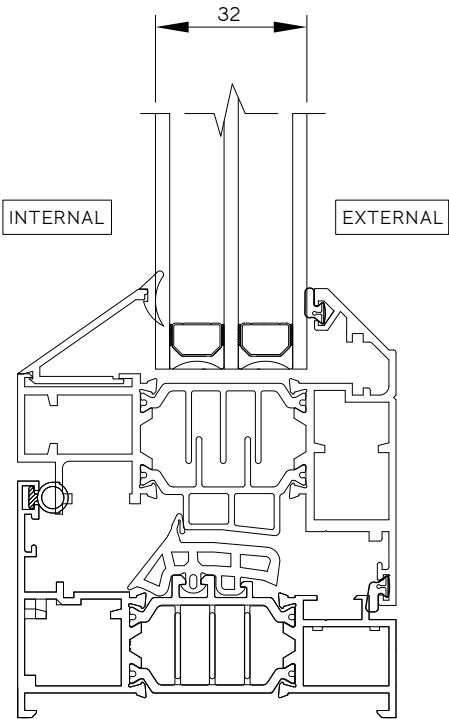
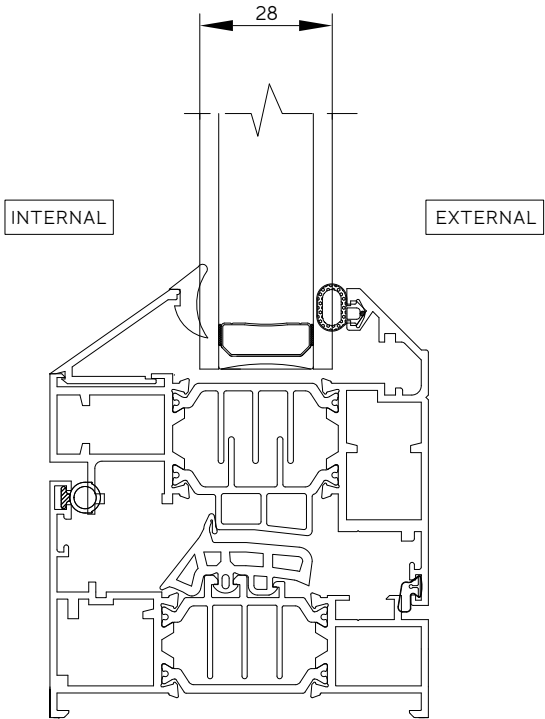


18a

Fixed Frame Glazing Options

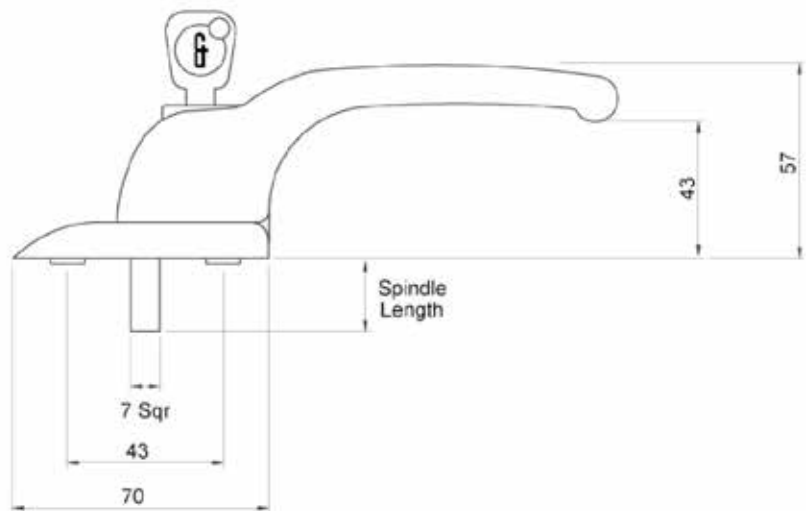
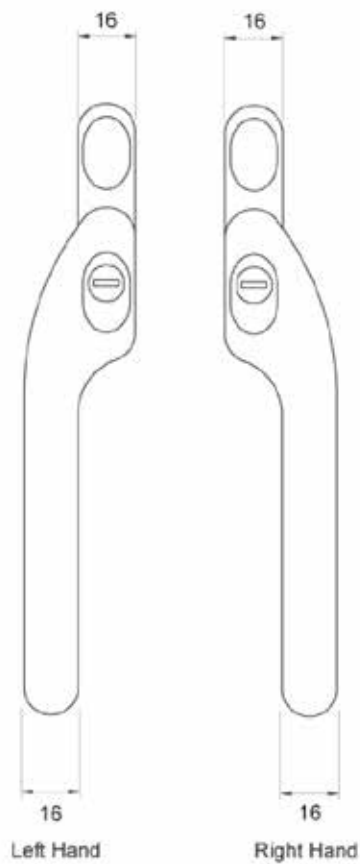


18b Casement Glazing Options



Handles

Offset Handle (H004-H005)



Connoisseur Key



Front Cover Cap



Rear Cover Cap

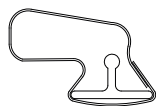


Screws x2



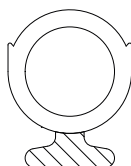
Gaskets

1. Sash Closing Gasket QL4636



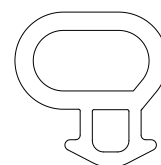
External

2. Frame Closing Gasket 4028



Internal

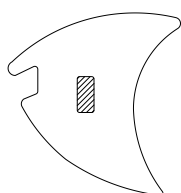
3. Glazing Rebate B2018



External



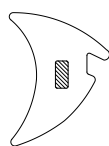
4. Glazing Gasket W473p (fixed frames - 28mm)



Internal



5. Glazing Gasket W474 (fixed frames - 44mm)



Internal



6. Glazing Gasket Casements W488



Internal

7. Cavity Gasket



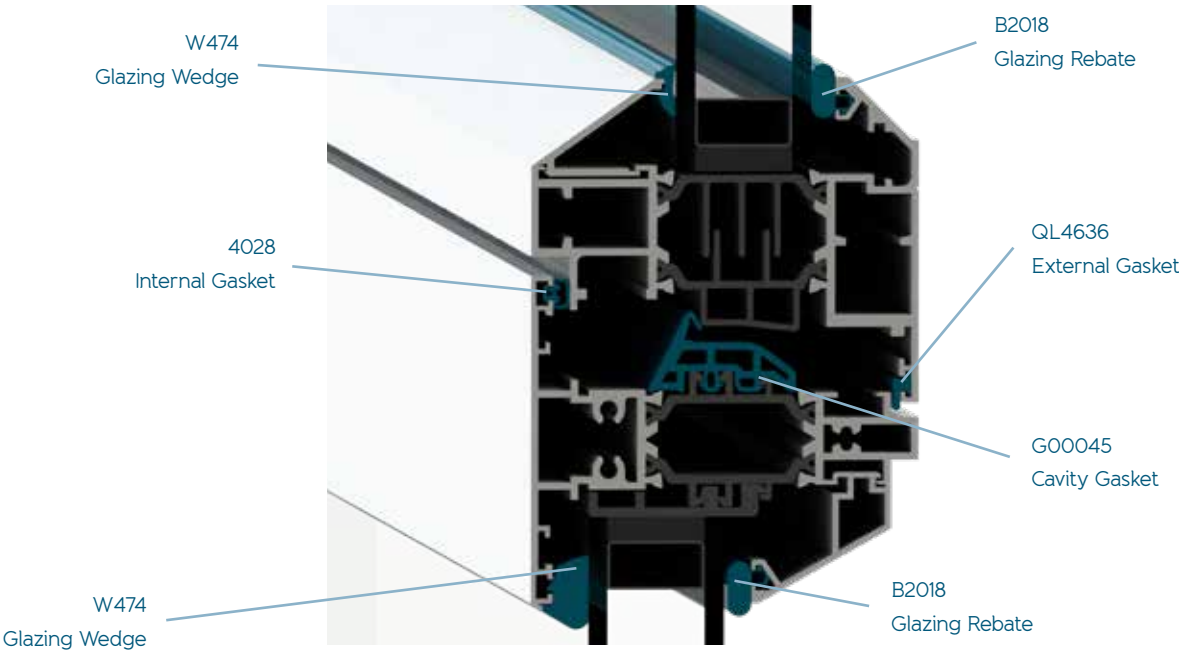
Colour	QL4636 (Sash Closing Gasket)	4028 (Frame Closing Gasket)	B2018 (Glazing Rebate)	W473 (Glazing Gasket)	W474 (Glazing Gasket)	W488 (Glazing Gasket)	G00045 (Cavity Gasket)
Black	G00006	G00006	G00001	G00037	G00040	G00038	G00045
White			G00002	G00036	G00041	G00039	
Graphite Grey			G00064				
Light Oak			G00065	G00085	G00076	G000780	
Light Grey			G00089	G00084	G00075	G00079	
Bronze			G00090	G00086	G00077	G00081	
Chestnut Brown			G00091	G00087	G00078	G00082	
7015			G00092	G00088	G00068	G00083	
7016				G00063	G00061	G00062	

Cross Sectional Gasket Diagrams

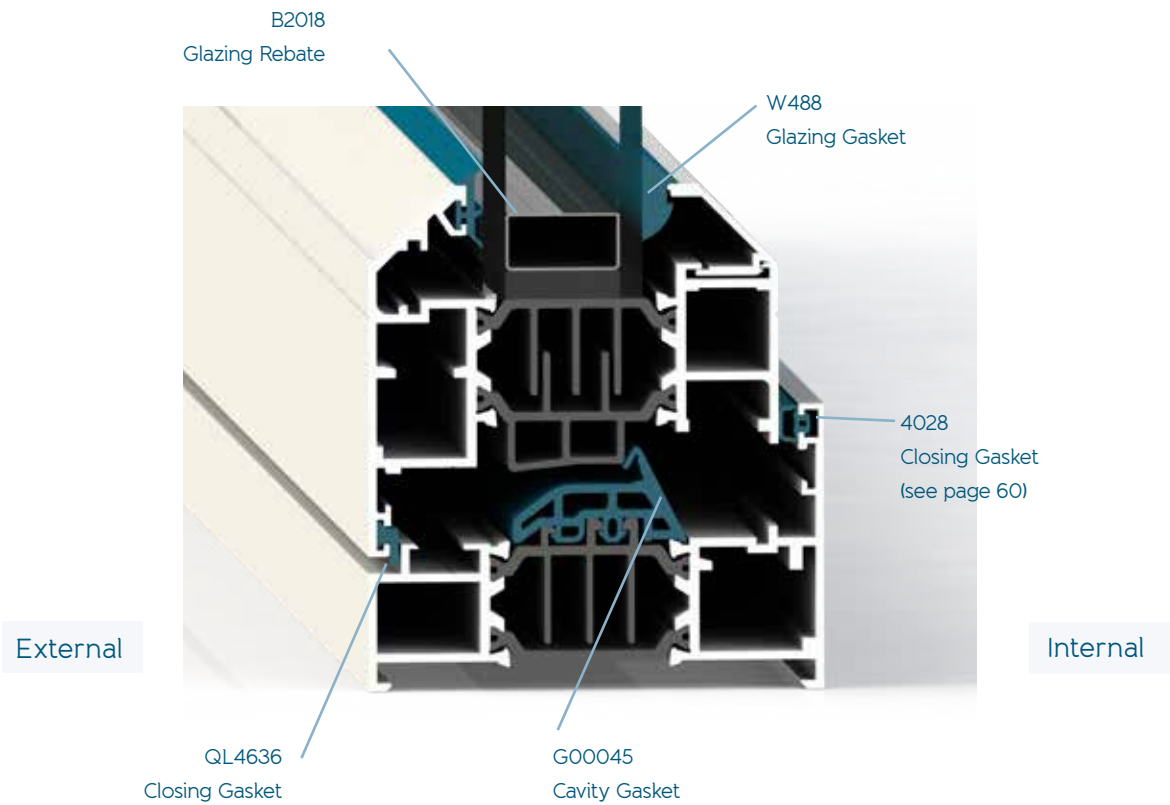
► Colour coded gaskets are available as an optional extra.

Internal

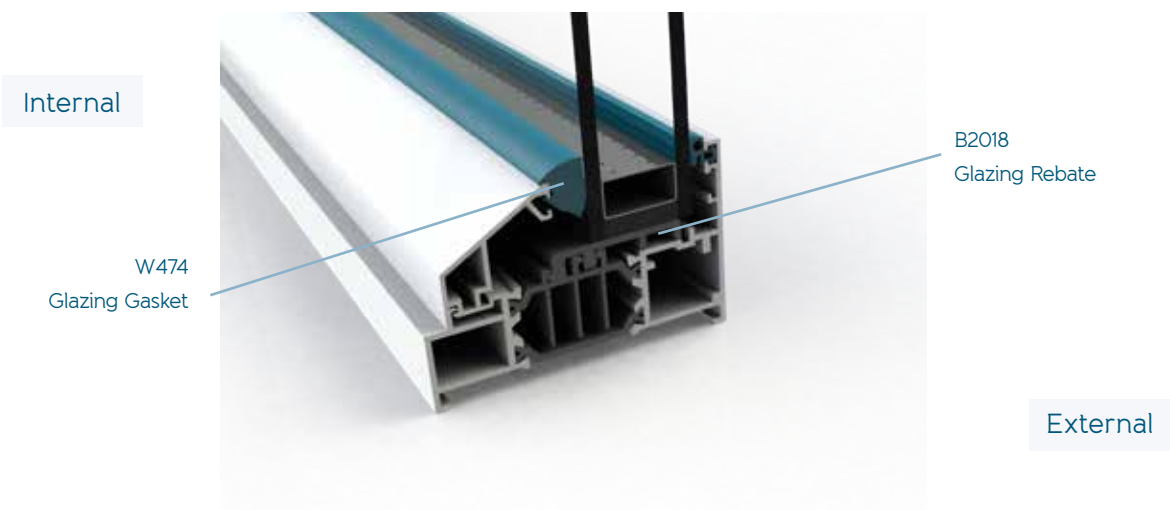
External



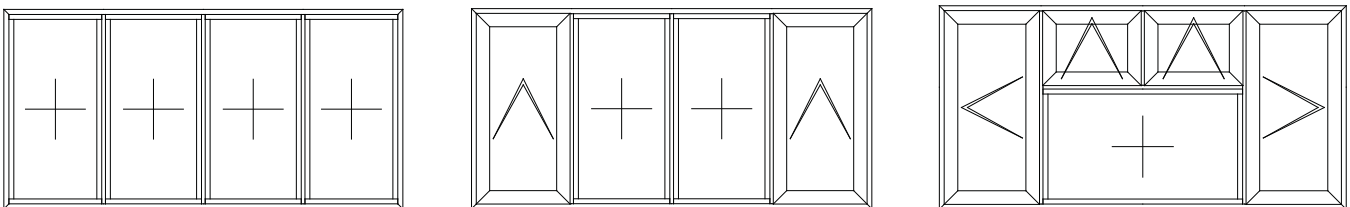
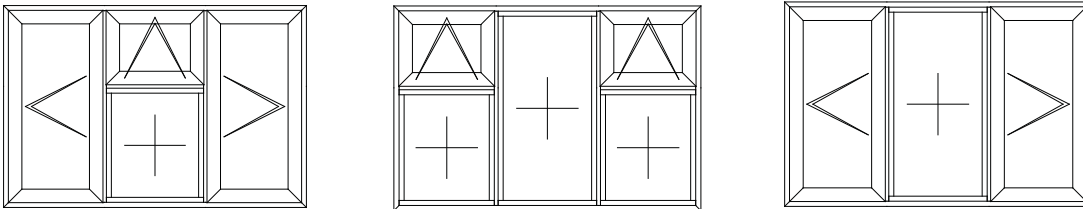
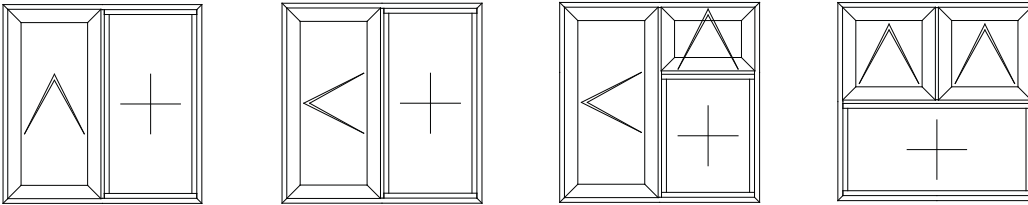
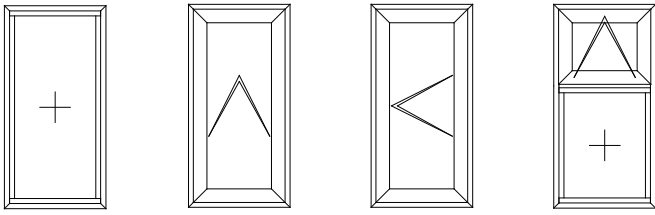
Cross Sectional Gasket Diagrams - Casement



Cross Sectional Gasket Diagrams - Internally Beaded Fixed Frame

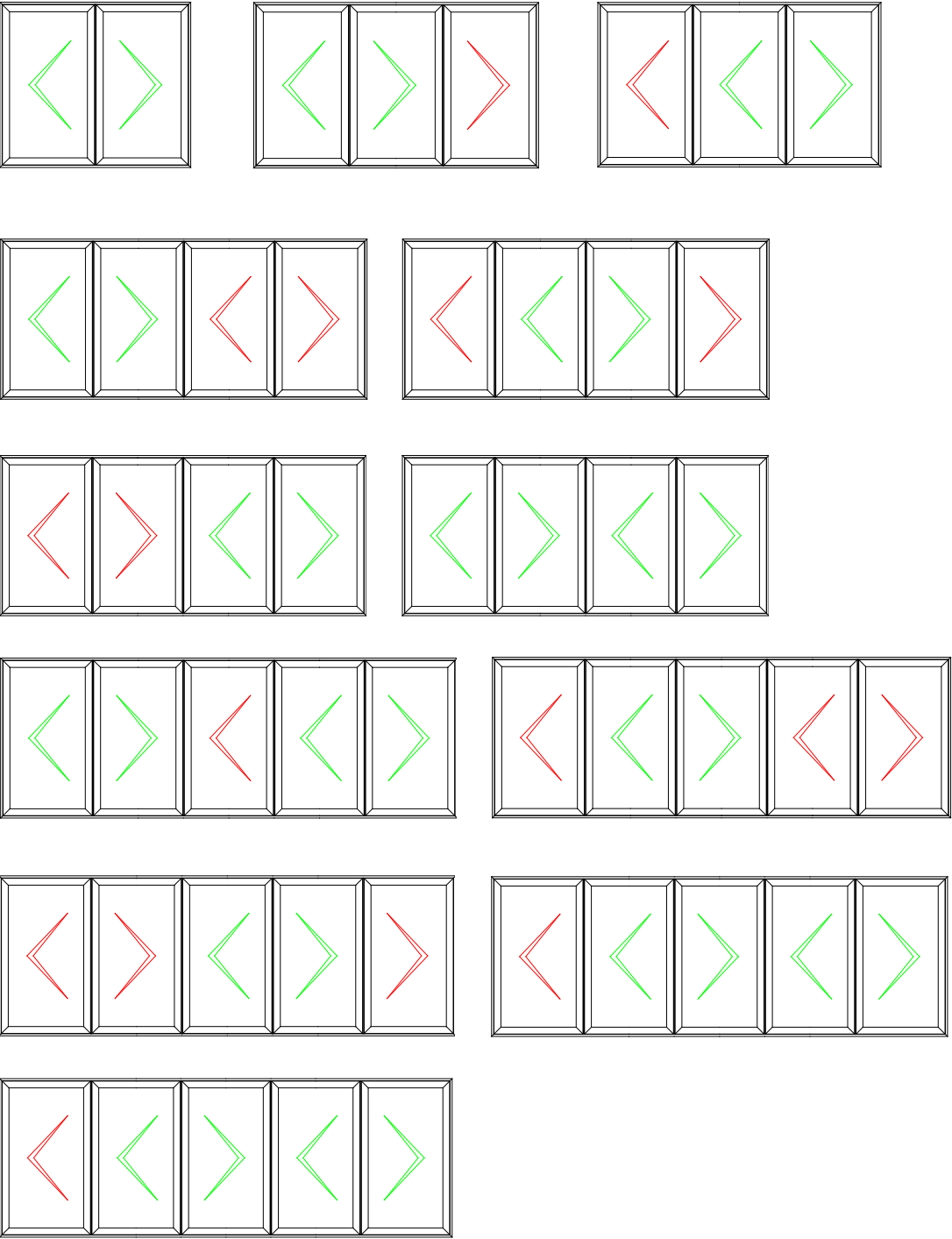


Popular Configurations

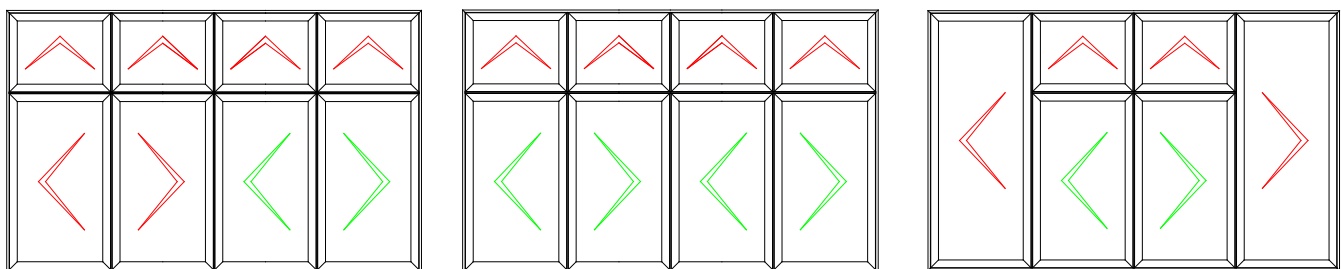
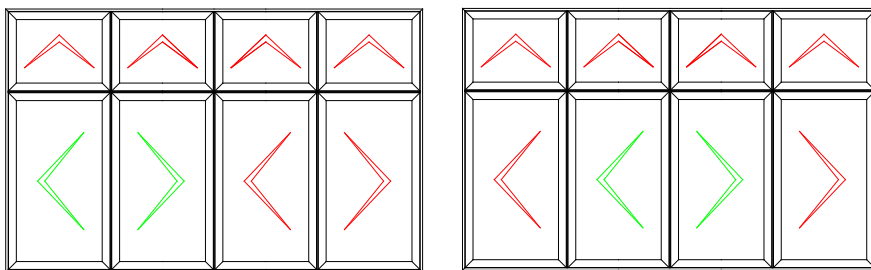
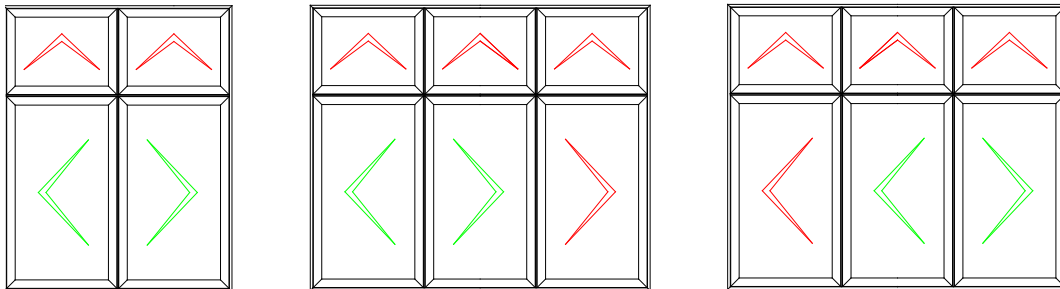


Key: Fixed Frame or Dummy Sash Top Hung Left Hung Right Hung

French Window Configurations



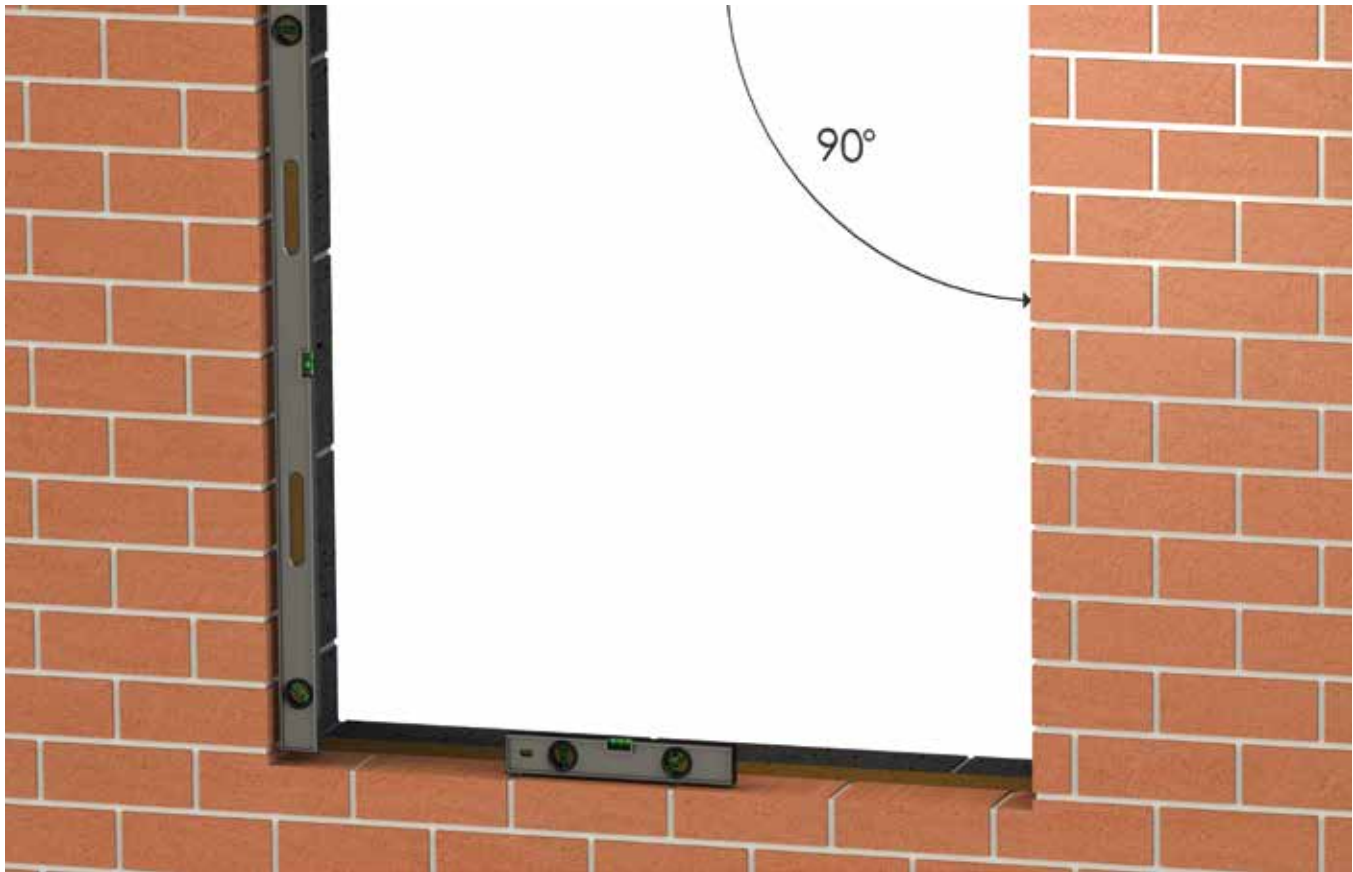
Popular Configurations



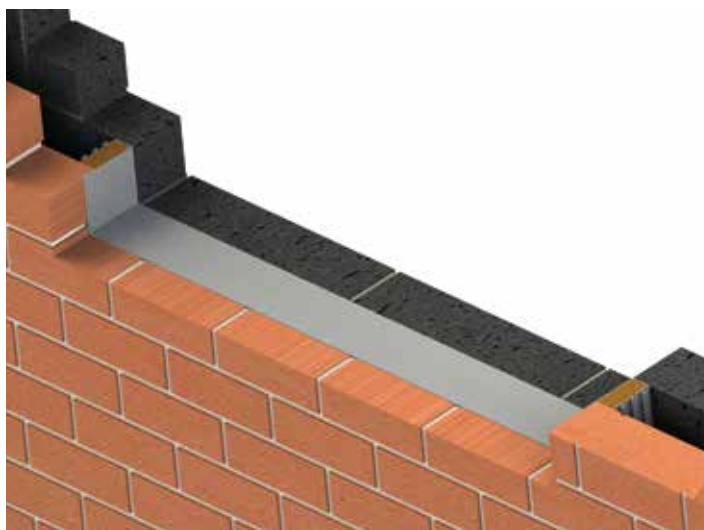
Key: French Window Top Hung Left Hung Right Hung

OW-80 Installation Guide

Apertures



Open cavities discovered between the inner and outer skins of brick or block work should be bridged or closed with an insulation material in accordance with the local building authority.



Windows should be installed in the aperture without twisting, racking or distorting.

1. Frame Fixing



FIG 1

Measure the opening, checking it fits with all measurements on your Origin paperwork.

- ▶ **1.1.** Place the correct frame packers spaced at a maximum of 500mm apart along the length of the opening to create a level, well supported platform for the track/ cill to sit. (Fig.1)

1. Frame Fixing (continued)



FIG 2

- ▶ **1.2.** Using an appropriate silicone sealant, fill the ends of the cill section and install the end caps (Fig.2)
- ▶ **1.3.** Place the cill on the pre-prepared frame packers and re-check for level - adjust as required (Fig.2)
- ▶ **1.4.** Using a silicone sealant, seal the drainage channels adjacent to the brickwork (Fig.2)
- ▶ **1.5.** Run a bead of sealant along the up-stand of the cill (Fig.2)

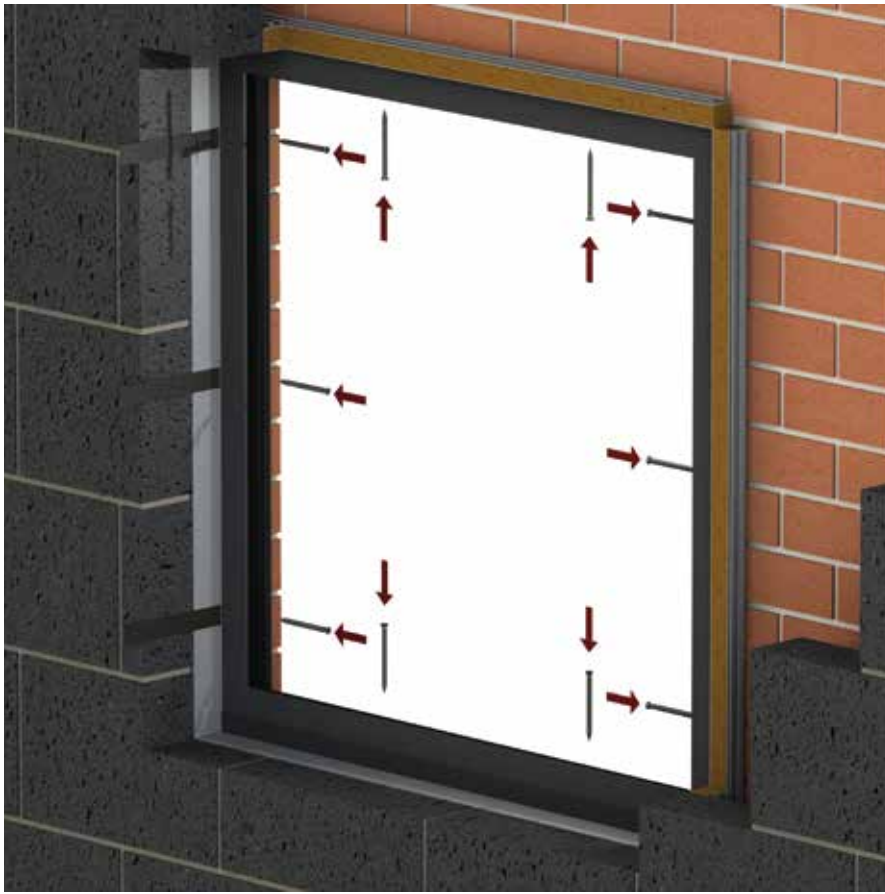


FIG 3

If using fixing straps, please skip to 1.7.

► **1.6.** Place the window on the cill and secure into position. Wherever practical, all four corners of the frame should be secured as follows:

- Frame fixing should be between 100mm to 150mm from the external corners.
- Fixings should be at no greater than 600mm apart and there should be the minimum of two fixings on each side. On windows over 1,800mm wide, central head and cill fixings should be provided. (Fig.3)

Please move to 2.1.

► **1.7.** Fixing Strap Screw Recommendations:

- 3.9mm minimum diameter
- 15mm max length for standard leg frame
- 35mm max length for long leg frame

► **1.8.** Secure the fixing strap into the rebate of the window with the screws provided

► **1.9.** All four corners of the frame should be secured wherever practical

► **1.10.** Fixing straps should be spaced a minimum of 150mm in from each end and at a maximum of 300mm apart

2. Glazing



FIG 4

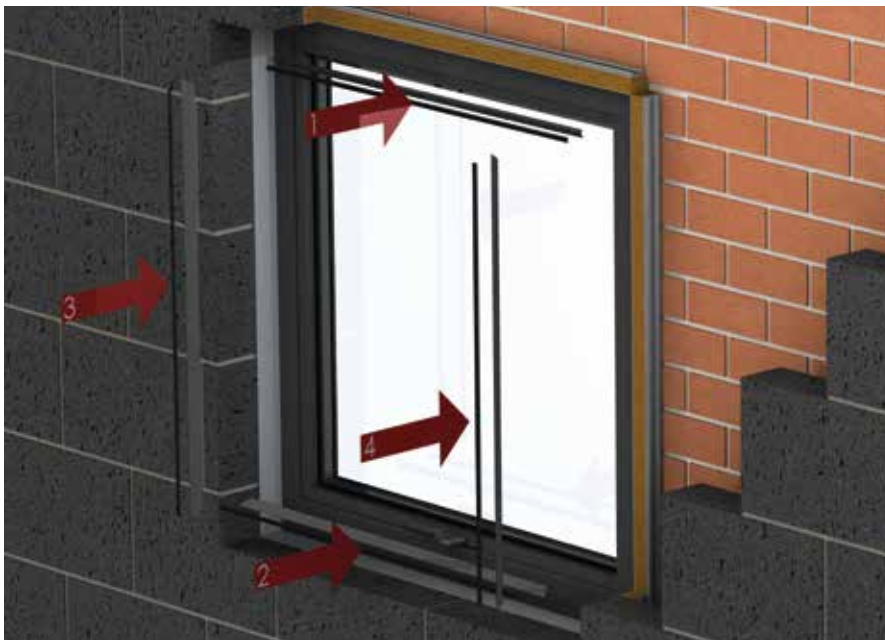


FIG 5

- ▶ **2.1.** All insulated glass units should be examined for damages and defects before installation (Fig.4)
- ▶ **2.2.** Close the window and fully engage the lock (Fig.4)
- ▶ **2.3.** Remove the 4 glazing beads (Fig.4)
- ▶ **2.4.** Place the required packers in the bottom of the glazing chamber spaced approximately 50mm in from each corner at 90° to the window (Fig.4)
- ▶ **2.5.** Install the glass on the packers, taking care not to pinch the gasket on the outside (Fig.4)
- ▶ **2.6.** For safety, always ensure the top bead is installed first, followed by the bottom and then the side beads (Fig.5)
- ▶ **2.7.** Cut the glazing gasket to length and insert between the glass unit and the glazing bead (Fig.5)

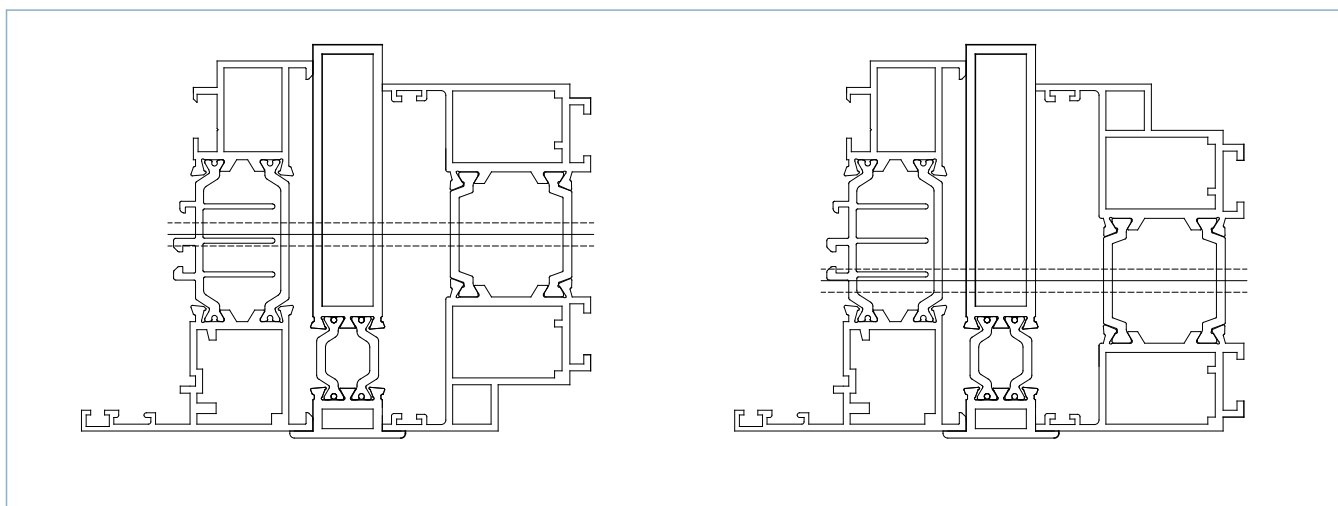
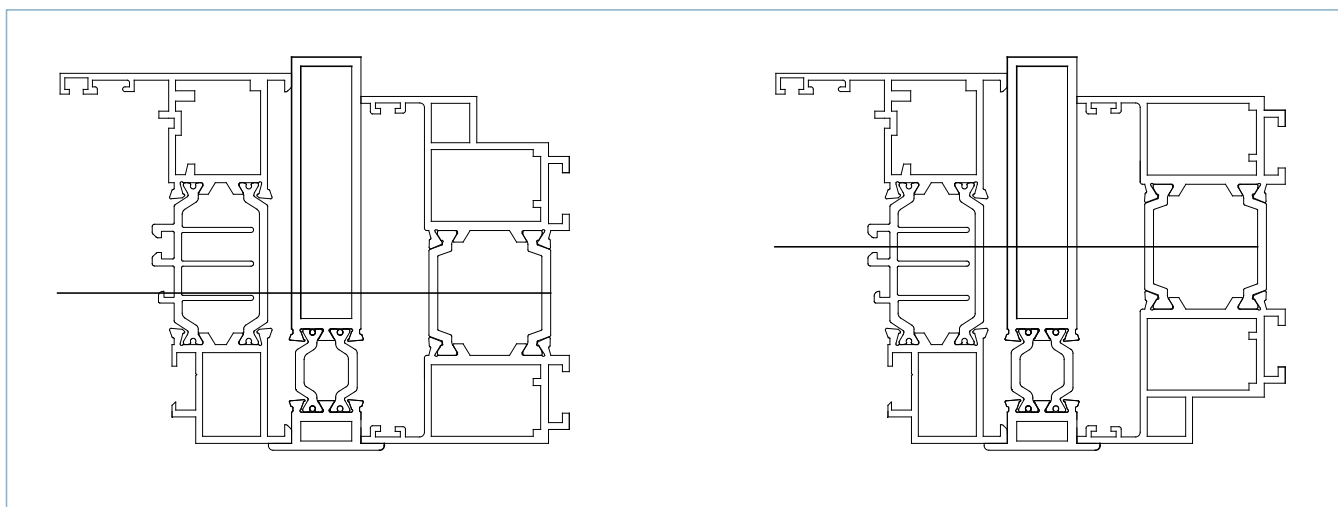


FIG 6

- ▶ **3.1.** Wherever practical, gaps around the window should be filled with foam to stop air flow around the window and the surrounding aperture (Fig.6)
- ▶ **3.2.** If required, use trim to bridge the gap between the window and the aperture – all trim should be compatible with the material of the frame and should be colour matched where specified (Fig.6)
- ▶ **3.3.** The sealant should be applied against a firm backing so that it is forced against the sides of the joint during application: the best practice is to have insulating foam fill inserted wherever practical (Fig.6)

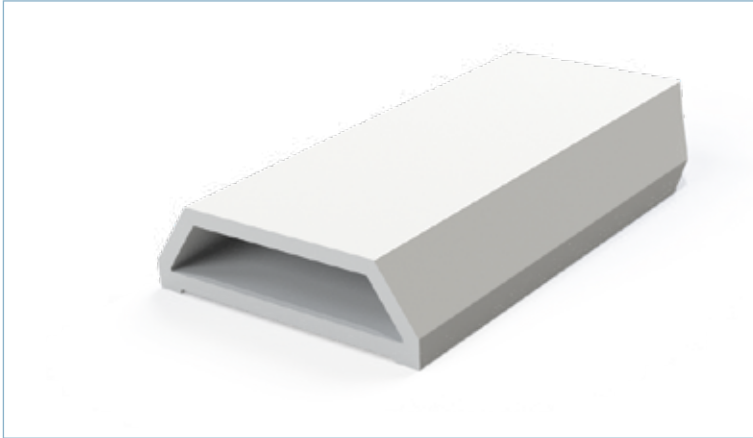
Door-to-Window Installation Guide

- ▶ The coupler is only to be used vertically. The maximum length of a coupler is 3,000mm
- ▶ Fixings are to be placed 150mm from the ends and at 400mm centres
- ▶ Ensure you make the appropriate deductions to your products (a total of 15mm or 7.5mm on each product)



Door to OW-80 fixing positions

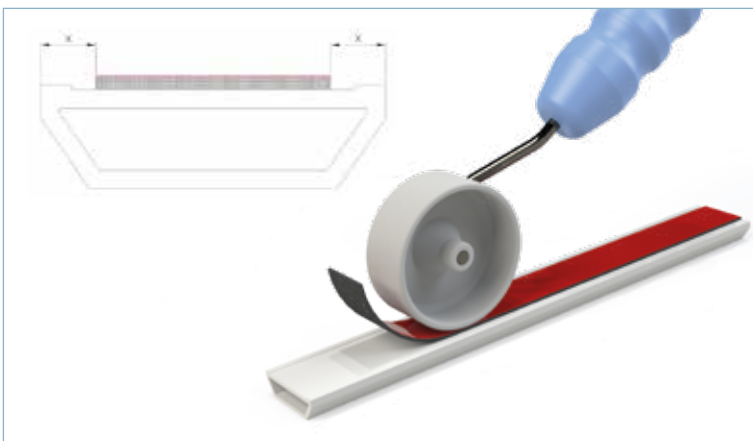
Glazing Bar Installation Guide



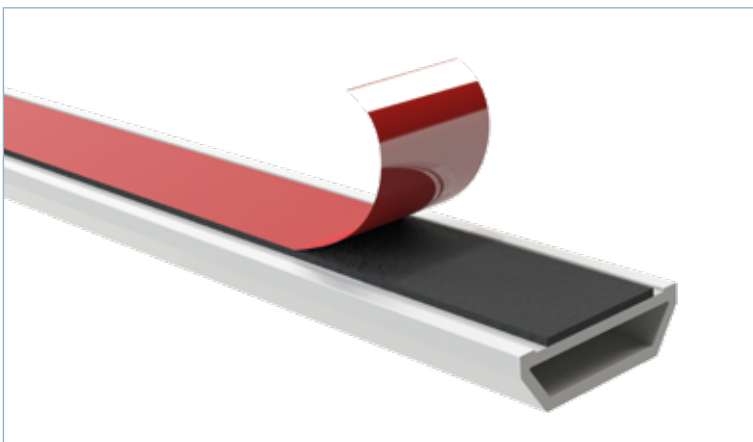
NB: The glazing bars are supplied as 10m bar lengths (2x5m) with 13m tape which will need to be bonded to the lengths of the bar

1. Once glass is fully installed, ensure the glass is clean - we recommend using a saline solution or glass primer
2. Measure the sash, and using the approximate deductions from the offset table, cut the bars to length with the appropriate angles

Note: All deductions are oversize to reduce wastage and bars will need to be trimmed to ensure a seamless joint



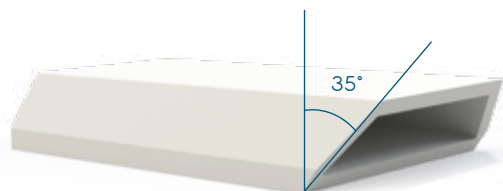
3. Clean the underside of the glazing bar using a saline solution or primer
4. Place tape on the underside of the glazing bar, ensuring it remains central along the bar - we recommend using a roller to ensure the strongest bond



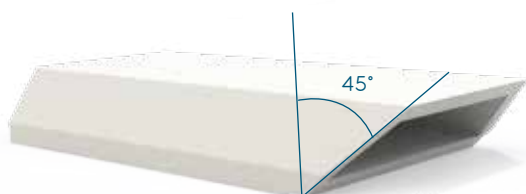
5. Before removing red backing, offer the bars up to the glass and check for size, trim as required
6. Remove red backing of the tape and press bar firmly onto the glass

Note: deductions are all approximate and are given as a guideline. Final trimming should ensure a snug fit.

Glazing Bar Window Offsets

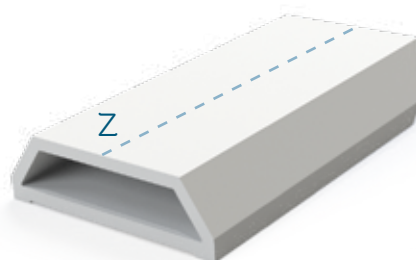
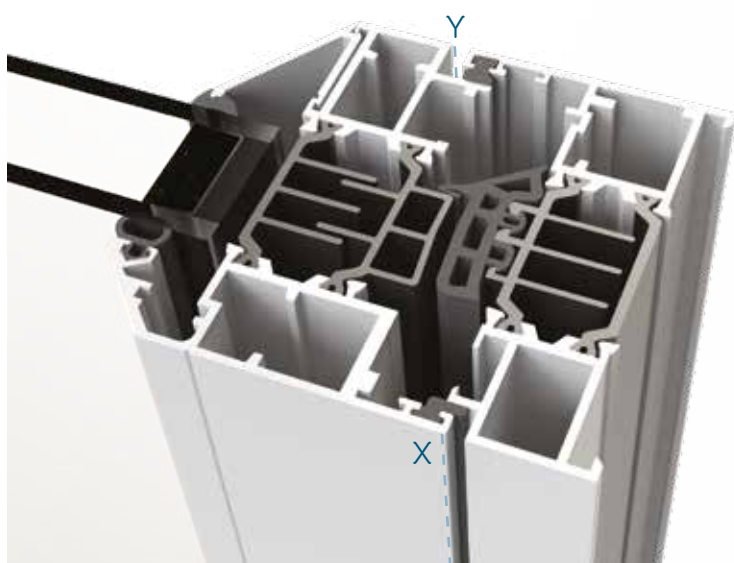
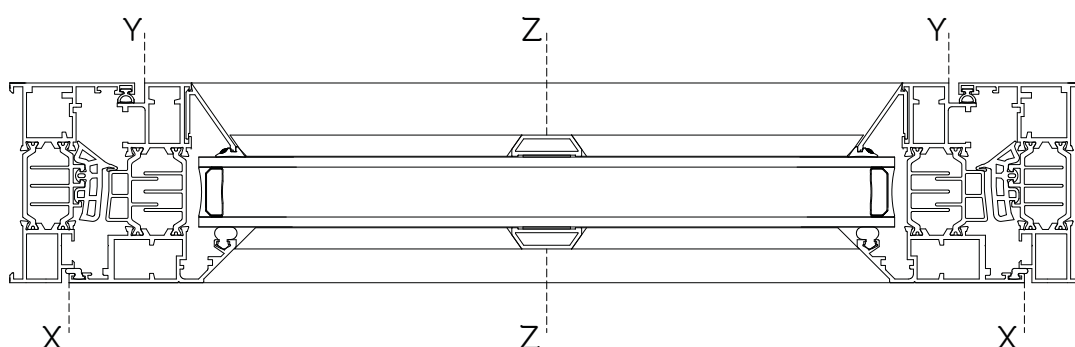


Full lengths	Cut Angle	Approximate Deduction
Sash Rebate to Sash Rebate	45°	X to X - 134mm
28mm Bead	35°	X to X - 138mm
44mm Bead	45°	X to X - 135mm

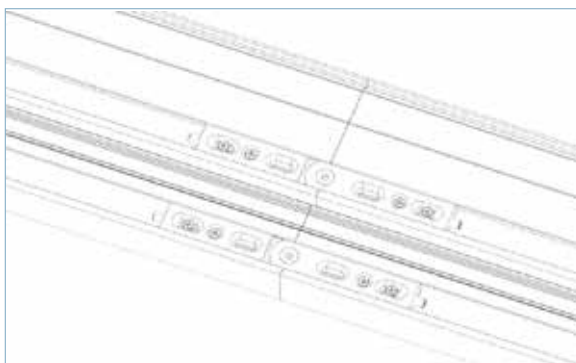
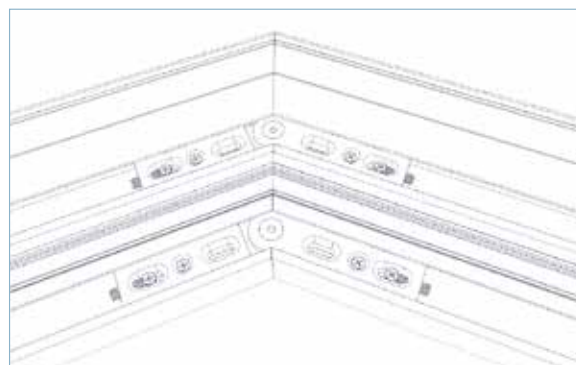
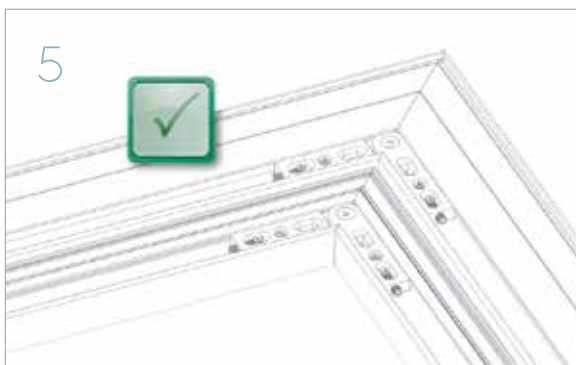
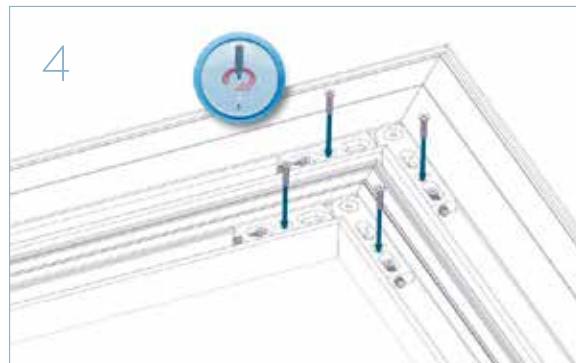
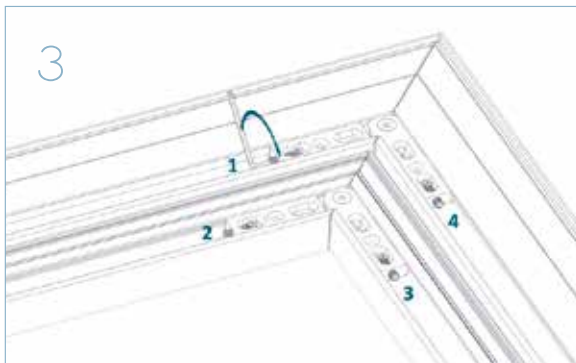
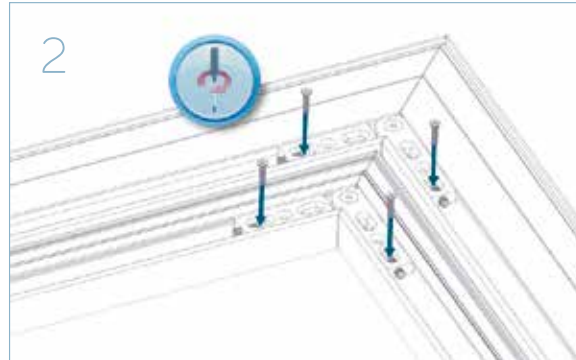


Crossover	Cut Angle	Approximate Deduction
Bar to Bar	35°	Z to Z - 25mm
Rebate to Bar	45° + 35°	X to Z - 81mm
28mm Bead to Bar	45°	Y to Z - 150mm
44mm Bead to Bar	45° + 35°	Y to Z - 149mm

(X to Y dimension = 30mm)



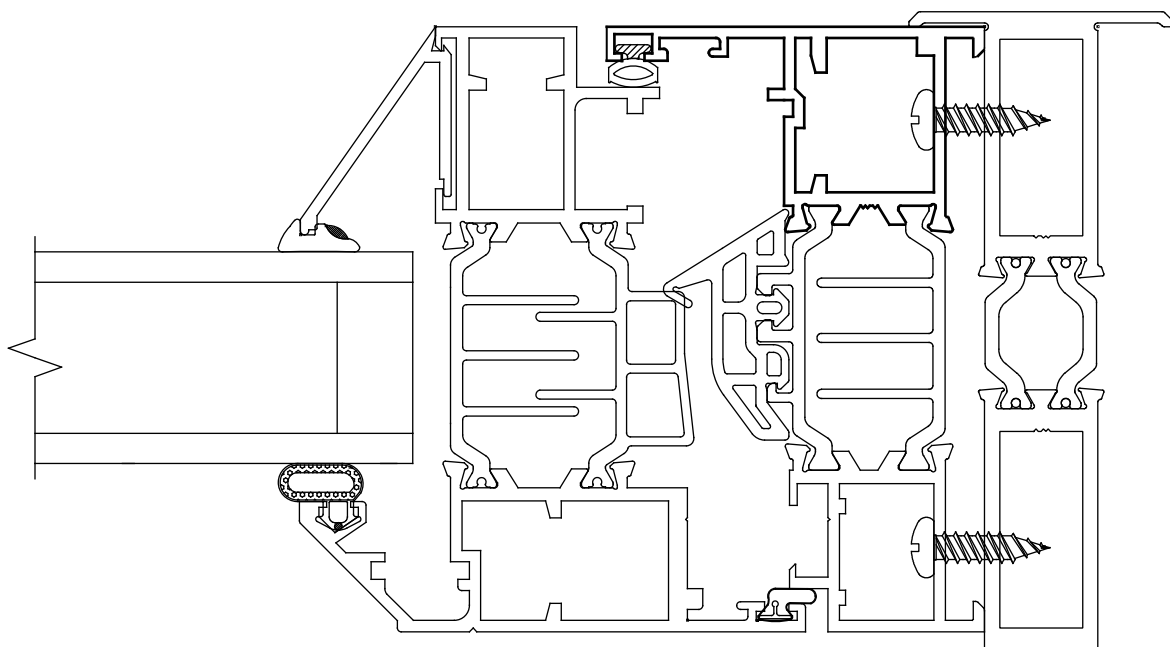
Variable Cell Cleats Installation Guide



Universal Coupler Installation Guide

1

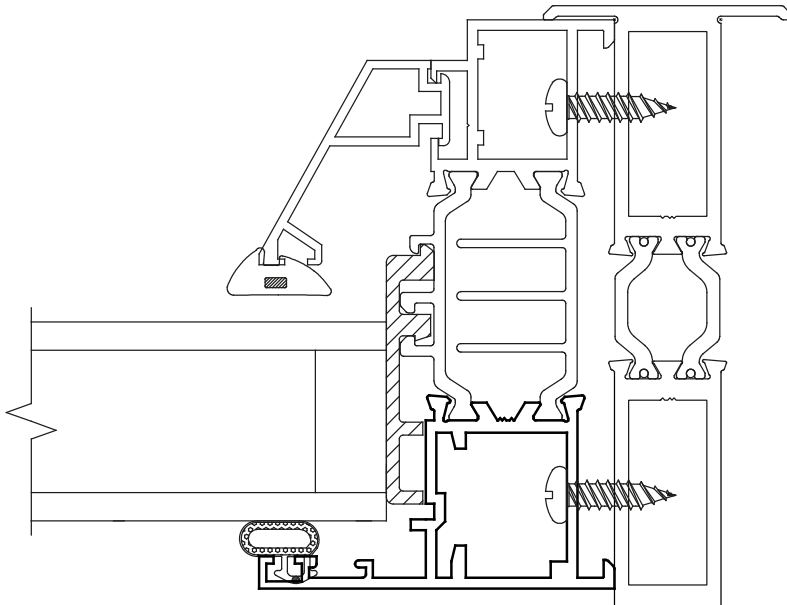
OW-80 Casement



4.2 X 16 PHILLIPS PAN SELF TAPPING SCREW DIN
7981C H A2 STAINLESS STEEL

2

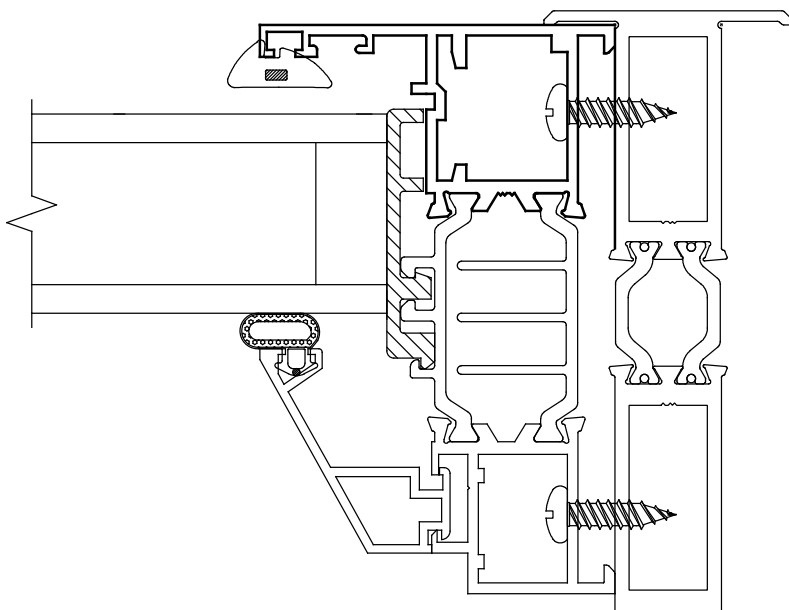
OW-80 Fixed (internally glazed)



4.2 X 16 PHILLIPS PAN SELF
TAPPING SCREW DIN
7981C H A2 STAINLESS STEEL

3

OW-80 Fixed (externally glazed)



4.2 X 16 PHILLIPS PAN SELF
TAPPING SCREW DIN
7981C H A2 STAINLESS STEEL

Accreditations...

At Origin, we pride ourselves on providing best quality products backed by best levels of service and efficiency. Put simply, our aim is to continuously learn, evolve and improve.

We are well known for having rigorously high standards in everything that we do. We're also known for innovation, but we never want to settle: if there's a way that we could do something better, we will find it.

This ethos has been instilled throughout Origin. Whether it's a process, product offering or even the company's sustainability, we have created a culture that encourages continuous improvement.

To demonstrate our commitment and as a way of measuring our performance, we work towards gaining certain prestigious accreditations. Our achievements show a strong moral and ethical intent in how we operate and how we try to do things the best way, not because we are told to do so, but because we think it is the right thing to do.

ISO 9001 – Quality Management...

ISO 9001 is an international standard that assesses a company's quality management system. Having first achieved it in 2013, the fact that we still are certified means that we have a track record of consistently providing products and services that meet both customer and regulatory requirements.

It's something that we take very seriously and its influence is integrated into every process.

Key areas of this include:

Product quality – To ensure a product's overall manufacture is flawless, we have checks in place to guarantee you the best quality. A few examples are:

- Supply chain – an inspection at the point of delivery and before going into manufacturing. If anything is spotted, it's documented and raised with the supplier.
- Production – there are quality checks at every station, not only to look over the previous person's work, but to review the quality of the overall build.
- Equipment – a robust maintenance schedule for machinery and equipment ensures consistency.
- Pre-delivery – before it is packaged and loaded ready for delivery, there's another thorough check to ensure nothing's happened whilst being moved from station to station.
- Feedback – as part of our mission to always innovate, whether it's from internal or external stakeholders, feedback is imperative. We are very proactive at bringing this type of information back into the business and learning, as it gives us an opportunity to improve.

- Training and development for our employees – meaning we're better at understanding the good, the bad, and what we can do better.



ISO 45001 – Health & Safety Management...

Whether it's through improving homes with our products, or in our workplace, people are at the heart of everything that we do at Origin, so we are very proud to have achieved a triple badge accreditation when we received our latest accolade – ISO 45001.

ISO 45001 recognises our commitment to employee safety, and reduces workplace risks to create a better, safer working condition. We have spent time reviewing all the activities that go on within the offices, manufacturing centres and warehouses, and have created a full risk log which will link up to our current risk assessments. These are fed back so they can be actioned to be rectified or developed into an improved method of operating.

This means that you can buy from our range safe in the knowledge that we are minimising risks as much as we can for optimum safety.



ISO 14001 – Environmental Management...

Now more than ever, we need to be aware of the impact our operations may have on our environment; the legal obligations we must adhere to, and ensuring we are doing things the right way.

The internationally renowned ISO 14001 accreditation measures the environmental management system that we have in place. It's a subject that's very close to our hearts, which is why working towards this standard was an easy decision.

We care about the resources we use for our products – where they come from and where they end up. To add to this, we aim to be zero waste to landfill and have already put into place many positive changes to make this happen. We want our customers to buy from us with a clear conscience and feel that ISO 14001 can prove that Origin is taking responsibility, acting ethically, legally and exercising best practice in all that we do. Our environmental management system covers:

- Waste management and energy targets – to reduce our consumption and impact on the environment
Helpful hints, tips and reminders are prompted to all staff regularly, so that they can join us in our goal and see how small changes to their work practices can have a big impact.
- Product design and lifecycle – recyclability and sustainability are a design priority for us.
- Supply chain – choosing suppliers that are aligned with our ethos and vision. This is applicable not only when bringing on new suppliers, but also working with existing ones to better their carbon footprint – whether that's minimising packaging, reusing or even our drivers picking up the materials on their routes, rather than a supplier sending their own fleet, we are constantly reviewing how we can improve.



Secured by Design...

Secured by Design (SBD) is a national, police-backed standard, associated with security and levels of performance for weather, operation and quality on domestic properties. The flagship UK police initiative was originally introduced to help 'design out' crime through the use of high-quality, innovative products and market-leading processes.

It recognises that our doors and windows have not only been tested to the required security standards, but that they also adhere to the rigorous test standards required by the police.

This independent certification involves initial testing of the products and regular re-tests, as well as inspections of our manufacturing and production facilities, to ensure the correct processes are maintained constantly over time, providing more secure and reliable products.

In order to be able to apply, we first needed to achieve:

1. PAS 24 (Enhanced Security)
2. BS EN 6375 Part 1 (Weathertightness)
3. BS EN 6375 Part 2 (Operational and Strength Characteristics)
4. BS EN 6375 Part 3 (Basic Security)
5. ISO 9001 (Quality Management)

We're proud to say that our products passed every one and SBD, so you can feel secure by choosing Origin.



PAS 24: 2016...

This is your guarantee that the door sets and windows that we manufacture deliver the right level of security for the buildings they are intended to be part of.

Like most British Standards, PAS 24: 2016 is a minimum standard, and it is either a pass or fail test. There isn't a performance scale for those that are more or less secure, so some of the products that pass will be stronger than the minimum requirement. That's why we have become Secured by Design accredited. Because it's a voluntary scheme, we feel it demonstrates our commitment to the security and overall performance of our products.

Solutions

origin
DOORS AND WINDOWS

Origin Global HQ, Stuart House, Castle Estate,
Coronation Road, High Wycombe
Buckinghamshire, HP12 3TA

t 0808 168 5816
e enquiry@origin-global.com
w www.origin-global.com



THE QUEEN'S AWARDS
FOR ENTERPRISE:
INTERNATIONAL TRADE
2020