Classic & Prestige

BAY WINDOW

INSTALLATION GUIDE

PART L Compliant

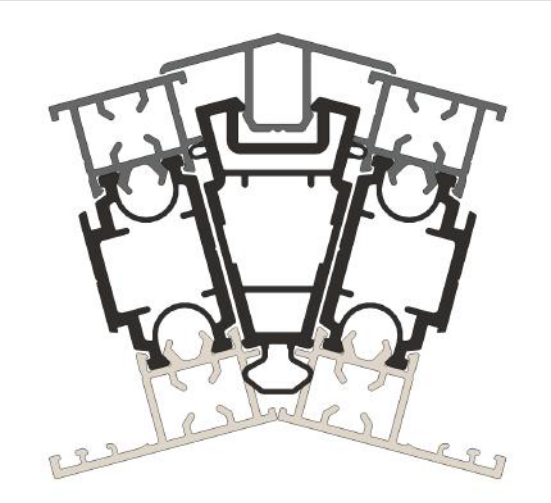
SHEERLINE®
ALUMINIUM WINDOWS AND DOORS

Contents

OVERVIEW

Corner bay assemblies continue with the same principal as the Sheerline ancillary profiles. Thermlock® bay thermal break sections also benefit from having 3 co-extruded gasket seals to provide a continuous seal to the opposing frame.

The external aluminium capping trims are powder coated to match the frame profiles whilst internally the frames simply butt together which removes the need for dual-coloured profiles and their associated complexity and lead time.



There are various corner post assemblies to suit a range of installation scenarios which will be covered separately in this guide including:

- Non-Structural 90°, 135° & 150° Corner Posts
- Non-Structural Variable Angle Corner Posts
- Structural 90° Corner Posts
- Structural Variable Angle Corner Posts

WHILE THE WINDOW DRAWINGS SHOWN IN THIS GUIDE ARE FROM THE PRESTIGE RANGE, THE SAME PRINCIPLES AND STEPS APPLY EQUALLY TO THE CLASSIC RANGE.

1

72mm

80mm

Prestige

There are dedicated external trims to use for each outer frame option. These can be easily identified by the system identity grooves on the profiles:

- *72mm trims have 2 grooves*
- *80mm has no grooves*

IMPORTANT: *If unsure on the load bearing capacity of the bay it is recommended you seek advice from an independent structural engineer. Where clarity cannot be determined at the point of survey, we always recommend using the structural corner post options.*

1

64mm

72mm

Classic

There are dedicated external trims to use for each outer frame option. These can be easily identified by the system identity grooves on the profiles:

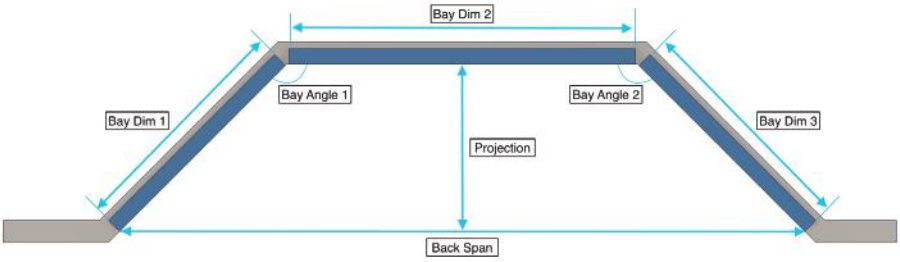
- *64mm trims have 4 grooves*
- *72mm has 2 grooves*

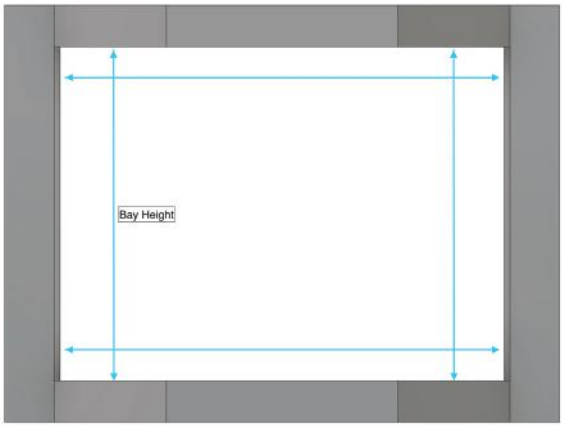
SURVEY & PRE-INSTALLATION

Surveying a bay window accurately is crucial for ensuring proper fitment, structural integrity, and thermal performance.

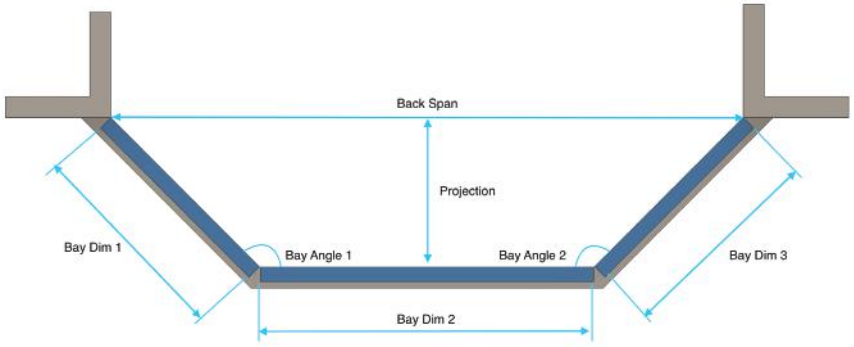
Unlike flat windows, bay windows involve angled returns and projections from the main wall line, making measurement and analysis more complex. This guide outlines the procedure to survey a bay window for retrofit, replacement, or new installation.

BAY TO REVEAL OPTION





BAY TO OUTER WALL OPTION



SURVEY & PRE-INSTALLATION *[continued]*

1

Confirm the type of bay window (box, angled, bow, or oriel). Assess access conditions (external scaffolding, internal obstructions). Take photos of:

- Full elevation
- Each bay facet
- Internal reveals and sills
- External cills, lintels, and roof covering (if applicable)

2 **Refer to diagram on page 4**

Using the external sizes, measure each facet of the bay window, and the bay to reveal or bay to outer wall; determine the angles between adjoining facets using a digital angle finder or template. When measuring external dimensions be sure to identify the frame thickness, as orders are made to internal sizes.

3

Measure the vertical dimensions from cill to head and check for any bowing or lack of verticality with a spirit level or laser level. Be sure to include cill height if required.

4

Measure the back span (internal width of the bay from frame to frame, which is the overall width of the bay). It may be necessary to cut away plaster on the inside to locate the frame edge.

5

Measure the projection (the distance from the back span (wall) to the inside of the front window.

6

Document the reveal depths and overall wall thickness to ensure accurate fabrication and fitment.

Frame size = brick to brick size – 5mm each side, so that window can be installed level and square.

7

Check Structural Elements:

Inspect the head and base support.

For load-bearing bays, note the presence of:

- Structural gallows brackets
- Lintels or bay roofs (timber or GRP)
- Check for any movement, cracking, or sagging.

IMPORTANT

Bowed frames, dropped bay heads or cracked render / stucco may indicate structural issues requiring engineer input.

8

Assess Surroundings & Fixings:

- Presence and condition of cills (stone, PVCu, hardwood, etc.)
- Roof structure (for bay roofs): pitch, coverings, leadwork
- Soffits, fascia's, and rainwater goods
- Identify fixing points and obstructions (cables, pipes, radiators).

If structural bay poles are required, ensure there is a stable head and base for the bay pole to support. Steel plates may be necessary where there is no stable surface (not supplied).

SURVEY & PRE-INSTALLATION *[continued]*

9

Make a note of any Ancillary Requirements such as:

- Ventilation (trickle vents?)
- Safety glass zones (critical for low-level glazing)
- Opening light configurations
- Preferred transom / mullion positions
- Interior finishes (plaster return, timber liners, etc.)

10

Survey for water ingress, especially at bay roof junctions, flashing, and sills.

11

Additional Considerations: Building a new bay window is classed as an extension and requires building regulations approval. A bow or curved window that doesn't increase the floor area is not classed as an extension.

If you are replacing an existing bay window the same rules apply as for any replacement window, and you will need building regulations approval unless you are using a competent person.

Disclaimer: Please check with the latest Building Regulations and standards that are relevant to your area for guidance and to ensure you comply with the latest regulations. The advice given in this document assumes fitting will be carried out by a qualified professional following BS 8213 - 4;2016 the Code of Practice for the Survey and Installation of Windows and External door sets, where applicable.

Any issues arising at the point of survey should be discussed with the customer, with any remedial action agreed before proceeding.

12

Before installation, ensure the bay is adequately supported. Install temporary supports such as adjustable steel Acrow props and wall studs to ensure everything remains stable while working.

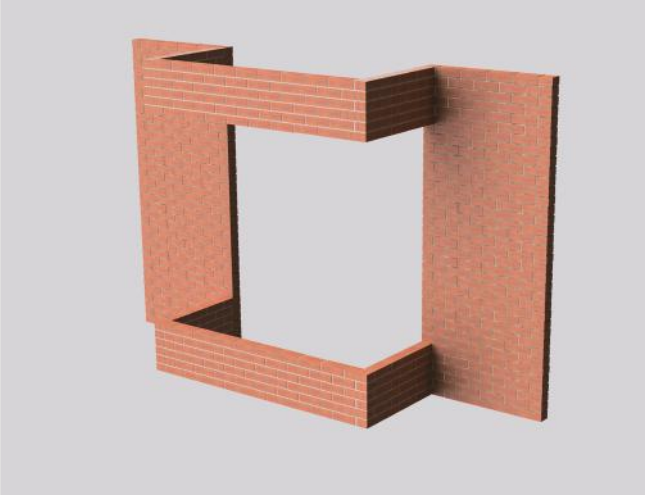
Note new structural header may be required if the new bay is wider to bear the load.

SURVEY & PRE-INSTALLATION *[continued]*

13

Where applicable, remove old windows and leave as smooth an opening as possible - this will make fitting new windows a lot easier.

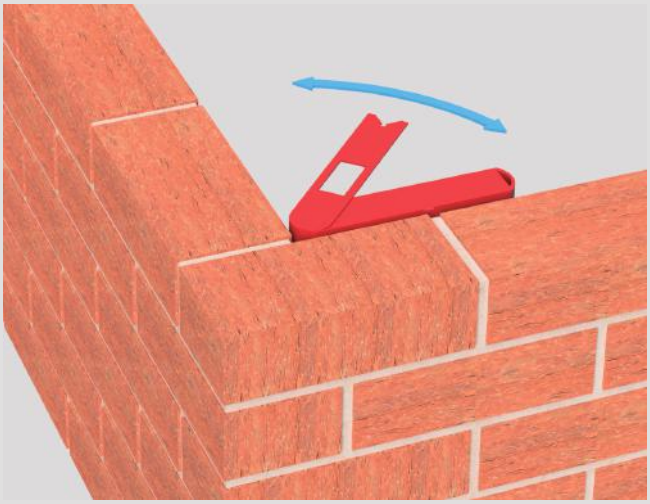
Check the aperture to make sure that there is no loose plaster or brickwork, and that it is free of any debris or brick dust.



14

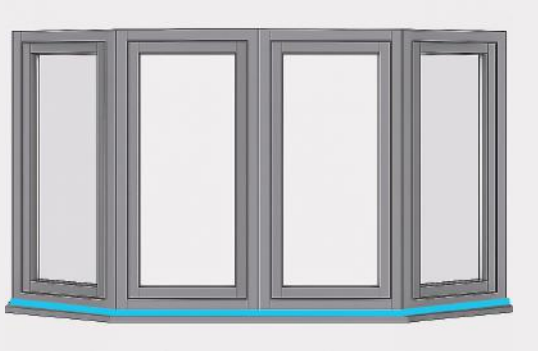
After removing the old windows and preparing the opening for the new units, begin by measuring the sill angles.

This guide includes the complexities of installing variable-angle bays. Ensure complete confidence in your angle measurements before proceeding with any sill cuts by measuring the internal angles.



CILL PREPARATION

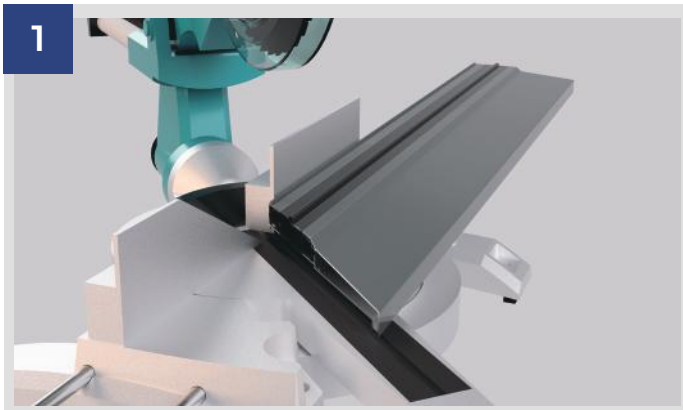
The cill may be supplied loose and require assembling on site and should be cut in to sit flush to the house wall on the returns.



CILL PROTECTOR

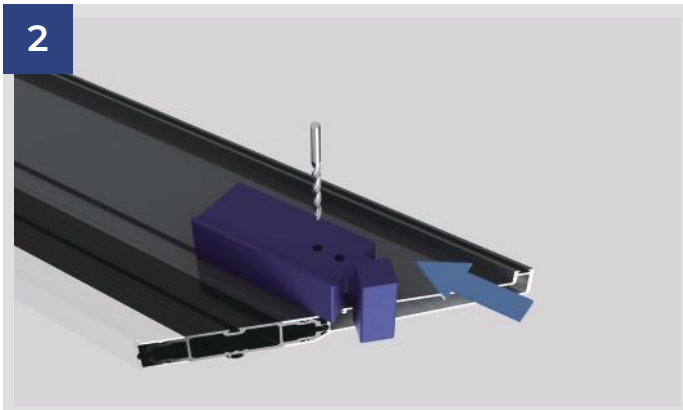
SA516 Reusable Cill Protectors are available from Sheerline. These help prevent damage on renovations and new-builds where building work will continue after the windows have been installed.

1



Prepare the cill by measuring the bay and cutting to size for the application, at the appropriate angle, again accurate sill angle measurement is essential.

2



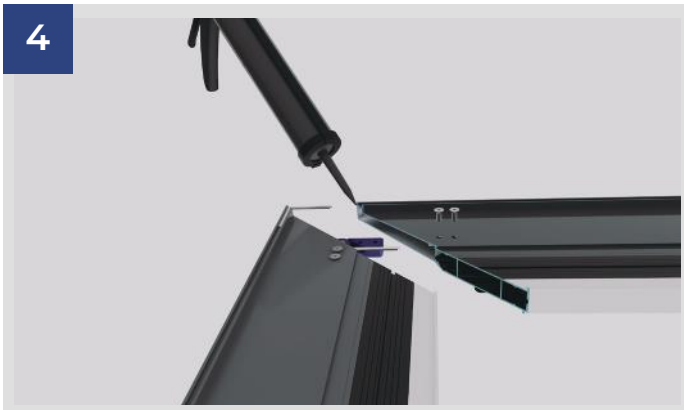
Locate SH919 - Cill Clamp Drill Jig, place the jig as shown, rotating the rear stop of the jig so that it sits against the face of the cill which is to be joined. Clamp the jig in position securely and drill through the guide holes using a ⌀5.5 Drill.

3

Using a 3mm Allen Key, loosen the centre bolt of the SH138. This will allow the joiner to be moved to any angle from 180°- 45°. Once at the desired angle, retighten the central bolt.

Note: SH138 is not compatible with SA010 (Stub Cill).

4



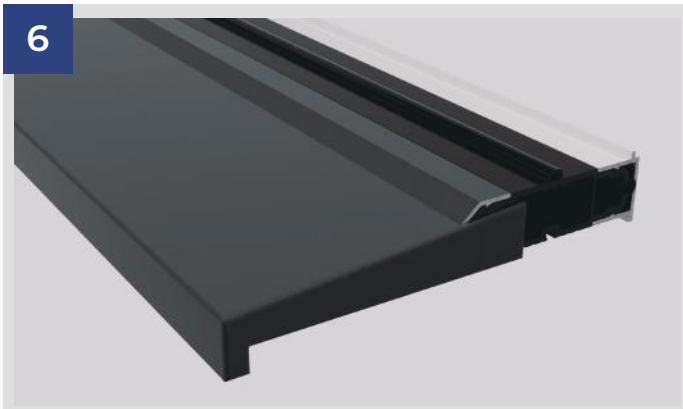
With the chevrons already in situ, place the SH138 in the chamber inside the cill and secure loosely with the countersunk screws supplied. Seal the perimeter of the profile between the cut faces.

CILL PREPARATION *[continued]*

5

Repeat steps 1 and 2 for the opposing cills then slide the adjoining faces together securing with the countersunk screws supplied. Tighten all screws up at this point.

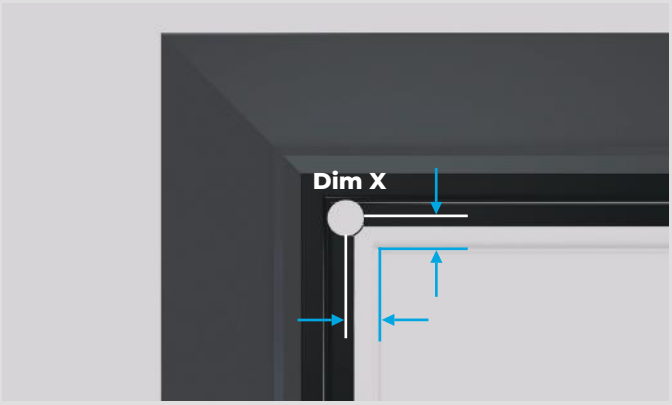
6



Where applicable, secure cill end caps to the cill using suitable superglue and activator.

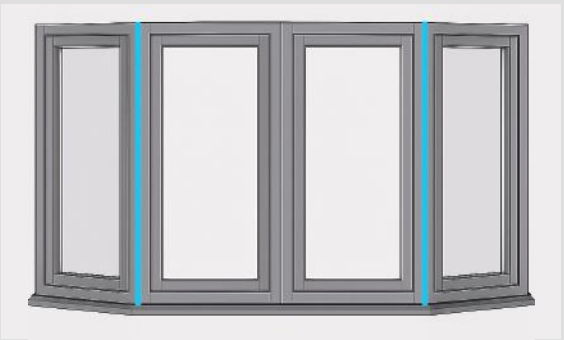
7

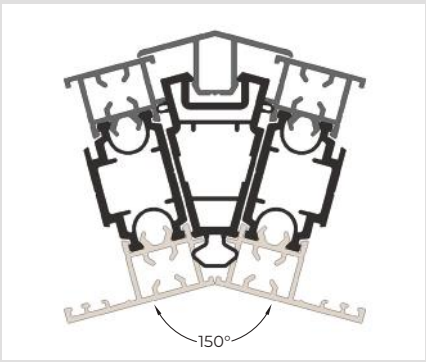
Using the table, measure and mark the hole centre on the top face of the cill, then drill a ⌀28mm hole through the cill for the bay pole jack to pass through (when applicable).



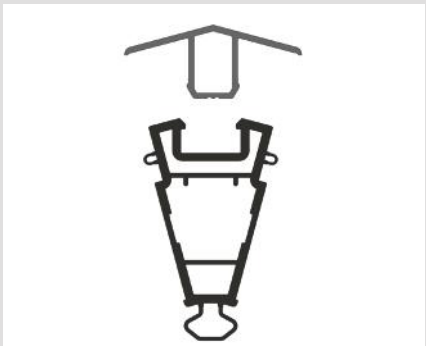
BAY ANGLE	DIM 'X'	BAY ANGLE	DIM 'X'
90	26	135	32
100	26	140	32
105	27	145	32
110	28	150	32
115	29	155	32
120	32	160	32
125	32	165	32
130	32	170	32

NON-STRUCTURAL CORNER POST PRODUCT IDENTIFICATION

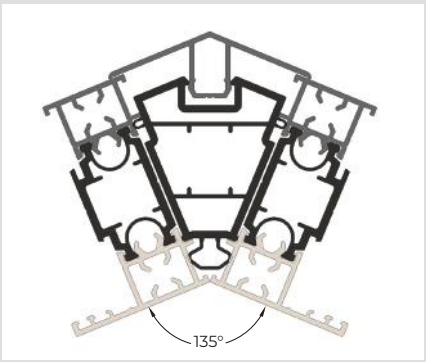




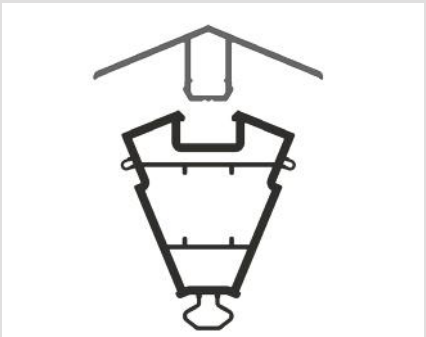
Non-Structural 150°
Bay Assembly



Non-Structural 150°
Corner Post - **SA500**
External Trim -
SA001 CLASSIC
or **SA002** CLASSIC & PRESTIGE
or **SA003** PRESTIGE



Non-Structural 135°
Bay Assembly

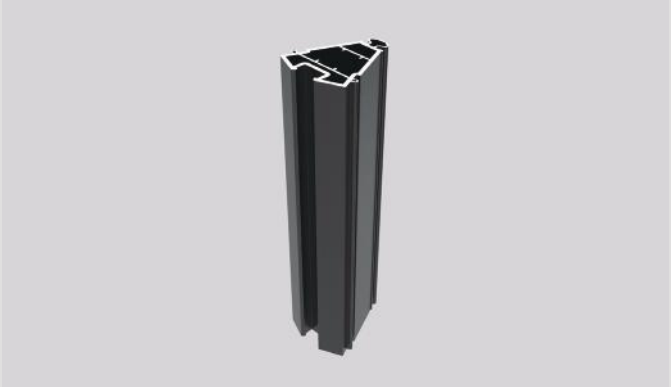


Non-Structural 135°
Corner Post - **SA501**
External Trim -
SA004 CLASSIC
or **SA005** CLASSIC & PRESTIGE
or **SA006** PRESTIGE

Variable Angle Corner Post - **SA023**
Variable Bay Jaw - **SA513**
Variable Bay Pivot Trim - **SA514**

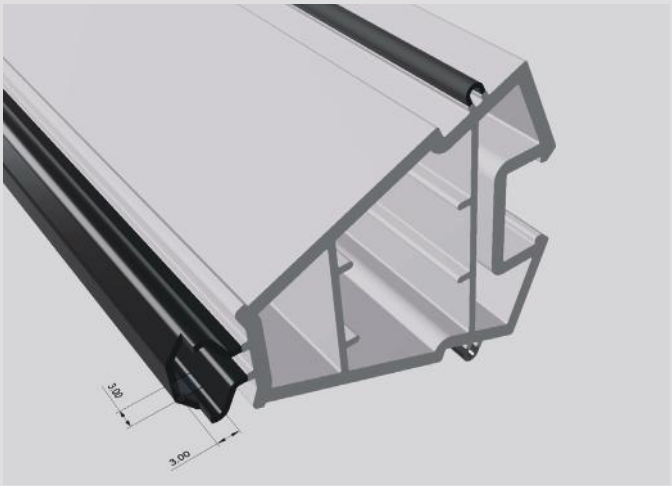
1

Identify the applicable corner post for the bay angle (e.g SA501 - 135° Corner Post) this example refers to a bay with 135° angles, the same principle applies to 150° bay angles. For variable angles follow steps in section 6 page 12 on variable angles. In non-structural scenarios they will be fit full length without the bay pole jack.

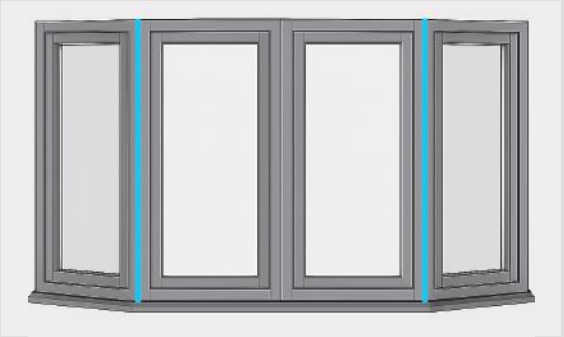


2

If not already prepared by fabricator, notch the bottom internal edge of the corner post as shown to allow the post to sit flush over the cill.



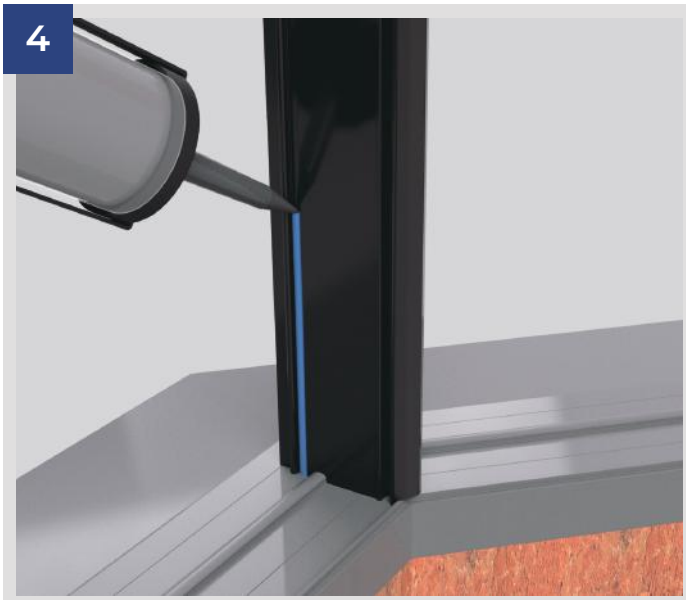
NON-STRUCTURAL CORNER POST INSTALLATION



3

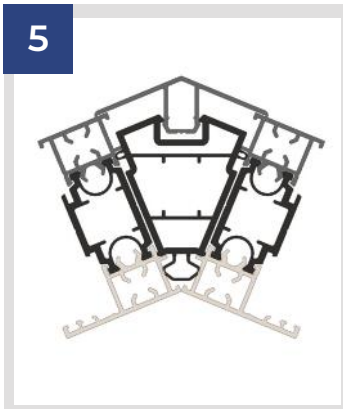
Run beads of sealant down the window frames.

4



Apply a bead of sealant along the corner post behind the front gasket, but in front of where the fixings will protrude from the outer frame.

5



Layout window frames on the window cill, insert the corner post in between, note the position of the gaskets against the nibs on the window profile in the cross-section detail. The internal frames should meet neatly.

6

Using an angle finder, set the frames to the precise angle required and lightly clamp or brace temporarily to hold shape.

NON-STRUCTURAL CORNER POST INSTALLATION *[continued]*

6

Mark and fix the corner post in to the window frame at max. 150mm from each end, then at 600mm centres thereafter. 2 x screws minimum per length.

- **For Outer Frame Profile** use 4.3 x 40mm CSK PVCu Screw
- **For Intermediate Profile** use 4.3 x 55mm CSK PVCu Screw
- **For Large Frame Profile** use 4.3 x 65mm CSK PVCu Screw

7

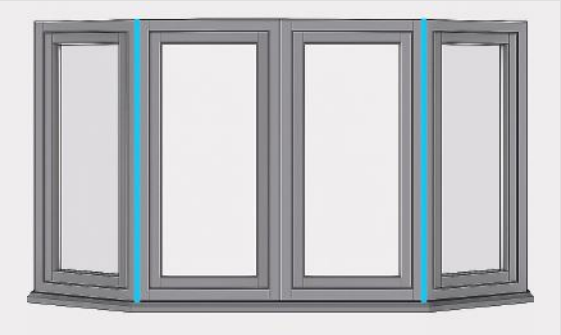
Check Squareness and Plumb before tightening fixings. Then fix frames into the cill and head.

8

Locate the outer cover trim and clip into corner post ensuring coverage of both frames.

Follow relevant window installation guide (Classic or Prestige) for glazing and / or sash installations.

BAY POLE PREPARATION



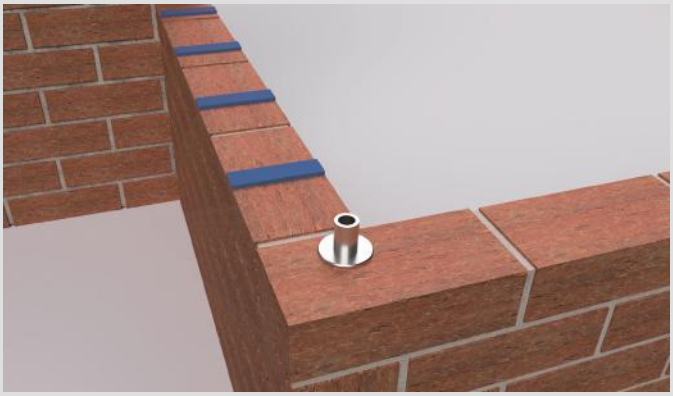
1

Before installation, ensure the bay is adequately supported. Install temporary supports such as adjustable steel Acrow props and wall studs to ensure everything remains stable while working.

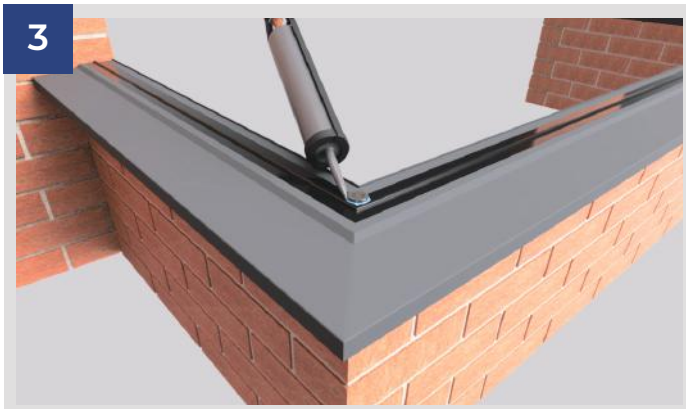
Note new structural header may be required if the new bay is wider to bear the load.

2 Bay Pole Jack - **SH104**

Position Baypole Jacking plates on bay in the corners ensuring it is sat level and true on to the load bearing surface. (Any packing of the jack must be done using stainless steel shims. Pack beneath the rest of the cill along its length using appropriate window packers and seal along the aperture bottom in preparation for installation.



3

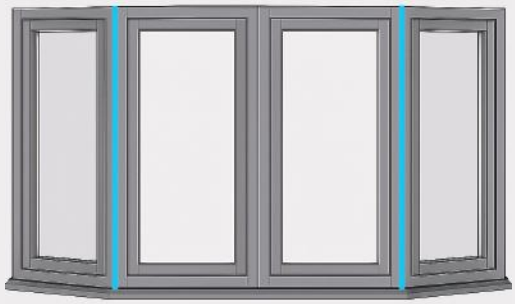


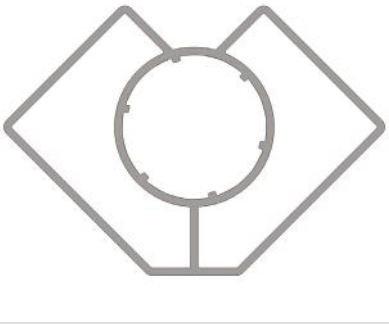
Position the cill on the bay locating the baypole jacks through the holes and seal the jacks to the cill.

4

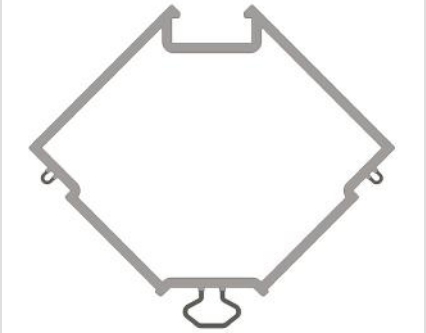
Wind the lock nut and capstan on to the base.

STRUCTURAL 90° CORNER POST IDENTIFICATION

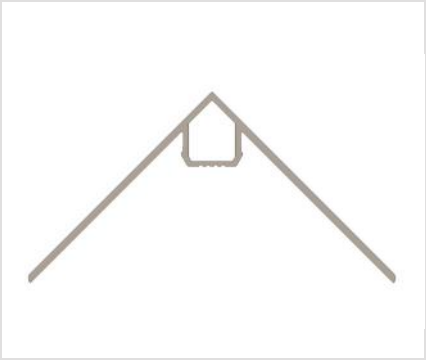




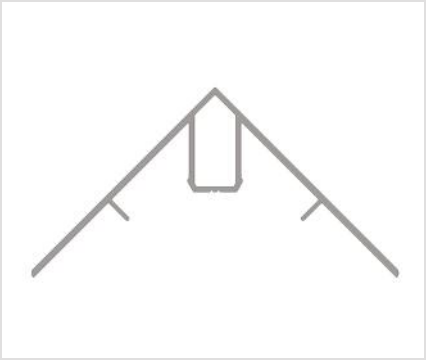
SA022 - 90°
Structural Corner Post



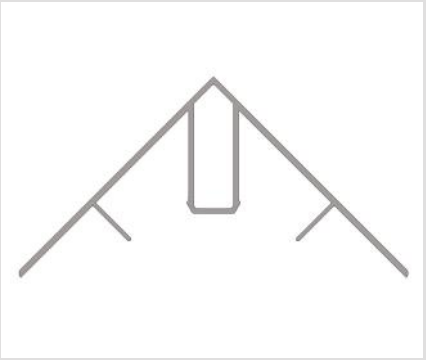
SA502 - 90°
Corner Post Thermal Break



SA007 - 90°
External Trim 64mm System
CLASSIC



SA008 - 90°
External Trim 72mm System
CLASSIC & PRESTIGE



SA009 - 90°
External Trim 80mm System
PRESTIGE

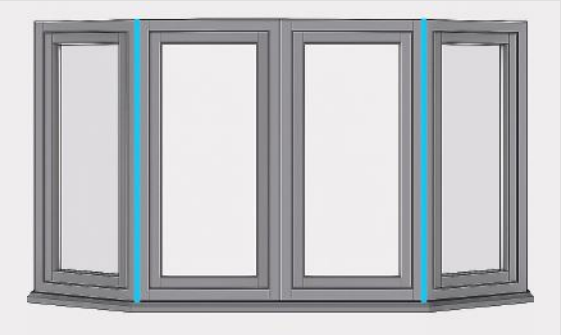
1

Locate SA002 - 90° Structural Corner Post and SA502 Corner Post Thermal Break Assembly. If not already assembled, slide structural post inside the Thermal Break extrusion.

2

Position the Bay Pole Assembly over the Bay Pole Jack. Place the spreader plate onto the top of the baypole assembly and pivot into position in the Bay.

STRUCTURAL 90° CORNER POST INSTALLATION



3

Ensure plumb in all orientations then tighten the jack until it supports the load, this doesn't require over tightening just until it takes the weight.

4

Apply sealant to the back edge of the cill and return on each end to the front edge to form a horseshoe shape.

5

Apply a bead of sealant along the corner post behind the front gasket, but in front of where the fixings will protrude from the outer frame.

6

Locate the window section and lift into position on the cill. The internal face of the profile should sit over the small raised leg on the cill.

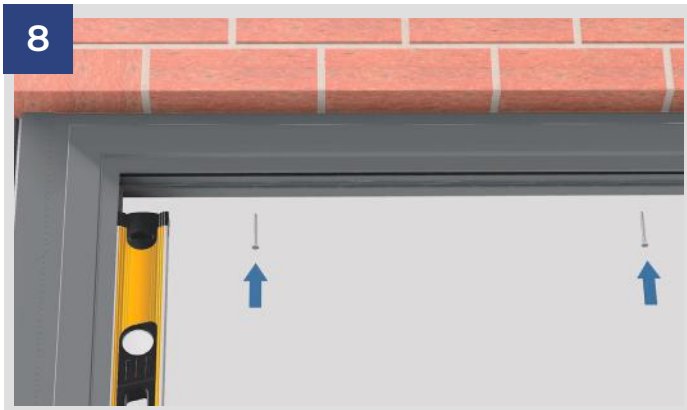
STRUCTURAL 90° CORNER POST INSTALLATION *[continued]*

7

Mark and fix the corner post in to the window frame at max. 150mm from each end, then at 600mm centres thereafter. 2 x screws minimum per length.

- **For Outer Frame Profile** use 4.3 x 40mm CSK PVCu Screw
- **For Intermediate Profile** use 4.3 x 55mm CSK PVCu Screw
- **For Large Frame Profile** use 4.3 x 65mm CSK PVCu Screw

8



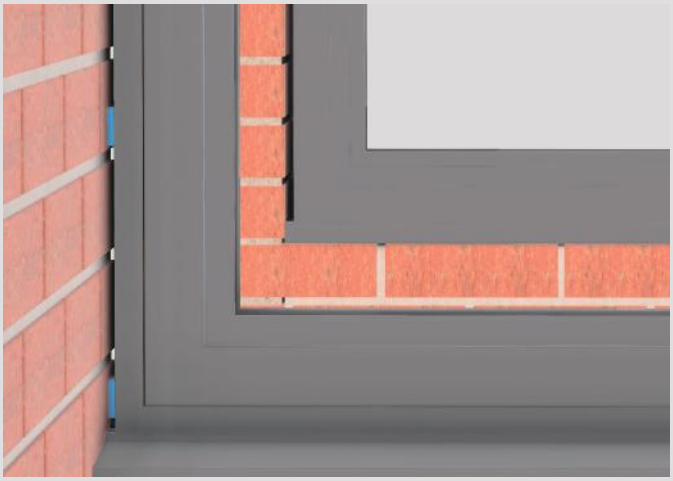
Check Squareness and Plumb before tightening fixings. Then fix frames into the cill and head.

9

Repeat for the two side bay windows. Ensuring the internal face of the outer frames meet up in the corners.

10

When fixing back to host wall pack out using full width packers ensuring the frame is plumb and level and ensure a 5mm gap is maintained.



STRUCTURAL 90° CORNER POST INSTALLATION *[continued]*

11

Foam and seal any gaps between the frame and host wall.

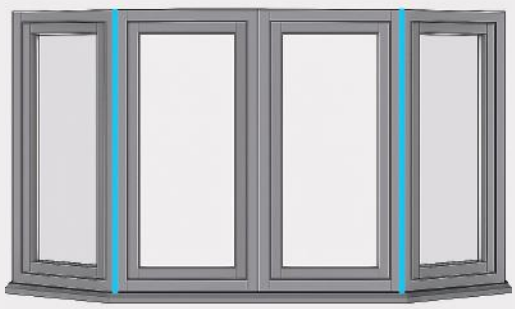
12

Clip relevant outer cover onto corners to finish.

OPTIONAL If fitting using cleats, make sure they are securely fastened to the window and through the appropriate fixing holes internally.

Follow relevant window installation guide (Classic or Prestige) for glazing and / or sash installations.

STRUCTURAL VARIABLE CORNER POST IDENTIFICATION



The Sheerline Variable Bay Assembly covers all angles between 100-170 degrees. It is made up of 3 primary components:

SA023 - Variable Bay Pole

SA514 - Variable Bay Pivot Trim

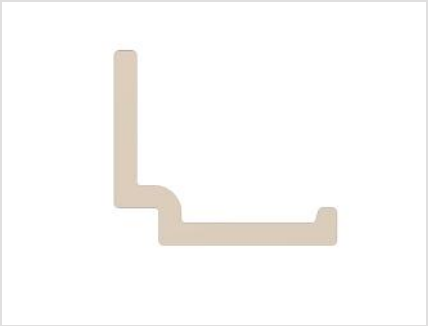
SA513 - Variable Bay Jaw

The position of SA513 varies depending on which outer frame is used.

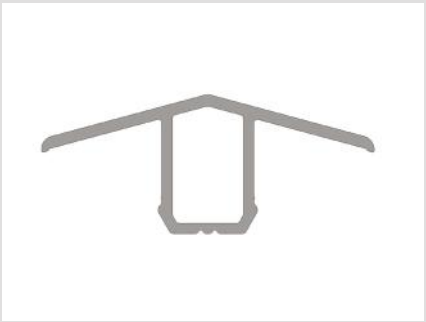
SH109 Bay Pole Jack to be used for structural applications.

Max size of the variable bay assembly is 2.5m.

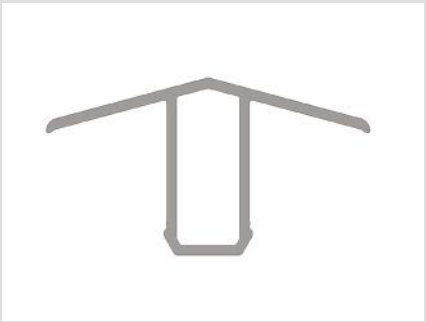
In conjunction with the primary parts shown above, there are also two rebates add on profiles & 4 external trim options:



SA024 - 12mm
Rebate Add On

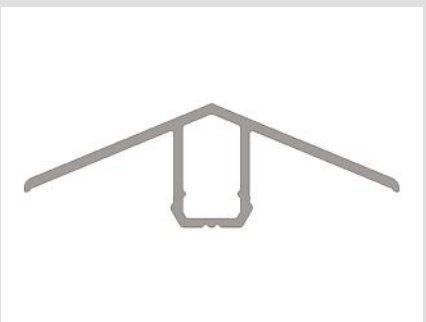


SA002 - 150° External Trim
72mm Systems
CLASSIC & PRESTIGE

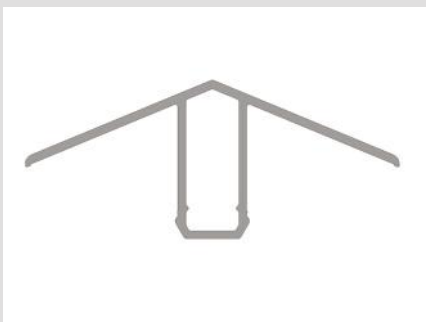


SA003 - 150° External Trim
80mm Systems
PRESTIGE

SA025 - 22mm
Rebate Add On

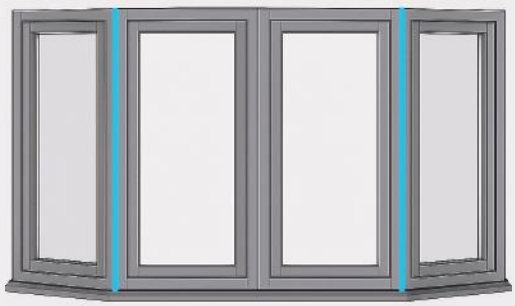


SA005 - 135° External Trim
72mm Systems
CLASSIC & PRESTIGE



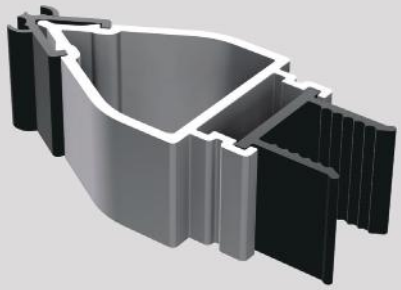
SA006 - 135° External Trim
80mm Systems
PRESTIGE

STRUCTURAL VARIABLE CORNER POST INSTALLATION

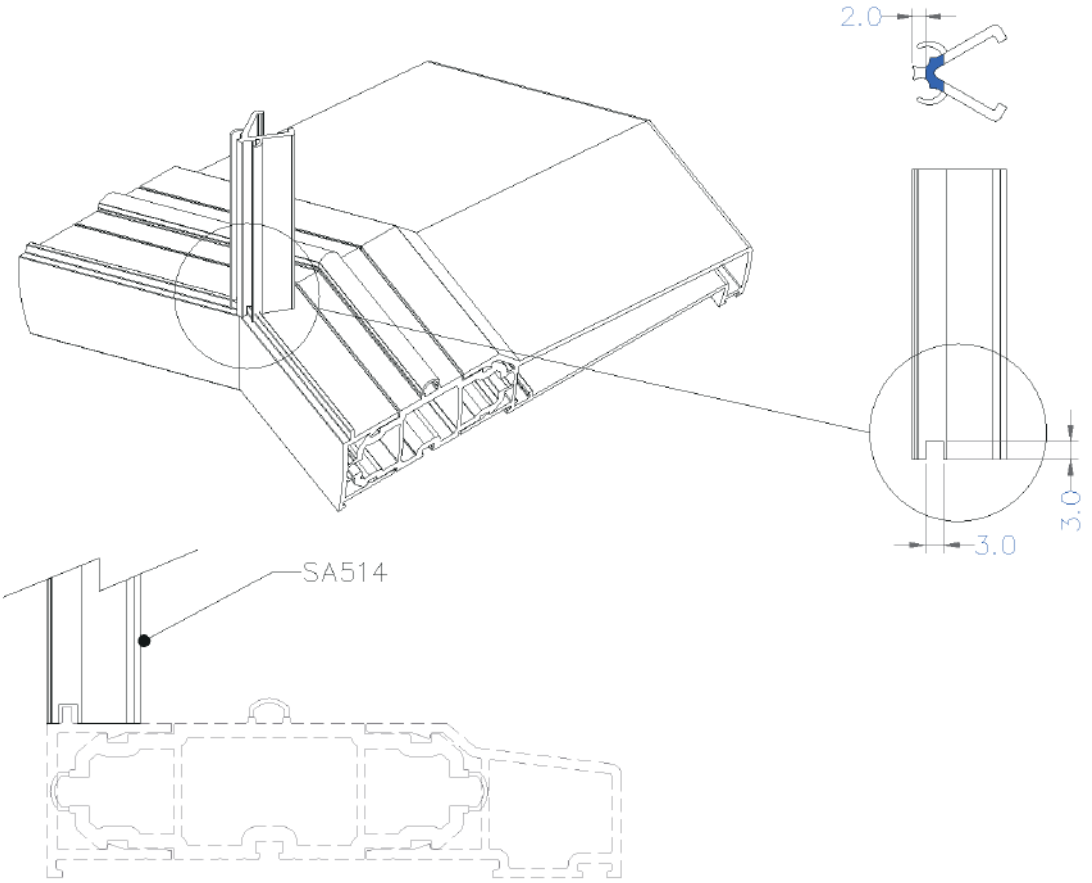


1

Where using a structural variable bay pole, locate SA023 - Variable Bay Post; If not already assembled, locate and fit SA513 - Variable Bay Jaw and SA514 - Variable Bay Pivot Trim to create the assembly see in the detail.



2

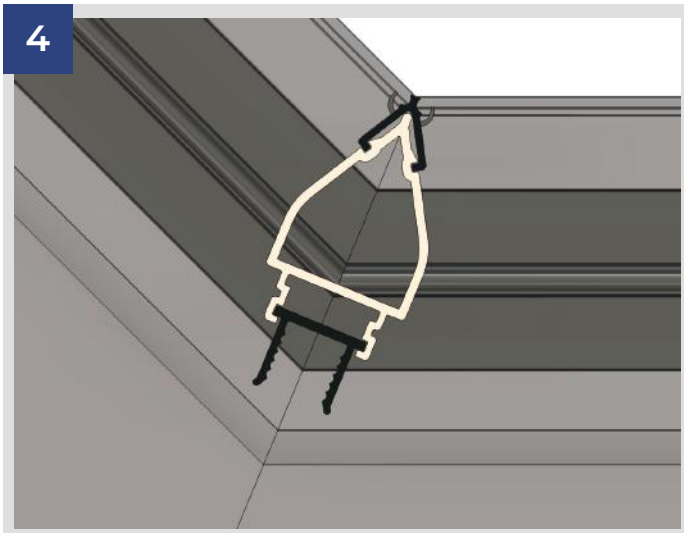


Prior installation, trim SA514 to allow it to sit over the inside leg on the cill.

3

Position Baypole Assembly over the Jack, place the top spreader plate onto the top of the baypole assembly and pivot into position in the Bay.

4

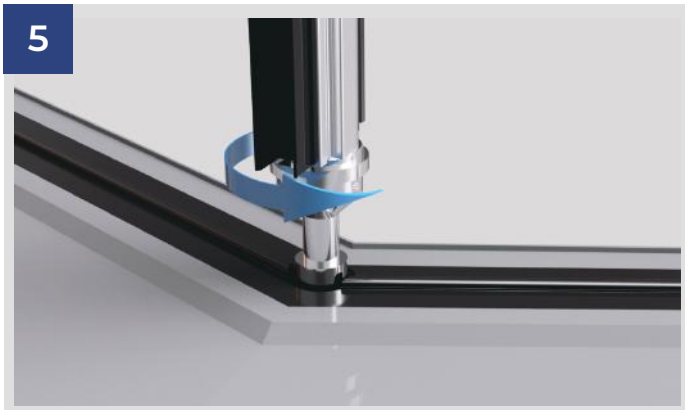


IMPORTANT

Ensure plumb in all orientations and line centre of the assembly up with the cill joint to ensure the post is set equally between the two windows.

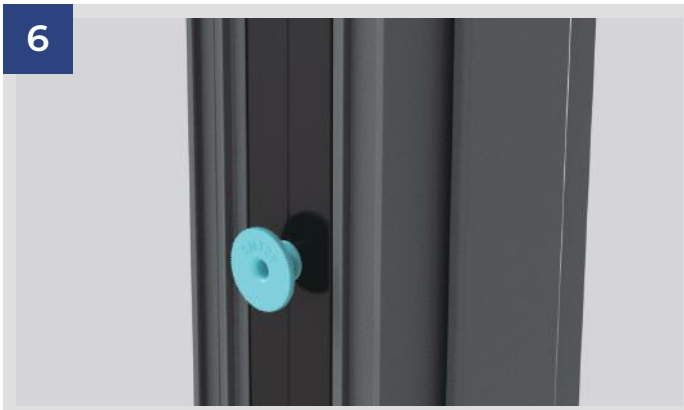
This is important to ensure the windows fit correctly and the external cover trims provide equal coverage of each window frame.

5



Tighten Jack until it supports the load, this doesn't require over tightening just until it takes the weight.

6



Ensure SM129 Variable Bay Adjustable Packer assemblies have been installed to each window assembly before lifting into position.

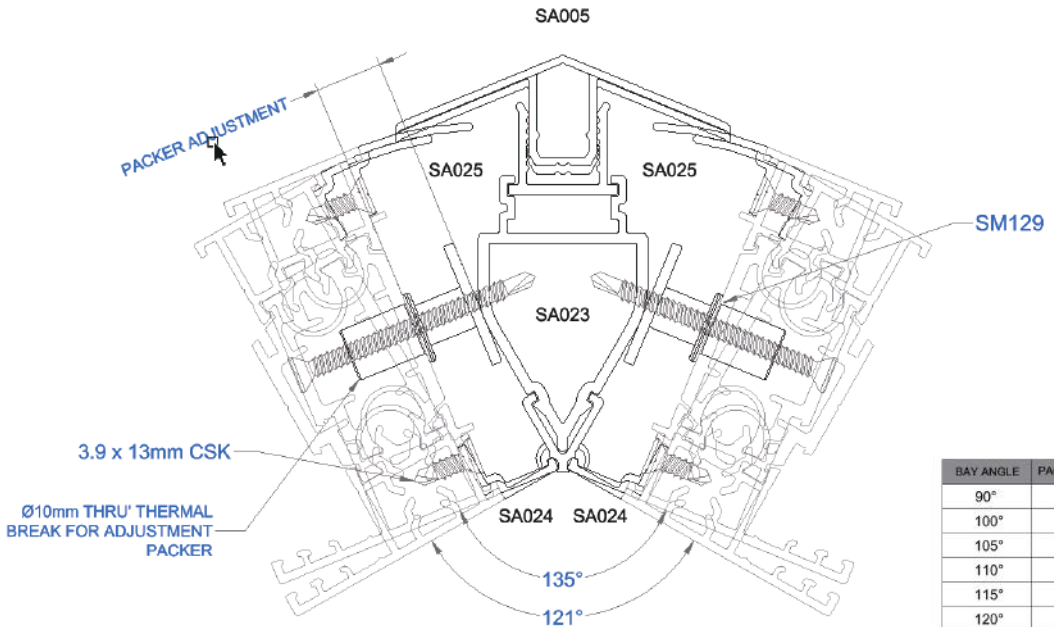
STRUCTURAL VARIABLE CORNER POST INSTALLATION *[continued]*

7

If these haven't been installed mark and drill Ø10mm holes through the back of the outer face of the thermal break on the outer frame for each screw fixing point from the frame to the bay pole. Fixing centres should be 150mm from each end at max. 600mm centres thereafter.
Be sure not to drill all the way through the profile.

8

Seal packer into the frames and unscrew the inner section of the assembly to the required packer adjustment depth, seen in the table.



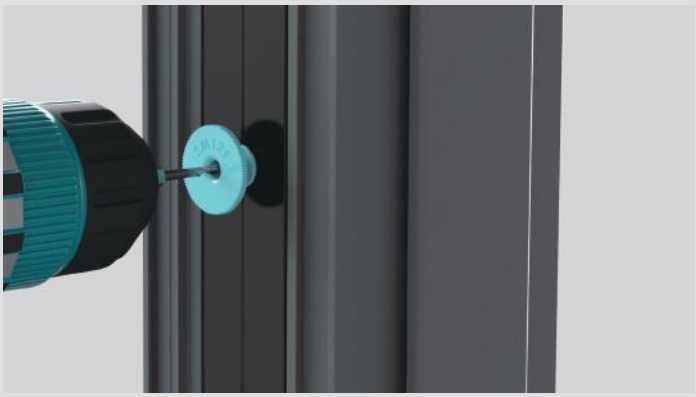
BAY ANGLE	PACKER (mm)
90°	9
100°	9
105°	8
110°	7
115°	6
120°	5
125°	14
130°	14

BAY ANGLE	PACKER (mm)
135°	13
140°	11
145°	10
150°	9
155°	7
160°	6
165°	4
170°	3

STRUCTURAL VARIABLE CORNER POST INSTALLATION *[continued]*

9

Using Ø3mm or less drill through the centre of each packer to provide a marker on the internal face of the outer frame to provide the fixing point locations through the packers.

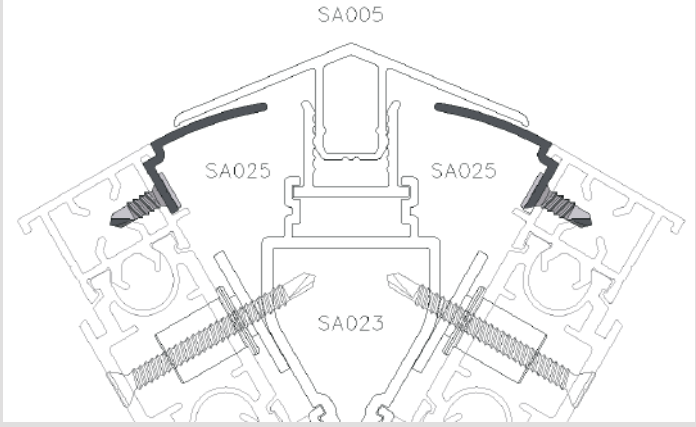


10

PRESTIGE & CLASSIC

Bay Angles between 100° - 135° require SA025 – 22mm Rebate Add On. If not already installed to the outer frame, fix SA025 along the full length of profile using 3.9 x 13mm CSK Self Drilling Screws, 150mm from each end and at max 300mm centres thereafter.

SA005 or SA006 EXTERNAL TRIM



11

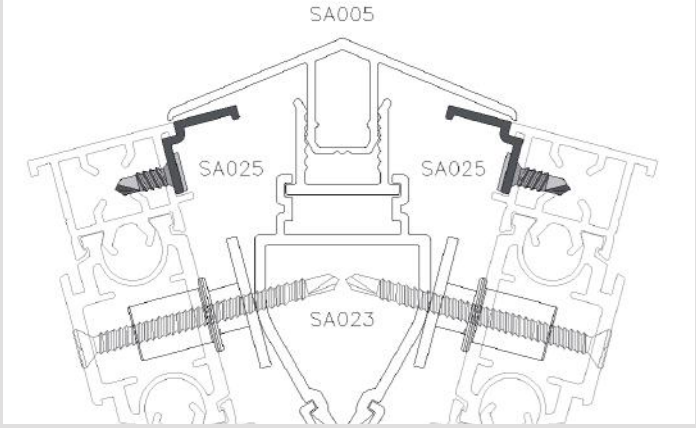
PRESTIGE

Bay Angles between 136° - 150° require SA024 – 12mm Rebate Add On. If not already installed to the outer frame, fix SA024 along the full length of profile using 3.9 x 13mm CSK Self Drilling Screws, 150mm from each end and at max 300mm centres thereafter. Angles between 151° - 170° do not require any add ons on the external face.

CLASSIC

Bay Angles between 136° - 165° require SA024 – 12mm Rebate Add On. Angles between 166° - 170° do not require any add ons on the external face.

SA005 or SA006 EXTERNAL TRIM
SA002 or SA003



TO VIEW ALL POSSIBLE ANGLES & TRIM OPTIONS SCAN RELEVANT QR CODES

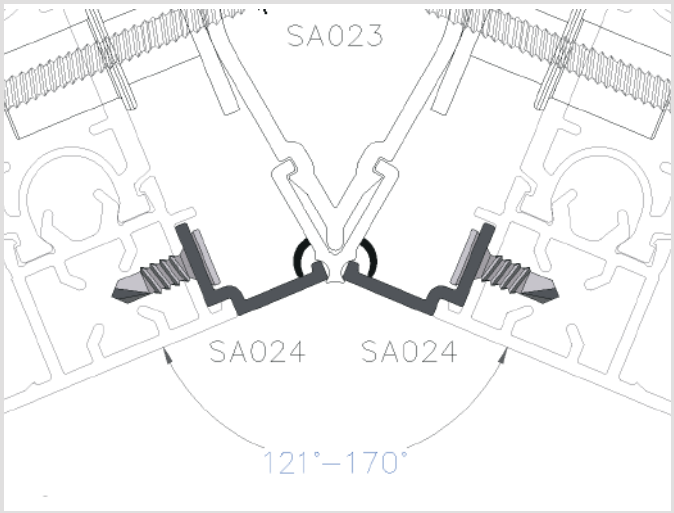
PRESTIGE **CLASSIC**

STRUCTURAL VARIABLE CORNER POST INSTALLATION *[continued]*

12

PRESTIGE & CLASSIC

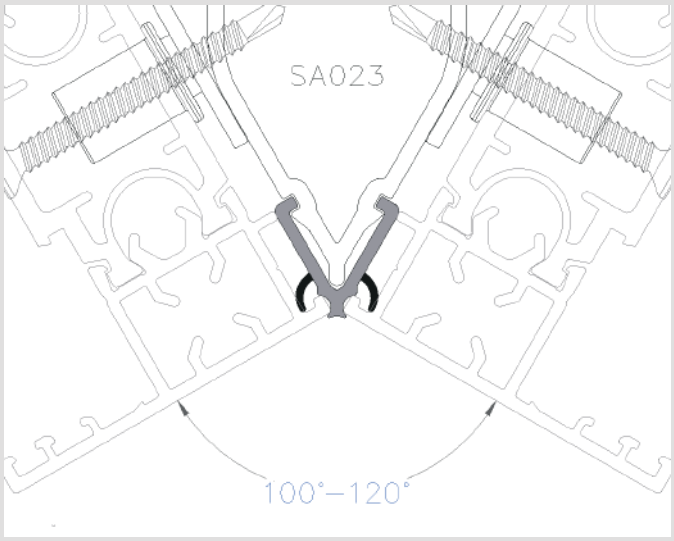
Bay Angles between 121° - 170° require SA024 12mm rebate add on to the internal face which hook directly into SA514 Pivot Trim. If not already installed to the outer frame, fix SA024 along fill length of profile using 3.9 x 13mm CSK Self Drilling Screws supplied, 150mm from each end and at max 300mm centres thereafter.



13

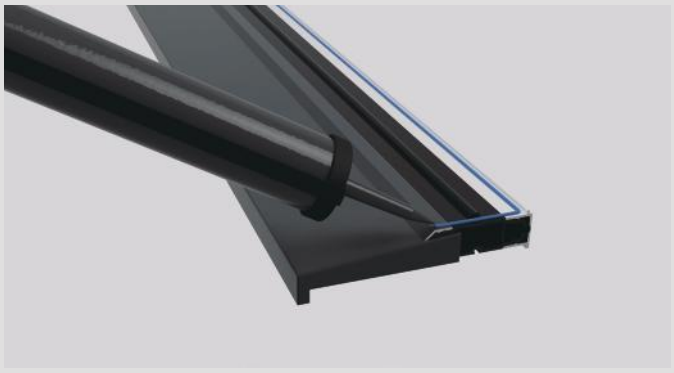
PRESTIGE & CLASSIC

Window frames on variable bays between 100-120° will hook directly into SA514 Pivot Trim.
Frame deductions will have already been accounted for to suit.



14

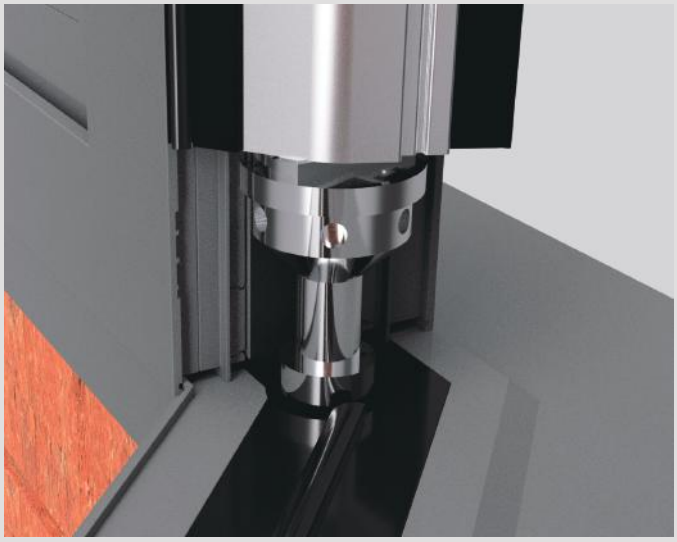
Apply sealant to the back edge of the cill and return on each end to the front edge to form a horseshoe shape.



STRUCTURAL VARIABLE CORNER POST INSTALLATION *[continued]*

15

Locate the front window section and lift into position on the cill. The internal face of the profile should sit over the small raised leg on the cill.



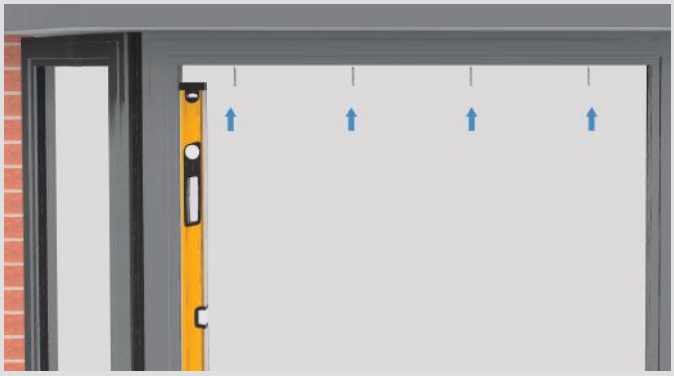
16

Ensure level and plumb, then fix window to the using the fixings supplied (this will vary in length to suit the outer frame supplied).

- **For Outer Frame Profile** use 4.3 x 40mm CSK PVCu Screw
- **For Intermediate Profile** use 4.3 x 55mm CSK PVCu Screw
- **For Large Frame Profile** use 4.3 x 65mm CSK PVCu Screw

17

Fix the frame into the aperture using suitable 100mm frame fixings to suit the construction material max 150mm from each end then at max 600mm centres thereafter (min, 2 fixings per run).



STRUCTURAL VARIABLE CORNER POST INSTALLATION *[continued]*

18

Repeat for the side bay windows. Ensuring the internal face of the outer frames hook into SA514 Pivot Trim.

19

When fixing back to host wall pack out using full width packers ensuring the frame is plumb and level.

20

Foam and seal any gaps between the frame and host wall then trim up any gaps (trims not supplied).

21

Clip appropriate external trims to the corners to finish.

Follow relevant window installation guide (Classic or Prestige) for glazing and / or sash installations.

Notes

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