

1.00 - Introduction

This installation guide has been created to assist in constructing a Liniar conservatory roof from a kit format.

Please note, each roof has been individually designed to meet specific criteria and to suit the shape and dimensions specified. There may be variants in assembly depending on the roof criteria, but the manual should cover all eventualities.

The roof will be provided with a roof layout plan. Ensure that all dimensions and details are correct to the survey supplied before the installation can proceed. Also check that all packages and boxes are present. These will be labelled in accordance to paperwork provided upon delivery.

TO ENSURE THE CORRECT FUNCTIONING OF LINIAR ROOFS, IT IS IMPERATIVE THAT THE INSTRUCTIONS IN THIS GUIDE ARE FOLLOWED, IN THE CORRECT ORDER.

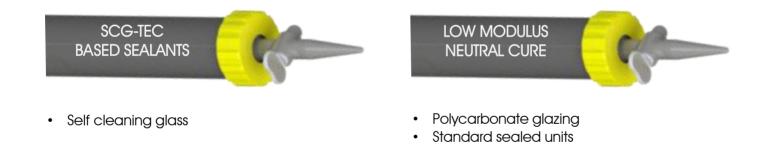
Care of Products

When storing, handling or erecting your Liniar roof, please keep the following in mind :

- When unwrapping, take care not to damage products with a knife.
- Always check the components before installing.
- PVCu components should not be left out in freezing conditions.
- Do not leave coloured foiled components in their wrapping in direct heat or sunlight.
- Store polycarbonate roof panels in a dry safe area.
- Take care when fitting caps/trims with any type of force.

<u>Sealing</u>

It is imperative that the correct sealant is used when sealing the roof. The diagrams below show the sealants required dependent upon the glazing material.



For a perfect colour match, use the Liniar Approved range. See www.liniar.co.uk/supplies for details.

Further Assistance

Your roof kit should include all the information you need – but if you do need to get in touch with any queries, please use the contact details on the back cover.

<u>Videos</u>

To watch videos about the Liniar roof, please visit www.liniar.co.uk/videos and filter by 'Conservatories'.

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*This guide should be used in conjunction with either:
Liniar Roof Installation Guide (Duo-Pitch) – TMBRO0023 or
Liniar Roof Installation Guide (Mono-Pitch) – TMBRO0024*
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1.01- Tools Required



Tools & Consumables Required



Angle Grinder Chasing out masonry for flashing



Cordless Drill With Pozi bits and suitable drills for pilot holes in PVCu and aluminium



SDS / Hammer Drill With appropriately sized masonry bits for proprietary fixings. (min 400mm required for Raised Back Box Gutters)



Hand Saw Notching frames



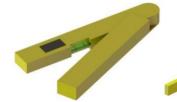
Utility Knife General use



Clamps Securing eaves beams in place when drilling and fixing



Glazing Hammer Fitting trims and caps



Angle Finder General measuring and checking of angles/pitches



General level checking Ge



Tape Measure General measuring and checking



10mm and 17mm Spanners Securing jack rafters (10mm) and fitting internal radius covers (17mm)

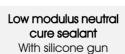
10mm Socket Wrench Securing all roof bars



60mm diameter drill bit / hole saw Multi-Positional outlet in guttering



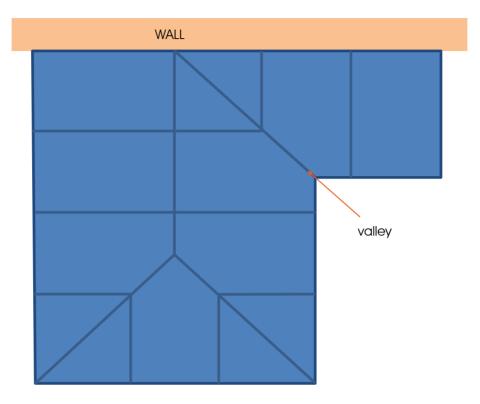
2.5mm Allen Key Tightening the grub screws in the D-Ring connectors



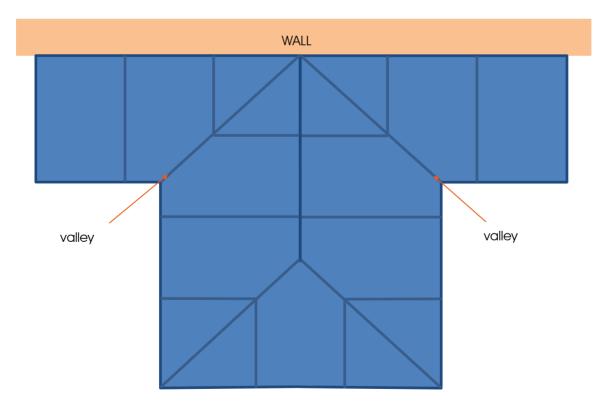
Suitable uPVC Adhesive Securing trims and mouldings in place

2.00 - Valley Assembly Overview

Examples of roofs with valley assemblies







T-Shape Roof Assembly - 2 valleys

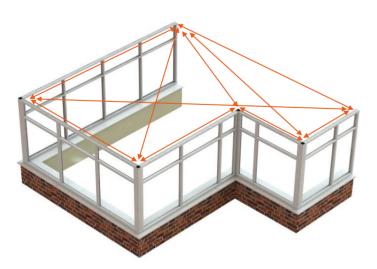


This section shows the assembly steps for a P-Shape roof and makes reference to the Liniar Roof Installation Guide (Duo-Pitch) and the Liniar Roof Installation Guide (Mono-Pitch) .

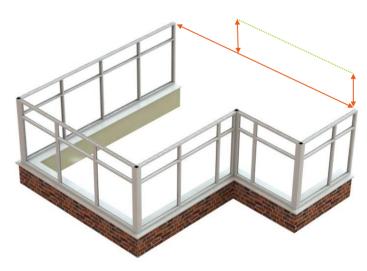


Structural mullion

Additional structural mullions may be required



3.00 – Preparation Mono-Pitch Guide: Section 3.00, pages 6-7



3.01 – Scribing Half Ridge / Wallplate Position Mono-Pitch Guide: Section 3.01, pages 8-9

3.02 - 3.04



3.02 – Eaves Beam Assembly Mono-Pitch Guide: Section 3.02, pages 10-11



3.03 – Raked Frame Notching and Assembly Mono-Pitch Guide: Section 3.03, pages 12-13 Mono-Pitch Guide: Section 3.04, pages 14-15

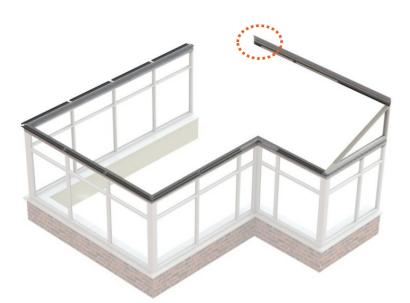


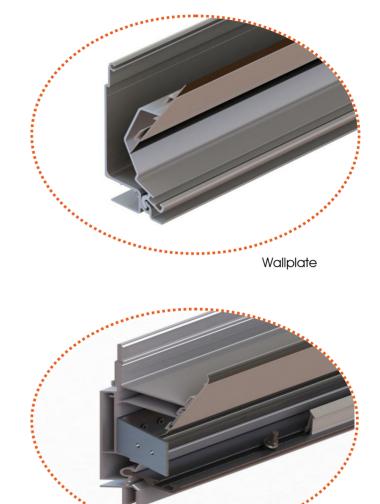
3.05 - Wallplate / Half Ridge Assembly



Half Ridge

For Wallplate / Half Ridge Assembly Mono-Pitch Guide: Section 3.06, pages18-19 / section 3.07, pages 20-21

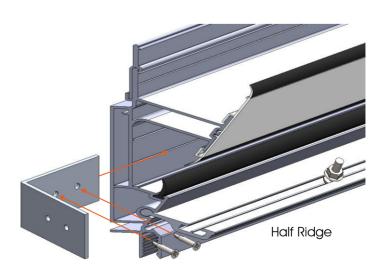




Wallplate

For P-shaped roofs with pitches $<15^{\circ}$ a Wall plate is used.

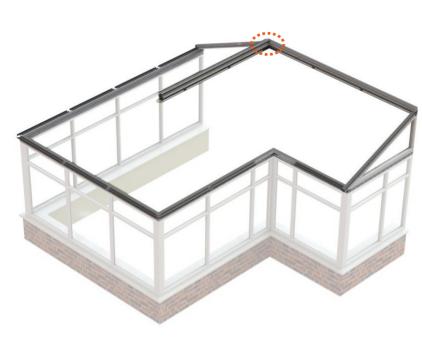
For P-shaped roofs with pitches 15° - 35° a Half Ridge is used. This is mitred into the Ridge assembly and secured with 90° vertical cleats (LZSU8261). Fix the cleat to the half ridge before securing to the wall, aligning with the inside edge of the mitre cut.

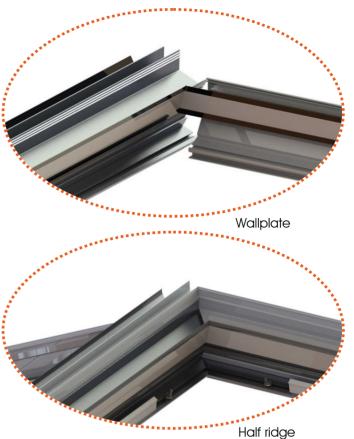


3.06 - 3.08

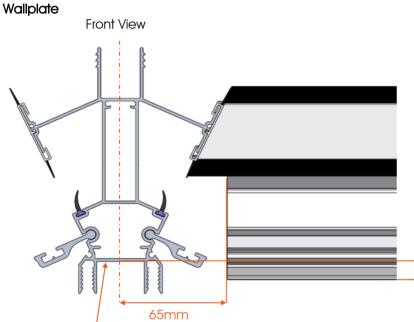
3.06 - Ridge & Wall / End Bar Assembly

Duo-Pitch Guide: Section 3.03, pages12-13

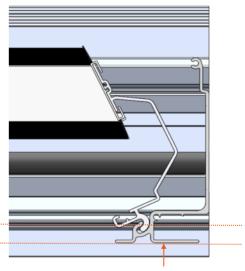




* Ensure the ridge is sufficiently supported at this point until the rest of the roof bars are fitted *

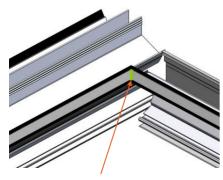


Side View



Wallplate datum face

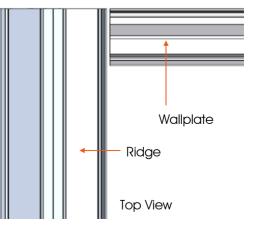
Ridge datum face



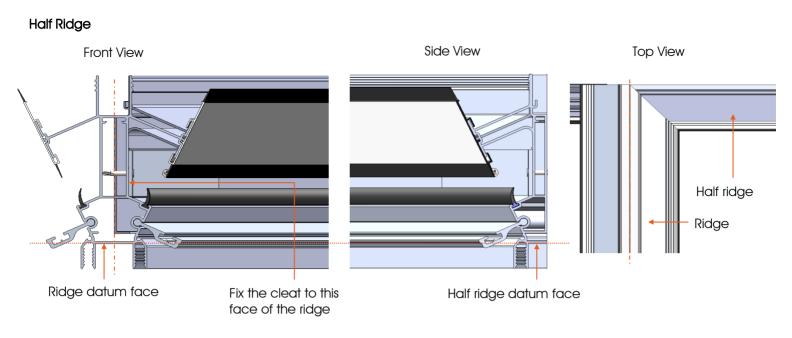
Scribed fascia trims, bonded along these edges

Where a wallplate is fitted the ridge should be positioned against the wall with the datum face 12mm higher than the datum face of the wallplate and the centre should be 65mm from the end of the wallplate. The fascia trims of the ridge and wallplate are scribed and bonded together, with an appropriate adhesive, to form a weatherproof seal.

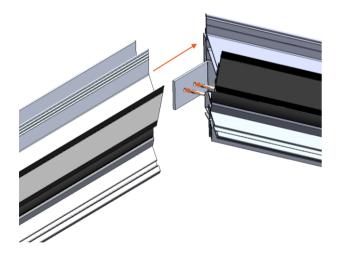
12mm

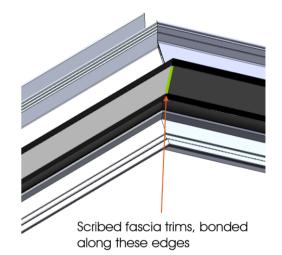






The half ridge and ridge are mitre cut and have the same datum face which should be aligned. The ridge is then secured to the half ridge with the 90° cleat. The fascia trims of the ridge and half ridge are scribed and bonded together, with an appropriate adhesive, to form a weatherproof seal.







3.07 – Transom Bar Assembly Mono-Pitch Guide: Section 3.09, pages 24-25 Duo-Pitch Guide: Section 3.04, pages 14-15



3.08 – Hip Bar & Jack Rafter Assembly Duo-Pitch Guide: Section 3.05, pages 16-17 Duo-Pitch Guide: Section 3.06, pages 18-19

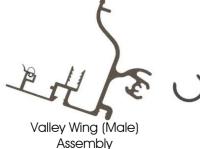
3.09 - Valley Assembly

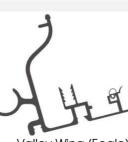
The top of the valley assembly is cut to an arrowhead to locate into the corner of the ridge and half ridge/wallplate



Valley jack fixings will be fitted in the correct position in the valley wings, where required

Related Components ...





Valley Wing (Feale) Assembly



LZSU0092





Once the valley has been fitted and fixed in position the glazing retainers either side of it can be fitted. These will be mitre cut to line in with the bottom edge of the valley wings.

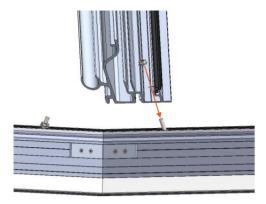


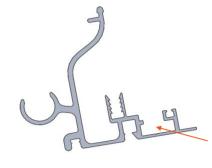
Glazing Retainer Assembly

LZFX0001 LZFX0018

10







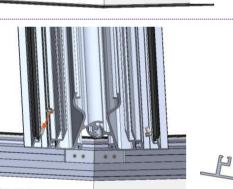
1. Fix the female valley wing in position using the M6 flange nuts and M6 screws in the eaves pivot (at the bottom) and the ridge/wall plate wing (at the top).

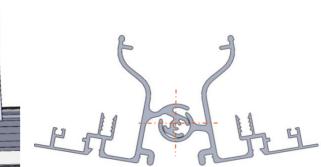
* Ensure all jack fixings (LZSU0092) are inserted into this channel of both valley wings before installation.*

This is a 2 stage process: a. Locate the male valley wing into the female valley wing as shown in the diagram (right).

b. Rotate the male valley wing until it rests on the eaves pivot and ridge/wallplate wing. Ensure the M6 screws are located in the holes in the male valley wing as you do this.

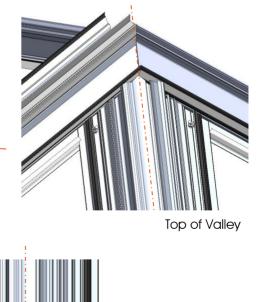
3. Fix the male valley wing in place top and bottom with M6 flange nuts.

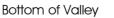




* The centre of the valley pivot should line in with the corner of the eaves beams and to the centre line of the ridge where it meets the wall. *

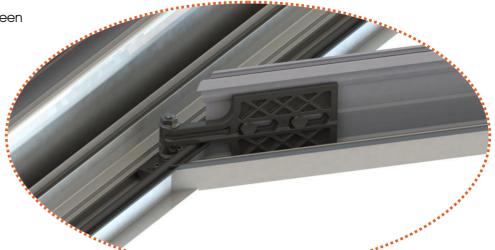
b





3.10 - Valley Jack Assembly

Valley jacks are rafter bars which span between the valley and the ridge.



The valley jack rafter bar is secured to the valley using the jack rafter fixing and arm.



Related Components ...

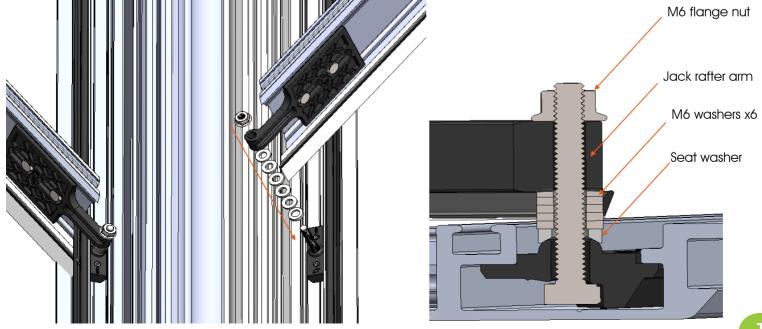






The top of the valley jack rafter bar is secured by 2x M6 flange nuts to the ridge / half ridge / wallplate.

The bottom of the rafter bar is fitted to the jack rafter fixing located in the valley wing. First fit the seat washer (concaved washer) on to the stud of the jack rafter fixing, Then 6 x 1.6mm M6 washers (there are 2 thicknesses of washers supplied with jack rafter fixings 0.8mm and 1.6mm. Use the thicker washers in this instance), next fit the jack rafter arm and finally secure in place with an m6 flange nut.



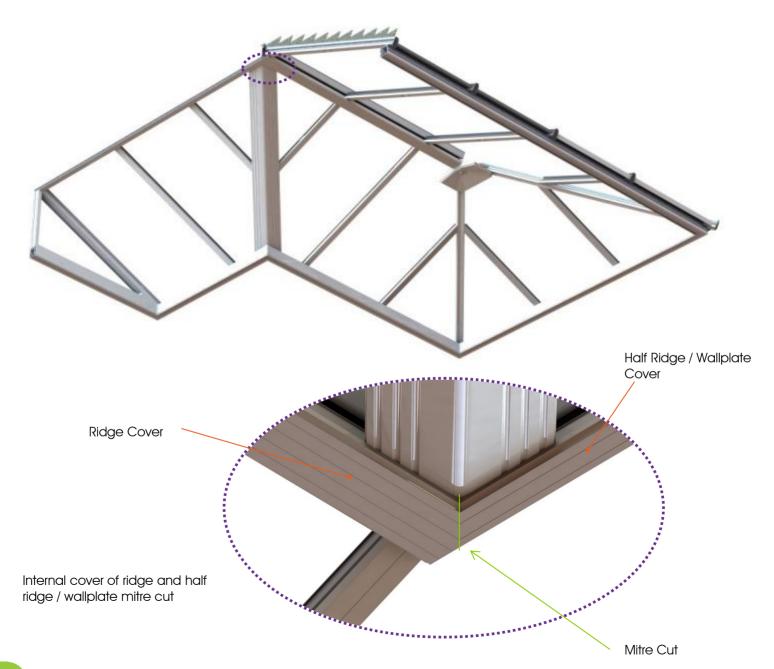
3.11 - 3.15





3.11 – Wall Bar Fixing / Flashing Duo-Pitch Guide: Section 3.07, pages 20-21

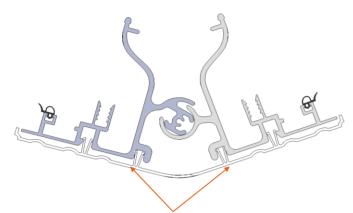
3.12 – Internal Trim Assembly Duo-Pitch Guide: Section 3.08, pages 22-23 Duo-Pitch Guide: Section 3.16, pages 38-39 Mono-Pitch Guide: Section 3.16, pages 38-39



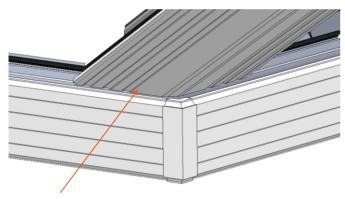
14



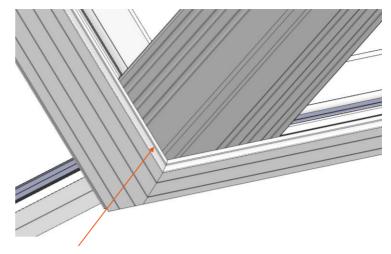
Valley Bottom Cap Assembly



Valley Bottom Cap LZPE0052 - 2 overlapping pieces, one clipped into each valley wing



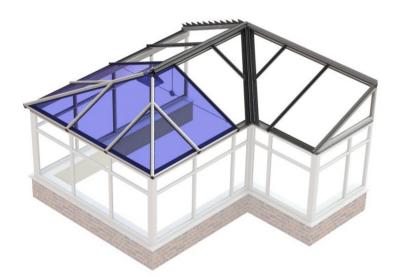
At the bottom the valley bottom cap runs down to the eaves pivot.



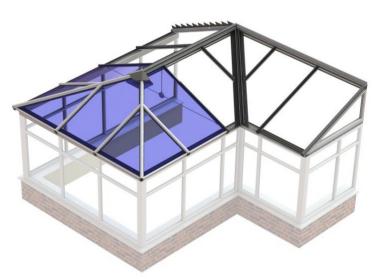
At the top of the valley the bottom caps run up to the ridge wing.



3.13 – Tie Bar Assembly Duo-Pitch Guide: Section 3.09, pages 24-25



3.14 – Glazing Assembly 1 Duo-Pitch Guide: Section 3.10, pages 26-27 Duo-Pitch Guide: Section 3.11, pages 28-29



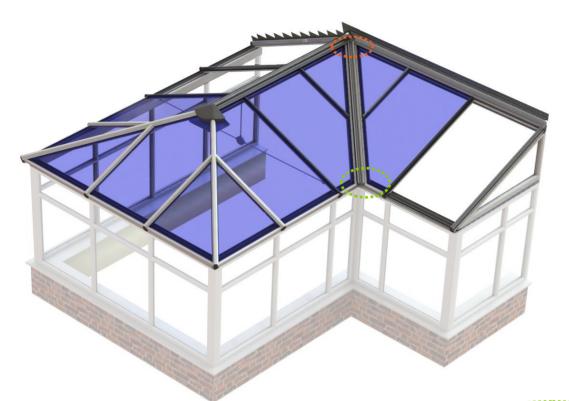
3.15 – Weather Seal Assembly Duo-Pitch Guide: Section 3.12, pages 30-31

3.16 – Glazing Assembly 2

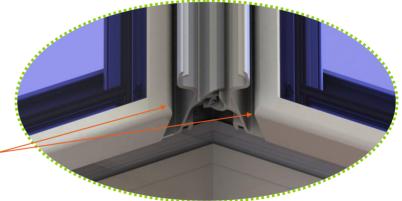
This section shows how to glaze the valley area of the roof.

For further details of installing glazing panels, glazing retainer trims and roof bar top caps see:

Duo-Pitch Guide: Section 3.10, pages 26-27 Duo-Pitch Guide: Section 3.11, pages 28-29



Glazing retainer trims are fitted along the full length of both valley wings and are mitre cut to line in with the trims along the bottom edge of the glazing panels.



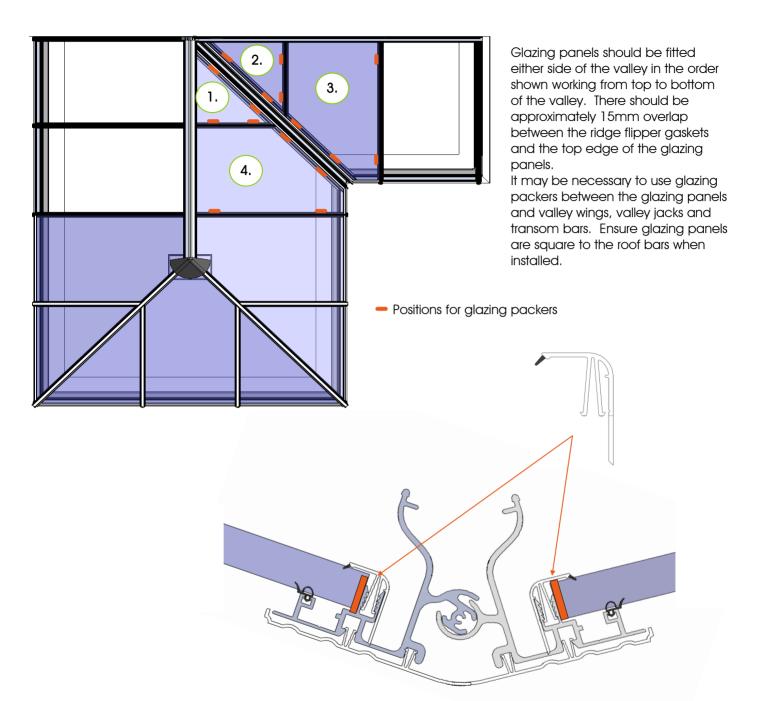
Related Components ...



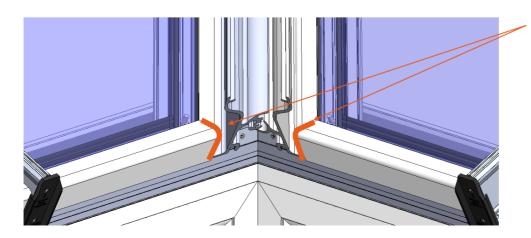


LZPE0028





Glazing retainer trims are then fitted along the full length of both valley wings and along the bottom of the glazing panels.



The glazing retainer trims are mitre cut and should be bonded together using an appropriate adhesive such as Stelmax.

3.17 – Valley Foam Weather Seals Assembly

Foam weather seals are inserted in the bottom and top of the valley

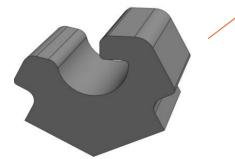
Related Components ...



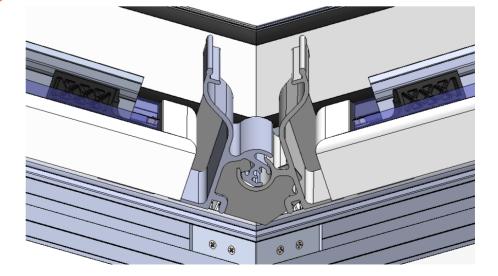




Valley wing foam seals (LZSU0094) are inserted into the valley wings in the position shown and pushed up to the top of the valley to make contact with the ridge and form a seal.

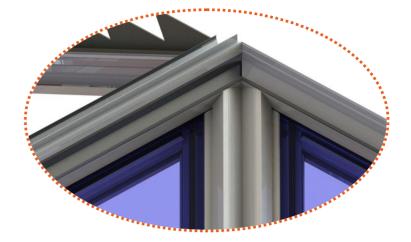


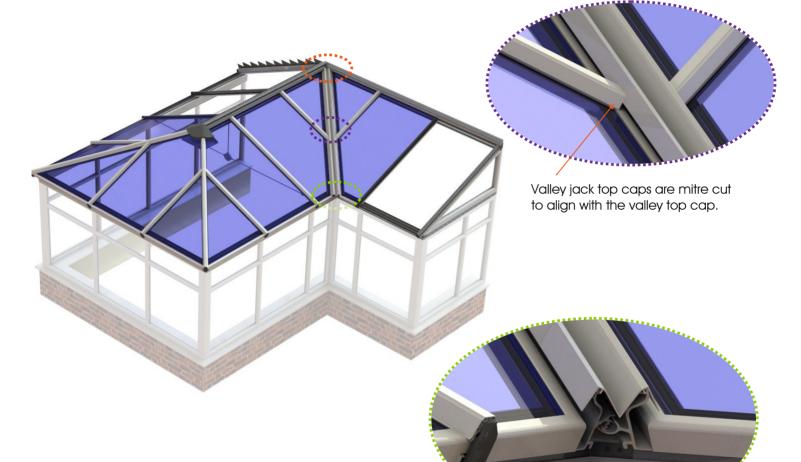
The valley foam weather seal (LZSU0093) is inserted into the bottom of the valley and pushed up to make contact with the eaves beam and form a seal. If the roof has a pitch differential it may be necessary to insert more than one piece to form a complete seal.



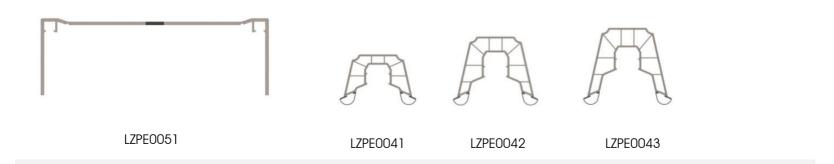
3.18 – Valley Top Cap Assembly

This section details fitting the valley top cap

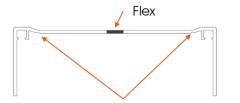




Related Components ...

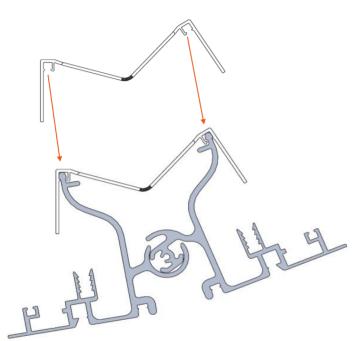






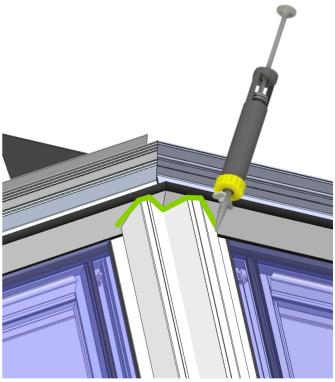
The valley top cap (LZPE0051) has flex in the centre and two areas of the PVCu that can be bent to allow the top cap to suit all roof pitches.

PVC top cap can bend here.



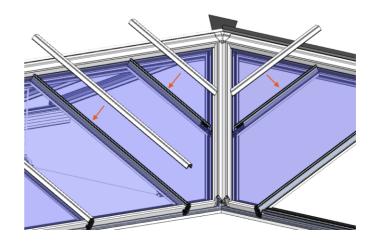
The valley top cap is clipped to the two valley wings as shown (left). The top of the valley top cap should be cut to an arrow head to line in with the ridge and half ridge/wallplate. A continuous bead of an appropriate sealant should be run along the mating edges of the fascia trims of the ridge and the valley top cap.



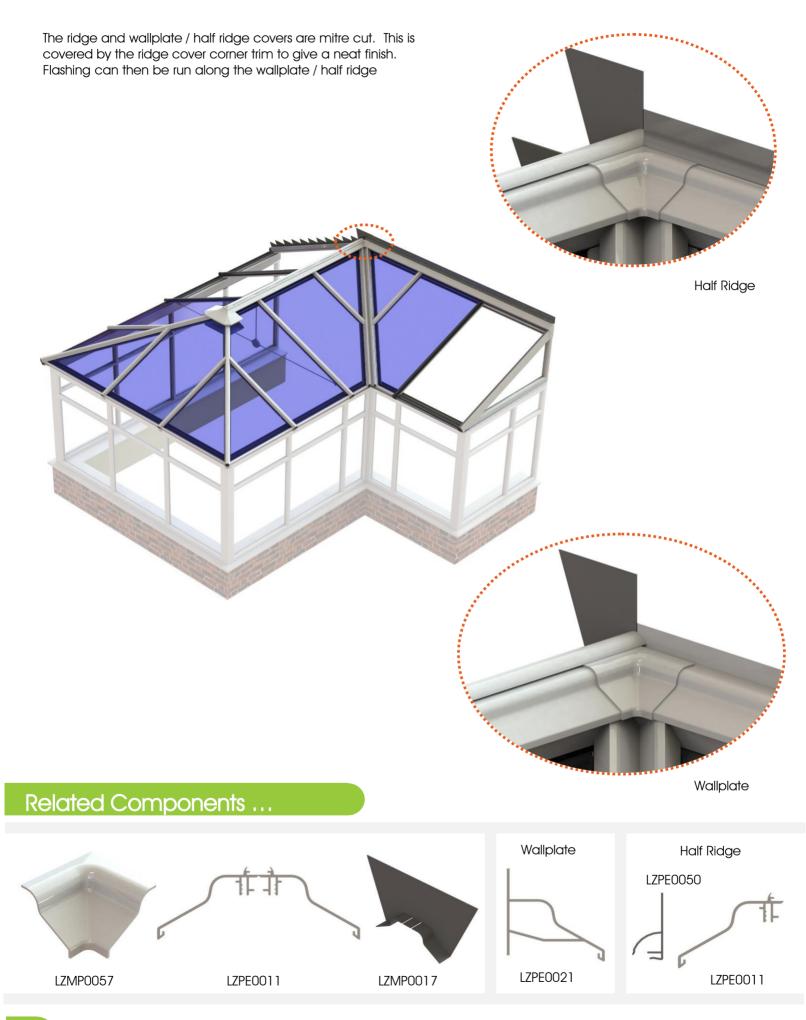


Fit roof bar top caps.

Valley jack top caps are mitre cut to align with the valley top cap.



3.19 - Ridge & Wallplate / Half Ridge Cover Assembly



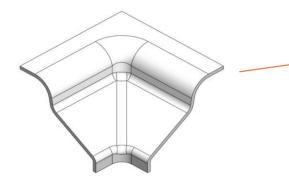


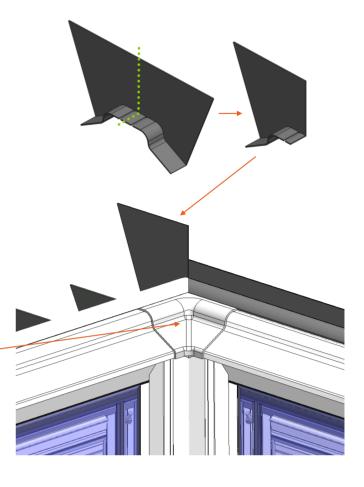
Ridge Flashing Trim

Cut the ridge flashing trim down the centre. Apply an appropriate sealant to the mating surfaces of ridge flashing trim and ridge cover and then secure in place.

Fit all ridge, wallplate and half ridge covers. For further information:

Duo-Pitch Guide: Section 3.13, pages 32-33 Mono-Pitch Guide: Section 3.10, pages 26-27 and Section 3.11, pages 28-29

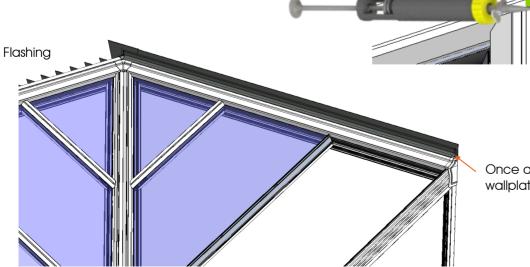




Ridge Cover Corner Trim

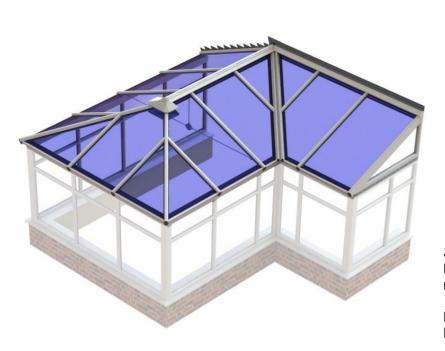
Apply an appropriate sealant to the mating surfaces of ridge cover corner trim and ridge covers and then secure in place.

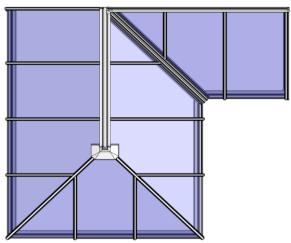
Run a continuous bead of sealant around the edges of all flashing trims and the ridge cover corner trim.



Once all top covers are fitted the wallplate/half ridge should be flashed

3.20 - 3.22





3.20 – Glazing Assembly 3 Install all remaining glazing panels, glazing retainer trims and roof bar top caps.

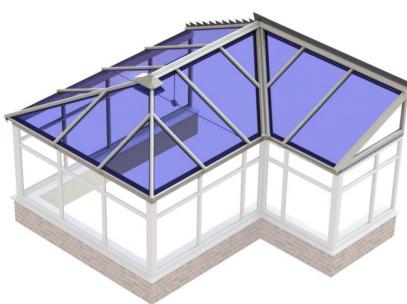
Duo-Pitch Guide: Section 3.10, pages 26-27 Duo-Pitch Guide: Section 3.11, pages 28-29

3.21 - Roof Bar End Cap Assembly

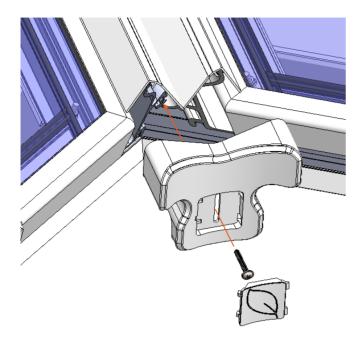
This section details fitting the valley end cap. For information on fitting the rest of the roof bar end caps see;

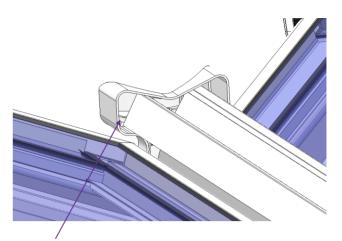
Duo-Pitch Guide: Section 3.15 , pages 36-37





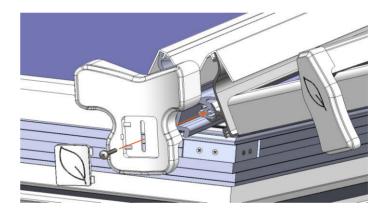


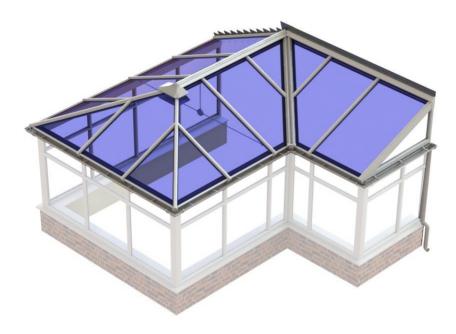




Ensure the valley top cap is located inside the side walls of the valley end cap before screwing in place.

The valley end cap is secured in place with a Bay pole screw. The valley end cap logo plate is then clipped in place to cover the screw head.

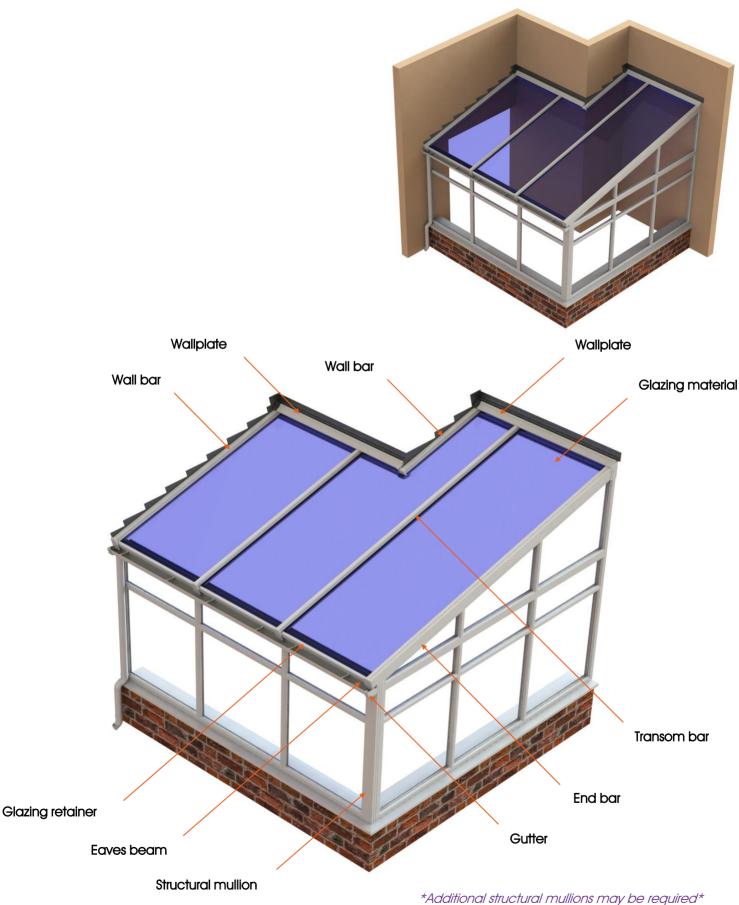




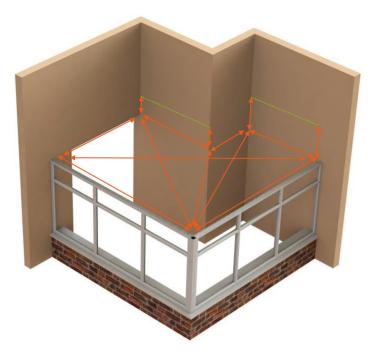
3.22 – Guttering Assembly Duo-Pitch Guide: Section 6.00, pages 50-51

4.00 – Lean-To Cut-outs

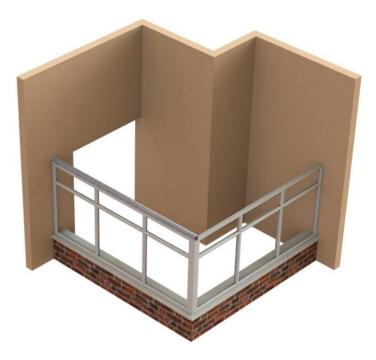
This section of this guide shows the assembly steps for a Lean-to roof with a cut-out and makes reference to the Liniar Roof Installation Guide (Mono-Pitch) .







4.01 Preparation and Wallplate scribing Mono-Pitch Guide: Section 3.00, pages 6-7 Mono-Pitch Guide: Section 3.01, pages 8-9



4.02 Eaves Beam Assembly Mono-Pitch Guide: Section 3.02, pages 10-11



4.03 Raked Frame Notching and Assembly Mono-Pitch Guide: Section 3.03, pages 12-13 Mono-Pitch Guide: Section 3.04, pages 14-15



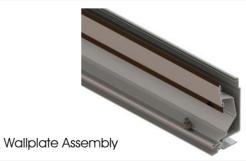
4.04 Glazing Retainer Assembly Mono-Pitch Guide: Section 3.05, pages 16-17

4.05 - Wallplate Assembly

Fix all wallplates in position. For installation details see: Mono-Pitch Guide: Section 3.05, pages 16-17; Notched wallplate assembly Wallplate assembly

Related Components ...



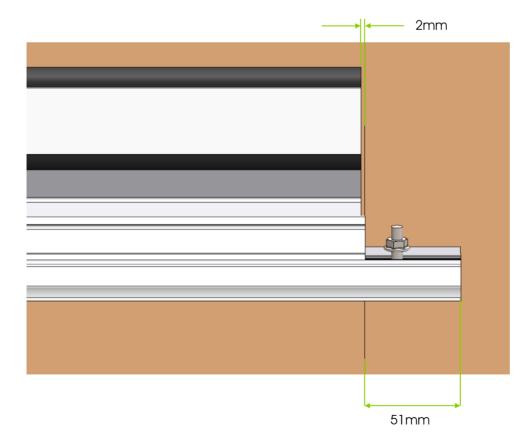








The notched wallplate is fitted to the wall, following the same process as a standard wallplate. The wallplate should be positioned 2mm from the wall end. The notched end of the wallplate wing should overhang the end of the wall by 51mm (as shown below).



4.06 – Wall Bar Assembly

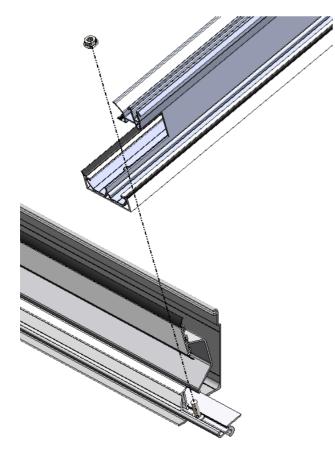
Fix all wall / end bars in position. For installation details see: Mono-Pitch Guide: Section 3.08, pages 22-23;

Related Components ...





Position the notched wall bar onto the two wallplates as shown securing in place with M6 flange nuts. This should then be secured to the host wall as detailed in Mono-pitch Guide: Section 3.08, pages 22-23

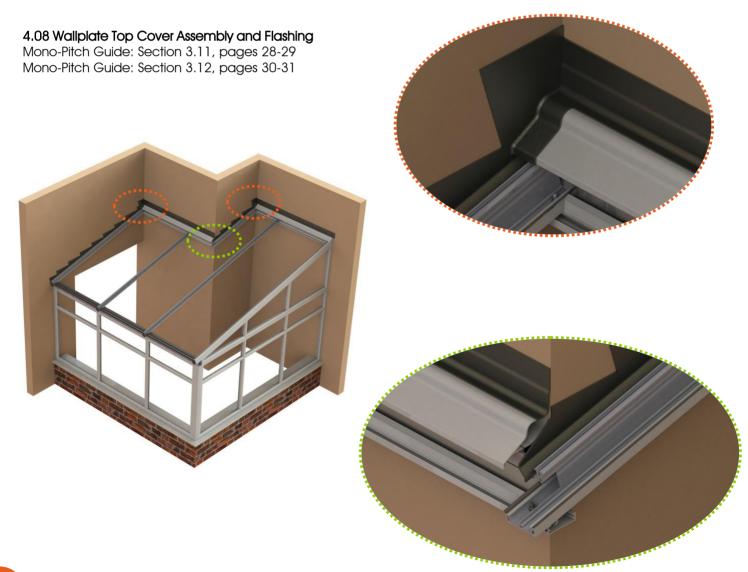




4.07-4.08

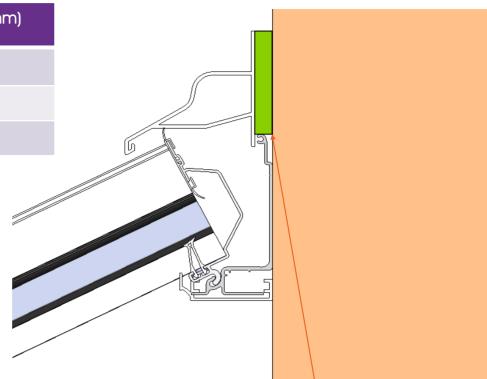


4.07 Transom bar Assembly Mono-Pitch Guide: Section 3.09, pages 24-25



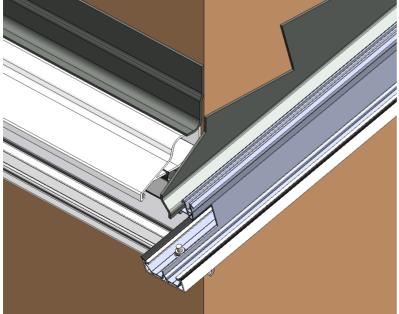


Pitch °	Depth of packer (mm)
<27	N/A
27 - 33	12
>33	24

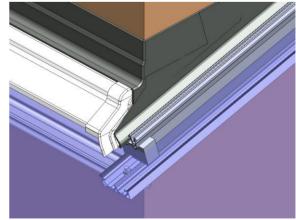


For pitches of 27 degrees and greater it is necessary to pack off the wall plate top covers from the host walls. This can be done with timber. Secure the wallplate top cover in place as detailed in

Mono-Pitch Guide: Section 3.11, pages 28-29. The wallplates and wall bars can then be flashed. At this point the flashing should not be dressed over the end of the wallplate at the end where the notched components meet (as shown below) This will be done at a later stage after the glazing panels and caps are fitted. Timber packer required between wallplate top cover and wall at roof pitches 27° and greater.



Flashing to be dressed over the end of the wallplate after the glazing panels and caps are fitted.

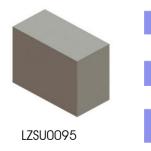


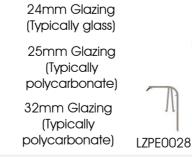
4.09 – Glazing Assembly 1

For Glazing Panel and top cap installation see:

Mono-Pitch Guide: Section 3.13, pages 32-33 Mono-Pitch Guide: Section 3.14, pages 34-35

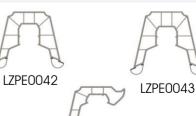
Related Components ...







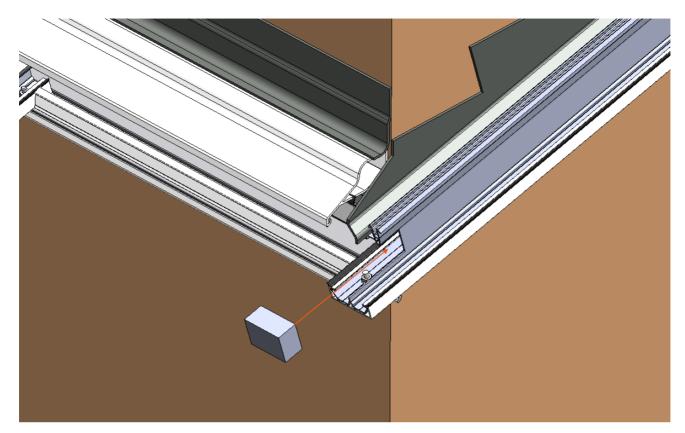
LZPE0045



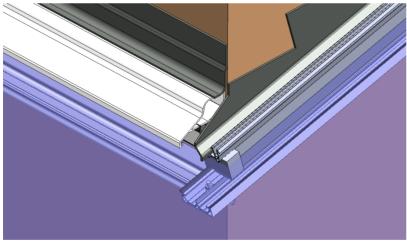
LZPE0046



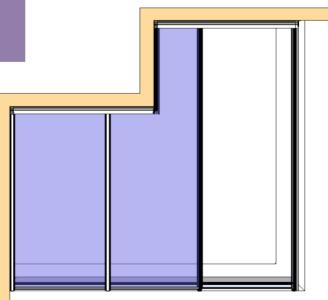




Insert the cut-out foam seal (LZSU0095) into the notched area at the end of the wall bar. Ensure it is pushed up to the fascia trim of the wallplate.

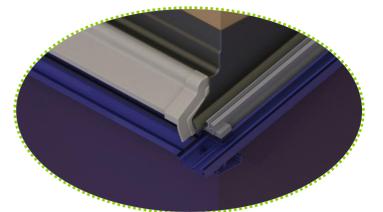


The glazing panels can then be fitted up to and including the cut-out glazing panel. Glazing retainer trims and top caps can then be fitted.



4.10 – Cut-out End Caps Assembly

End caps are to be cut down and fitted to the ends of the wallplate and wall bar in the cut-out area.

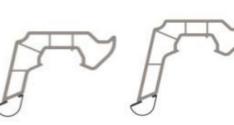














LZMP0053

LZMP0054

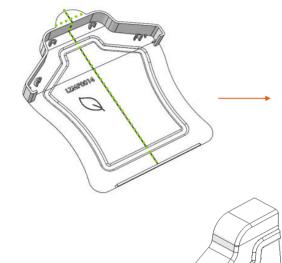
LZMP0014

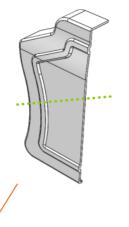
LZPE0045

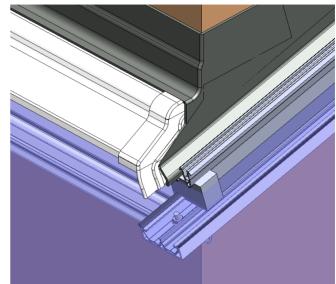
LZPE0046

36

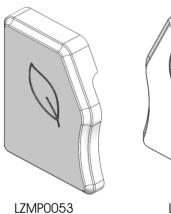




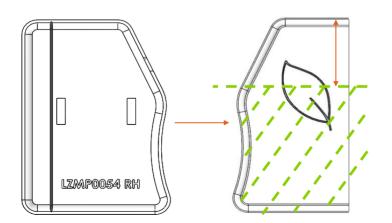


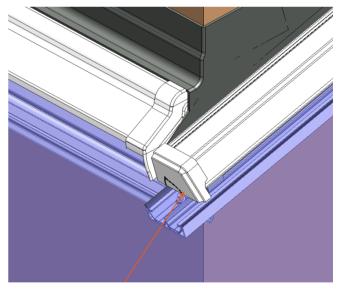


Cut down the gable end plate using the line down the back as a guide. Where a wallplate is used you will also need to cut the semi circular section off the top. This needs to be cut down to match the pitch of the roof and cap off the end of the wall plate. This is then fitted to the end of the wallplate cover and sealed along the mating edge using an appropriate sealant. The flashing can then be dressed over the gable end plate.





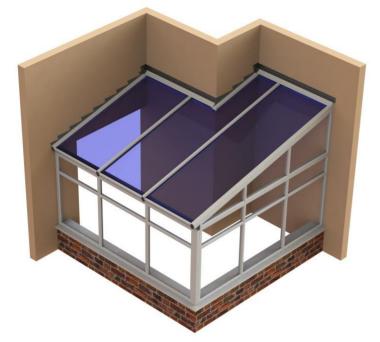


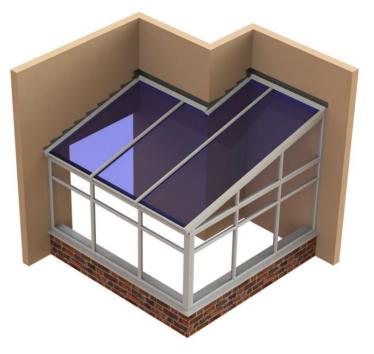


Cut-out right: use LZMP0053

Fit the wall bar top cap (LZPE0045/46). Cap off the end of the wall bar end cap using a wall/end bar end cap (LZMP0053/54).

4.11 - 4.14





4.11– Glazing Assembly 2 Mono-Pitch Guide: Section 3.13, pages 32-33 Mono-Pitch Guide: Section 3.14, pages 34-35

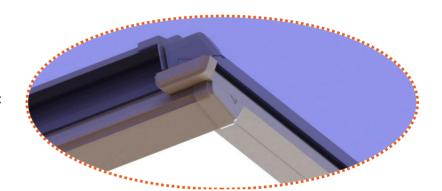
4.12– Roof Bar End Cap Assembly Mono-Pitch Guide: Section 3.15, pages 36-37

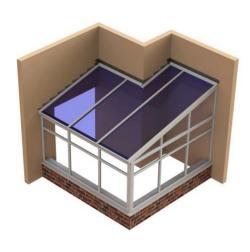
4.13- Internal Eaves/Ridge Trims Assembly

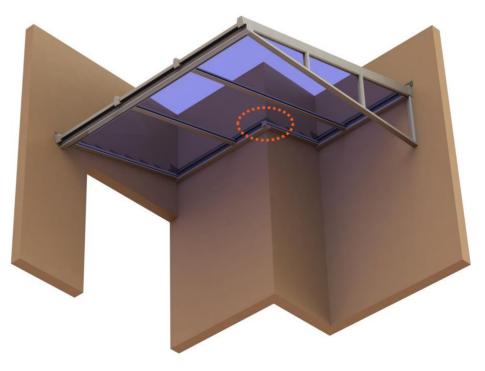
This section details trimming of end caps for the wallplate undercap (LZPE0024) and the wall bar bottom cap (LZPE0007/08).

For internal eaves and wallplate trims installation see:

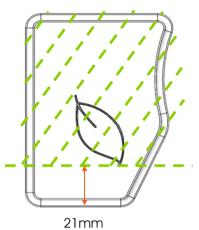
Mono-Pitch Guide: Section 3.16, pages 38-39



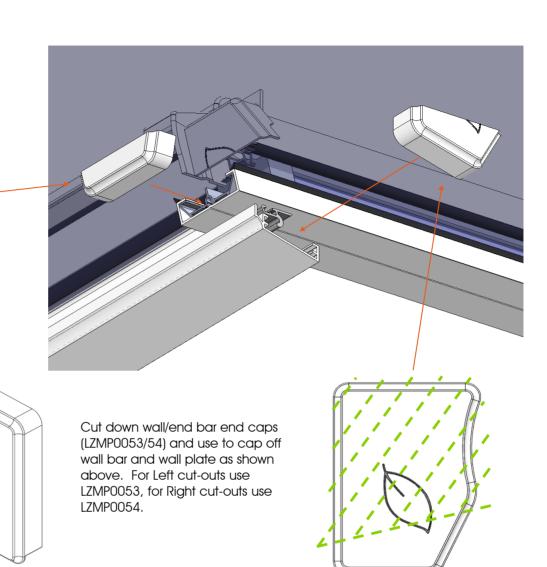


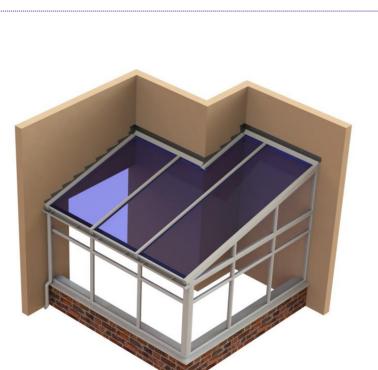






LZMP0053



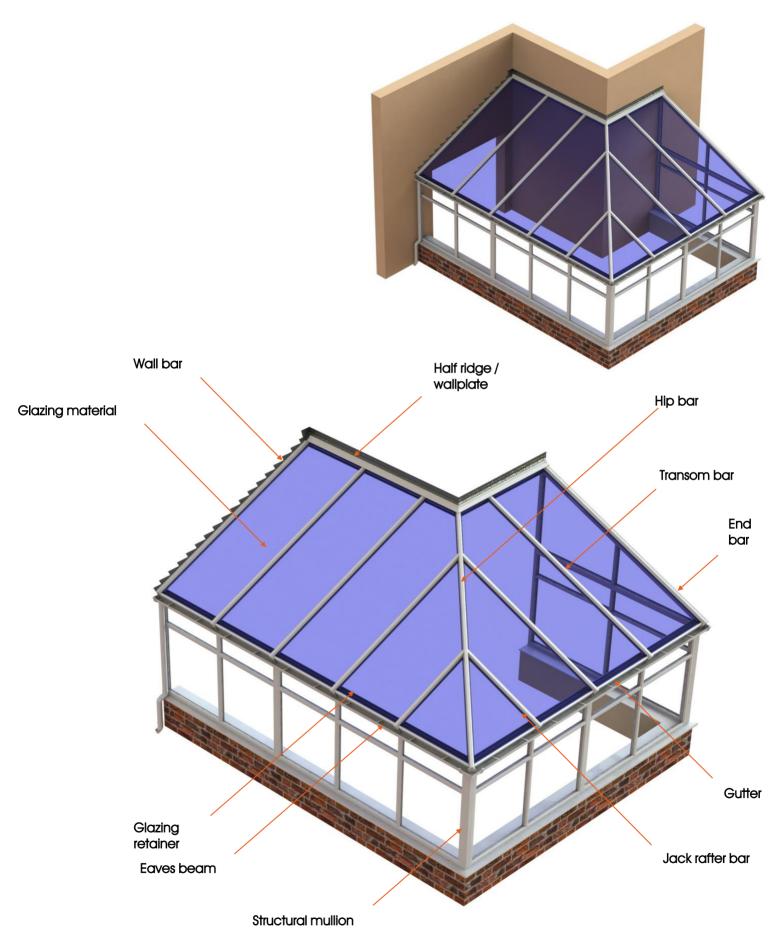


LZMP0054

4.14– Guttering Assembly Mono-Pitch Guide: Section 6.00, pages 58-59

5.00 – L-Shape Roof Assembly

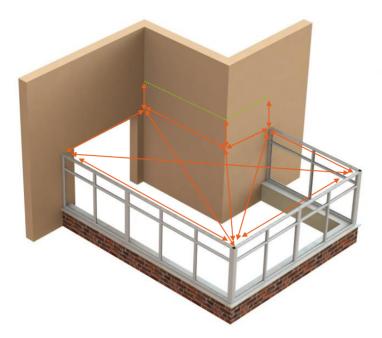
This section of this guide shows the assembly steps for an L-Shape roof and makes reference to the Liniar Roof Installation Guide (Mono-Pitch) .



Additional structural mullions may be required

5.01 - 5.04





5.01 Preparation and Waliplate scribing Mono-Pitch Guide: Section 3.00, pages 6-7 Mono-Pitch Guide: Section 3.01, pages 8-9

5.02 Eaves Beam Assembly Mono-Pitch Guide: Section 3.02, pages 10-11



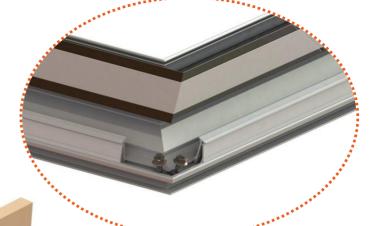
5.03 Raked Frame Notching and Assembly Mono-Pitch Guide: Section 3.03, pages 12-13 Mono-Pitch Guide: Section 3.04, pages 14-15 **5.04 Glazing Retainer Assembly** Mono-Pitch Guide: Section 3.05, pages 16-17

5.05 - Wallplate / Half Ridge Assembly

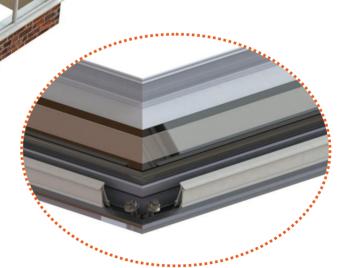
This section details the joining and fitting of two wallplates / half ridges used to fit a roof around an external corner of a wall.

For further details of wallplate / half ridge assembly see:

Mono-Pitch Guide: Section 3.06, pages 18-19 Mono-Pitch Guide: Section 3.07, pages 20-21



Wallplate Assembly



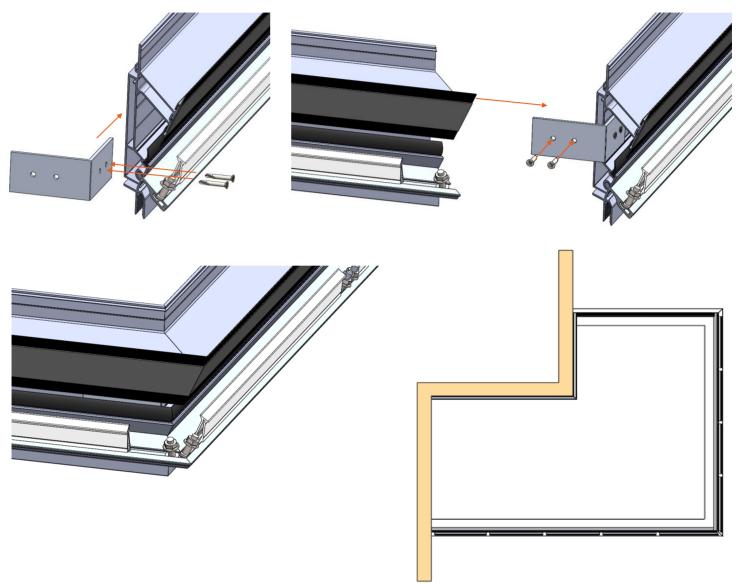
Half Ridge Assembly

Related Components ... Wallplate Assembly



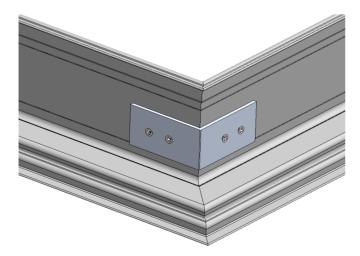
Half Ridges

Fix half ridges (LZAL0073) together using cleats and screws . Once fixed together secure both half ridges to the walls.



Wallplates

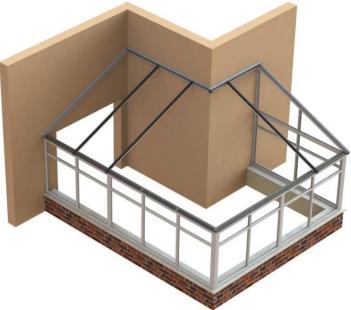
Remove wallplate wings and fix the wallplates (LZAL0016) together using cleats and screws. Secure both wallplates to the walls and then refit the wallplate wings.





5.06 - 5.08



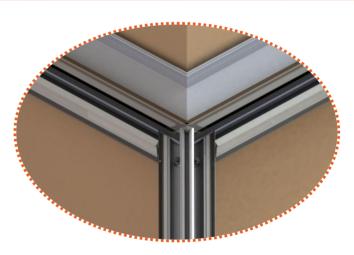


5.06 - Wall / End Bar Assembly Mono-Pitch Guide: Section 3.08, pages 22-23

5.07– Transom Bar Assembly Mono-Pitch Guide: Section 3.09, pages 24-25



Related Components ...



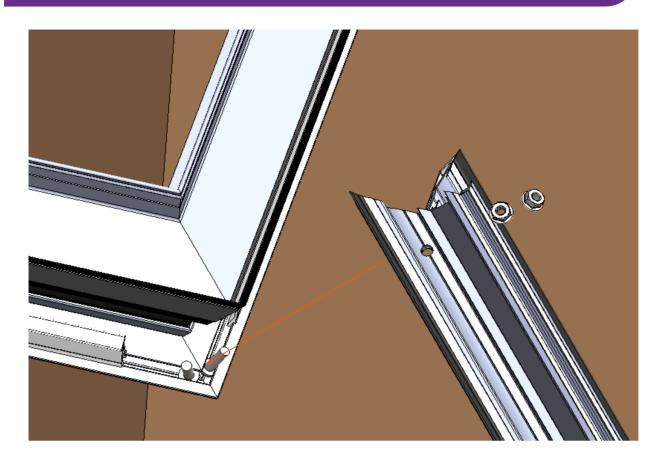
5.08- Hip Bar and Jack Rafter Bar Assembly

This section details the installation of a hip bar at the corner of the wallplate / half ridge on an L-shape roof. For details of jack rafter assembly see :

Mono-Pitch Guide: Section 5.04, pages 46-47







Fix the 'bird mouth' cut end of the hip bar at the corner of the wallplates / half ridges, in place using M6 flange nuts. The bottom end of the hip bar is fixed at the corner of the eaves using M6 flange nuts.

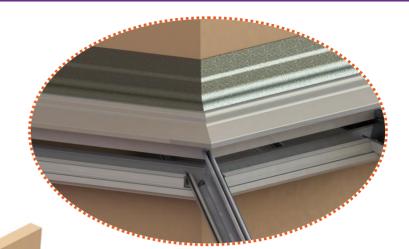


5.09 – Wallplate / Half Ridge Cover Assembly and Flashing

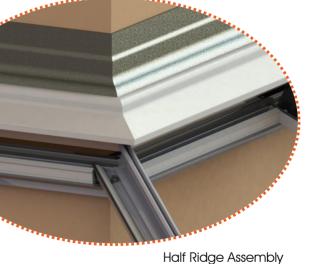
This section details the joining, fitting and flashing of two wallplate / half ridge top caps.

For further details of wallplate / half ridge top cap and flashing assembly see:

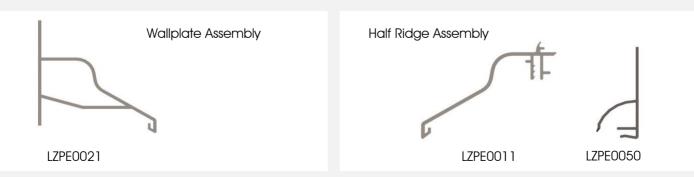
Mono-Pitch Guide: Section 3.10, pages 26-27 Mono-Pitch Guide: Section 3.11, pages 28-29 Mono-Pitch Guide: Section 3.12, pages 30-31



Wallplate Assembly

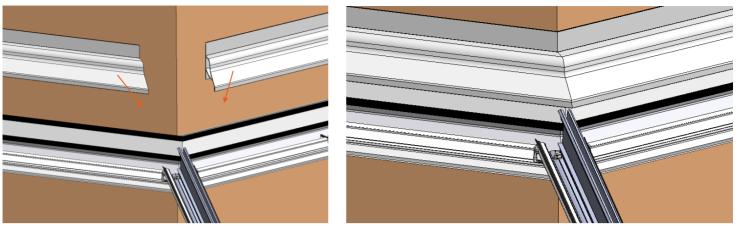


Related Components ...

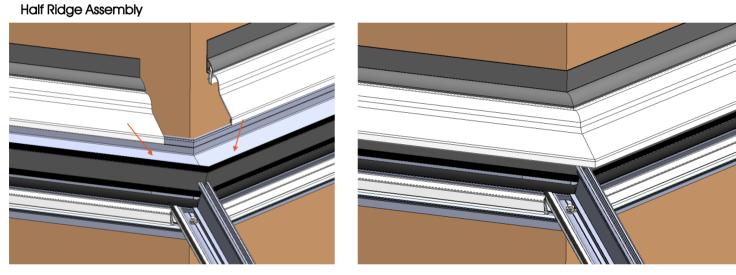




Wallplate Assembly

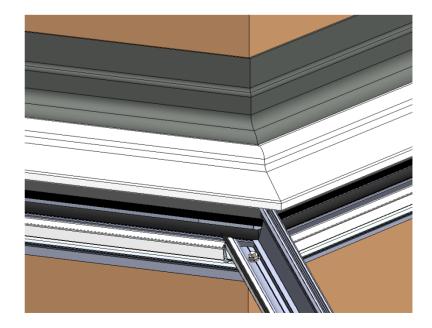


Wallplate covers are mitre cut. Fix one of the top covers in place and then align the other applying an appropriate adhesive such as Stelmax to the mating edges. Fix the other top cover in place.

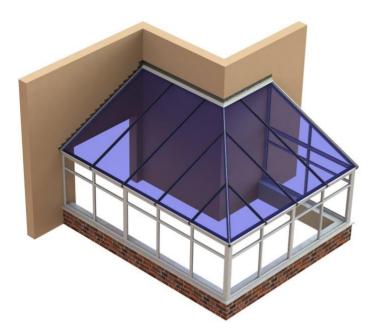


Half Ridge covers are mitre cut. Fix one of the top covers in place and then align the other applying an appropriate adhesive such as Stelmax to the mating edges. Fix the other top cover in place.

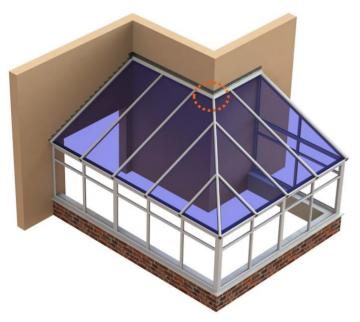
Once fixed in place, flash over the top cover flashing trims.



5.10 - 5.11



5.10 – Glazing Assembly Mono-Pitch Guide: Section 3.13, pages 32-33



5.11– Roof Bar Top Caps Assembly This section details the hip bar top cap assembly. For further details of roof bar top cap assembly see:

Mono-Pitch Guide: Section 3.14, pages 34-35 Mono-Pitch Guide: Section 5.06, pages 50-51



The hip bar top cap is cut to a 'bird mouth' at the top end, to fit around the corner of the wallplates / half ridges

HIP BAR TOP CAP

Related Components ...

FAF











HIP BAR TOP CAP LZPE0041 'BIRD MOUTH' CUT

1 LZPE0042

LZPE0043

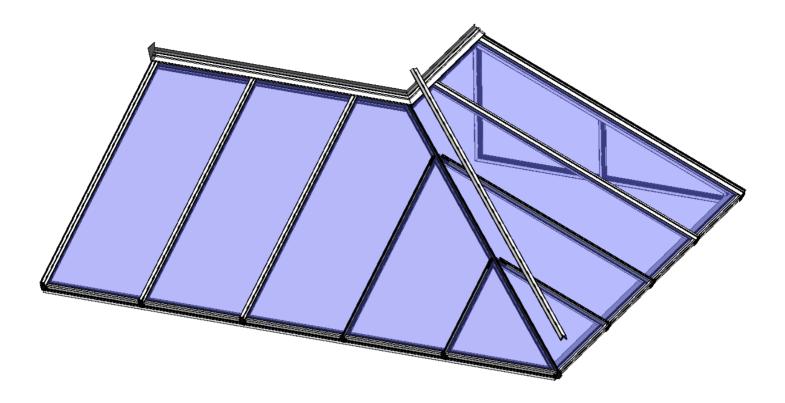
LZPE0044

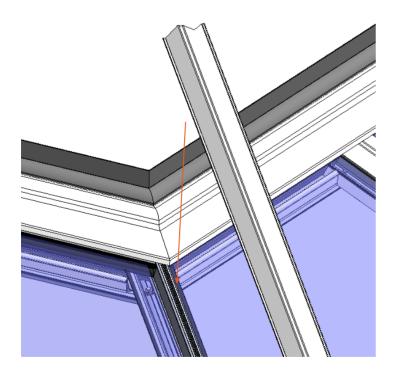
LZPE0045

LZPE0046

48







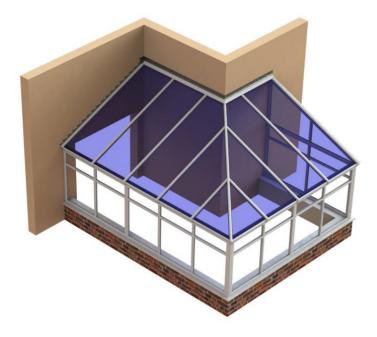
The 'bird mouth' cut top cap is fitted to the hip bar with the bird mouth at the top, fitting around the corner of the wallplate / half ridge.



Once fitted in place run a continuous bead of an appropriate sealant along the edge of the hip bar top cap that meets the wallplate / half ridge.



5.12 - 5.14

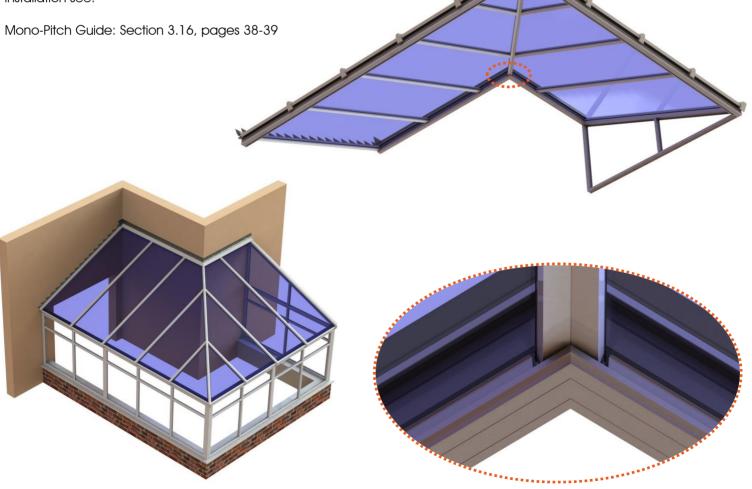


5.12- Roof Bar End Cap Assembly Mono-Pitch Guide: Section 3.15, pages 36-37

5.13- Internal Eaves/Ridge Trims Assembly

This section details the mitred joint of the internal wallplate / half ridge covers.

For internal eaves and wallplate / half ridge trims installation see:



Mitred joint of internal trim.

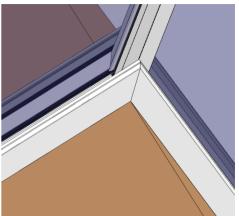


Wallplate



LZPE0024

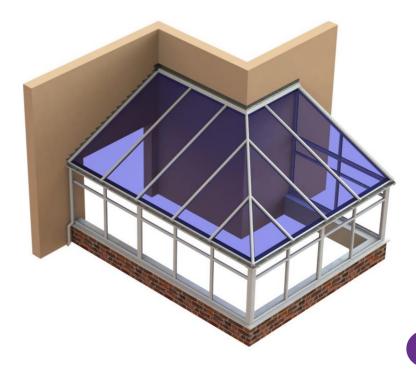




The internal trims for the wallplate / half ridge are mitre cut and butted up to one another at the corner where they meet. Fix one of the internal covers in place and then align the other applying an appropriate adhesive such as Stelmax to the mating edges

Half Ridge LZPE0010

5.14– Guttering Assembly Mono-Pitch Guide: Section 6.00, pages 58-59



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