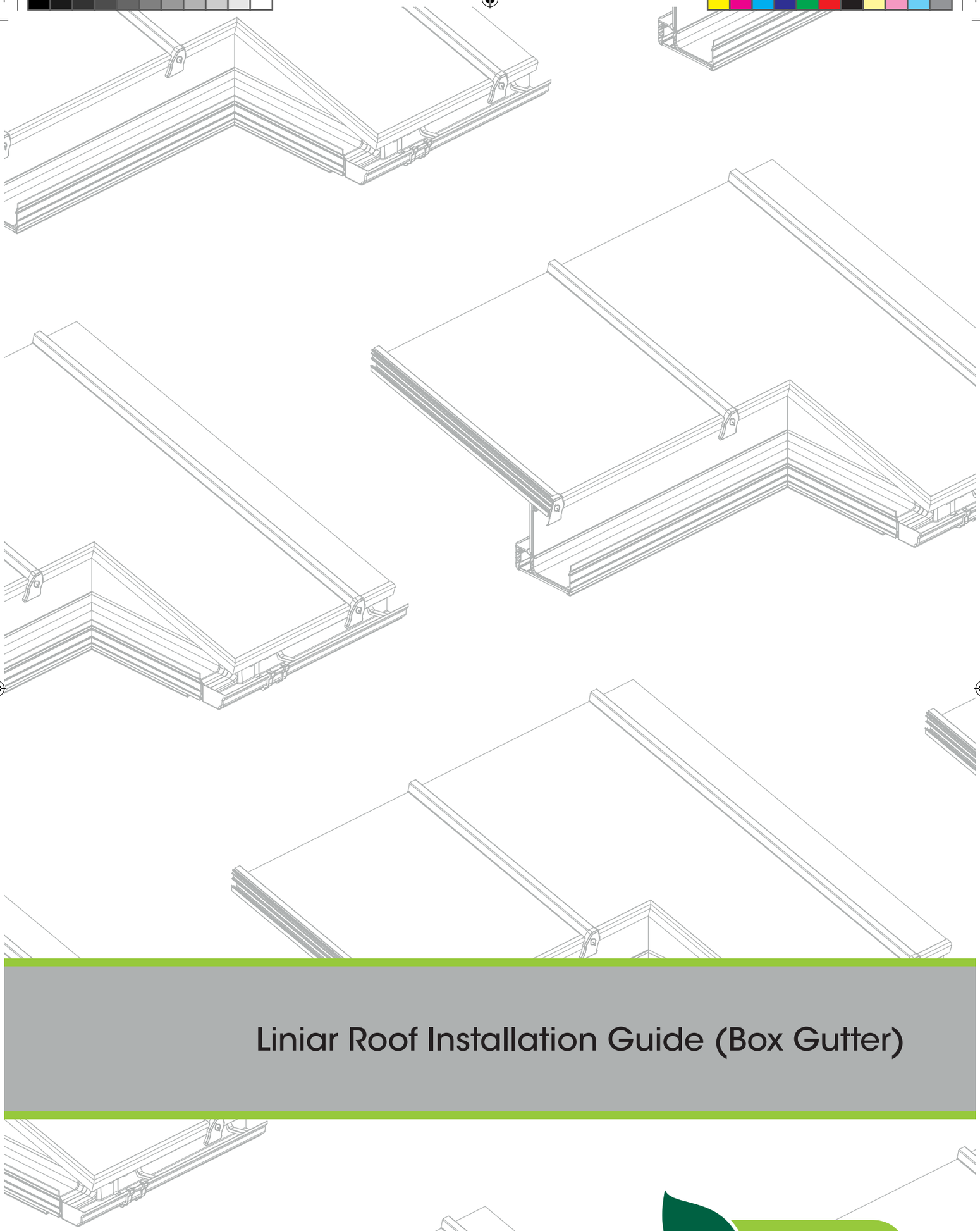


Liniar Roof Installation Guide (Box Gutter)

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.

Sealing

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.

- Self cleaning glass

- Polycarbonate glazing
- Standard sealed units

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.

Videos

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

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

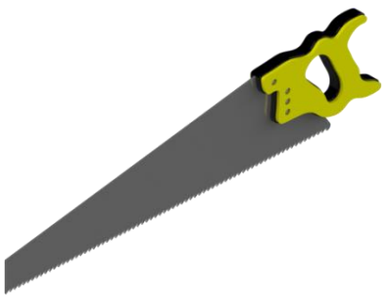
1.01- Tools Required

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

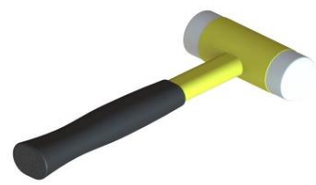
SDS / Hammer Drill
With appropriately sized masonry bits for proprietary fixings. (min 400mm required for Raised Back Box Gutters)



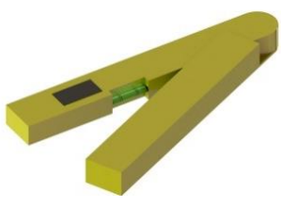
Hand Saw
Notching frames

Utility Knife
General use

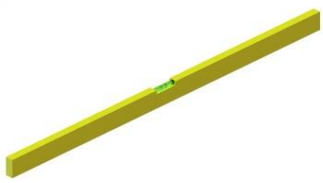
Clamps
Securing eaves beams in place when drilling and fixing



Glazing Hammer
Fitting trims and caps



Angle Finder
General measuring and checking of angles/pitches



Spirit Level
General level checking

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

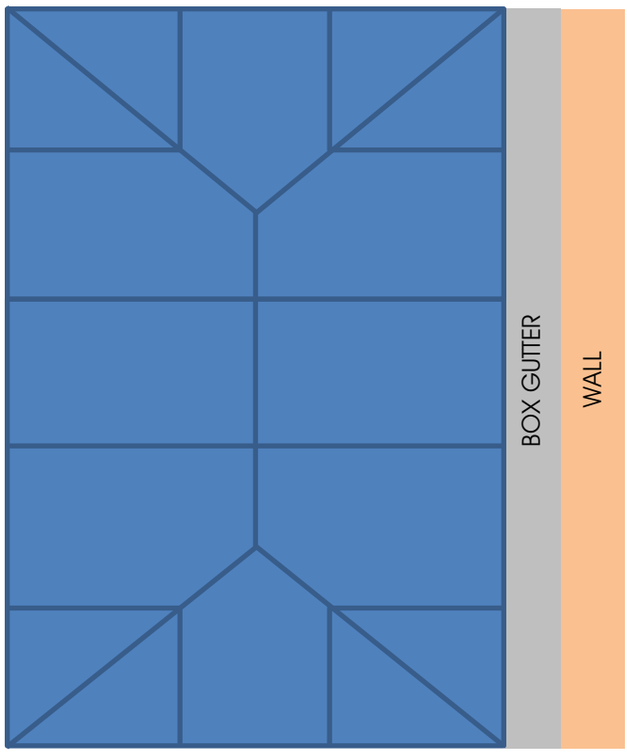
Low modulus neutral cure sealant
With silicone gun

Suitable uPVC Adhesive
Securing trims and mouldings in place

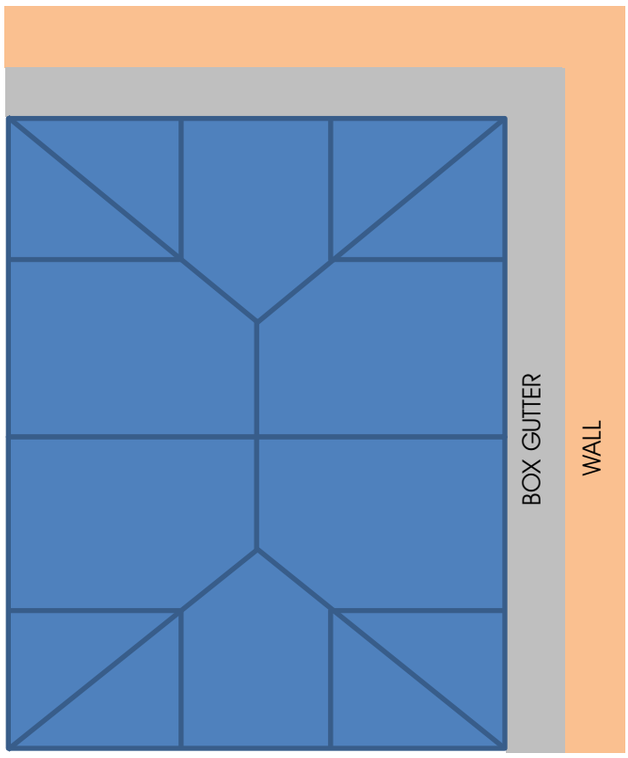
Socket Wrench
Securing raised back box gutters in place (appropriately sized sockets required)

2.00 – Box Gutter Assembly

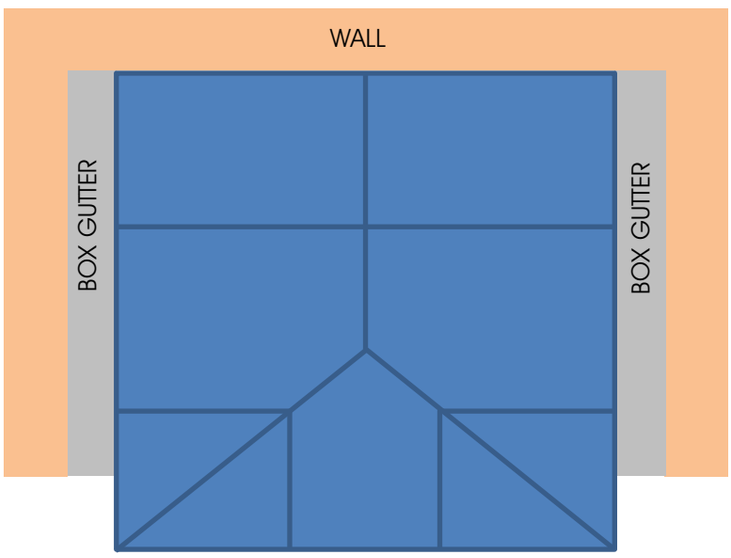
A box gutter is required where the base of a pitched roof meets a wall. Some examples of instances where a box gutter would be used are shown below.



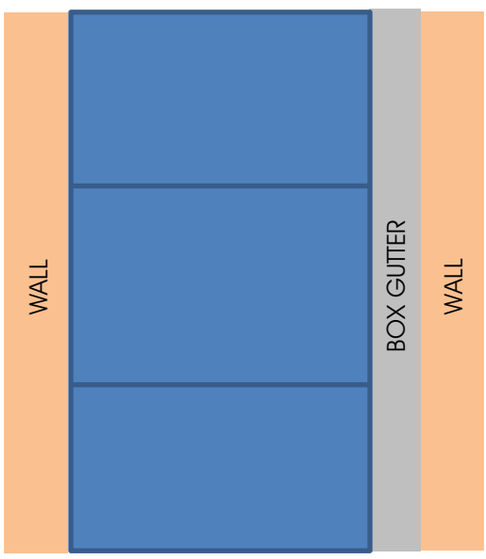
Hipped back roof – Box gutter along 1 wall



Hipped back roof – Box gutter along 2 walls

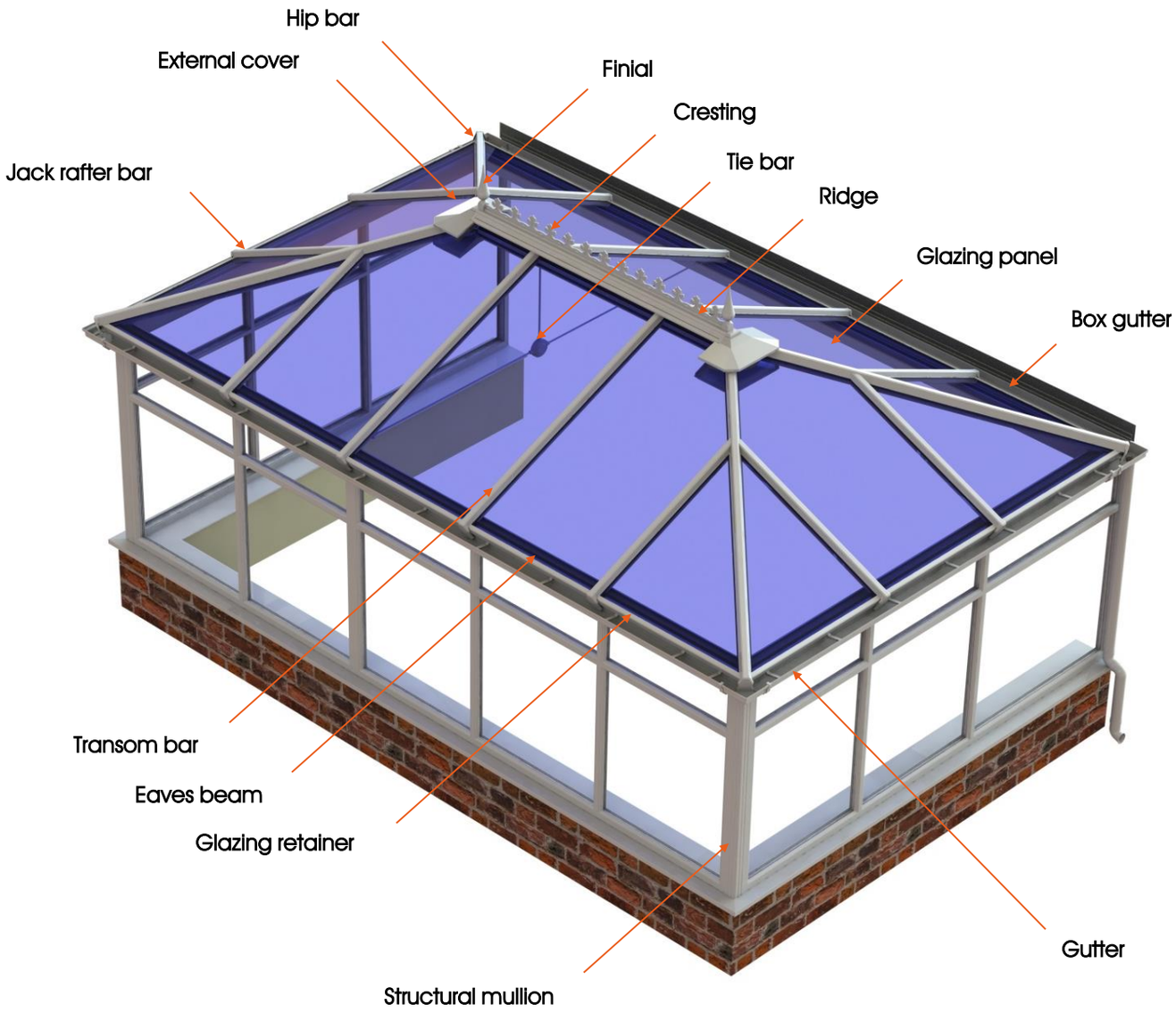


Edwardian roof between 3 walls - Box gutters along 2 walls

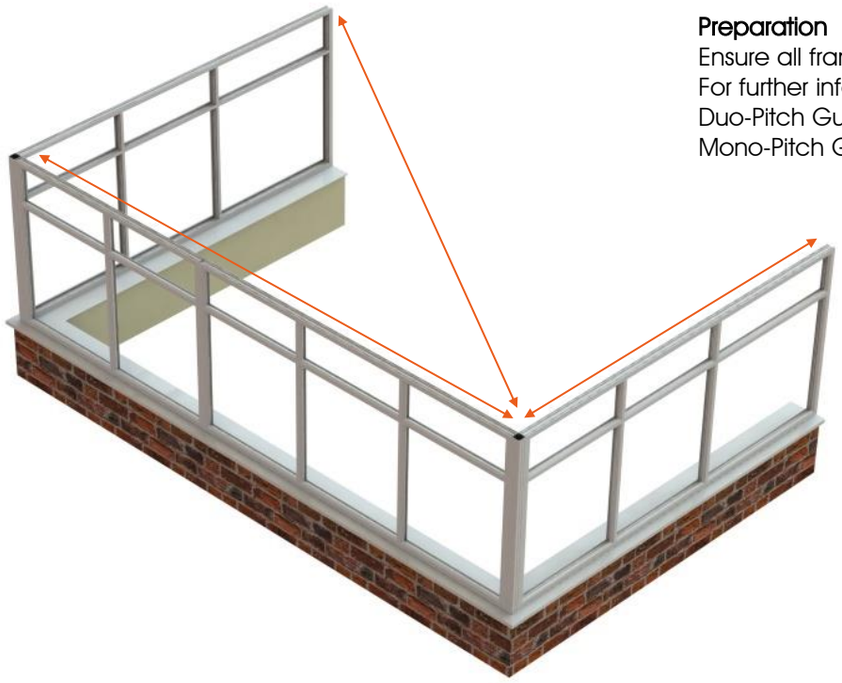


Lean-to roof between 2 walls - Box gutter along 1 wall.

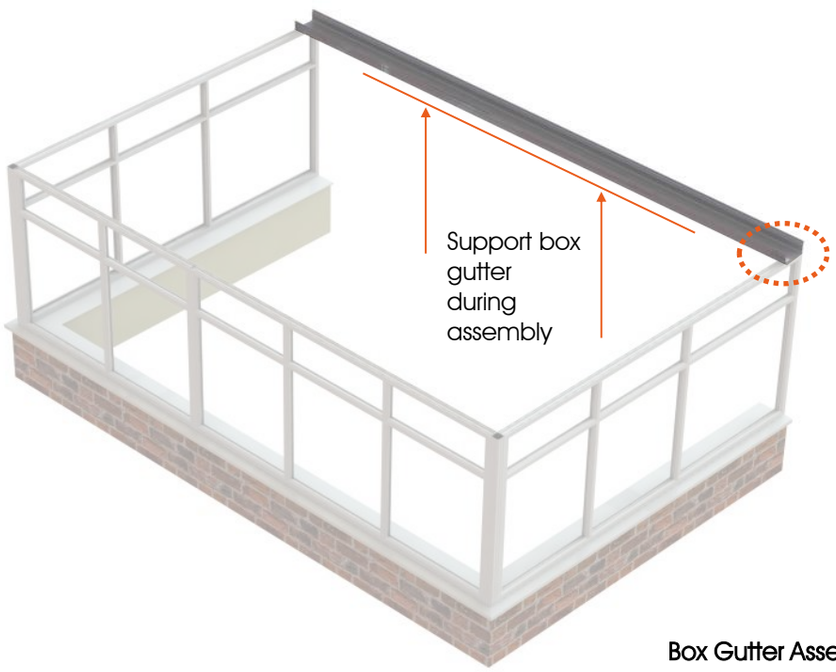
This guide shows the assembly steps for a duo-pitch roof and makes reference to the Liniar Roof Installation Guide (Duo-Pitch). If the roof is mono-pitch , the assembly steps can be found in the Liniar Roof Installation Guide (Mono-Pitch).

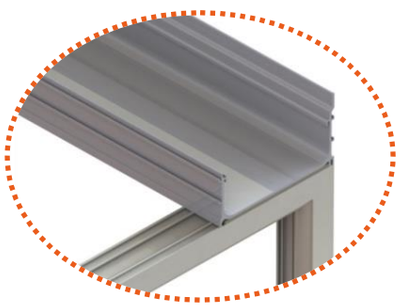


3.00 – Preparation



Preparation
Ensure all frames are square and level before fitting roof.
For further information, see:
Duo-Pitch Guide: Section 3.00, pages 6-7
Mono-Pitch Guide: Section 3.00, pages 6-7





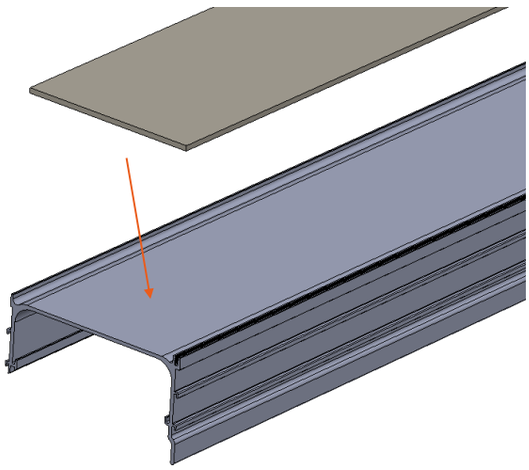
Box Gutter Assembly

Related Components …

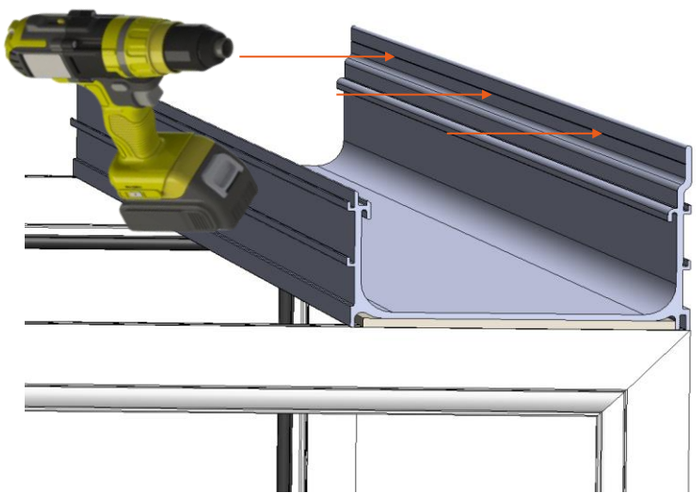
LZSU0084

LZAL0068

The box gutter insulation foam should run the full length of box gutter. Remove the backing tape and adhere to the bottom face of the box gutter as shown.



Minimum 600mm centres

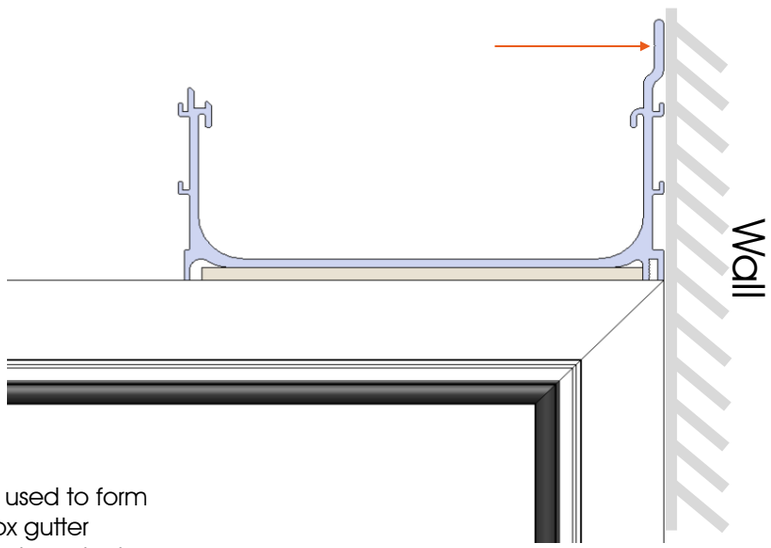


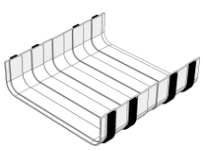
Position the box gutter on top of frames or supporting structures aligning with the outside faces.

Note frames are not load bearing structures, sufficient support should be given to the box gutter until secured to the wall

Before fixing to the wall, ensure the box gutter is positioned correctly (square and level).

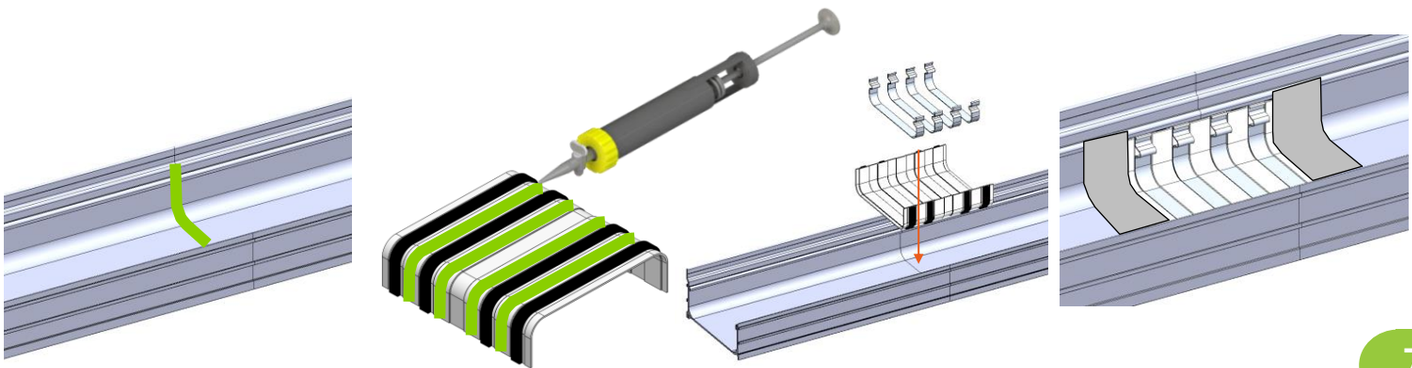
Clearance holes will need to be drilled in the box gutter to fix in position. Use the groove near the top of the box gutter as a guide. Appropriate fixings should be used to fix the box gutter securely at no greater than 600mm centres along its length.





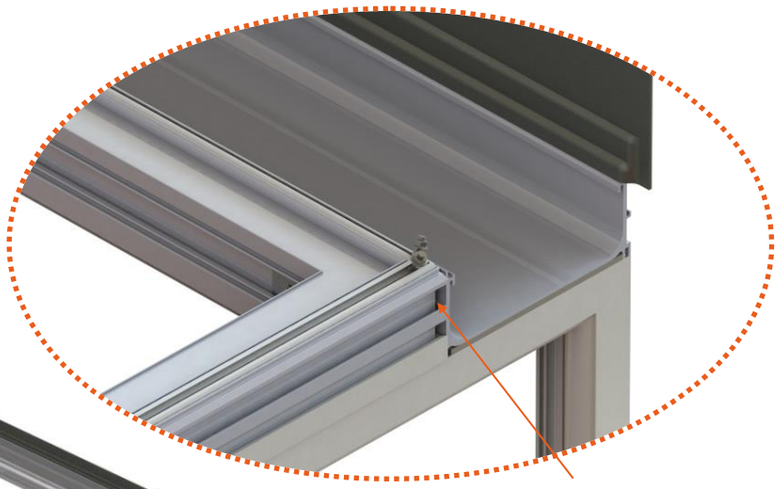
LZSU0083

Large box gutter inline adaptor is used to form a seal between two lengths of box gutter where there is a butt joint. First apply sealant to the butt joint of the box gutters. Then apply sealant to the box gutter inline adaptor. Secure with 4 clips and apply aluminium backed sealing tape to both ends of the inline adaptor where it meets the box gutter.

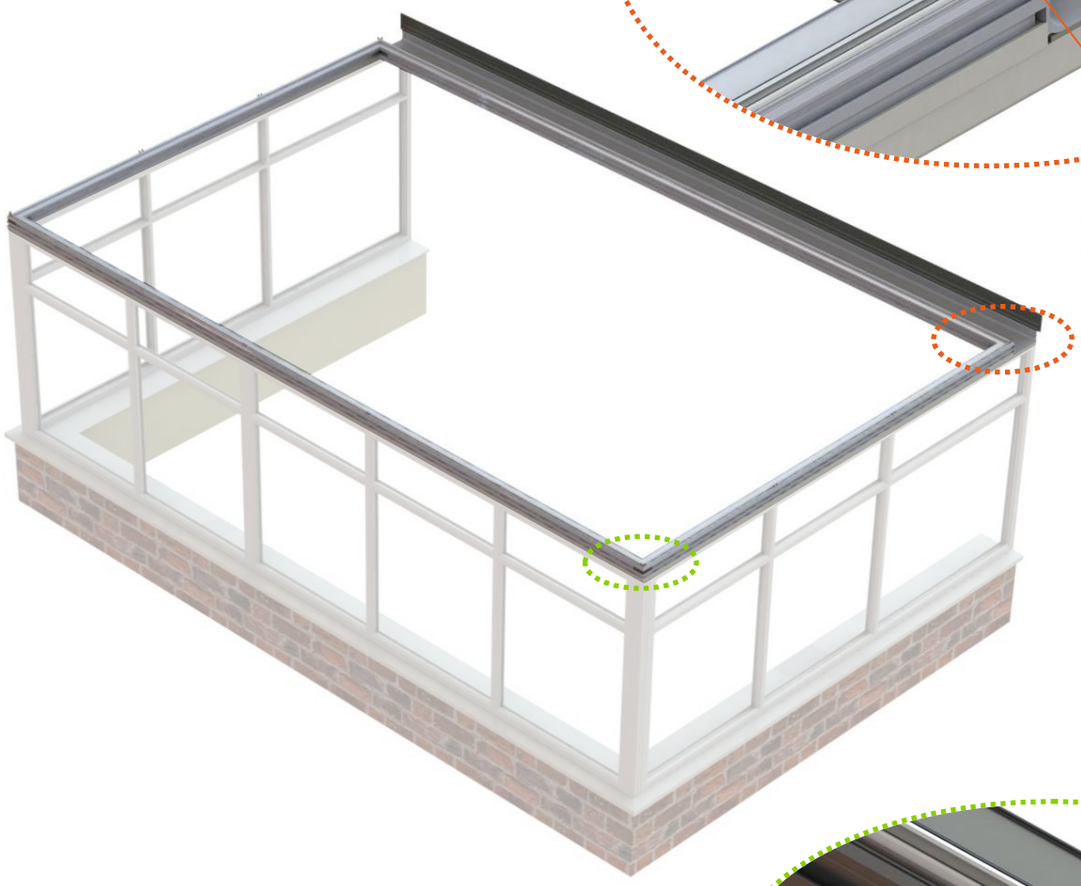


3.02 – Eaves Beam Assembly and Box Gutter Flashing

For more details of the Eaves Beam Assembly -
Duo-Pitch Guide: Section 3.01, pages 8-9
Mono-Pitch Guide: Section 3.02, pages 10-11



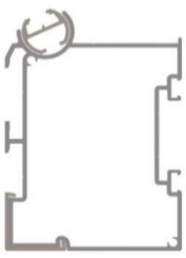
Internal cleats only. No external cleats are fitted where the eaves beam meets the box gutter.

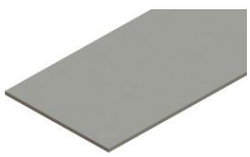


LZFX0001

Related Components …

Eaves Assembly





LZSU0090

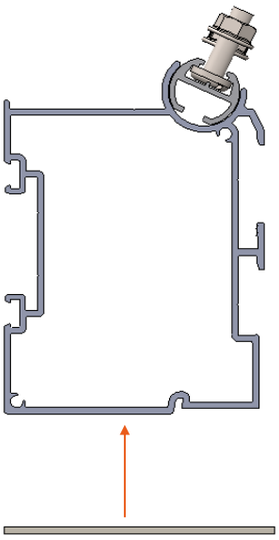
Vertical Cleats

LZFX0004

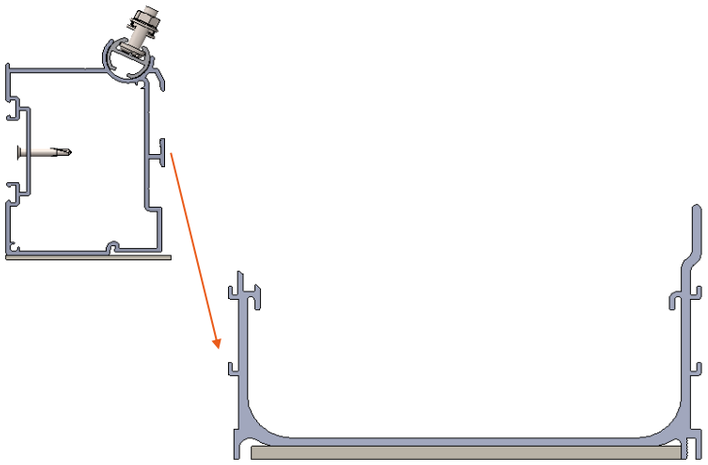
LZFX0001

LZFX0020

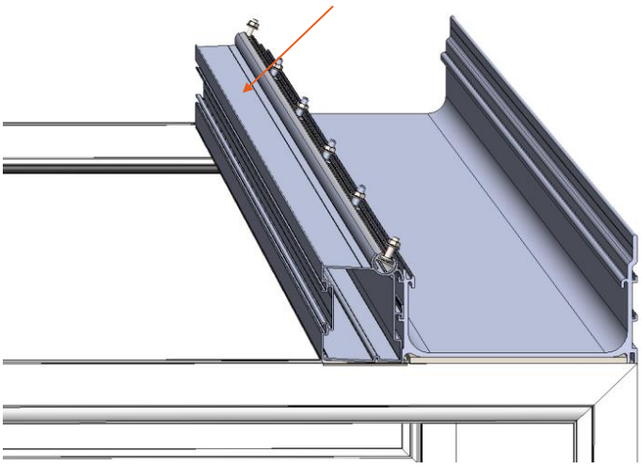
LZFX0018

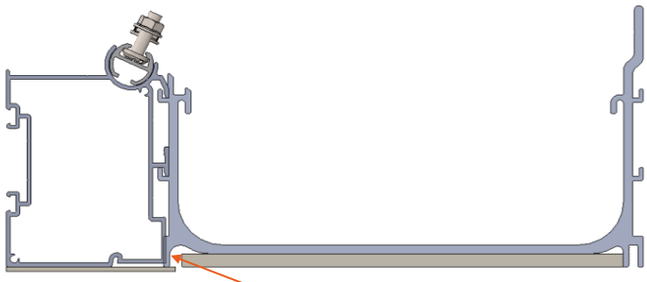


Eaves insulation foam should run the full length of the eaves beam, which is fitted along the length of the box gutter. Remove the backing tape and adhere to the bottom face of the eaves beam as shown.



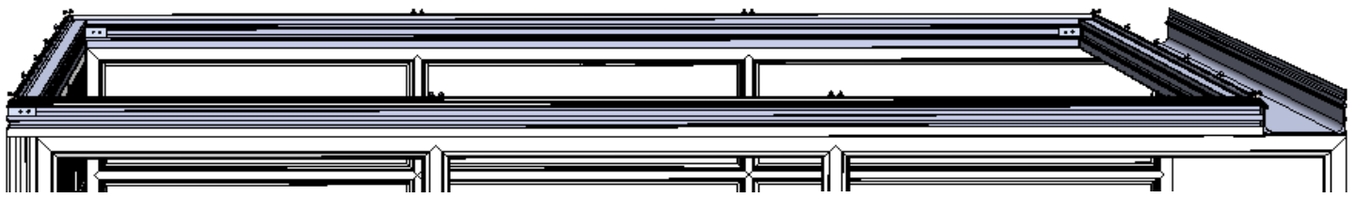
Foam fitted on the underside of this eaves beam only





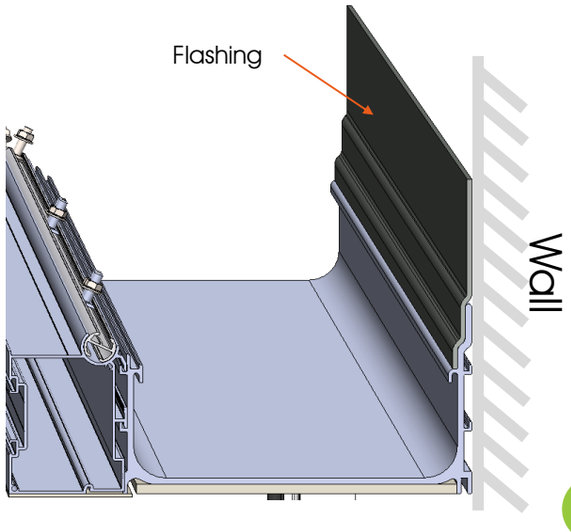
Secure with screws at approx. 600mm intervals.

The eaves beam is then connected to the box gutter using the two hook features as shown above. The eaves beam should line in with the ends of the box gutter. Once in the correct position, secure the eaves beam to the box gutter with appropriate screws in the position shown above at intervals of approx. 600mm.



The rest of the eaves beams can then be assembled to the roof and secured in place (see Duo-Pitch / Mono-Pitch Guides for details).

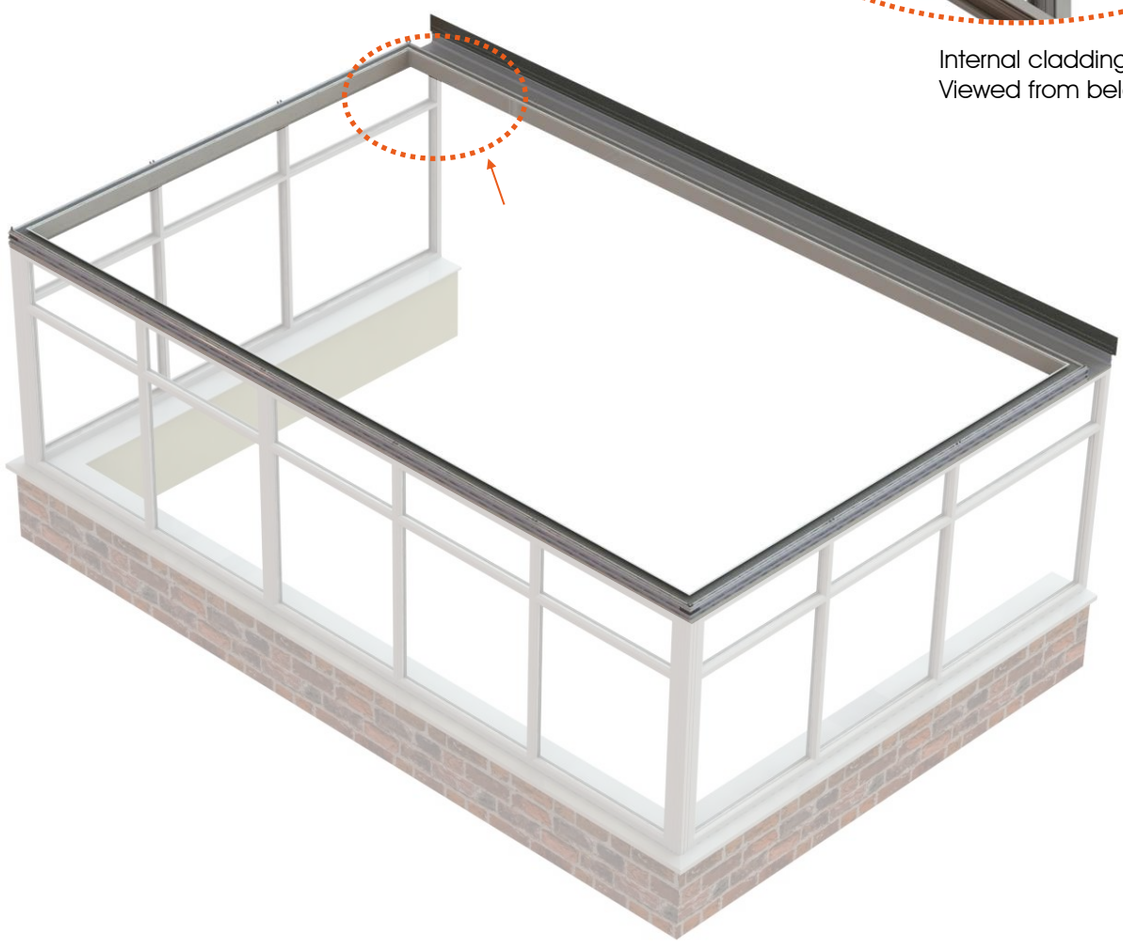
Once the eaves beams are secured in place, flashing should be run along the full length of the box gutter.



3.03 – Box Gutter Cladding and Internal Eaves Trims

For more details of Internal Eaves Trims Assembly -
Duo-Pitch Guide: Section 3.08, pages 22-23
Mono-Pitch Guide: Section 3.16, pages 38-39

Internal cladding for box gutter.
Viewed from below



Related Components ...

LZSU0087

Internal Cover Trims

LZPE0010

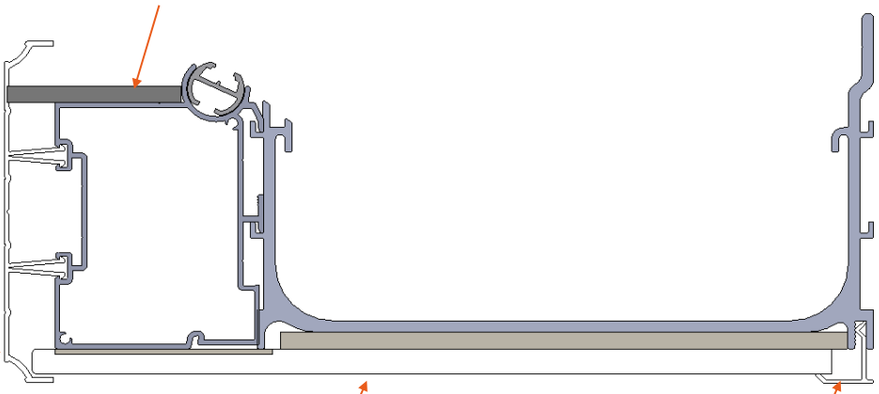
LZPE0049

LZPE0048

LZSU0086

Fit internal trims and cladding. These are secured by integral clip features in the profiles , no additional fixings are required.

LZSU0087 - Eaves cloaking foam to be adhered to the top face of all eaves beams

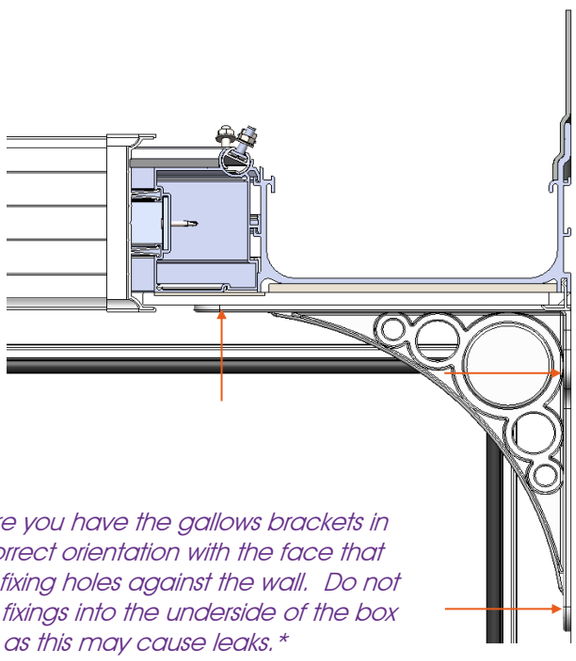


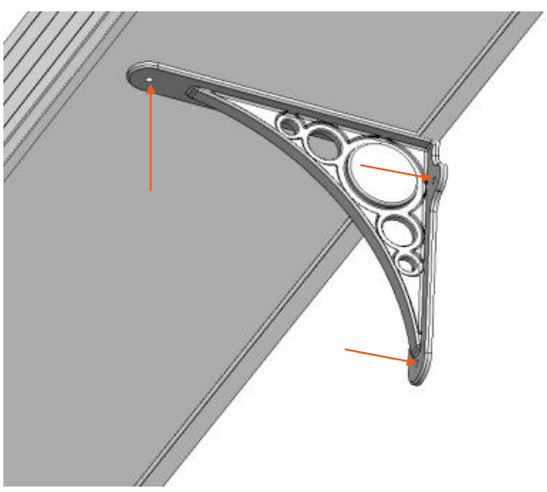
LZPE0010 - Internal eaves cover to be fitted to internal face of all eaves beams

LZPE0049 - Large box gutter under cladding

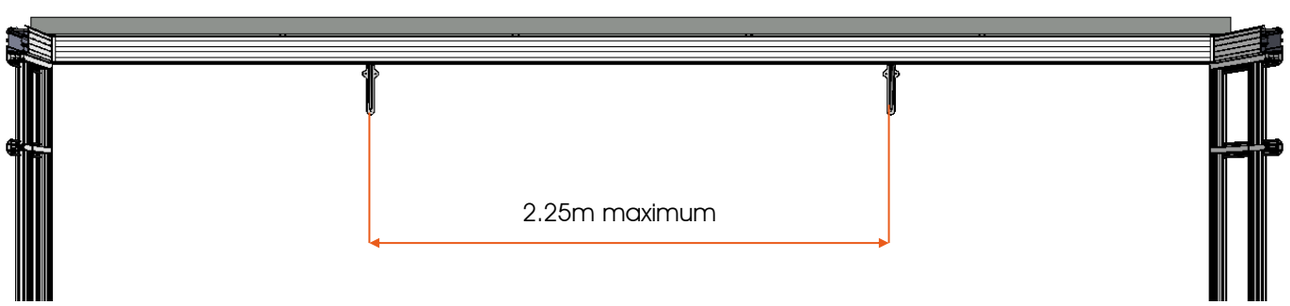
LZPE0048 - Large box gutter under cladding retainer

If gallows brackets are to be used to support the box gutter they can now be installed at 2.25m intervals. These should be secured to the wall and the underside of the eaves beam, using the holes provided in the brackets.

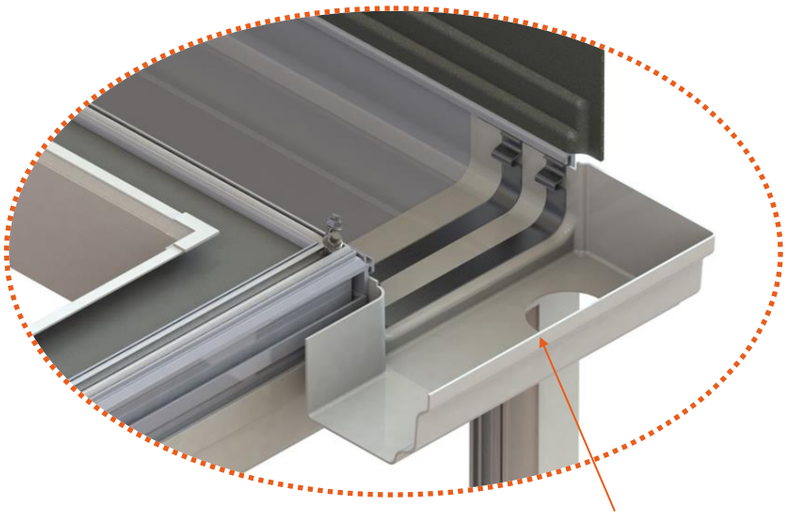




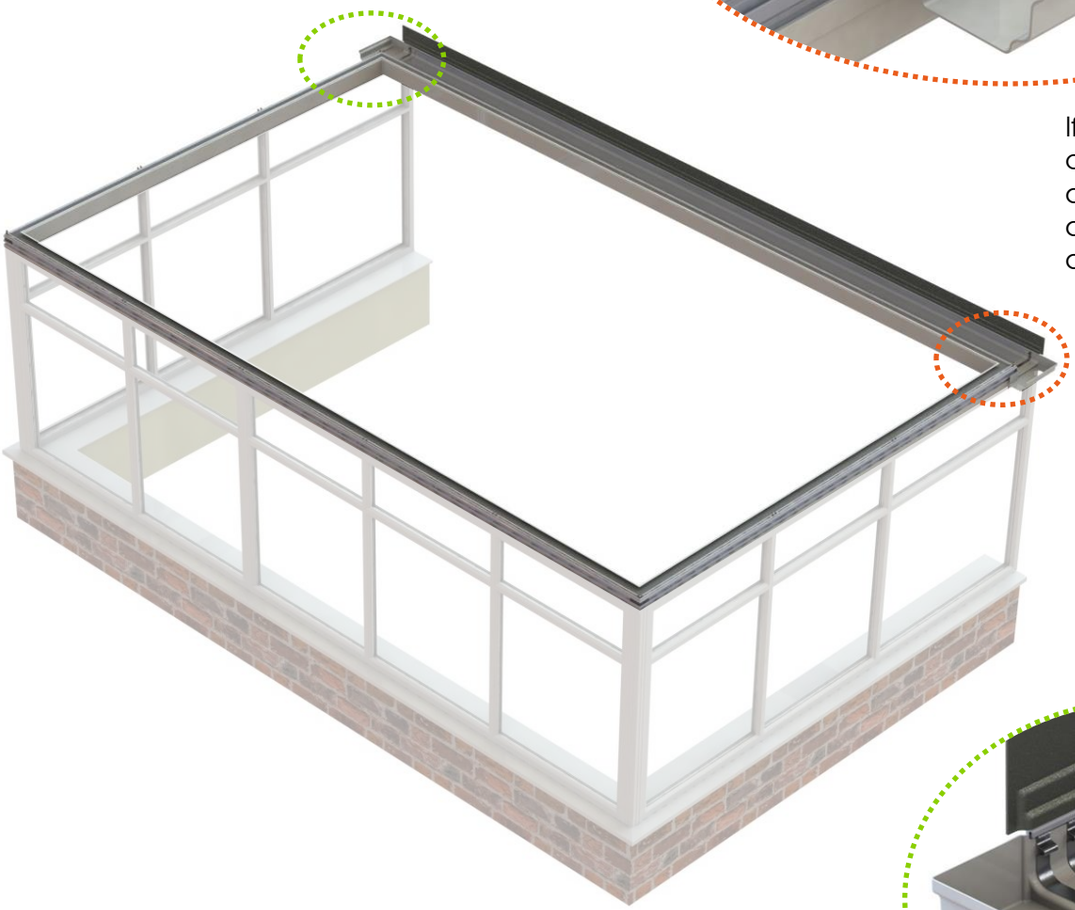
Ensure you have the gallows brackets in the correct orientation with the face that has 3 fixing holes against the wall. Do not screw fixings into the underside of the box gutter as this may cause leaks.

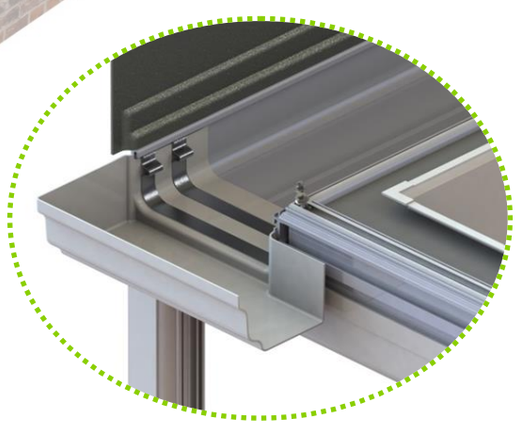


3.04 – Box Gutter Adaptor Assembly



If a down pipe is to be connected to the gutter at box gutter adaptor then a 60mm hole should be drilled before it is fitted.





Related Components ...

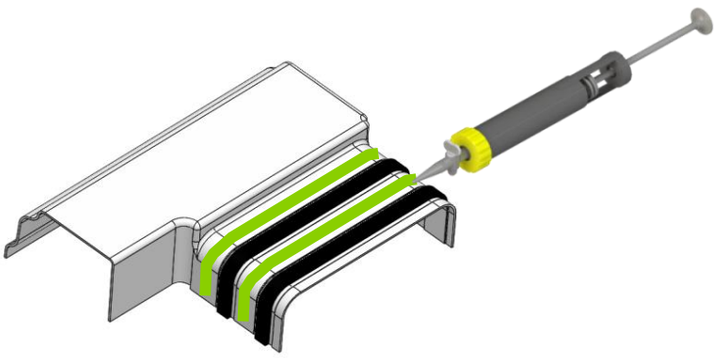
Box Gutter Adaptor

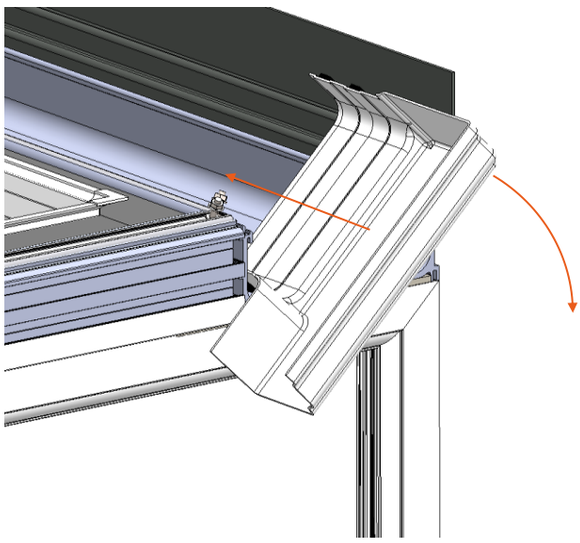
LZSU0085

LZSU0034

LZSU0081

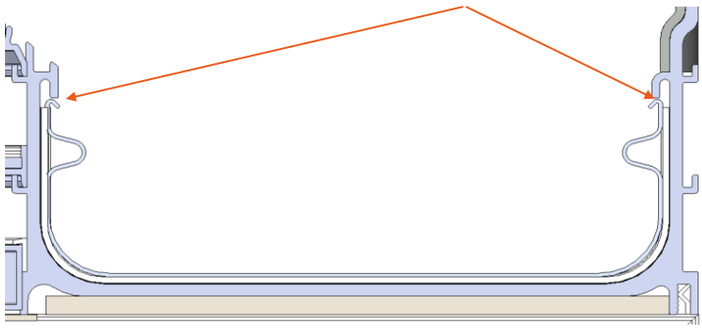
Apply box gutter sealant (LZSP0034 supplied with the roof kit) in 2 continuous runs between the foam gaskets on the underside of the box gutter adaptor.

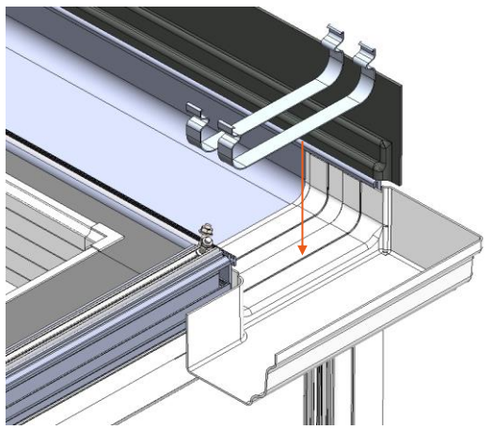




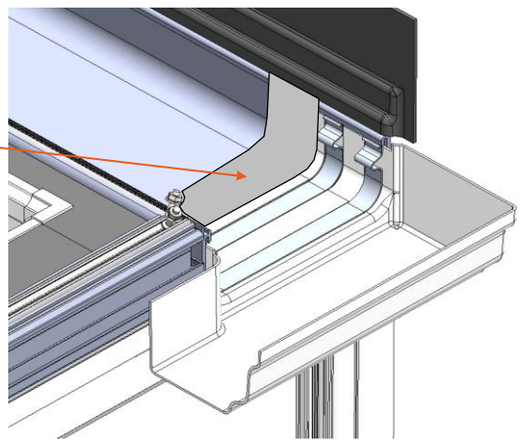
With the box gutter adaptor tilted to one side, insert into the box gutter, then rotate into position in the box gutter.

2x large box gutter spring clips (LZSU0085) can then be clipped in place to secure the box gutter adaptor. Both sides of the clip should be located under the lips in the box gutter.



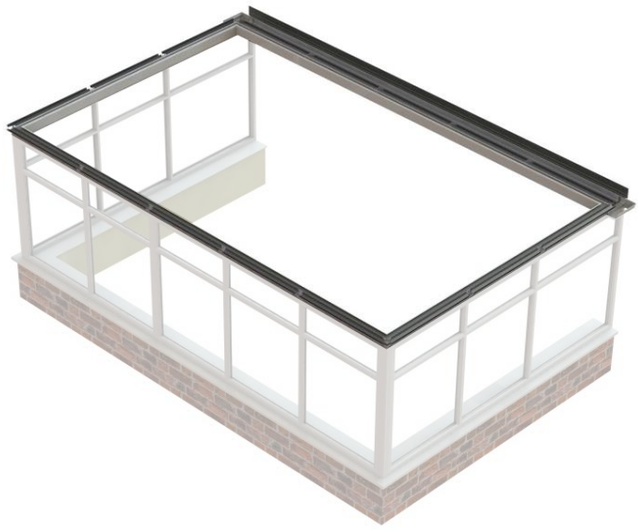


Once secured in place, apply aluminium backed large sealing tape (LZSU0081) along the full length of the joint as shown, ensuring all edges are firmly pressed down and adhered to the box gutter and box gutter adaptor.

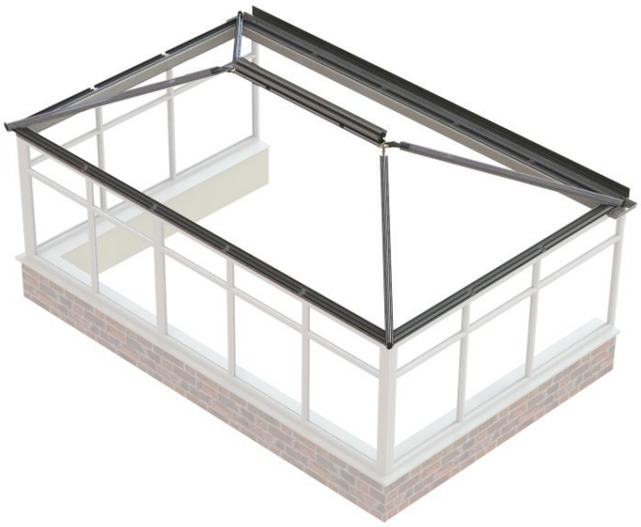


3.05 – 3.14

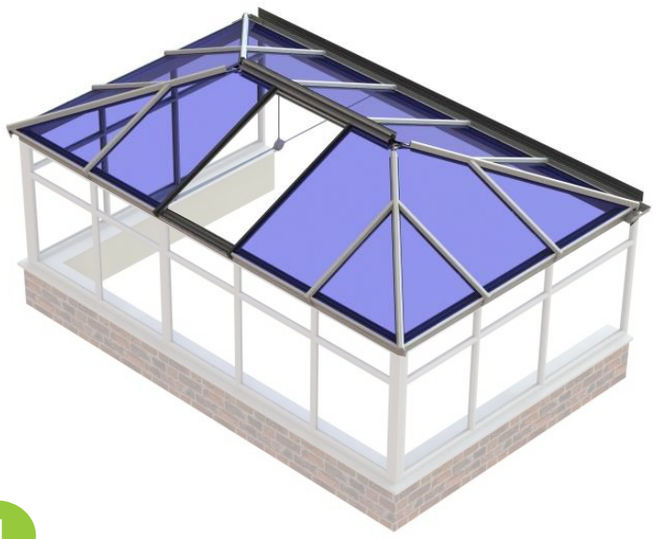
3.05 - Glazing Retainer Assembly
Duo-Pitch Guide: Section 3.02, pages10-11



3.06 - Hip Bar and Ridge Assembly
Duo-Pitch Guide: Section 3.03, pages12-13 and Section 3.05, pages 16-17

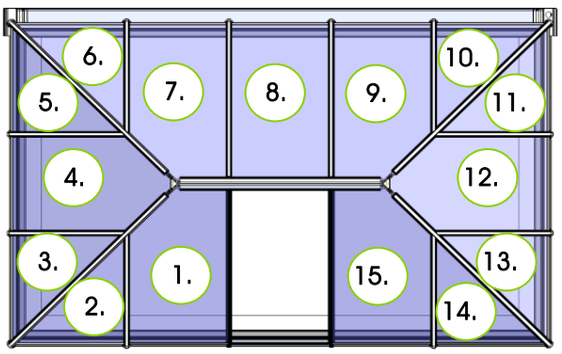


3.07 - Transom Bar and Jack Rafter Assembly
Duo-Pitch Guide: Section 3.04, pages 14-15 and Section 3.06, pages 18-19

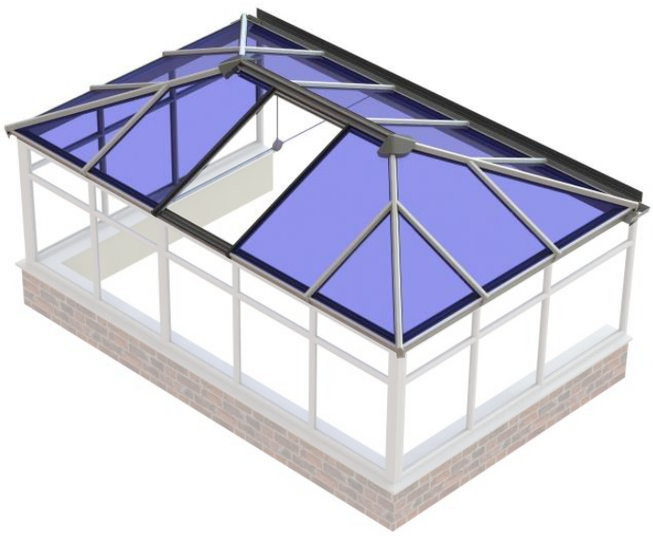


3.08 - Tie Bar Assembly
Duo-Pitch Guide: Section 3.09, pages 24-25

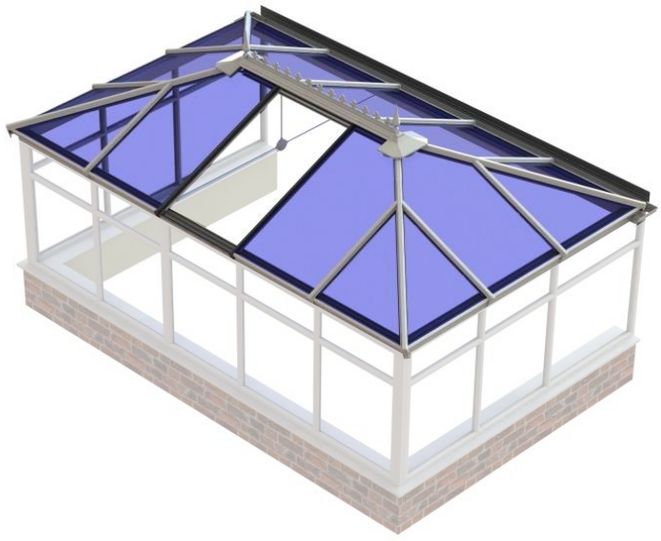
Glazing sequence shown below. It is easier to fit top caps and bard end caps whilst they are still accessible across the back of the roof (Glazing panels 6-10).



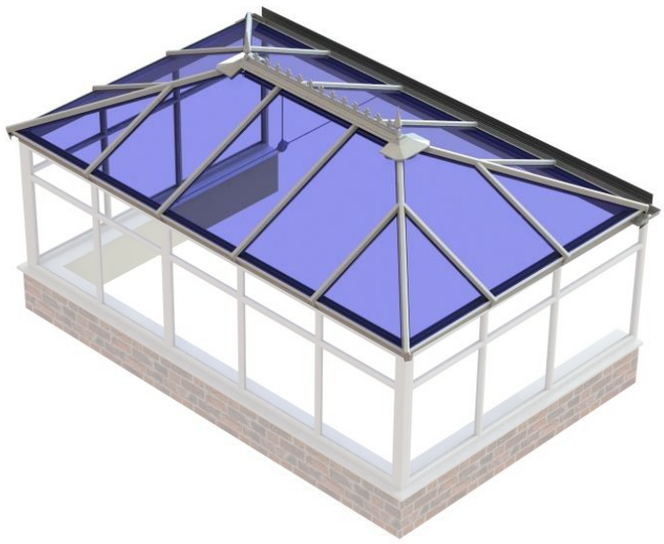
3.10 - Weather Seal Assembly
Duo-Pitch Guide: Section 3.12, pages 30-31



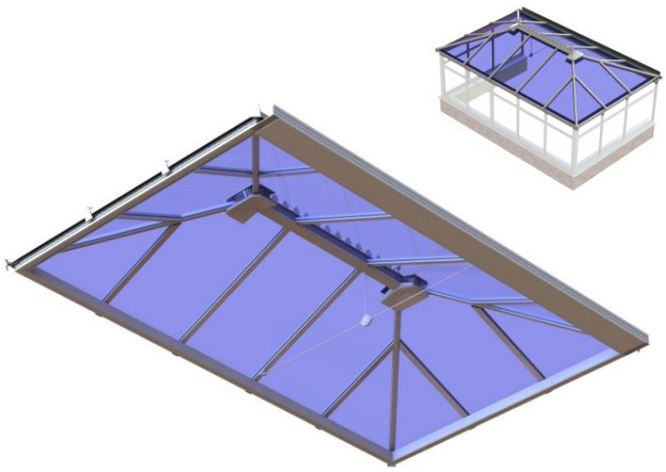
3.11 – Ridge Cover Assembly
Duo-Pitch Guide: Section 3.13, pages 32-33



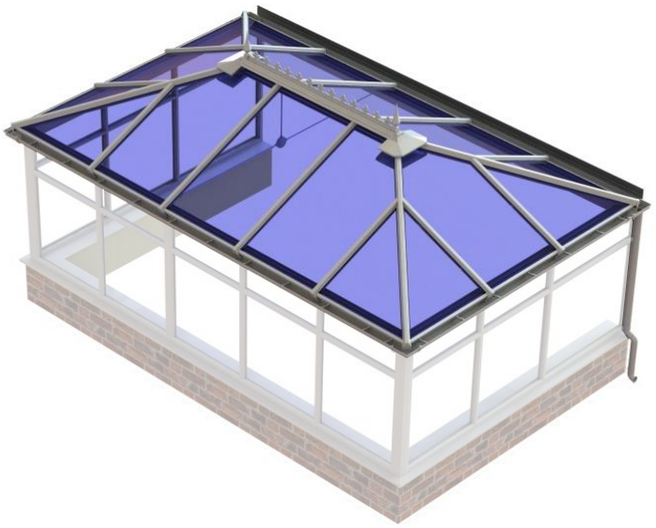
3.12 – Glazing Assembly 2
Duo-Pitch Guide: Section 3.14, pages 34-35
and Section 3.15 pages 36-37



3.13 – Internal Cover Assembly
Duo-Pitch Guide: Section 3.16, pages 38-39



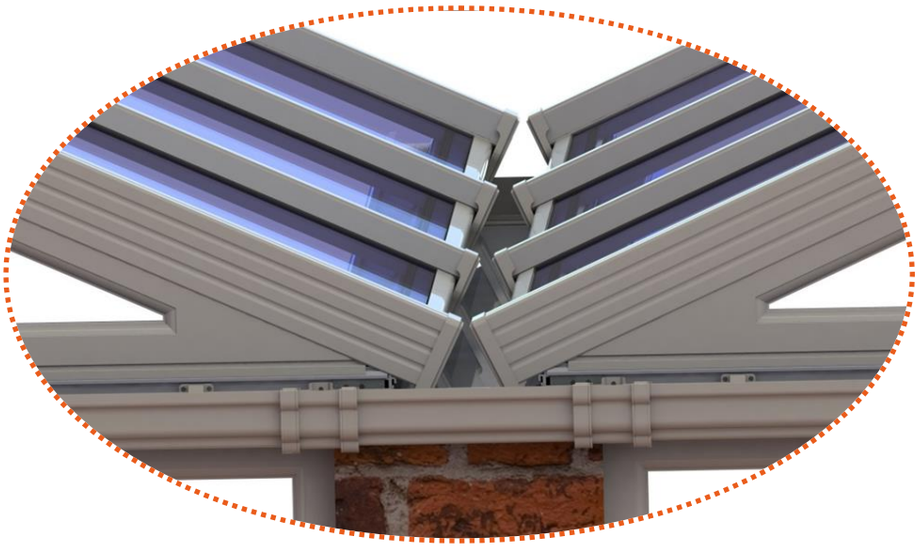
3.14 – Gutter Assembly
Duo-Pitch Guide: Section 6.00, pages 50-51.

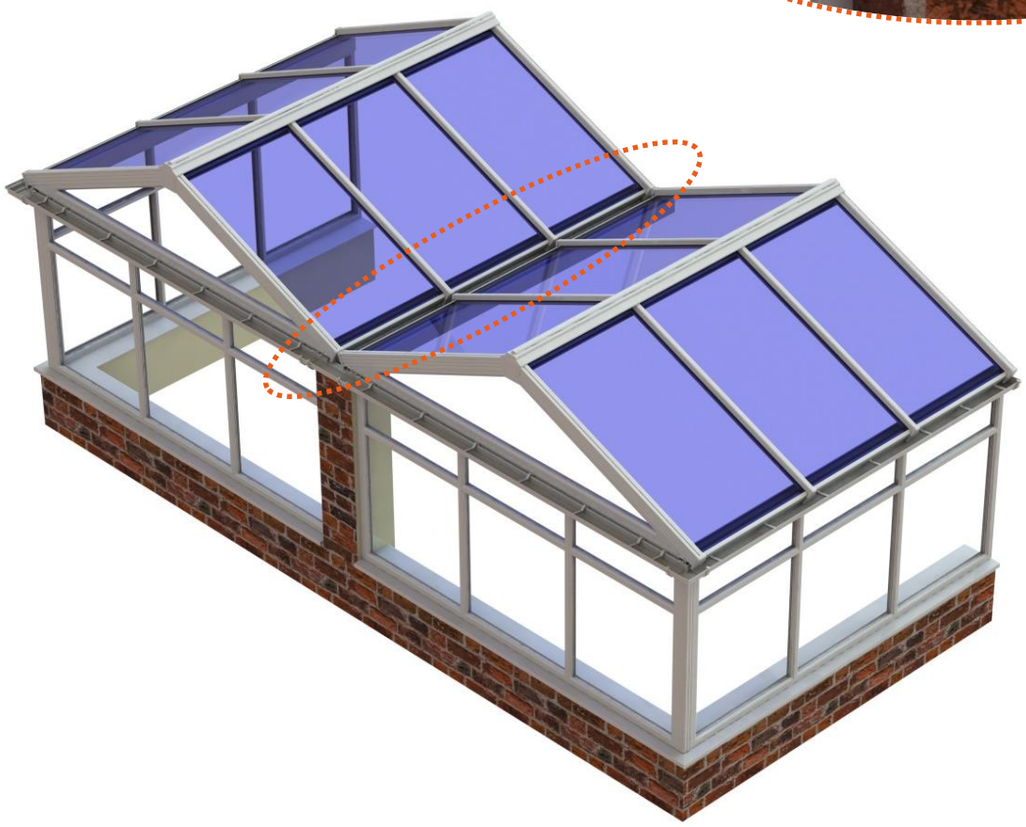


4.00 – Valley Box Gutter Assembly

A Valley box gutter is required where two pitched roofs meet. The assembly method is much the same as a box gutter but will have eaves beams on both sides of the box gutter.

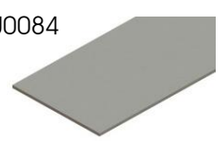
The valley box gutter will need to be sufficiently supported. This will require calculations from a structural engineer.





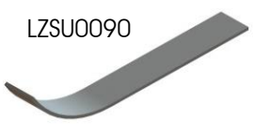
Related Components ...

LZSU0084



LZAL0068

LZSU0090

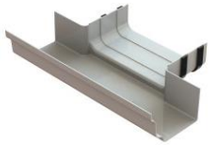


LZPE0010

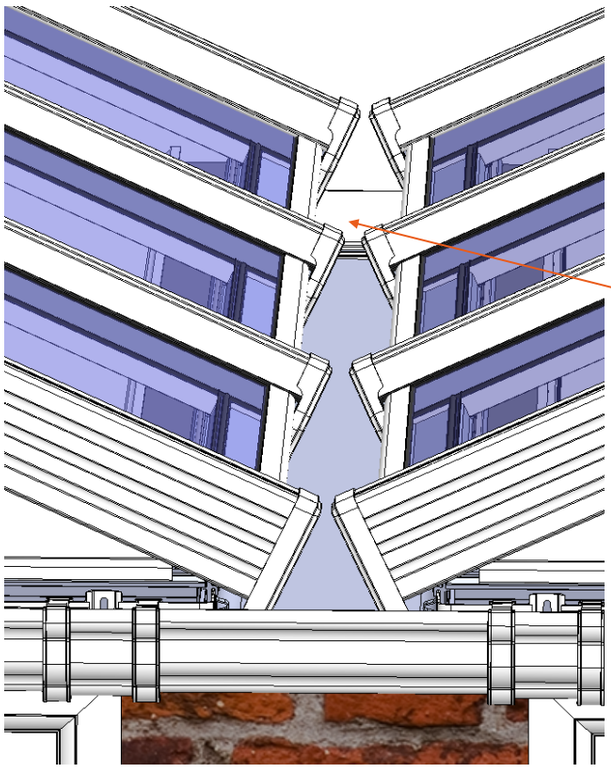
Soffit board cut down to 366x9mm, (not supplied with roof kit)

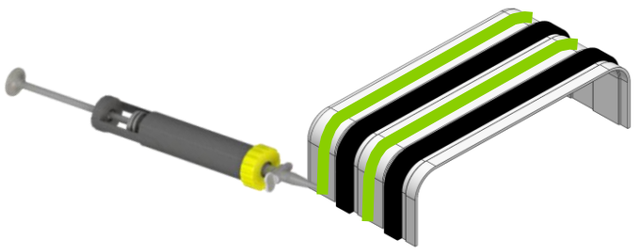
LZSU0085

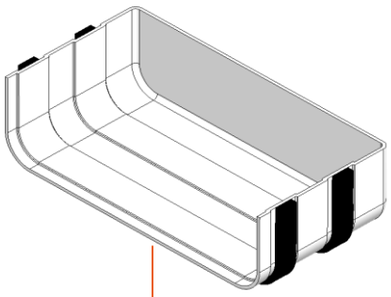
LZSU0082

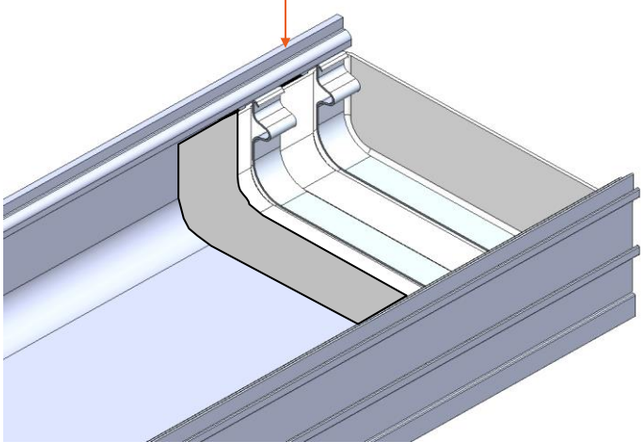


Box Gutter Adaptor



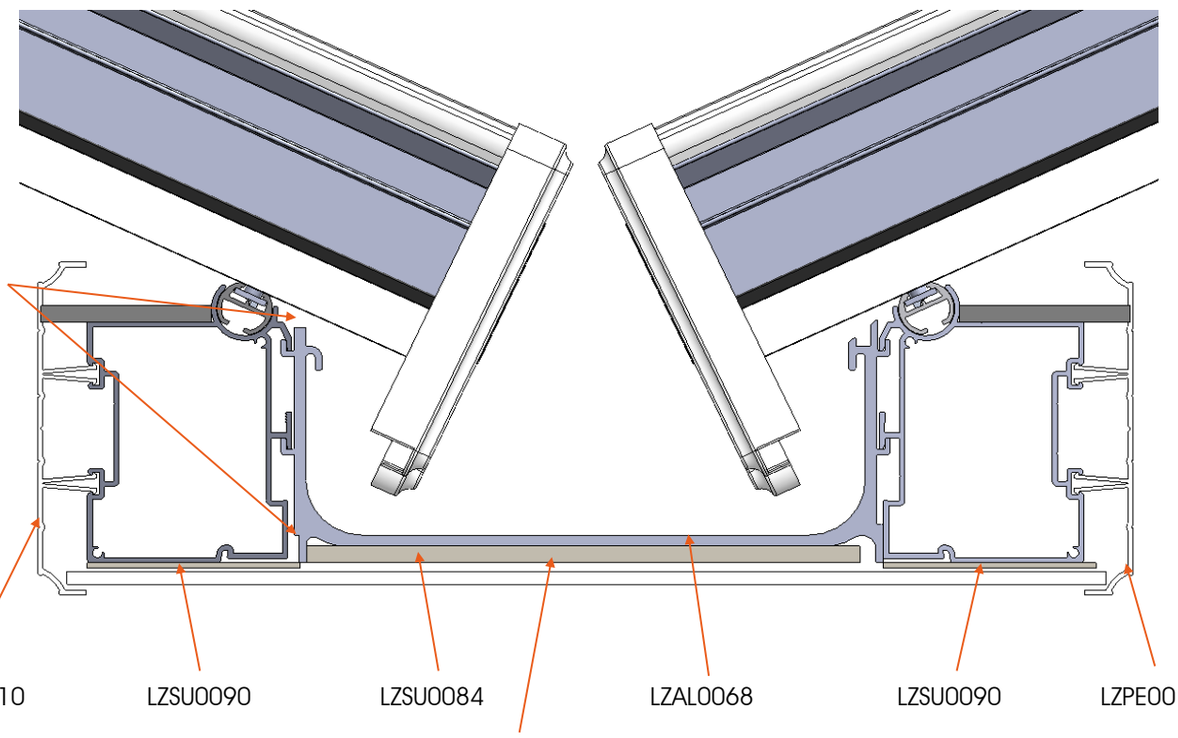






Large box gutter end stop should be fitted to the box gutter at the wall end. See Section 3.04, pages12-13 for fitting instruction. This should be sealed with box gutter sealant (LZSU0034) ,secured in place with 2x large box gutter spring clips (LZSU0085) and finally aluminium backed box gutter sealing tape should be applied to the area where the box gutter end stop meets the box gutter and firmly pressed down to ensure it has adhered.

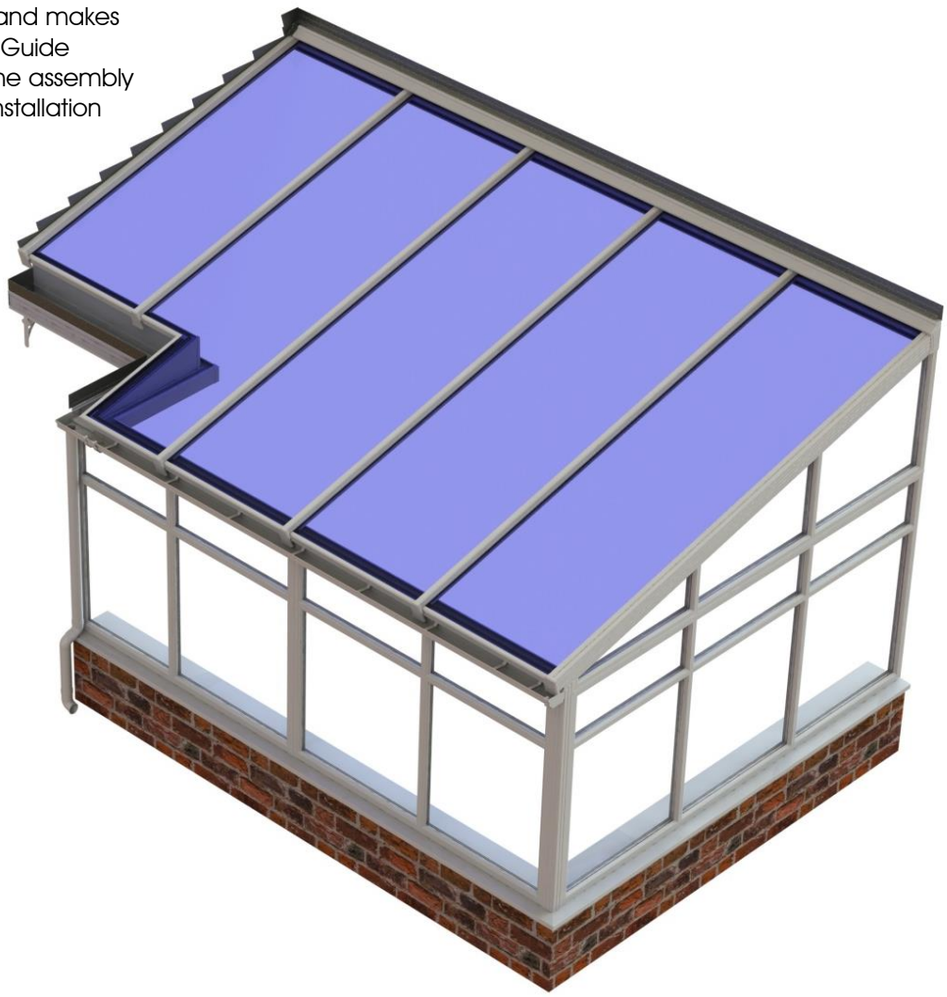
Box gutter supplied with legs ripped down to allow eaves beams to fit both sides of the box gutter.

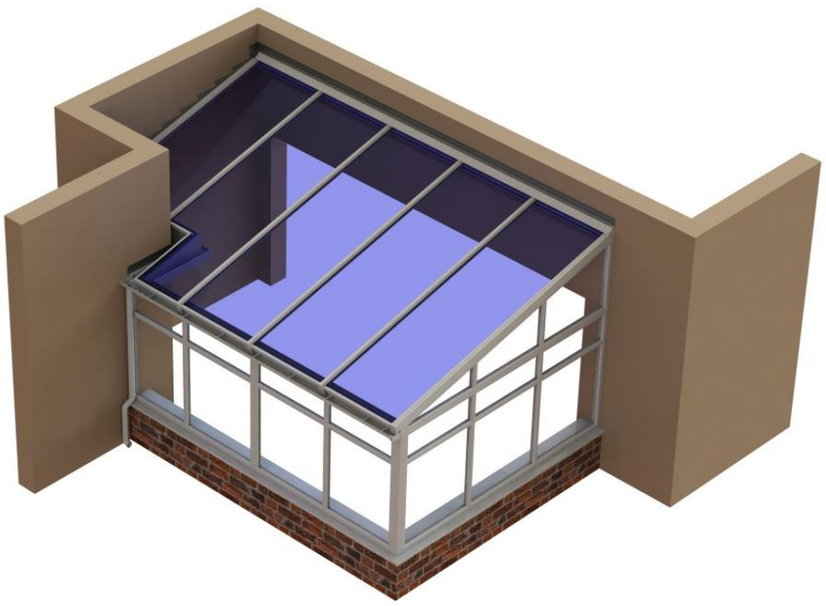


Soffit board will need to be cut down to 366x9mm to cloak the underside of the box gutter.

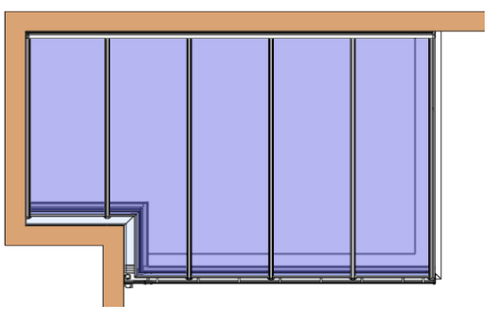
5.00 – Raised Back Box Gutter Assembly

A raised back box gutter is required when there is to be a cut out at the base of a pitched roof e.g. to fit around a chimney. This guide shows the assembly steps for a mono-pitch roof and makes reference to the Liniar Roof Installation Guide (Mono-Pitch). If the roof is Duo-Pitch the assembly steps can be found in the Liniar Roof Installation Guide (Duo-Pitch).

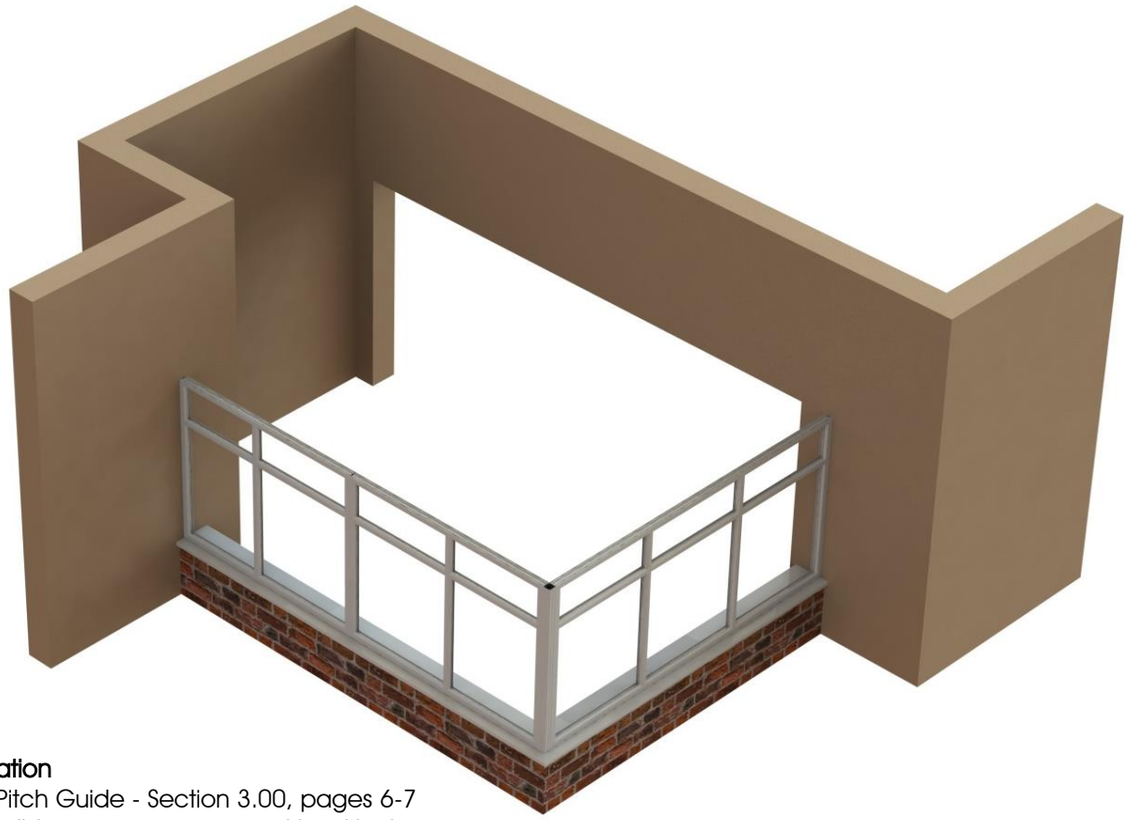




Plan View



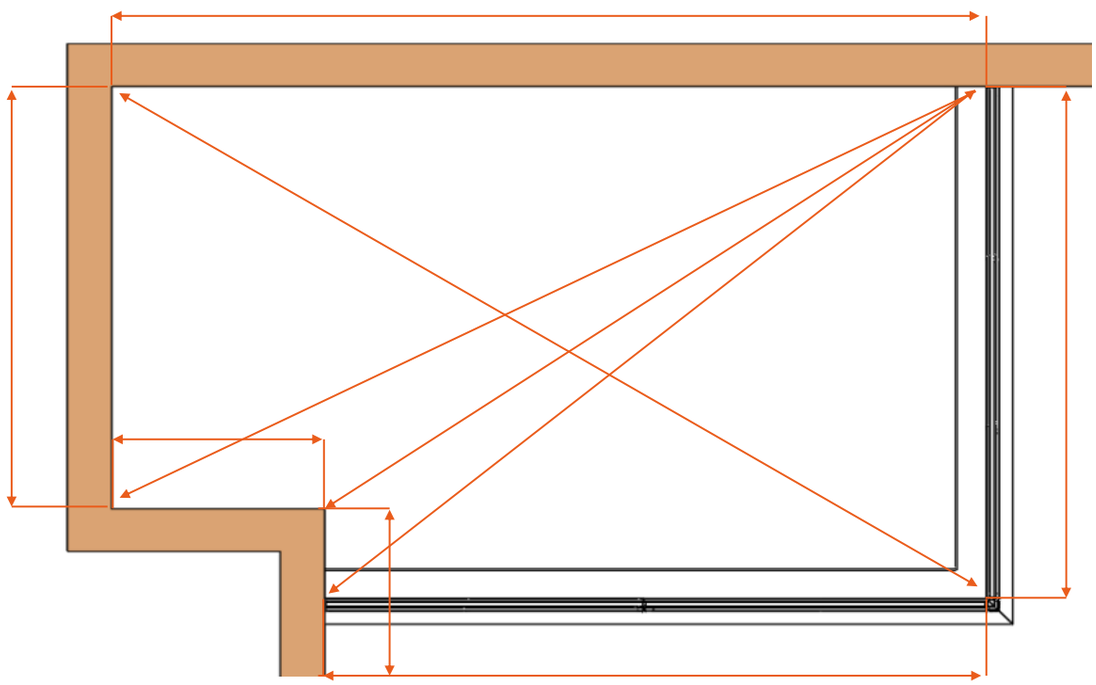
Before the roof is installed, ensure the framework below is fully assessed and all roof components are available. All relevant sizes are shown on the roof kit paperwork.



Preparation
Mono-Pitch Guide - Section 3.00, pages 6-7
Ensure all frames are square and level before fitting roof.

Measure Length, Width and Diagonals of Frame

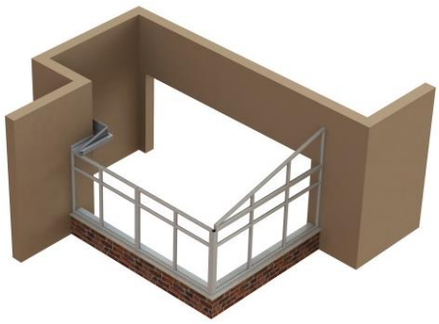
Measure the roof area you will be working on and check that all the frames have been installed square and are the correct size. The internal frame dimensions will be provided within the paperwork.

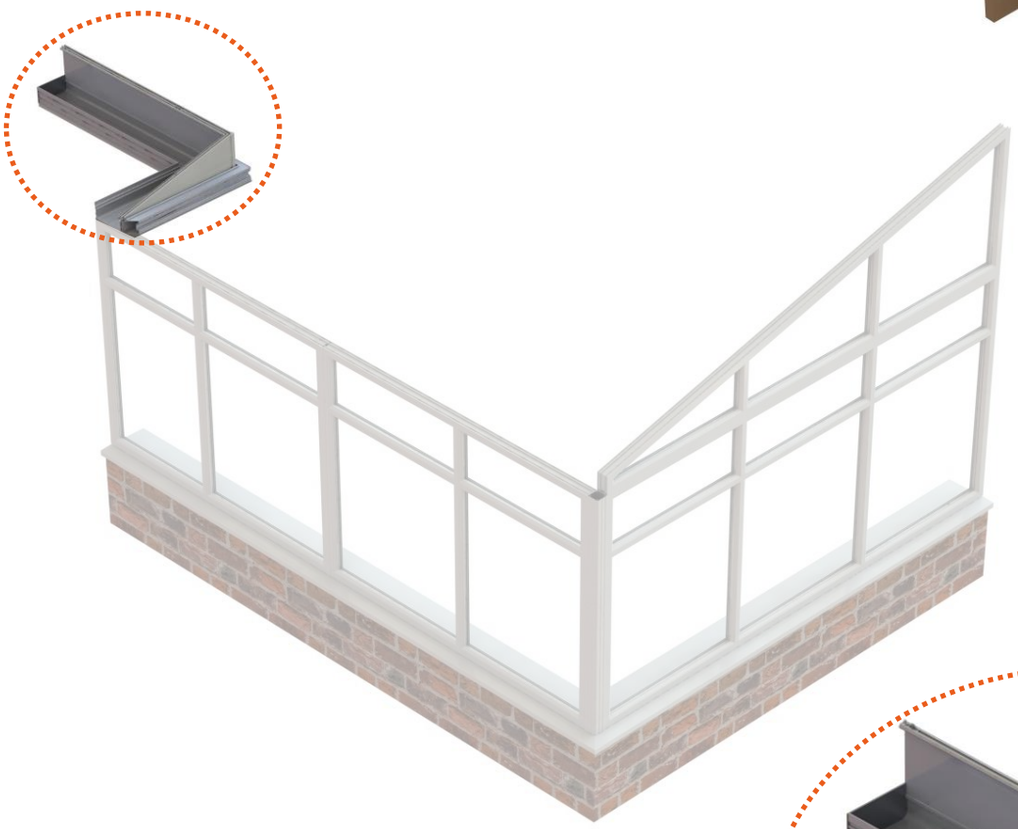


** The installer must ensure suitable lateral and vertical support is provided. Liniar accepts no responsibility for the overall structural stability of the conservatory or for the failures of its fixings, members or existing structures **

6.01 – Raised Back Box Gutter Assembly

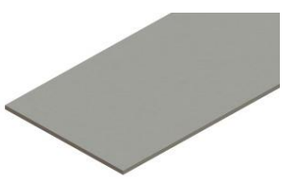
For more details of the Box Gutter Assembly - Section 3.01, pages 6-7.





Raised back box gutter should align with the outside edge of frames

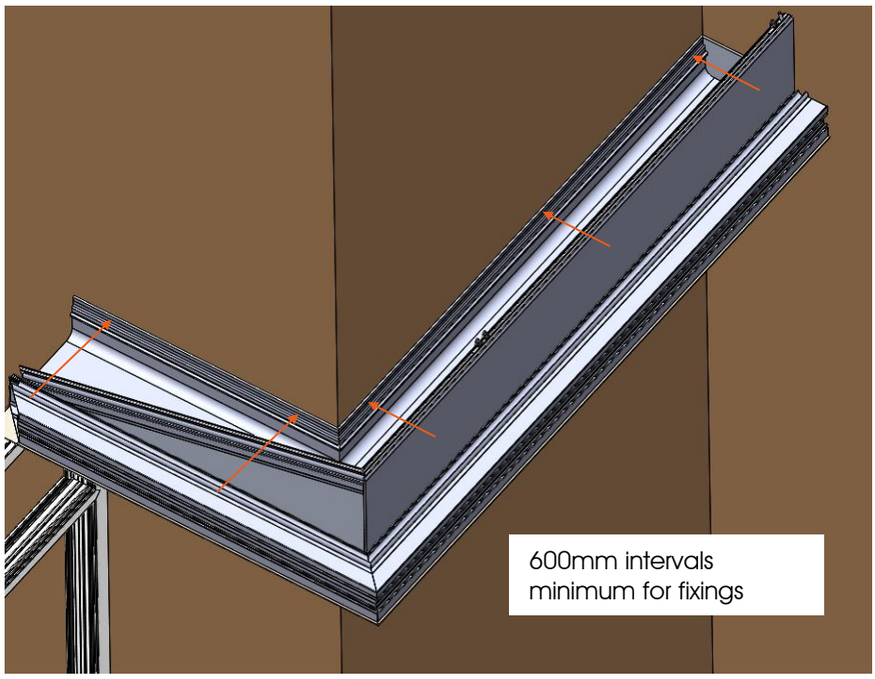
Related Components ...



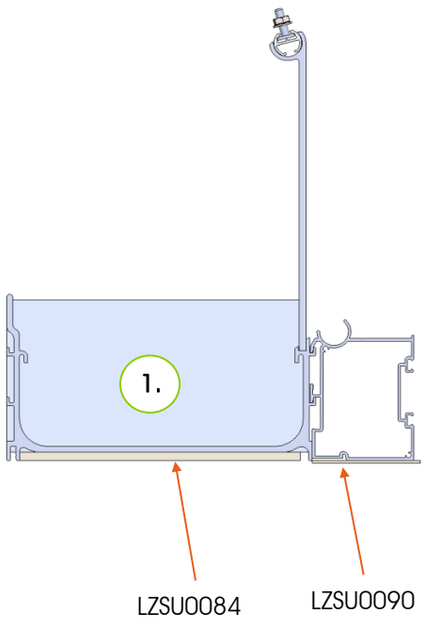
LZSU0084

LZSU0090

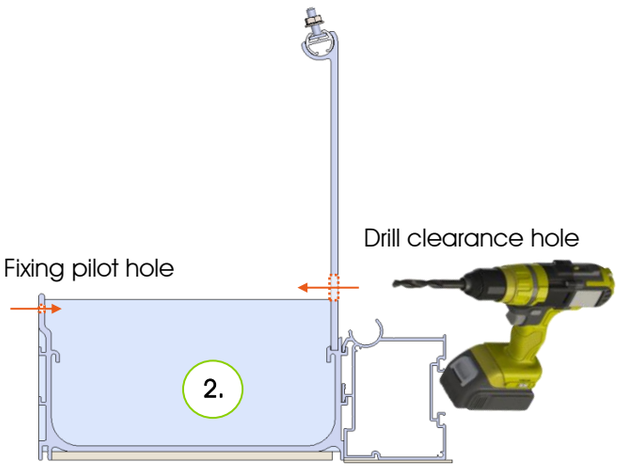
Raised back Box Gutter

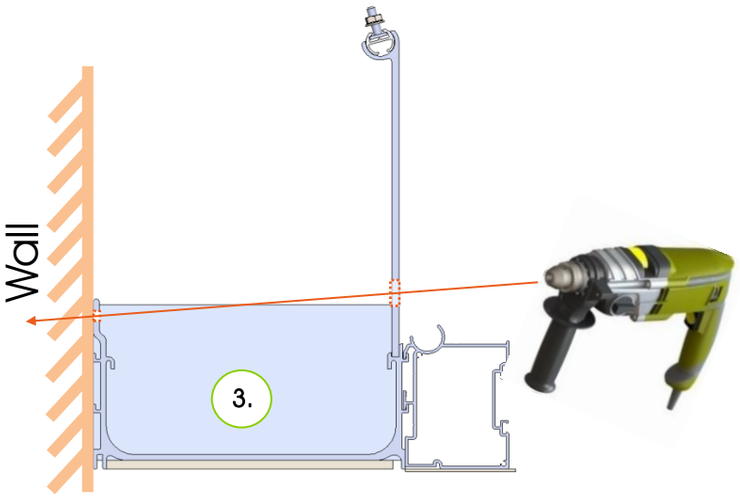


1. Fit large box gutter insulation foam (LZSU0084) and large box gutter insulation foam for eaves (LZSU0090) to the underside of the raised back box gutter.



Before fixing to the wall, offer the box gutter up to the wall and check that it is the correct size. Ensure that the box gutter is sufficiently supported whilst doing this.



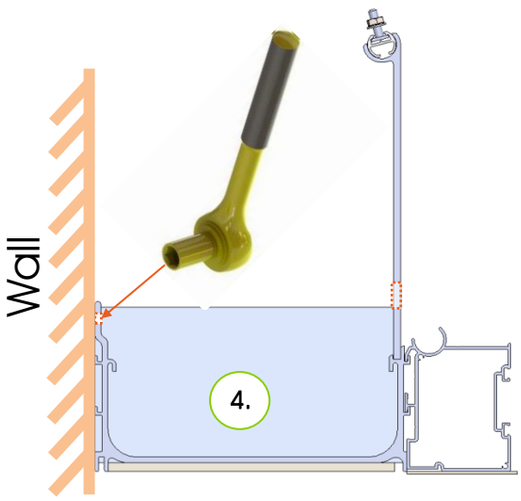


2. Determine where fixings are to be positioned along the length of the box gutter (minimum 600mm intervals) and drill appropriately sized pilot holes for the fixings used to secure to the wall. Then drill clearance holes in the raised back section to allow access for a masonry bit (minimum length 400mm required) to enable you to drill holes into the wall.

3. Get the box gutter into its intended position on the wall, giving sufficient support to the box gutter to allow you to drill the fixing holes into the wall. Ensure the box gutter is square and level before drilling holes.

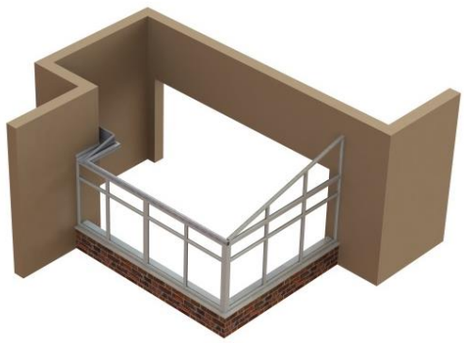
4. Using a socket set secure the box gutter to the wall with anchor fixings. It may be possible to do this with a large drill extension.

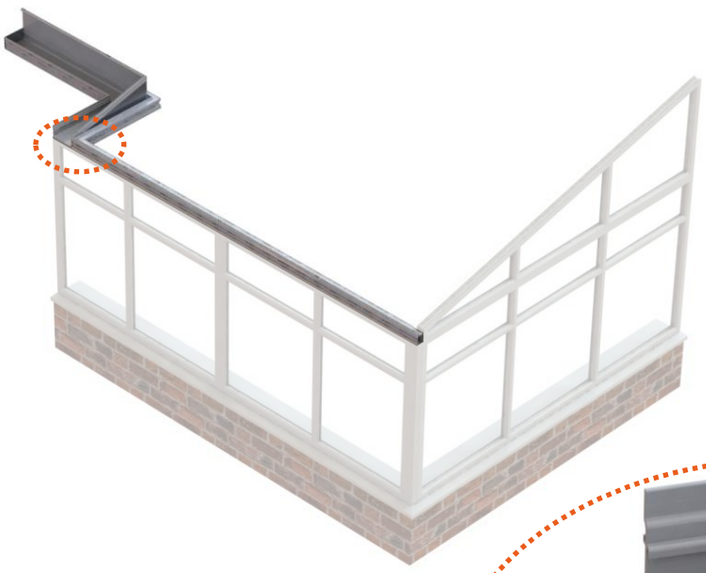
5. Use an Appropriate sealant to seal the clearance holes drilled in the raised back of the box gutter.



6.02 – Eaves Beam Assembly

Mono-Pitch Guide: Section 3.02, pages10-11
The eaves beams line in with the raised back box gutter.
They should be fixed together with cleats.



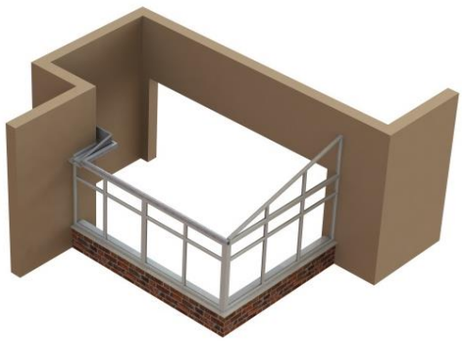


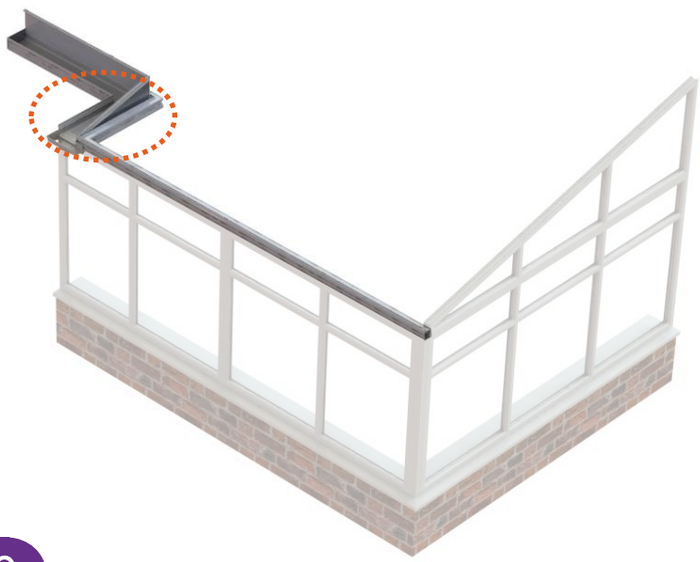
Seal any gaps in this area with an appropriate sealant once the eaves beams have been assembled.

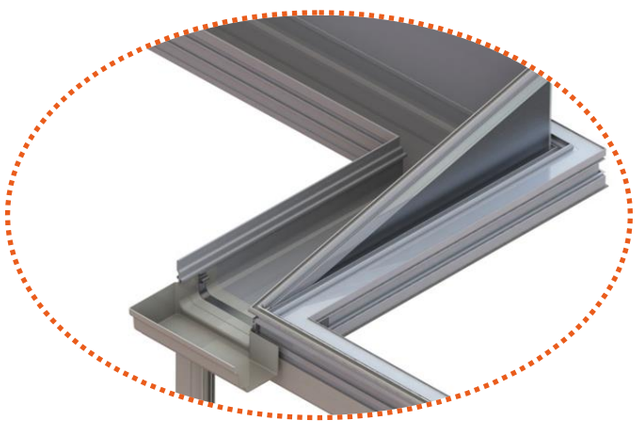
No external cleats are fitted where the eaves beam meets the box gutter.

6.03 - Box Gutter Adaptor Assembly

- Section 3.04, pages12-13

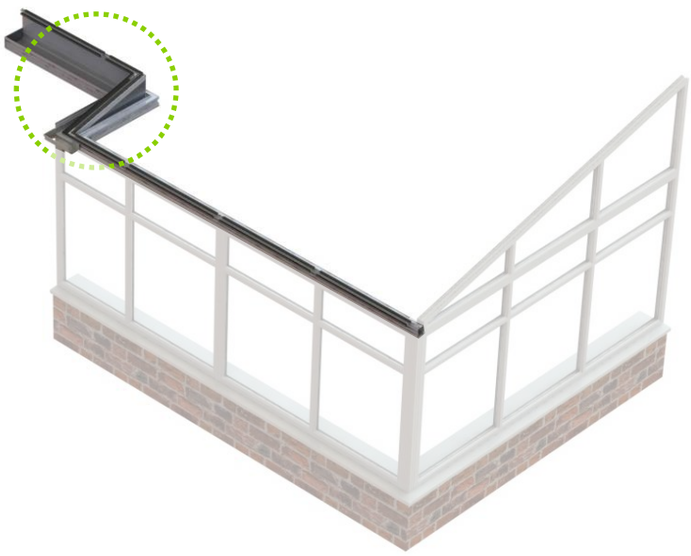


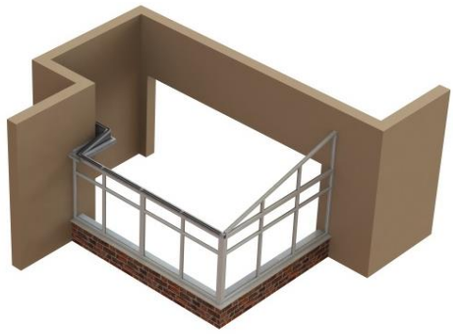


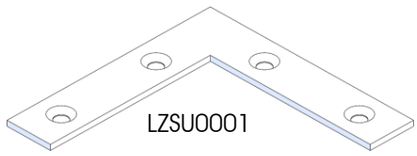


6.04 – Glazing Retainer Assembly

Glazing retainers are fitted along the pivot rail in the raised back box gutter in the same way as with the eaves beams.
- Mono-Pitch Guide: Section 3.05, pages 16-17

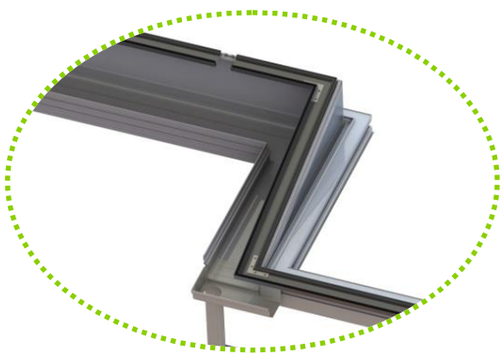


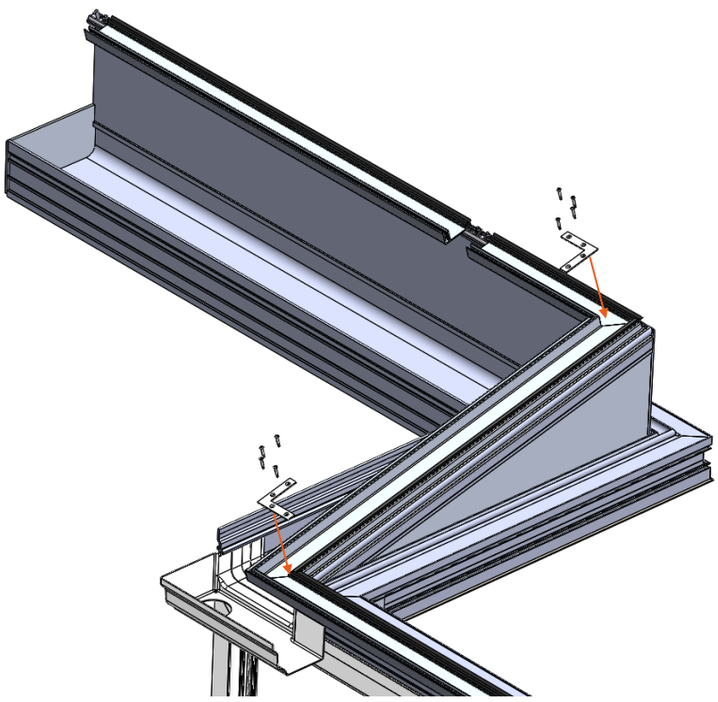




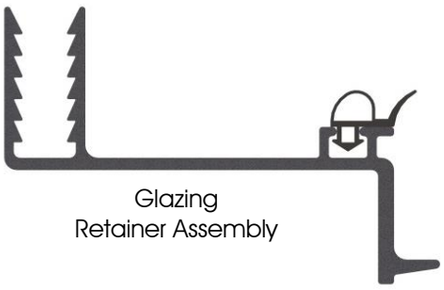
LZSU0001

The mitre cut glazing retainers around the edge of the raised back box gutter should be fixed together with 90° horizontal joining plates (LZSU0001) and self tapping screws.





Related Components …



Glazing
Retainer Assembly

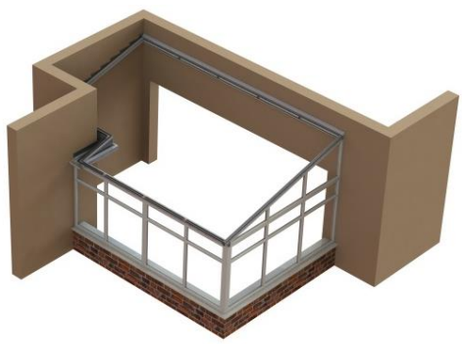
LZSU0001

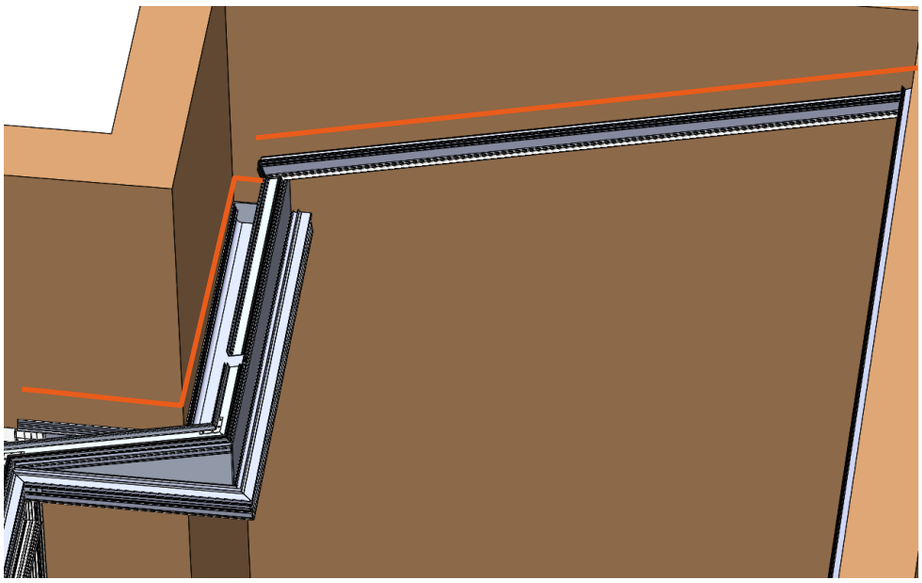
LZFX0004

6.05 – 6.07

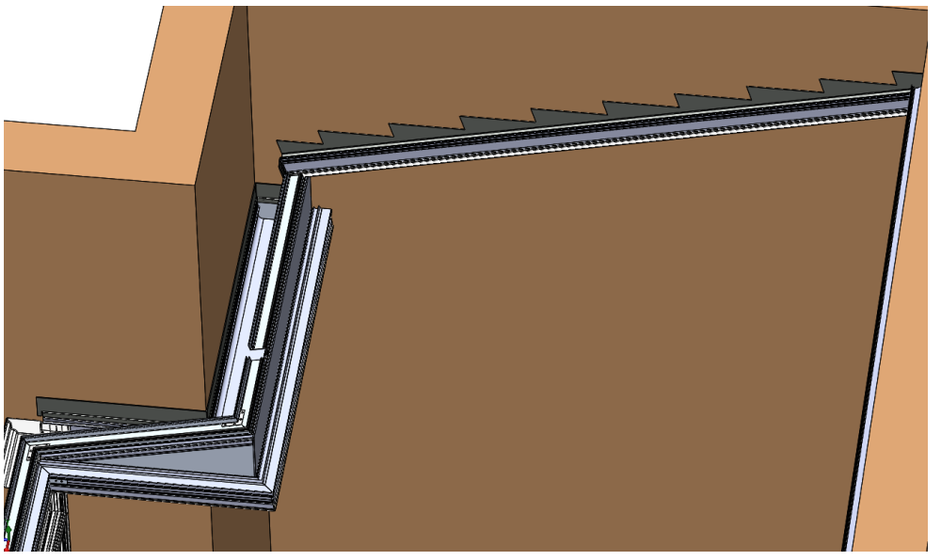
6.05 – Wall plate / Half Ridge Assembly
Mono-Pitch Guide: Section 3.06, pages18-19
/ section 3.07, pages 20-21

6.07 – Box Gutter and Wall Bar Flashing
For Box Gutter Flashing: section 3.02, pages 8-9
For Wall Bar Flashing - Mono-Pitch Guide: Section 3.12,
pages 30-31

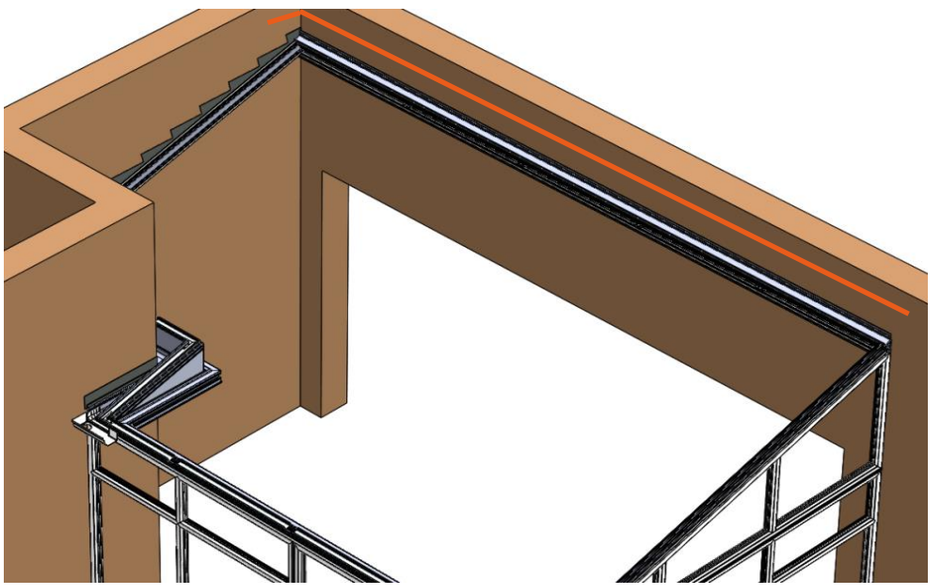




Indicates where flashing will be needed. Chasing out of masonry and cleaning should be done before fitting top caps and glazing panels.

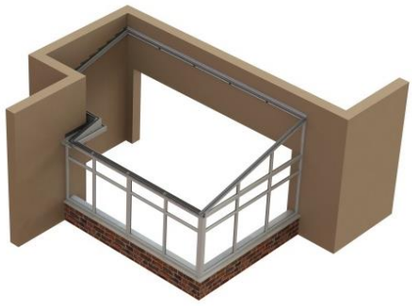


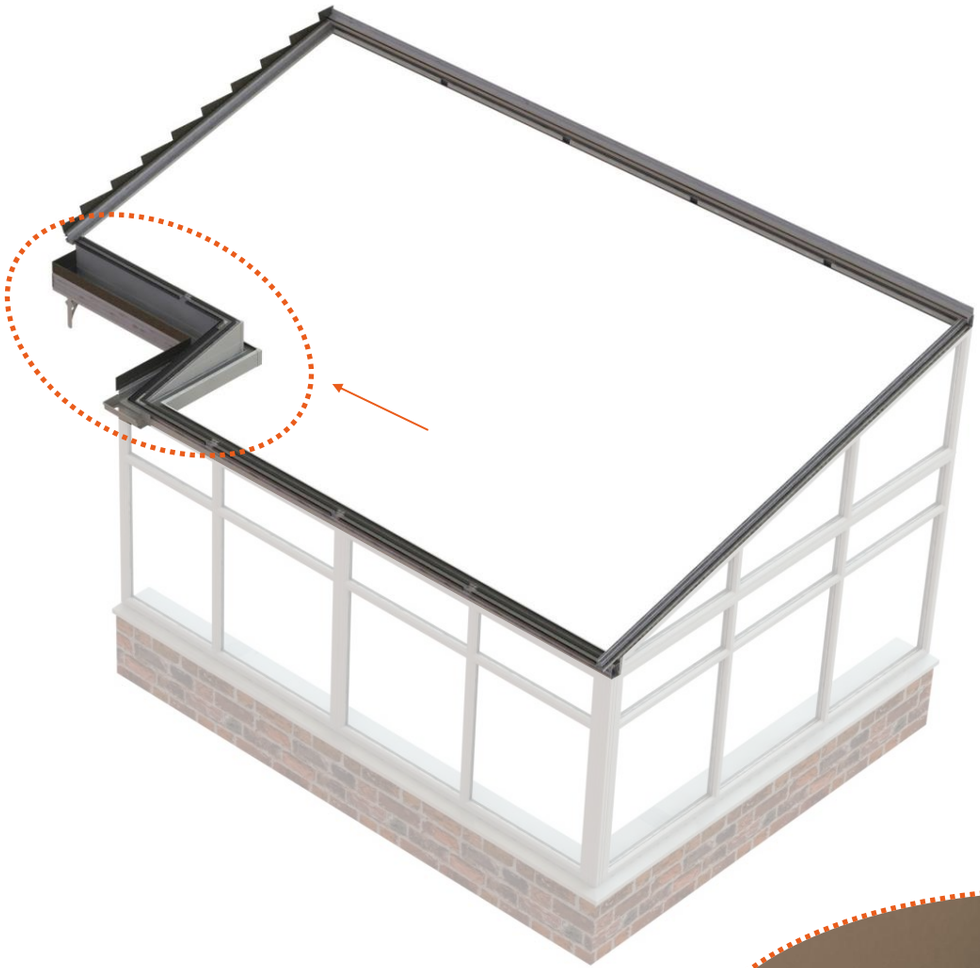
Fit flashing along wall bars and around the box gutter.



Indicates where flashing will be needed along the wall plate / half ridge. Chase out masonry and clean all dust and debris. Flashing will be fitted after the wall plate / half ridge top cover.

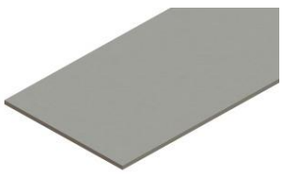
6.08 – Raised Back Box Gutter Cladding Assembly





Internal cladding for raised back box gutter. Viewed from below.

Related Components …



LZSU0084

LZSU0087

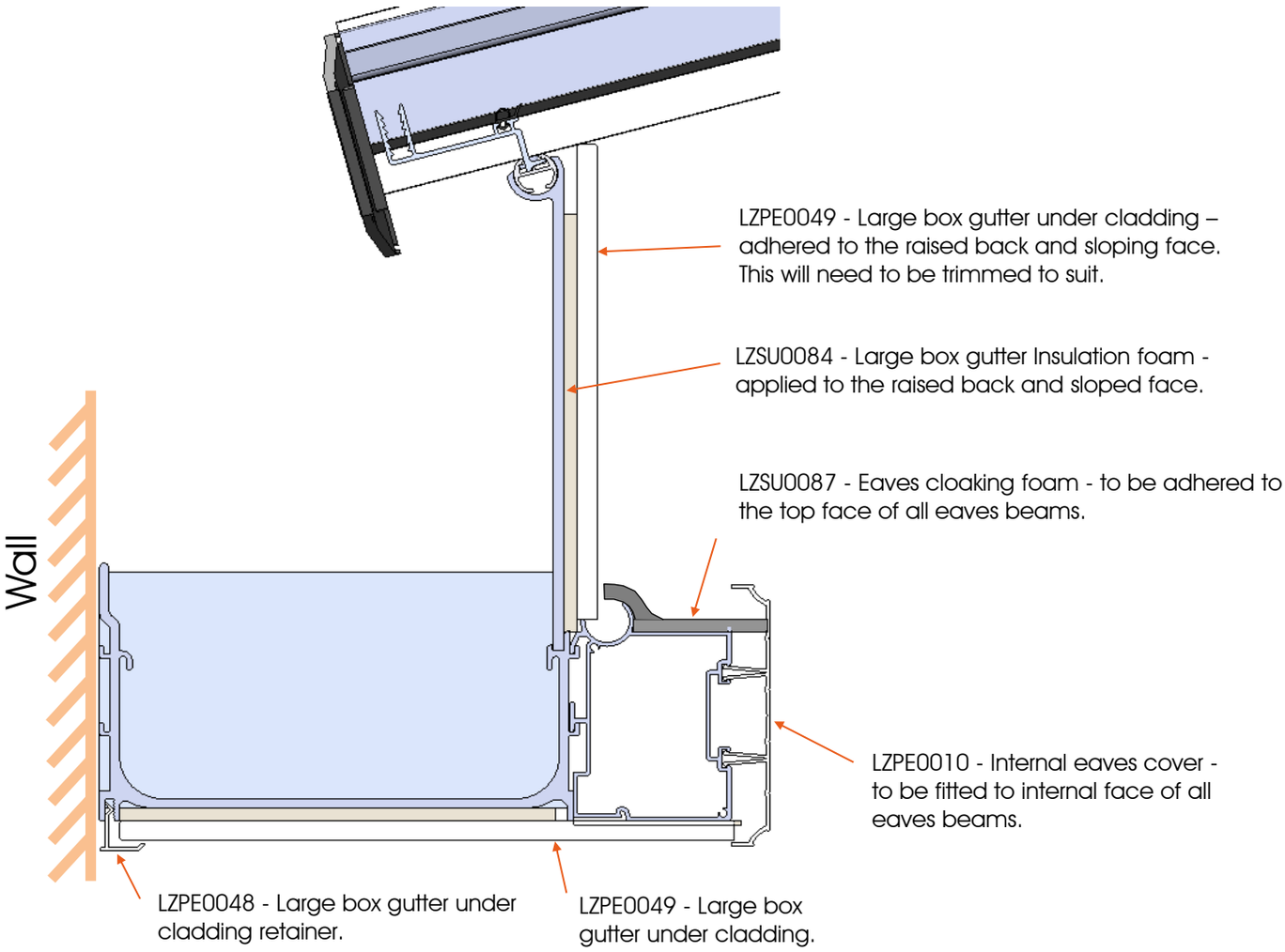
Internal Cover Trims

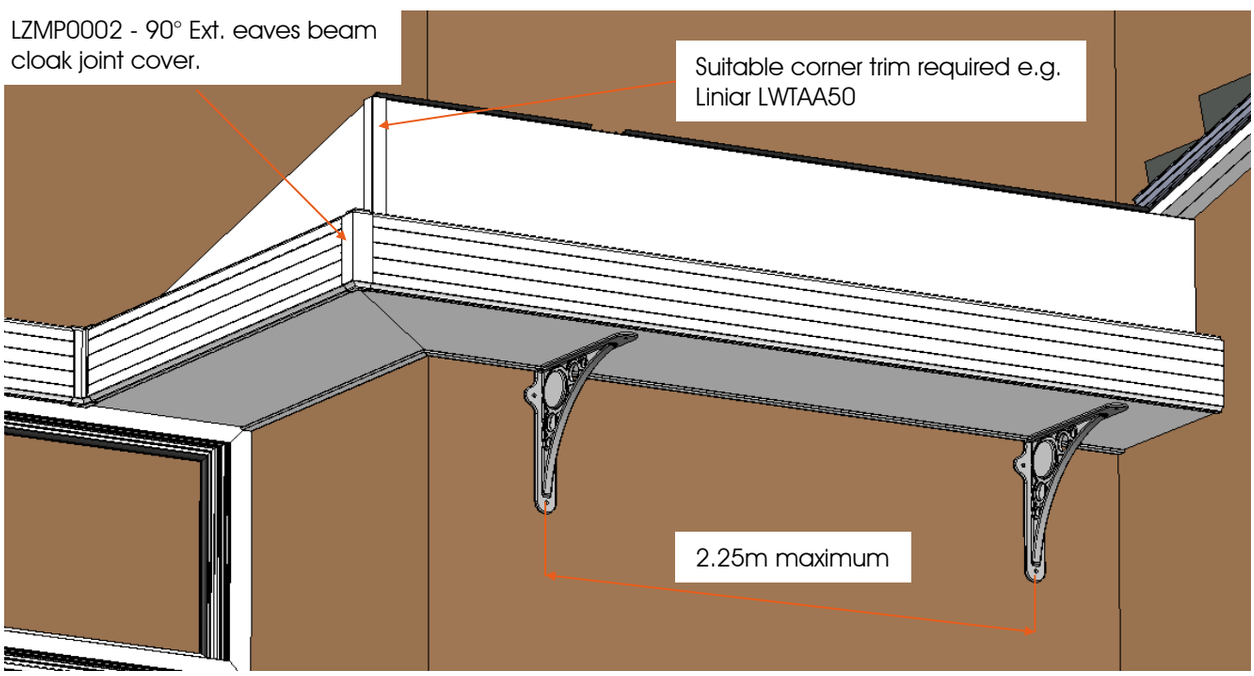
LZPE0010

LZPE0049

LZPE0048

LZSU0086





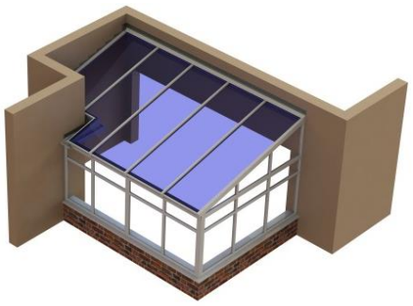
Raised back box gutters need to be supported at intervals of no greater than 2.25m. See section 3.03, pages 10-11.

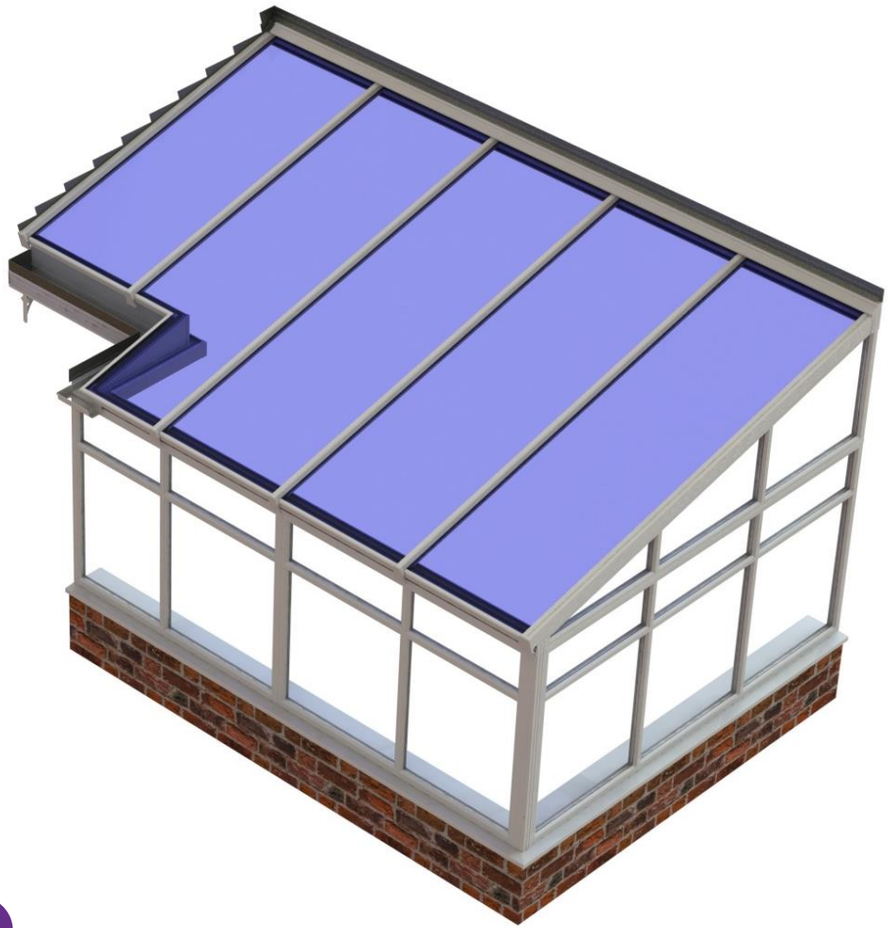
6.09 – 6.12

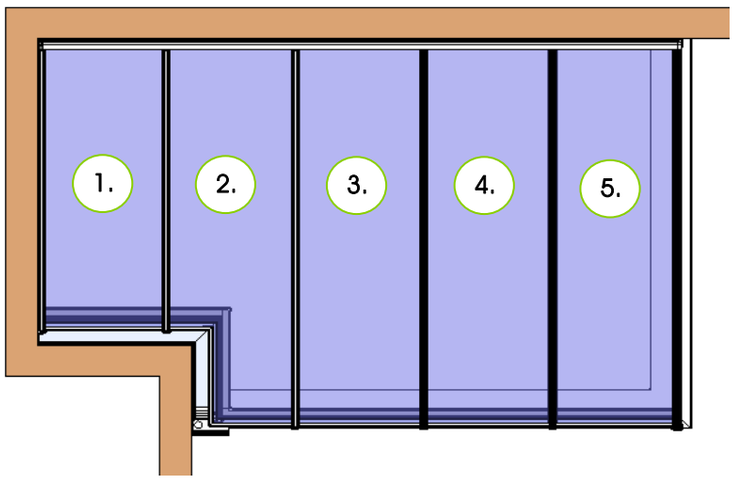
6.09 - Wallplate / Half Ridge Cover Assembly
Mono-Pitch Guide: Section 3.10, pages 26-27 / section 3.11, pages 28-29

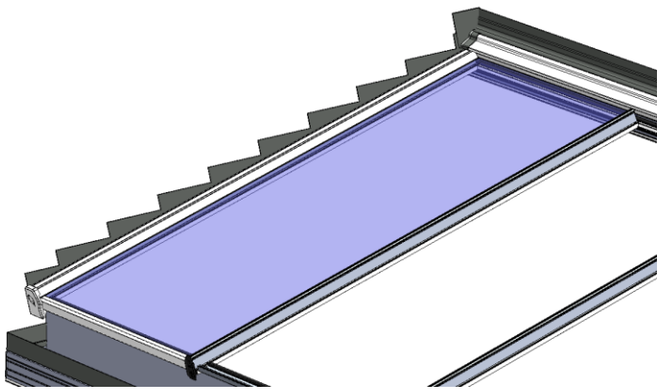
6.10 - Wallplate / Half Ridge Flashing
Mono-Pitch Guide: Section 3.12, pages 30-31

6.11 - Glazing Assembly
Mono-Pitch Guide: Section 3.13, pages 32-33 / Section 3.14, pages 34-35 / Section 3.15, pages 36-37.



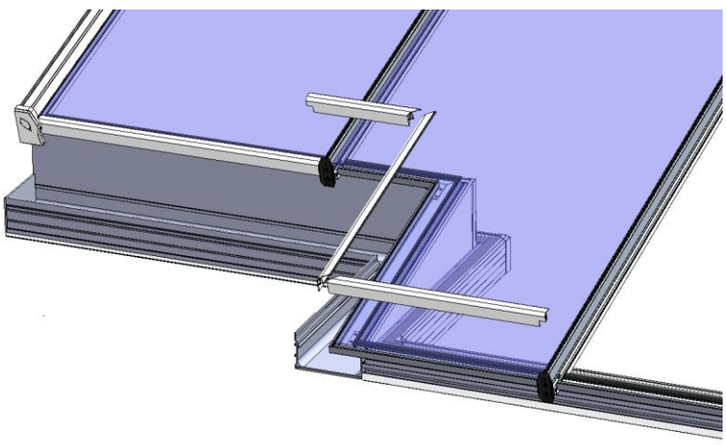


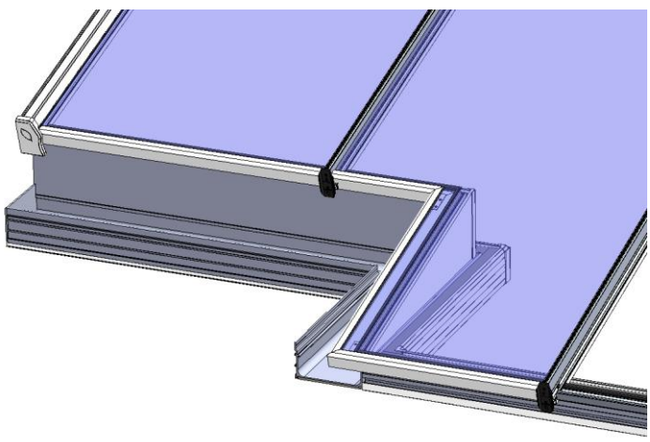




Glazing sequence should run from one end of the roof to the other. It is easiest to start at the end where the box gutter is installed.

As each glazing panel is fitted it is easier to fit top caps and bar end caps particularly over the section of the roof where the box gutter is installed due to access to fit top caps and end caps.

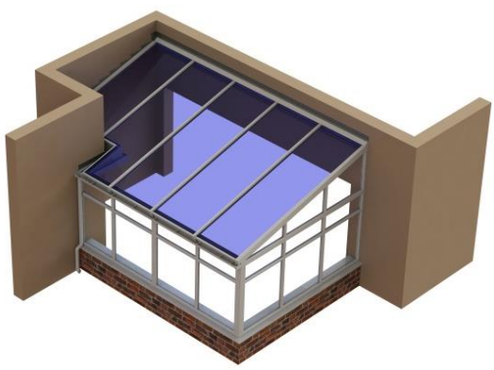


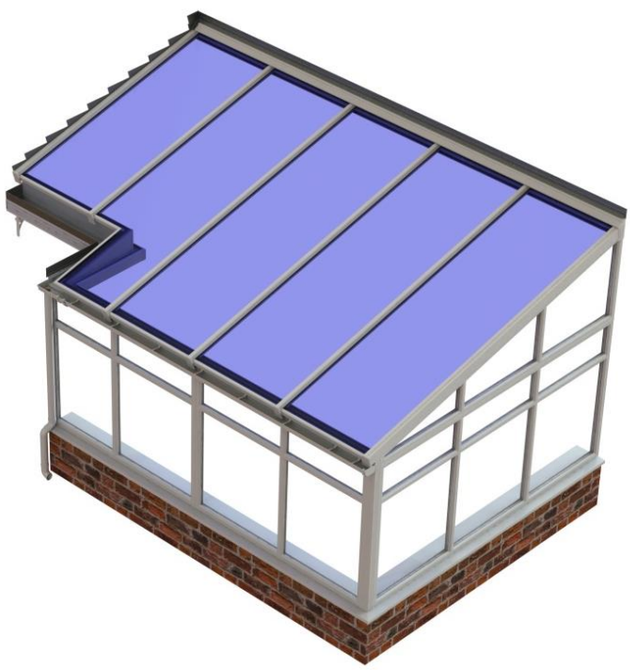


The Glazing retainer trims that fit the section of the glazing with a cut out are mitred, and should be fitted and bonded together with an appropriate adhesive such as Stelmax.

6.12 - Guttering Assembly

Mono-Pitch Guide: Section 6.00, pages 58-59





9.00 – Notes

Installation supplies

Ensure a fully matching conservatory with Liniar's range of approved installation supplies. From the highest quality foam trims to coloured silicone sealants, you can be sure of a perfect match – all covered by the Liniar guarantee.

The range includes PVCu and glass cleaners, adhesives, window boards, fixings and accessories. For full details see: www.liniar.co.uk/supplies.

Installer support

Liniar provides installers with a variety of marketing tools and resources, helping you to grow your own business alongside ours.

PDF copies of brochures, fact sheets and other literature are available to download from the Liniar website at www.liniar.co.uk/downloads and you can also order full boxes by contacting the Liniar sales office.

After-sales support is available in the form of a Liniar roof maintenance guide.

A video library is also to hand on the Liniar website, featuring a range of sales and installation videos for you to use and show to customers.

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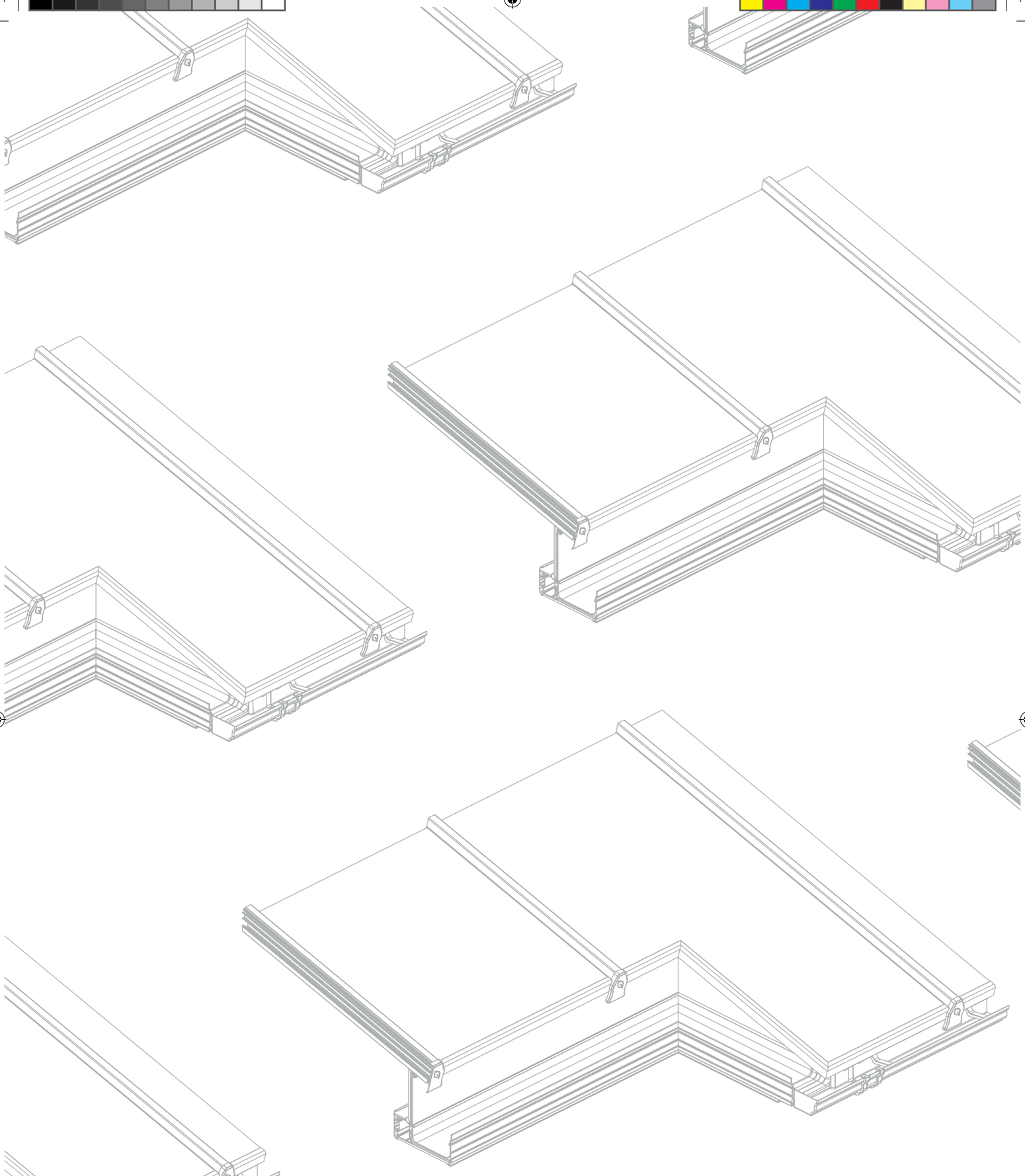

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