



# Solid Roof System Installation Guide

The most advanced, energy-efficient  
building system available

Ticks  
all  
the  
boxes



# Introduction



Conservatory walls consist largely of glazed elements including windows and doors that may include structural mullions or may be strengthened with internal structural reinforcement inside hollow sections. Modern conservatories are likely to be marked in accordance with BS EN 14351-1:2006 + A1:2010.

The Guardian Roof System is designed to be of similar weight to a glass roof of equal size, so it follows that the existing glazed walls, if correctly specified for the original glazed roof, should be capable of supporting the replacement Guardian Roof System.

It is the sole responsibility of the installer to establish the structural suitability of the existing conservatory wall system, to establish the location of any structural or reinforcing elements, and to ensure that the Guardian Roof System is fixed to the existing structural elements so that gravity and wind loads are transferred safely through the existing walls to the conservatory foundations.

The following guide has been created to assist in the fabrication and installation of the Guardian Roof.

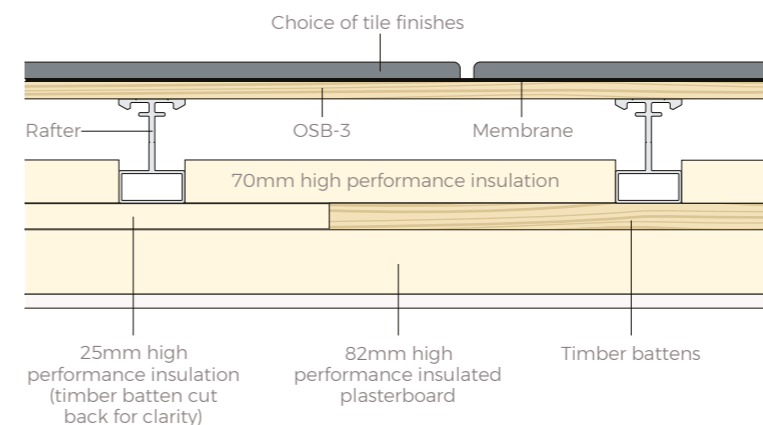
Please note that each roof is individual and will be fabricated to suit various shapes and sizes.

Your fabricator will be available to provide installation technical support and will include a roof layout plan and an installation guide with each roof.

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## Guardian warm roof construction

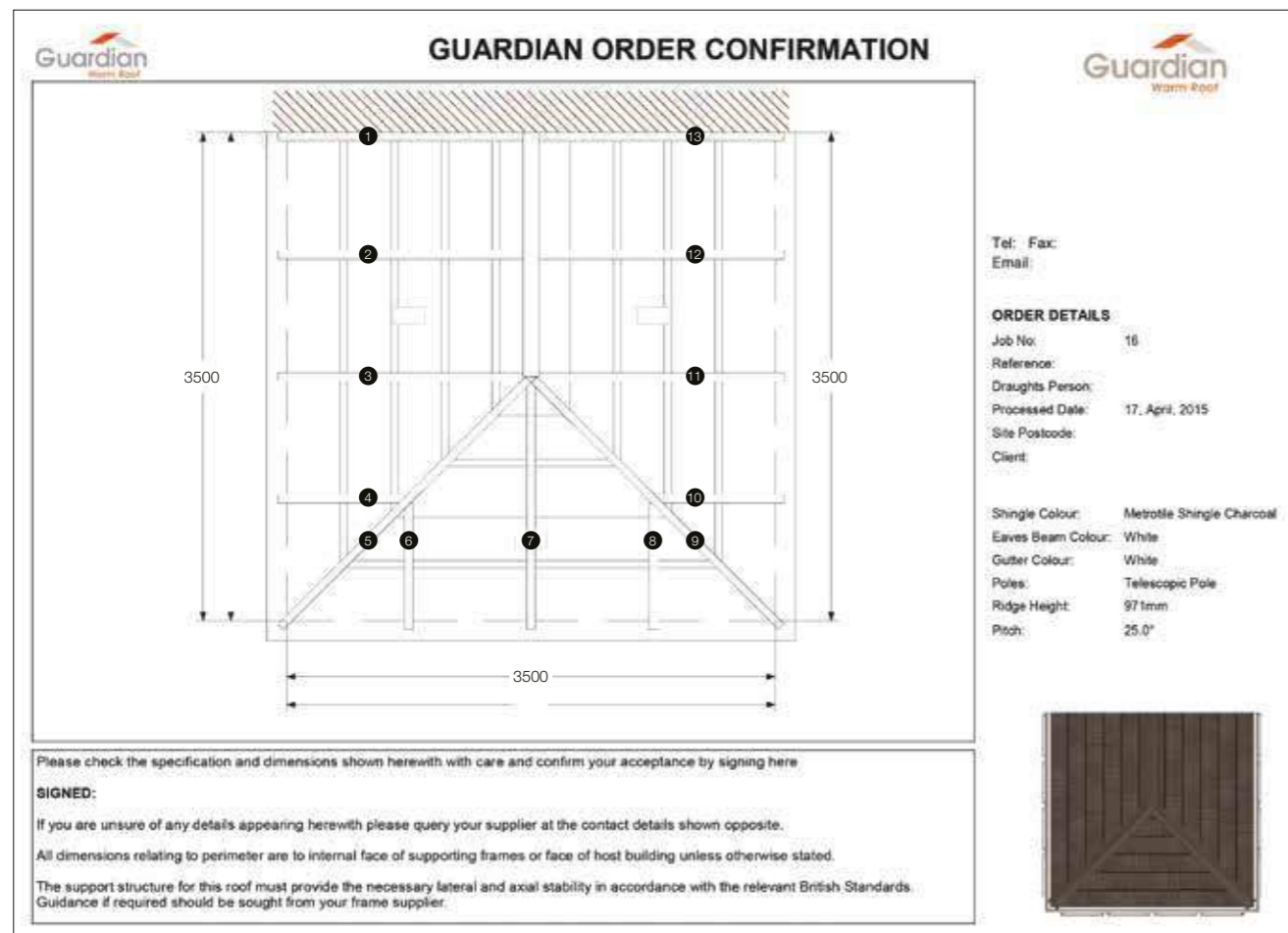




# Solid Roof System

## Roof layout plan

Please refer to the roof layout plan prior to commencing installation. It is very important that the roof fits the window layouts and that all the windows are fully reinforced. All components are numbered to match the roof layout plan for ease of installation.



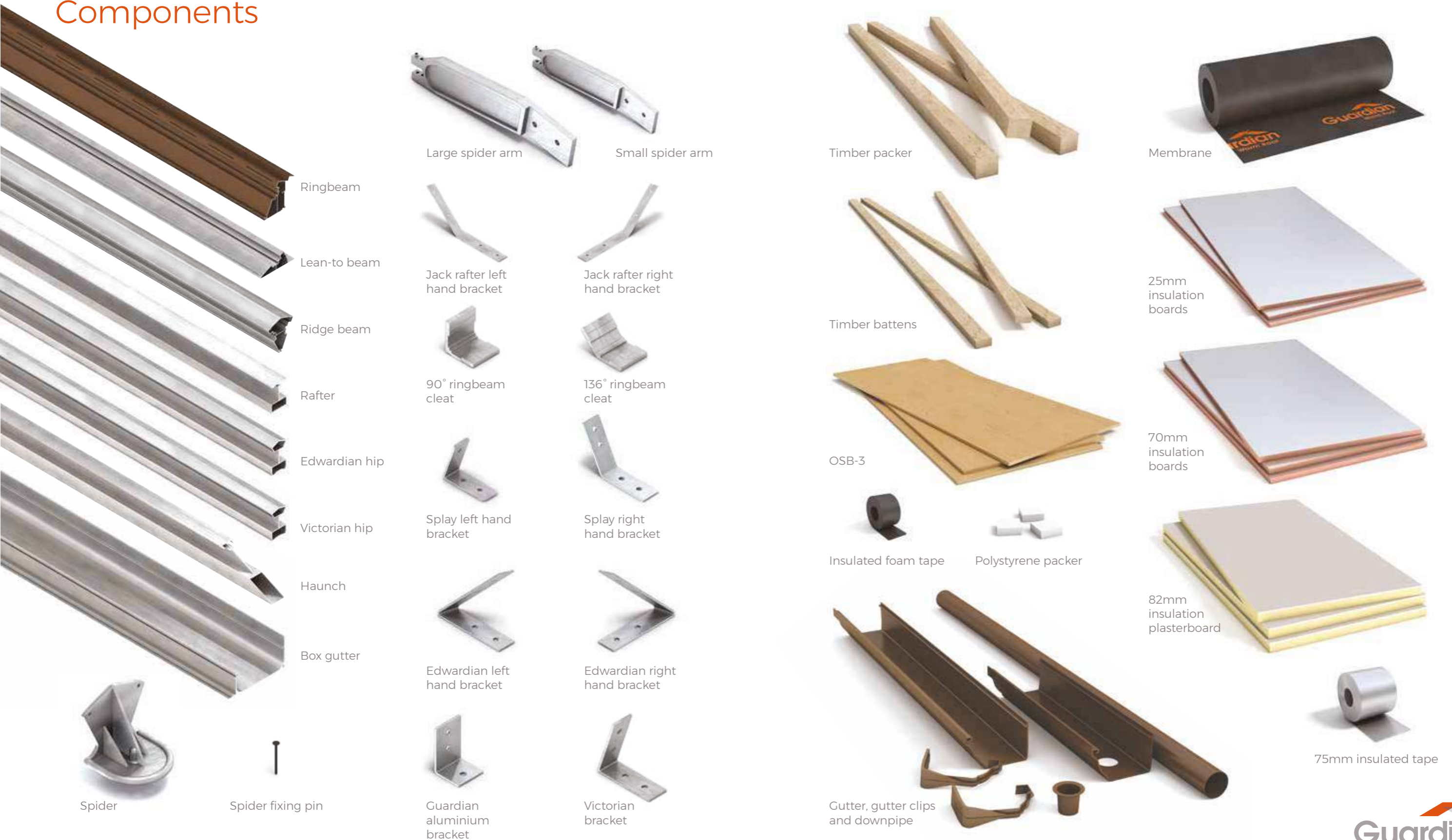
## Tools required



You will receive a plan with every roof – consult this at ALL times.

# Solid Roof System

## Components





# Solid Roof System

## Overview

All components for the Guardian Roof are delivered to site in pre-cut sections.

The Roof Layout Plan will also be included in the delivery and all components will have corresponding numbers to the plan.

Cross timbers for roof windows can also be supplied in aluminium from your fabricator.



Cross timbers for roof windows can also be supplied in aluminium from your fabricator.





# Solid Roof System

## Step 1- Ringbeam



1a Silicone seal 70x60mm timber packer to windows using low module silicone.



1b Remove existing glazing and fix through timber packer using fixings supplied. Fixings at no more than 150mm from either end and no more than 500mm centres.



1c Bed ringbeam down on timber packer using low module silicone. Fix ringbeam to timber packer at no more than 100mm from either end then at 500mm centres - using fixings supplied.



1d Fix angled ringbeam cleat from the outside, using fixings supplied.



# Solid Roof System

## Step 2 – Assemble Rafters

Ridge height will be noted on drawings provided.

Gable rafters to be bolted to house wall and secured at no more than 300mm centres using suitable fixings determined by the wall construction.

Ensure Stainless Steel Cleats provided are used when fixing to the house wall at the top and bottom of wall rafter.

Stainless steel cleats must also be used at gable end.



Use adjustable steel props to achieve ridge height



Use adjustable steel props to achieve ridge height, check level of ridge.



Fix rafter to ringbeam using pre-installed cleats and bolts, loosely tighten at this stage.



Loosely fit back rafters and front hips to the spider joint making sure locating pins are in place to temporarily fix arm to spider.



Infill between the wall rafter and hips with intermediate rafters (including any pre-engineered window framing) loosely tighten at this stage.



Tighten pre-installed grub screws using allen key. Please ensure grub screws are not overtightened. Tighten top and bottom equally.



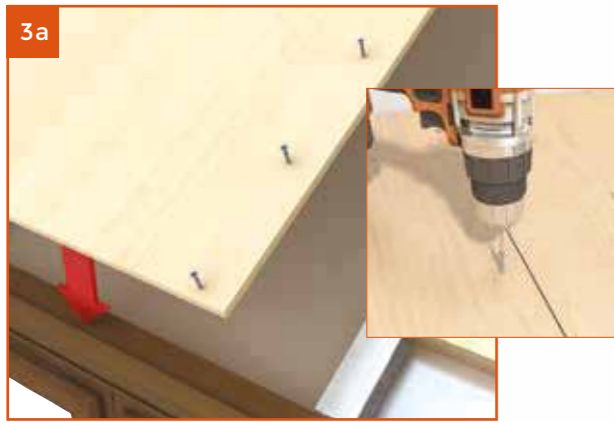
Ensure all roof sections are aligned to the pre-engineered positions and tighten into place.

For Edwardian / Victorian hip cleats tighten bolts on rafters first before tightening to ringbeam.



# Solid Roof System

## Step 3 - Option 1 OSB-3 with Roof Window Frame



Fix timber sheets to rafters as per roof schedule. Sheets to be fixed at no more than 200mm centres using 4.8mm x 38mm self-tapping fasteners (drill pilot holes).

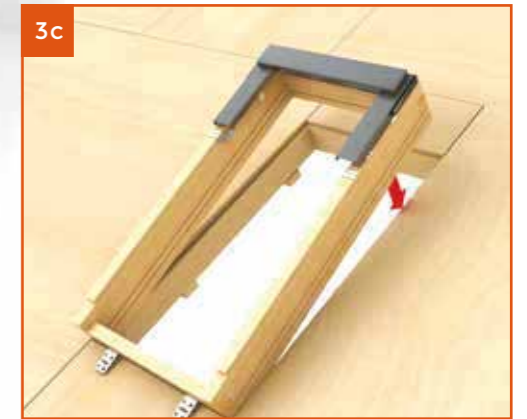


Structural opening delivered to site in timber or aluminium.

Fix brackets to the roof window frame prior to installation.



Fix frame to timber ply through brackets using screws supplied within roof window pack.

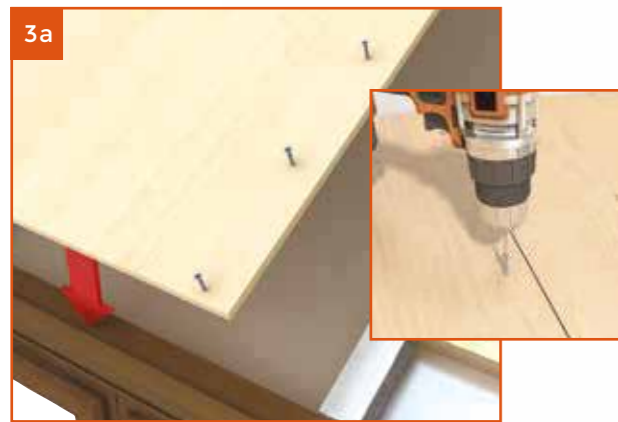


Install roof window frame into pre-formed opening within rafters.



# Solid Roof System

## Step 3 - Option 2 OSB-3 with Guardian Solstice Rooflight System



Fix timber sheets to rafters as per roof schedule. Sheets to be fixed at no more than 200mm centres using 4.8mm x 38mm self-tapping fasteners (drill pilot holes).



Fit the moulded insulation into the ridge beam, ringbeam and rafters around the opening for the rooflight, fasten in place with 19mm x 38mm timber battens.

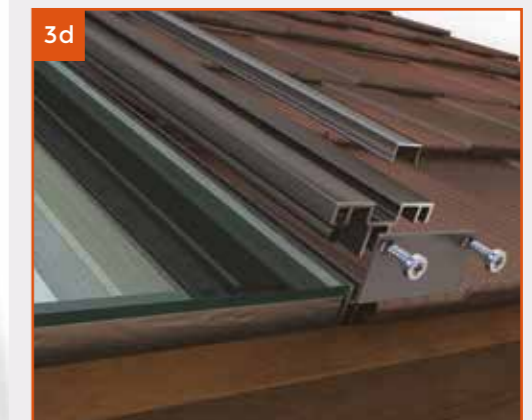


Fasten the aluminium rooflight frame to the ridge beam and ringbeam, add **xxmm** black insulation tape around all sides of the rooflight opening.



**Please note:** The following steps should be completed after the membrane and tiles have been fitted to the roof.

Please make sure the breather membrane is lapped up the side of the rooflight frame before fitting the tiles.

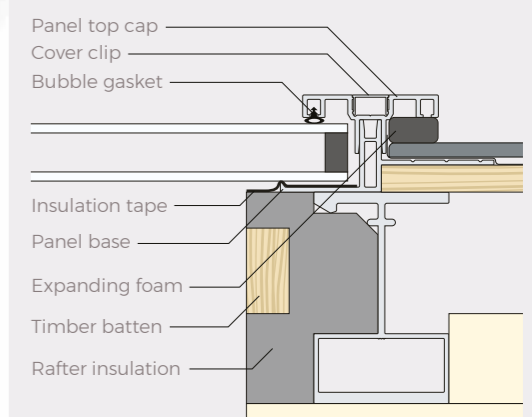


Place the rooflight glass into the frame and securely fasten in place with the rooflight panel top cap, cover fasteners with cover clip.

Add the end cap to the end of the rooflight batten and fasten in place.

**Please note:** The ridge tile will need to be notched around the rooflight batten.

### Guardian Solstice Rooflight System Detail





# Solid Roof System

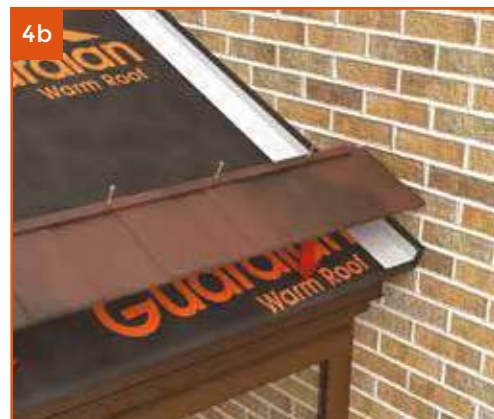
## Step 4 – Membrane and Tiling



Cover with vapour permeable underlay with a vapour resistance of less than 0.25MNs / gram as required by BS5250: 2002. Overlap all joints of underlay by 150mm and staple down to timber sheets. Over run ringbeams by 100mm and up house wall by 60mm.

Turn underlay up at the roof window frame and staple to topside.

**CAUTION:** Roofing membrane must be laid from the bottom up with the overlap always to the outside as you come down the roof. This also should be done at hip points.



Place watercourse / soaker against house wall.

Starting bottom right corner of the roof with the first tile, hook tile onto the leading edge of the ringbeam and overlap the watercourse / soaker where it meets the house. Hold tile firmly in place (ensuring it is kept flat) and fix at no more than 300mm centres into top lip of tile.



Ensure subsequent tiles are fully located into the previous tile.

All tiling is from right to left. Complete one row at a time. For the second course always start with half a tile.



Dependant on height of roof window 1-3 tiles should be fitted below window before bottom flashing is installed.



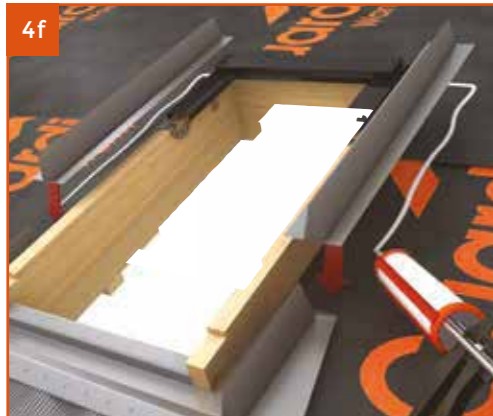
# Solid Roof System

## Step 4 – Membrane and Tiling (cont.)



Roof windows should be installed with a compatible slate flashing kit.

Always refer to window manufacturers installation guide for specific fixing detail as these may vary.



Roof window flashings should be sealed to the breather membrane with low module silicone.



It is also advisable to run a line of sealant on top of the flashing and under the tiles on the sides and the top to prevent blowback.



Continue installing the tiles around the window and the rest of the roof.



# Solid Roof System

## Step 5 – Ridge and Endcap



Using the crown ridge and end cap positions as your starter – dry fit battens and ridge profiles to mark out locations.



Apply expandable foam tape to underneath the 25mm treated timber batten.



Fit timber battens and screw into place (battens must be kept dry).



Use low module silicone between the back edge of the roof batten and tile.



Fit endcaps and fix on both sides. Use touch up kit provided to hide screw heads.



Fix rafter cap over delta ridge profile at verge and fix on all sides. Use touch up kit provided to hide screw heads.



Position delta ridge over batten and fix side on. Use touch up kit provided to hide screw heads.





# Solid Roof System

## Step 6 – Gutters



Twist fit brackets into channel of the ringbeam and screw into place.

Starting point at ends and corners to be no more than 120mm from the corner / end and all intermediate brackets at no more than 500mm centres.



Install gutter ensuring all ancillary joins / bends / outlets are sufficiently watertight.

Ensure gutter is sitting at pre-marked lines within all guttering ancillaries



Determine the position of the downpipe outlet, fit the spigot into place and seal with a low module silicone. Install downpipe.



Fix external cover trim\* to timber packer using low module silicone sealant to top of trim and fasten with poly pins coloured to match. Run a bead of low module silicone sealant along the bottom of the trim to the top of the window.

\*Cover trim not supplied.



Install optional timber tie cross beam.





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## Step 7 – Insulation Between Rafters



Apply foam packers to the exposed screw heads under the ply, ensuring that the foam packers are evenly spaced.



Fix 70mm insulation board between the rafters. The 70mm insulation board should sit flush with the underside of the rafter.





# Solid Roof System

## Step 8 – Fix Insulation Battens at 365 mm Centres



Fit 25mm timber battens at no more than 365mm centres to underneath of rafters.

Fixings are to be 5.5mm x 50mm light steel 3mm-12mm wing tipped or a Timco 5.5mm x 50mm self drilling screw.



Batten out entire roof structure.

Batten over window opening and cut back to suit.



Please ensure under slated ridge is double battened.



# Solid Roof System

## Step 9 – Insulation over Rafters



Install 25mm insulation between battens and apply expanding foam to the spider assembly.



Insulation tape should be run over every batten and the window line so no timber will be visible from the inside.

Tape all insulation joints.



Seal around roof window with 25mm insulation.



Insulated tape should be run around all insulation joints.



At this point, any wiring for lighting/spotlights should be added.



# Solid Roof System

## Step 10 – Insulated Plasterboard



Insulated tape should be used around the top of the window frames to cover any exposed timber.



Cut and mitre 82mm insulated plasterboard, fix into position at no more than 50mm in from the corner and at no more than 200mm centres with fixings supplied.

**Please note:** Holes for spotlights should be pre-drilled prior to fixing the insulated plasterboard in place.



Finish around the roof window opening with plasterboard.



# Solid Roof System

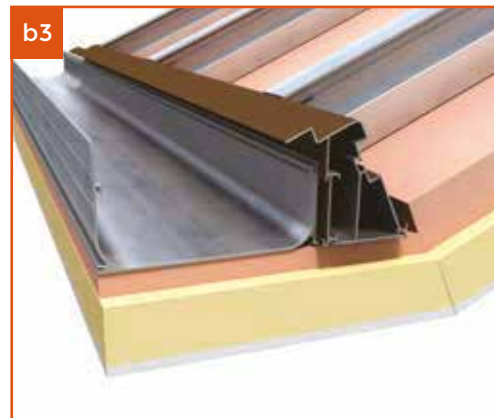
## Box Gutters



b1 Please ensure you use suitable fixings determined by the wall construction.



b2 Seal between ringbeam and box gutter with appropriate sealer. Also seal against house wall.



b3 Continue 25mm and 82mm insulation board under Box Gutter for insulating value and to avoid the risk of condensation.

## Valley Gutters



v1 Valley flashing supplied in fixed lengths, to be cut on site.

Apply expandable foam tape to underside of valley.

Place valley tray on top of breather membrane within the valley itself.



v2 Fix the valley flashing using self-tapping screws.



v3 Tile into valley cutting at angle of roof. Seal where necessary.



# Solid Roof System

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## Lean To

Wall plate to be fixed 100mm from either side at minimum 200mm centres. Please ensure you use suitable fixings determined by the wall construction.

Ensure re-inforced coupler is used when joining new angle frame to existing windows.







Call us today with your enquiry

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