ICENI
WINDOWS & DOORS

Iceni Installer Guides

LEKA SOLID ROOF

LEKA

The Leka System Installation Guide

The following guide has been created to assist in the fabrication and installation of the Leka System. Please note that each roof is individual and will be fabricated to suit various shapes and sizes.

Each roof supplied will be accompanied by a roof layout plan and this guide. Your fabricator will be available to provide installation technical support.

The Leka System is designed to be of similar weight, or lighter than a glass roof of equal size. It follows that the existing glazed walls, if correctly specified for the original glazed roof, should be capable of supporting the replacement Leka 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 Leka 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

NOTE: for ECO and ECO+ installations

ECO

Leka ECO

The Leka Eco option requires the installer to supply use standard 12.5mm foil backed plasterboard instead of the existing Leka Internal board.

Prior to installing your plasterboard it is recommend to cut your 15mm x 10mm pvc block batten with snips and adhere these centrally to your insulation sheet using sealant. This needs to set and bond before beginning your plasterboard fixing.

This is used as a packer and also an additional fixing location for the centre of your plasterboards.

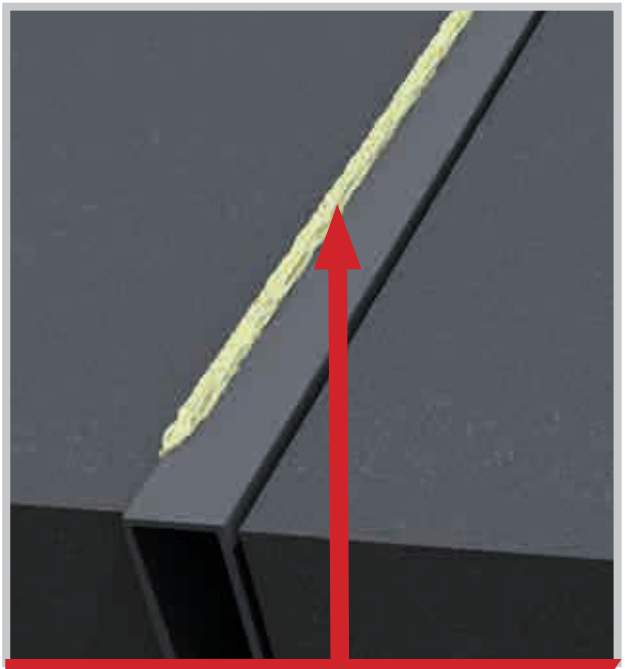
ECO+

Leka ECO+

The Leka Eco+ option also requires the installer to supply use standard 12.5mm foil backed plasterboard instead of the existing Leka Internal board AND the Leka roof will also be supplied with 135mm GREY EPS.

You should insert the EPS into your roof following much of the same process as if your were installing a sheet of Celotex. So sealant is still required on the arms/wings of the rafter profiles before inserting your EPS.

The only difference in installation process is foaming your joints rather than using insulation tape. Foam should be supplied around all joints.



Foam sealant being applied before being smoothed down

1). The Box Gutter

1a

The box gutter is to be fixed to the main customers property using appropriate and substantial fixings every 400mm, locating roof joists if applicable or insert screws directly in house masonry. Seal using suitable weatherproof sealant. Next place your pre-cut GRP Ring beam in place, ensuring the box gutter drops into all of your pre installed ring beam clips and meets with your ring beam flat face (underneath the slight ridge rung). Seal with appropriate sealant.

1b

Gallows brackets are recommended on box gutter installations and should be fitted every 1200mm to house masonry. If your box gutter and ring beam projects too far from main property wall and not suitable for a Gallows bracket then steel upright box sections should be applied, your structural engineer should assess the loading and provide guidance on steel supports if required.

2). The Ring Beam

2a

Your GRP ring beam should be laid directly onto your window frame (or block work if a full wall exists on any side of your conservatory) there are no packers required. Ensure the internal ring beam face is fitted flush to the inside of your window frame and your ringbeam does not over hang any of the internal side of your window frames. Your ring beam corners should then be fixed together on the external face using the skewable brackets and 40mm Black screws indicated here. Ensure you apply high grade sealant between the ring beam and window frames/wall prior to laying your ring beam onto these surfaces. All external ring beam corners should also be sealed.

All external ring beam corners should also be sealed

2b

You will need to remove any glazing from existing window frames. Following deglazing, and using provided 132mm AMO Screws, fix from underside of window frames directly through the window frame and into your ring beam.

3). Rafter and Hip Assembly

3a

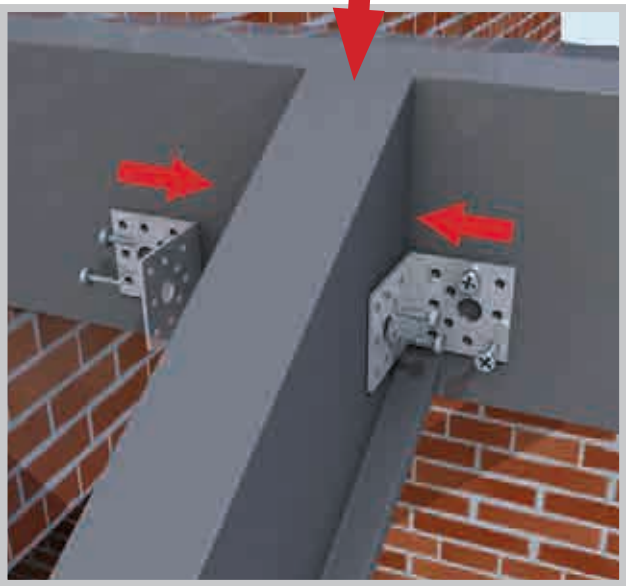
Your Wall plate indicated is to be fixed using suitable 132mm AMO stainless steel screws at every 400mm, directly through wall plate profile into house masonry for all roofs that require a wall plate.

3b

Rafters indicated below should be connected directly to the ring beam and ridge profiles with L shape brackets (pre-factory fitted) each side (2 at the top and 2 at the bottom) with 40mm Black stainless screws and rafters should meet the marked indicated points.

Ensure you use 6 black coated screws per face of your bracket, which is 12 screws per bracket overall.

The top of rafter should be flush with the top of the ridge



After the tunnel bars and ridge are on, make sure that all around the frames are plumb and level. Then, put props in place to hold the structure and install tie-bars. Keep the props until you have fitted the top boards

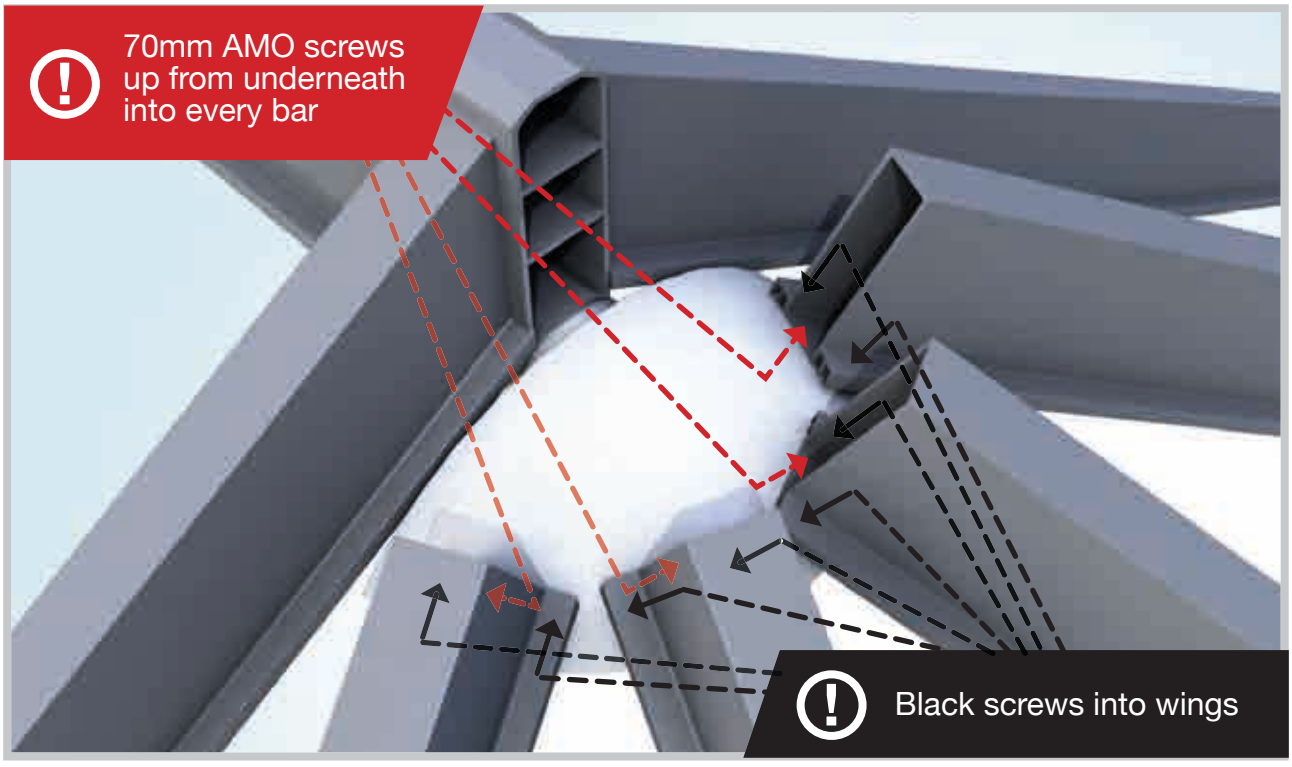
3c

Your GRP TIE bar should be installed at this stage. It is essential before adding any additional weight to the structure to install the tie bars to your rafters when the profile structure is built.

Two L shaped brackets will be fixed to the tie bar at factory stage and you will need to use your 40 black screws to fix through your L shaped brackets into the sides of your rafters to secure the tie bars in the first instance. Following the insertion of these screws, use 2 x 132 AMO screws and screw directly through your tie bar box section and follow through into the rafter and the 132 screw head meets your tie bar flush. Repeat this step on the left and right hand side of the tie bar

3d

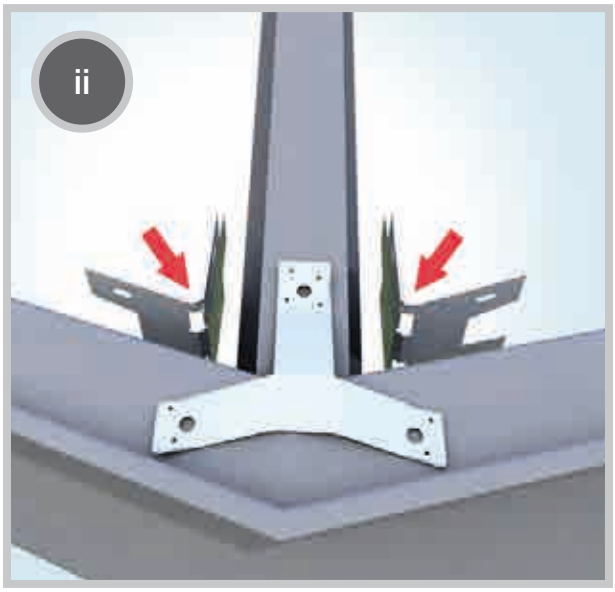
Your GRP Radius will arrive, factory fitted to the Leka ridge. Rafters and hips should be connected to your GRP radius at the marked points, using 40 black screws. Each wing of the rafters should be secured to the GRP radius (2 screws per rafter).



3e

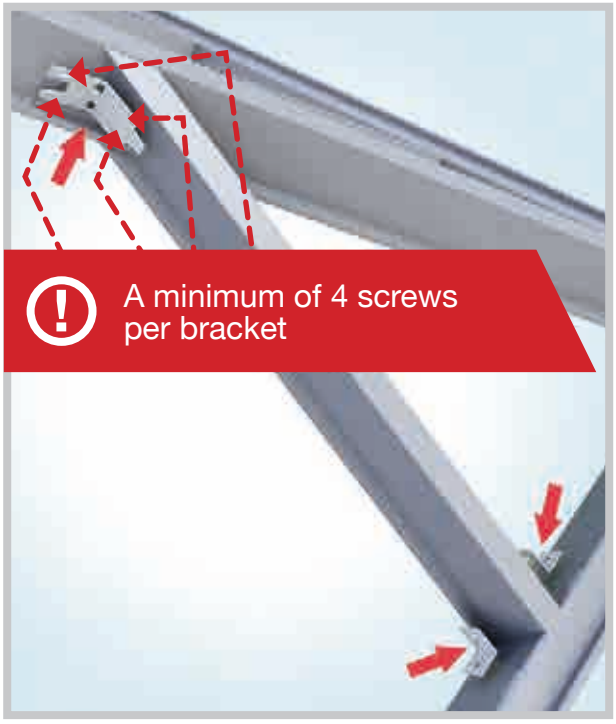
Your rafter hip connection to your 90 degree ring beam corner should be fixed with the supplied heavy duty skewed corner anchor using 40 Black screws.

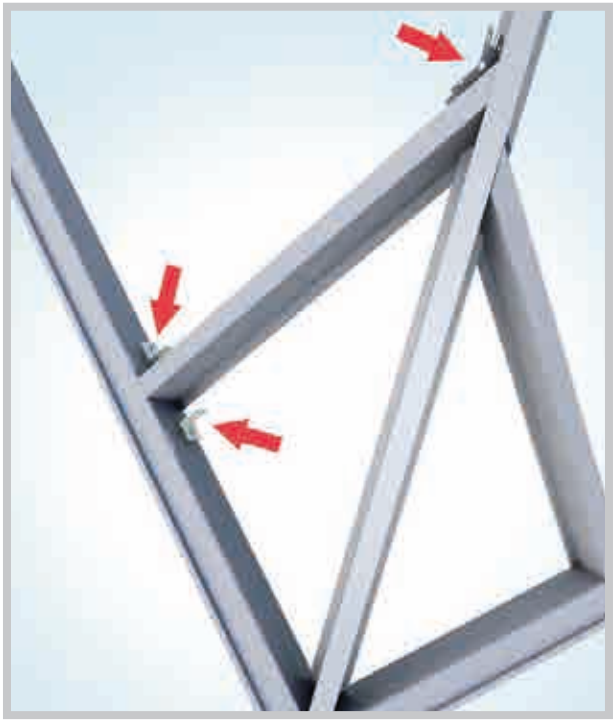
Any angle over 90 degrees should be connected at each side of the hip with your skewable brackets and heavy duty T anchor bracket as shown. These brackets should be fixed using 40 Black screws.



3f

Jack rafters should be fixed using your skewable angles at the hip joint and your heavy duty L shape bracket at the ring beam connection point, using 40 Black screws for all fixings.



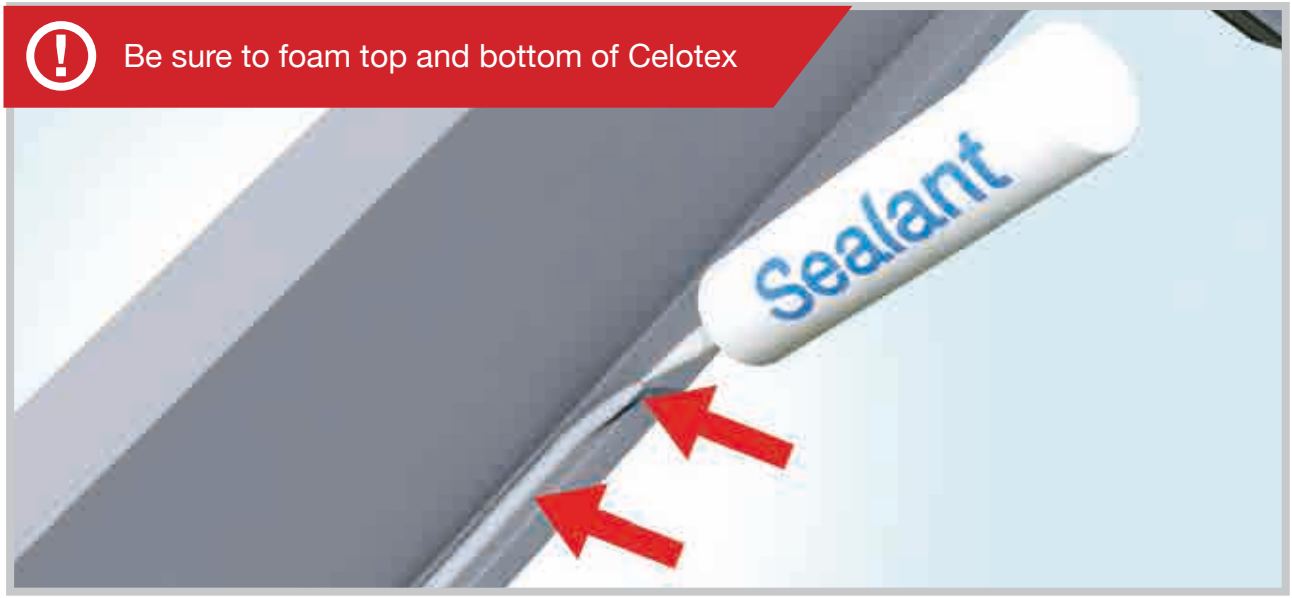


4). Insulation

4a

Prior to inserting each sheet of celotex, you will need to run a line or hi-grade silicone/sealant along the arms of your GRP rafters as shown.

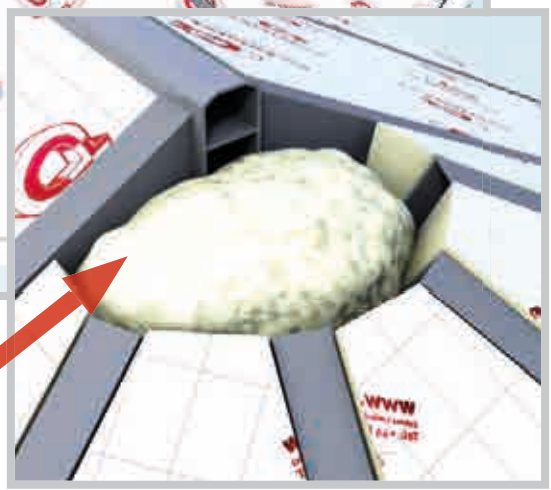
Be sure to foam top and bottom of Celotex



4b

Following your main rafter assembly, your pre-cut 130mm Celotex insulation is dropped into your roof structure from above and sits on your rafters arms.

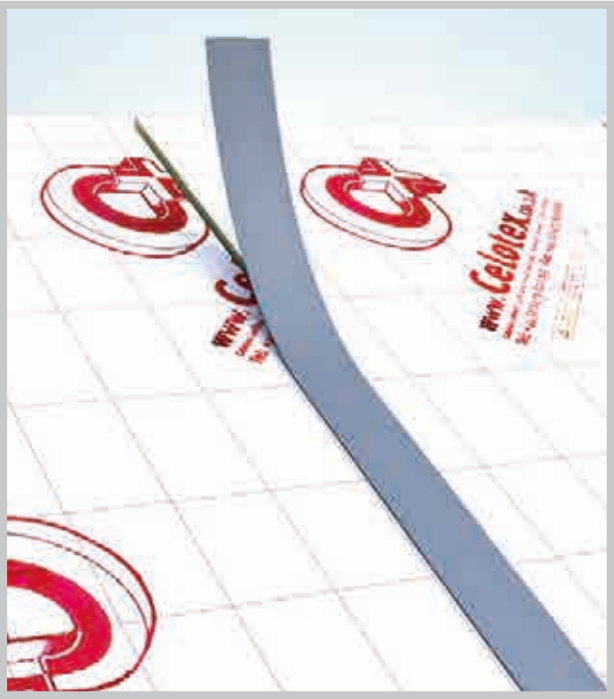
Make sure that the Celotex is foamed where it meets the rafters and hip bars



When your celotex has all been inserted, apply expanding foam to the gap around and on top of the radius prior to laying your external leka boards.

4c

NOTE. It is vital that once you have inserted your celotex insulation that you seal all and every joint from the celotex to your GRP rafter and Ring beam edges and also any joins in your celotex sheets to create a solid vapour seal. This should be applied to the external side of your celotex and internal side. You should seal these joints with your provided 50m roll of sealant tape (NOT YOUR EXTERNAL TAPE)



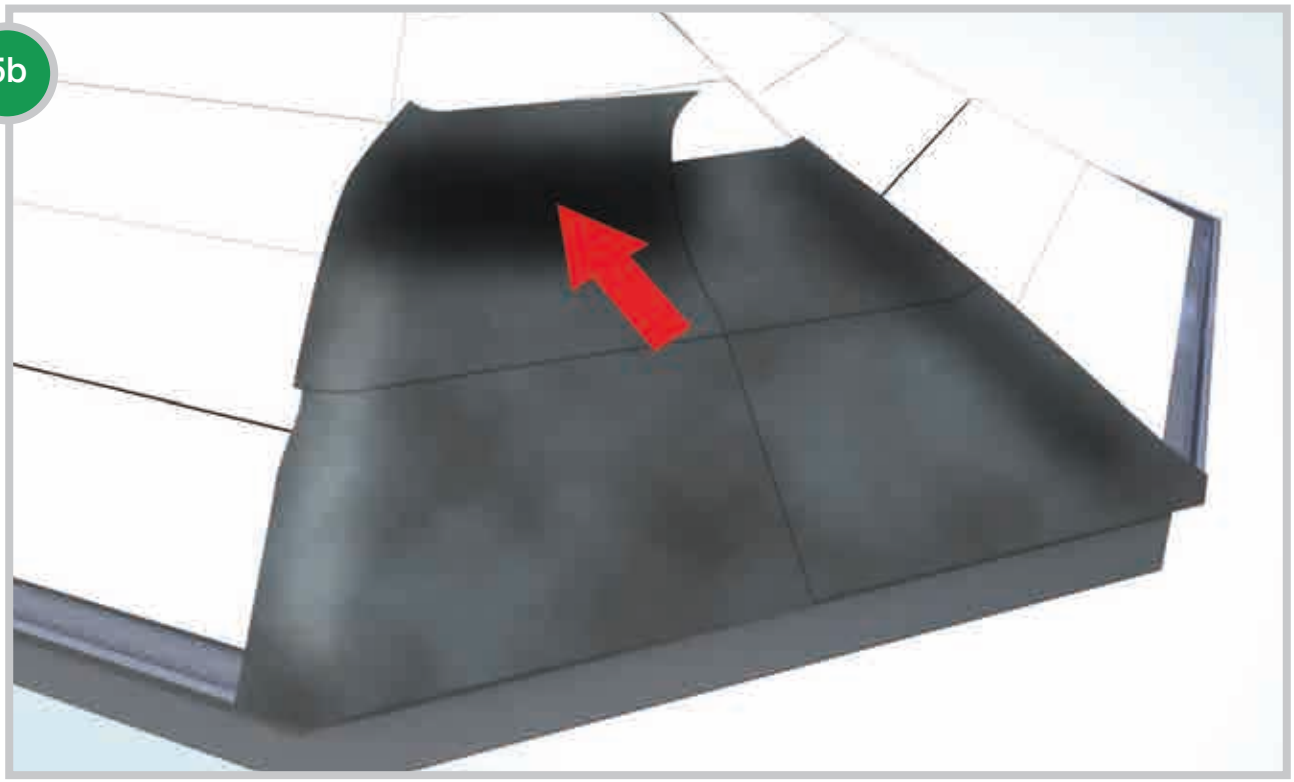
If the gaps are more than 3mm between the Celotex and rafter, please foam it first and then tape it straight away

5). Leka Outer Boards

5a

Your leka boards will be pre cut to size on arrival and should be laid out across your main rafter structure in accordance with the labelled boards. 40 x 4 stainless screws should be used to fix through your leka boards, ensuring that they meet your rafters and are fixed into them. The 40 x 4 stainless screws must be inserted at every 6-8 inches at your sheet joints (running up your rafters) and along the ring beam **1 inch** from the end.

5b

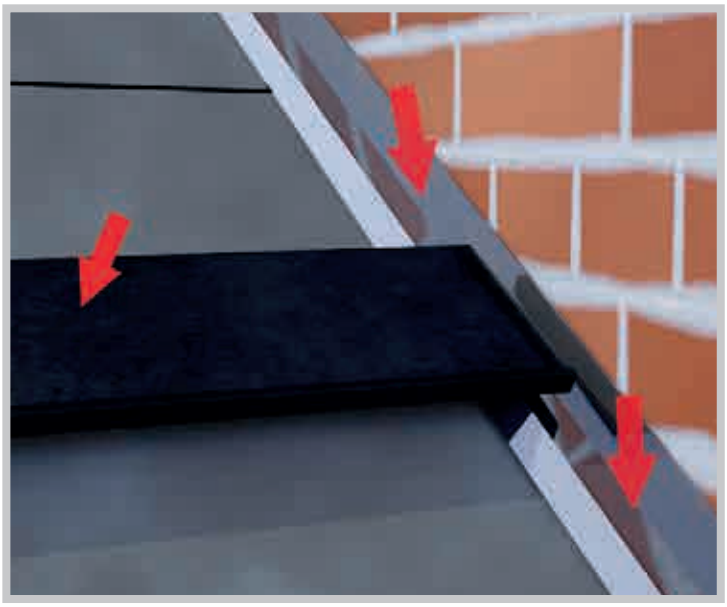


Prior to laying your tiles and following completion of your external leka boards, you will then need to lay your breathable membrane to the outside of your boards, temporarily securing this until you begin your tiling. All breathable membrane must be overlapped where joining layers. The membrane will over-hang the ring beam edge to allow water to run into the roof guttering.

6). Metrotile / Tapco Roof Tiling Installation

6a

Prior to laying your metrotile roof tiles you will need to firstly and very importantly lay your soaker to the back wall as shown below. This is recommended to be fitted with high grade silicone on the wall and underside. Once attached, your tiles will lay directly across the top of the soaker, followed by your lead to be lay over both the soaker and tile.



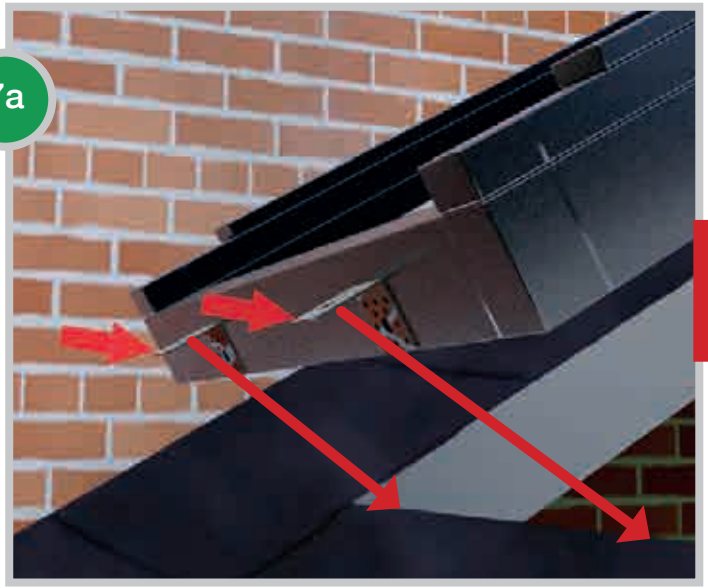
Soakers are only provided on Metrotile installations, not Tapco. You will have to install stepped lead to Tapco installations

6b

Fix watercourse to outer wall. Starting bottom right corner of the roof with a full roof tile, fix to lip of ringbeam and into the corner of the watercourse (allow 4 x 42mm coated screw fixings per metrotile and 2 x 42mm per tapco slate tile).

7). Roof Window Installation

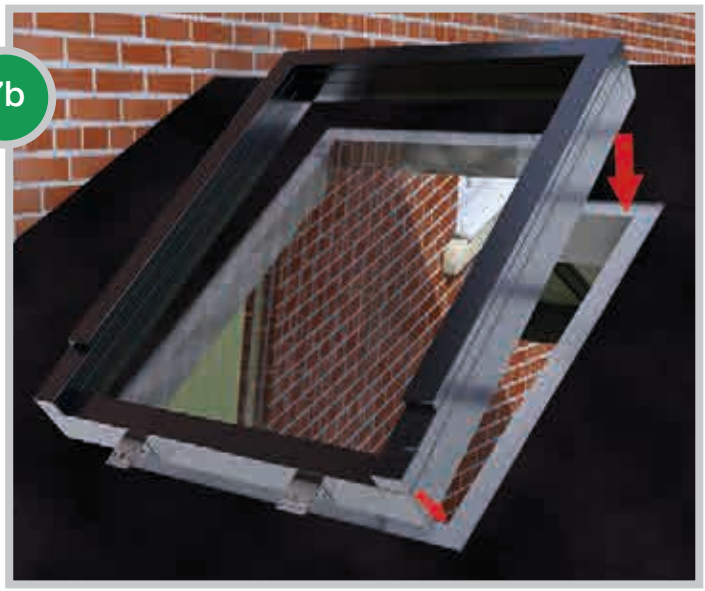
7a



Fix brackets to the roof window frame prior to installation.

The brackets fit top and bottom for our system

7b



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

7c

Fix frame to outer boards through brackets, using screws supplied within roof window pack.

Then double tape up to the roof window using external tape both sides top and bottom. Then, please foam the gap around the Velux from inside

7d

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

7e

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

Roof window flashing to be installed to roof window pack instructions.

Please make sure that you seal the flashing to the external board and under the flashing where it meets the tile below

7f

Once window flashing is installed, continue tiling as before from right to left.

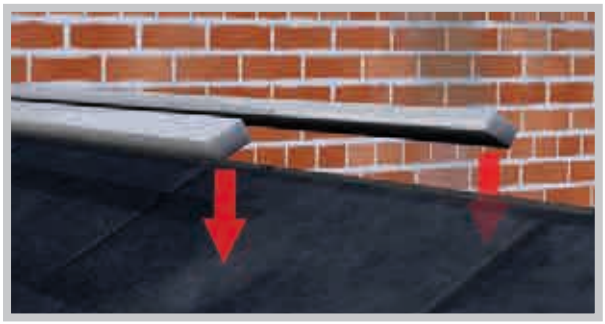
Please note: your bottom course of Tapco Slate should always overhang you eaves beam by 50mm.

Tapco Laps

10-15 degrees	6 inch lap
15-20 degrees	6.5 inch lap
20-25 degrees	7 inch lap
25+ degrees	7.5 inch lap

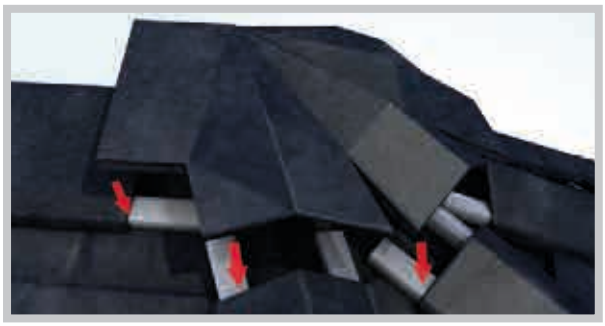
8). Ridge Tiles, Tile Junctions & End Caps

8a Install the 25mm pvc battens and seal with sealant, using the profile ridge and hip for position of your battens. Once in position, secure with your 42mm coated screws. Ensure that all of your battens are sealed using high grade silicone or similar and ensure all gaps are sealed.



8b Position delta ridge over batten and fix side on. Use touch up kit provided to hide screw heads.

8c Follow instructions 8a and 8b for end capping. Fix rafter cap over delta ridge profile at verge.



Optional small ridge

In cases of stretched Victorians and off angles on ridges, a smaller ridge is available to allow for angle adjustment. Paint cut edges with touch-up kit.

Optional end capping

5-way capping | 3-way capping | Rafter Cap

9). Valley Gutter Installation

9a

Place valley tray on top of leka outer boards and within the valley itself.

Fix the valley tray wings directly down through the leka outer boards using 40 Black screws.

Ideally seal valley tray underside to outer boards with adequate sealant for added weather shield.

Continue metrotile or slate tiles into valley tray when tiling.

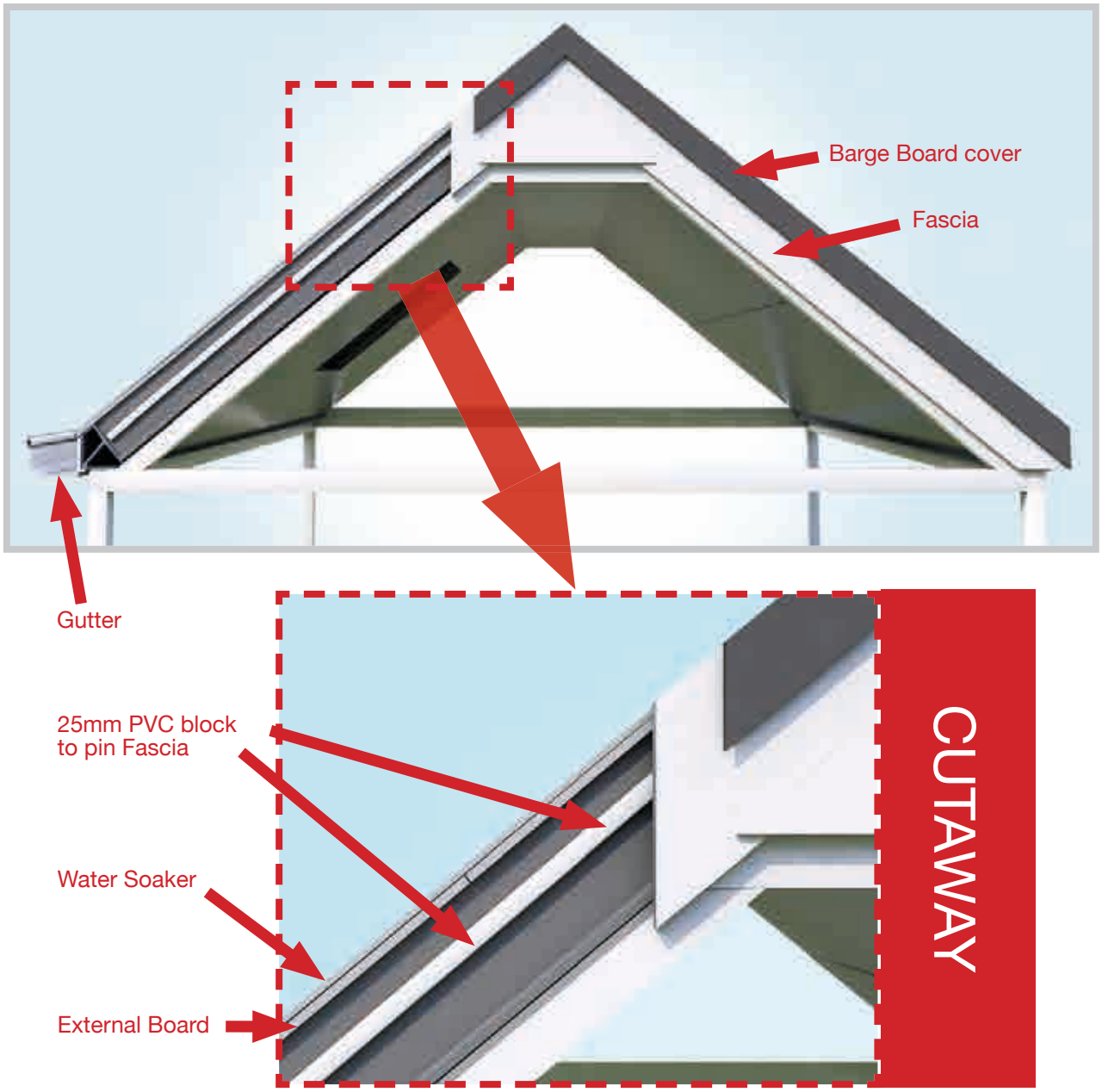
10). Lean-to's and Gable's

10a

For Lean-to's Gable, Racked Frame's and Gable End's you will have to screw the pre-cut PVC 25x20mm Batten to the GRP end rafter 30mm from the top. Then, after installing the top boards fit the fascia touching the external board. Make sure that you tape the fascia where it joins the top board.

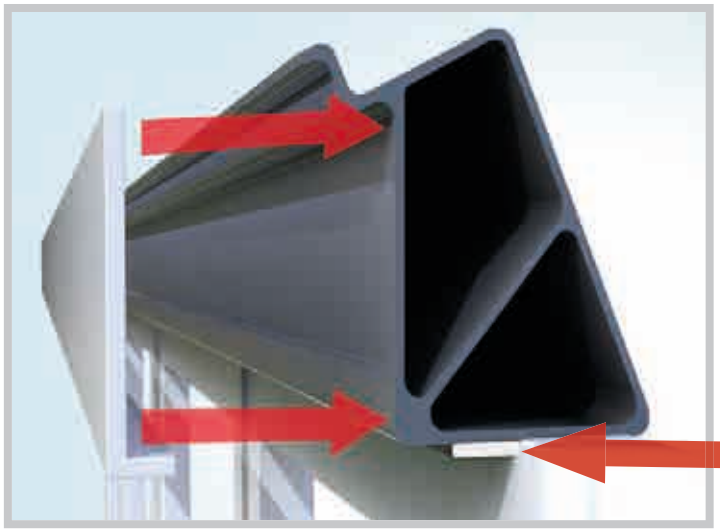
For Metrotile lay the waste soaker flush with the end of the external board on heavy bed of mastic. Lay your tiles on the hook on the barge board cover. Screw it in place through the fascia.

For Tapco please overhang the slate 50mm from the edge and seal the top of the fascia



11). External Guttering And Facia Finish

11a

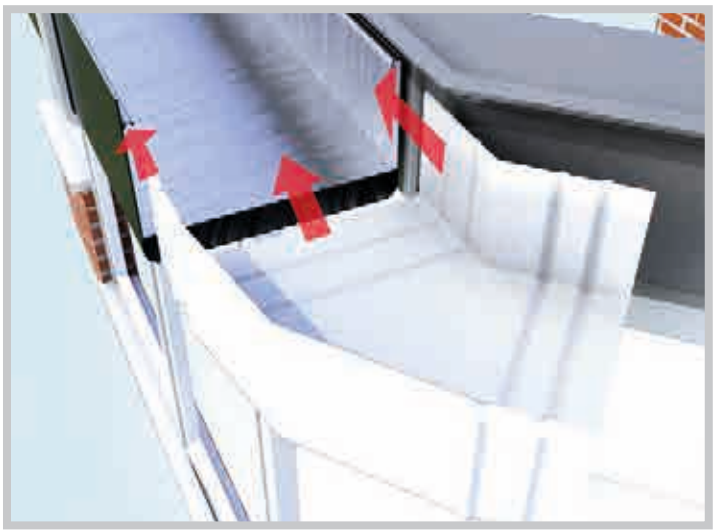


Connect facia cappit to ring beam face using provided screws and adhesive. Mitre each external/internal corner with hacksaw.

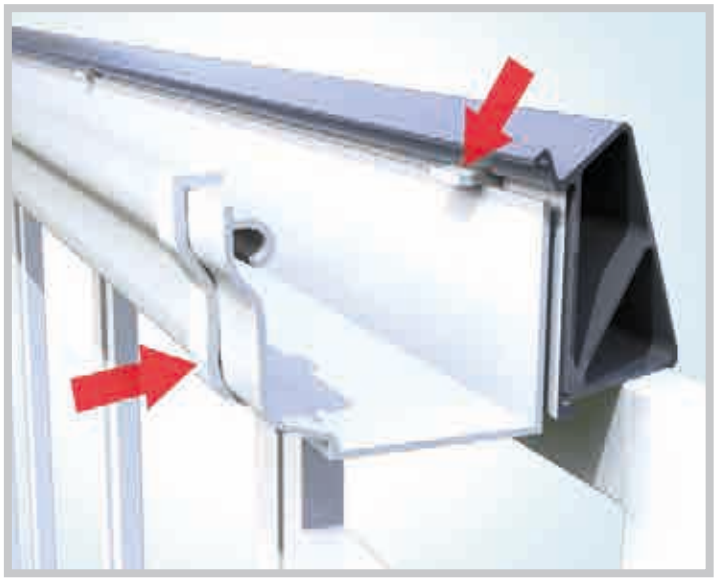
Before applying your facia board, insert your provided 45mm architrave bead from the window frame side to the Ring Beam. Fix using glue or/and silicone.

11b

Fit box gutter adaptor to box gutter and seal joint with appropriate sealant ready for main roof guttering to be fixed.



11c



Connect guttering brackets to your facia board using provided 40 x 4 stainless screws and following this, clip your cut guttering into the brackets. guttering to be fixed.

12). Internal Leka Board Installation

12a

Internal Leka boards need to be cut to size onsite. You will need to either measure or offer up you Leka sheets to your installed roof structure and simply cut to size (preferably with a handsaw for ease or a skill saw).

You will have a 15mm x 13mm batten provided with your leka roof system as an option to cut roughly to size and temporary secure behind your internal leka boards on wide roof rafter spans and particularly on long rectangular straight sections. This is only supplied to act as a packer to your boards centres when plastering the internal leka boards. Temporary secure using appropriate adhesive.

12b

When you have cut your internal Leka boards, prior to fixing your boards to your GRP rafters, you MUST apply your internal board sealant to the edges of your internal Leka boards prior to fixing them with screws to your GRP rafter structure **every 300mm apart (maximum)**.

12c

Once cut to size, your Leka sheets should be fixed using 42mm coated screws through provided Leka metal washers. The screws must be fixed directly into your GRP rafter structure to ensure that your boards are firm and ready for plaster skim finishing. It is essential that fixings are **every 300mm (maximum)** and washers are used for every fixing. It is also essential that all joints are taped and the boards are primed with PVA glue or associated bonding prior to plastering/ skimming.

Please make sure that all hips have at least 2x layers of scrim tape on them before plasterning

It is advisable to provide expanding foam behind your internal leka boards to hip joints, so as to fill any void where internal leka boards meet at your roof hips. If any large gaps between internal boards are apparent after fitting your internal leka boards, expanding foam should also be used here to strengthen your board connection.

When you have applied all your internal leka boards and fixed in place, ensure you seal the joints between your window frames and internal leka boards with your internal board sealant as shown with the arrows around the window frame above. Double check prior to plastering that all joints are sealed.

13). Lighting

13a

If providing down lighters directly into roof space and structure, an appropriate electrician should be sort.

Leka Systems only recommend **LOW VOLTAGE** LED, fire rated down lighters with appropriate covering hoods to the internal roof space and adequate/recommended spacing around lighting and hoods.

Cables should be run appropriately via electrician and preferably through 15mm air gap joint.

Once Led hoods are installed, ensure any gaps surrounding your led light hoods are sealed using your internal sealant.

Please make sure that you do NOT pierce the top of the Celotex

NOTE: for ECO and ECO+ installations

ECO

Leka ECO

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ECO+

Leka ECO+

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You should insert the EPS into your roof following much of the same process as if your were installing a sheet of Celotex. So sealant is still required on the arms/wings of the rafter profiles before inserting your EPS.

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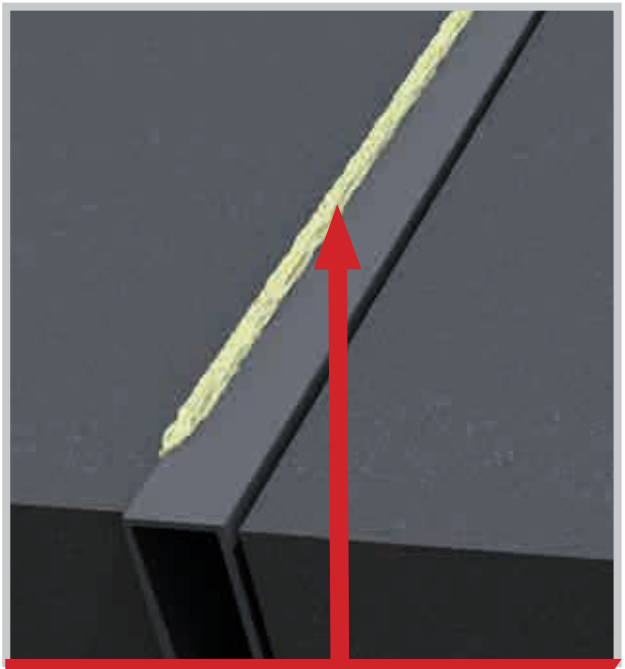
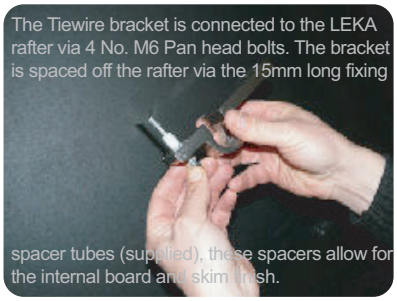
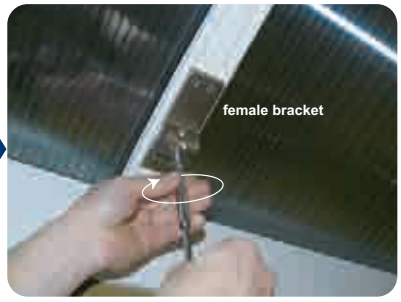


Foam sealant being applied before being smoothed down

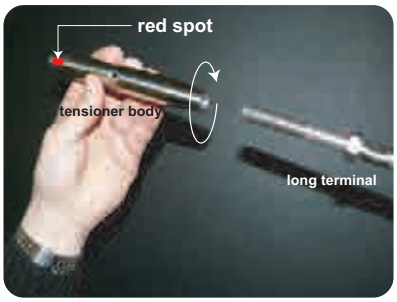
Refer to the bracket position drawing for the location of the brackets via the rafter fixing plate.
Note: it is vital that the fixing plate is secured within the Leka rafter prior to the roof being assembled.



The bracket must be fitted to the LEKA rafter via the fixing plate that is secured within the cavity of the rafter. This plate is not part of the Tiewire kit but comes either pre-fitted to the rafter or loose with the roof ancillaries.



Identify that the wire has a short terminal at one end. Thread this terminal through the slot in the **female** bracket and into the bracket pin. Ensure the wire terminal is screwed fully into the depth of the threaded hole within the pin.



Identify the tensioner body and the long terminal at the other end of the wire. Thread the tensioner (end without the red spot) onto the terminal one (anti-clockwise) turn only.

Bring the end of the wire with the tensioner across the roof to meet the **male** bracket. Offer the end of the tensioner **(with the red spot)** onto the threaded stud fixed to the male bracket.

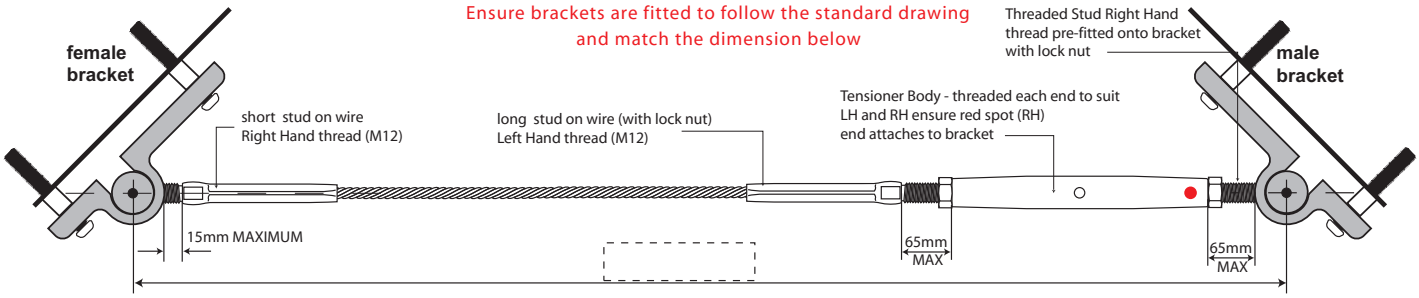
Rotate the tensioner onto the threaded stud of the male bracket, this will simultaneously draw in the terminal on the end of the wire.
DO NOT allow the wire to rotate during this procedure.

Keeping the wire terminal, tensioner and bracket stud in-line, continue to turn the tensioner until the slack is removed from the wire.
DO NOT allow the wire to rotate during this procedure.

Use a tool in the hole of the tensioner to apply the final turns. A 10mm spanner on the flats of the wire terminal will stop the wire from rotating.

Final tension is achieved once the wire is straight and taut. Do not overtighten and allow the sides of the roof to become distorted. Tighten the locknuts against both ends of the tensioner body.

Install Tiewire prior to roof glazing
Ensure ridge is supported during Tiewire installation
Ensure all nut and stud threads are clean prior to adjustment
Protect the Tiewire assembly during plastering operations
Ensure brackets are fitted to follow the standard drawing and match the dimension below



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metrotile
LIGHTWEIGHT ROOFING

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