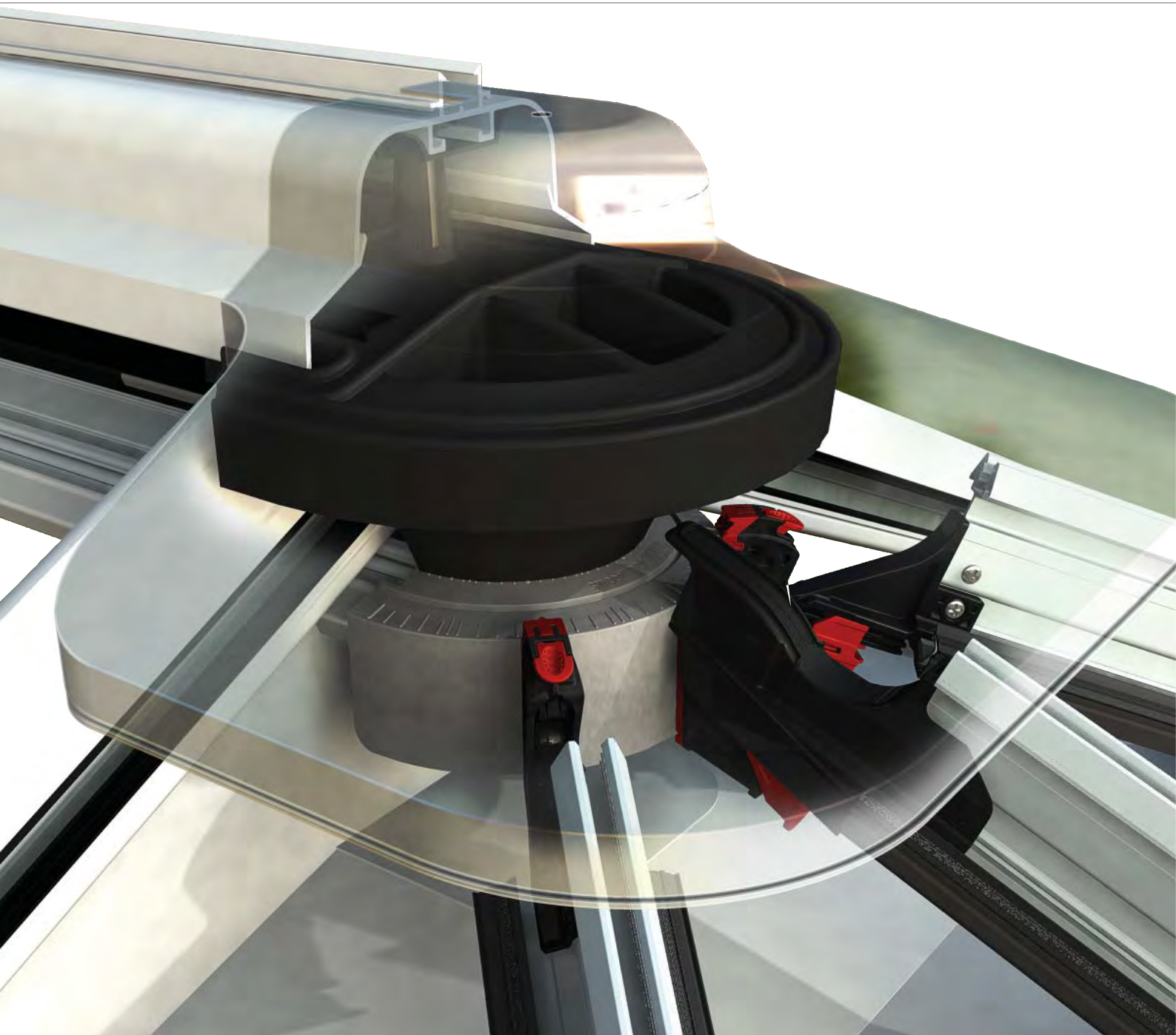


ultraframe

Transforming light and space



Classic

Roof Technology Guide

Version 1 | July 2013

“ Dear trade partner or conservatory buyer,

The Ultraframe roof is the market leader, having established itself in 1983 and having continuously serviced the conservatory industry for all that time. Through constant and consistent innovation, the Ultraframe brand has led the way. ”



The Classic conservatory roof is the choice of national brands, regional home improvement companies and indeed local builders.

The Classic roof is tried, tested and trusted. Third party accreditation from the British Board of Agrément is just the start as Ultraframe subjected it's roof to 130mph winds at Wintech to check how the roof performed in the worst wind and rain conditions in the British Isles. Ask to see the 7 minute DVD which shows the full test in more detail.

This brochure highlights what the Classic system can achieve, including standard and non standard conservatories but also exploring how the Classic system is used to create other crossover buildings like Orangeries and home extensions. Our systems are designed to be class leading in energy saving measures.

We even show you how and why the Classic roof is technically superior to other alternatives. Take your time to familiarise yourself with the contents of the brochure to find out how using Ultraframe can transform light and space in the home.

For assistance with roof design or specification please contact the Technical Support Team on 0843 208 6953 or email techsupport@ultraframe.co.uk

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* Many of the options displayed in this brochure are chargeable. Please ensure that any options chosen are made clear at point of sale.



For over 30 years Ultraframe has been dedicated to designing and manufacturing conservatory roofs. In that time we have supplied approaching 1½ million roofs, not only to all corners of the UK, but to countries with even more extreme climates like Russia and the USA.

Each and every day **Ultraframe Classic roofs** are performing in the most extreme conditions... this is the ultimate peace of mind.
Ultraframe roofs. Tried. Tested. Trusted.



But there is more to Ultraframe than just our superbly performing roofs. There is the quality marketing support and promotional materials that only the market leader can deliver. On this and the next few pages are just a few examples of the items that make using and choosing the Ultraframe brand a truly positive experience.



Structural Design Guidelines

The paper based Structural Design Guide (SDG) has been superseded by an electronic version (eSDG). Ultraframe trade partners naturally have access to this technology. The ability to structurally prove the conservatory roof performs and demonstrate this to homeowners using front end design software should be a powerful part of an installation company's sales presentation. The government, although abandoning plans (for now) to re-introduce Building Regulations, has raised the bar by introducing more onerous wind loadings in the shape of British Standard BS 6399.

The old loadings standard, Code of Practice (CP3), will gradually fade from the scene, and whilst most conservatories fall outside of the scope of Building Regulations, we fully expect motivated professional home improvement companies to have adopted the standard. Members of the Glass and Glazing Federation (the main representative body for our industry) and those in membership of Ultraframe's own scheme - Ultra Installer - have to comply whilst some other trade partners have adopted it as a voluntary code.

The days of designing for a universally applied load (typically 0.6 Kn/M2 snow load, equivalent to 2ft of snow), are dead and buried, as with Ultraframe's U-Design software trade partners enter a site postcode and the software checks on the Building Research Establishment database, checking wind speed, altitude and whether its an urban, coastal or rural area (to assess the degree of exposure) before working out the final roof loading.

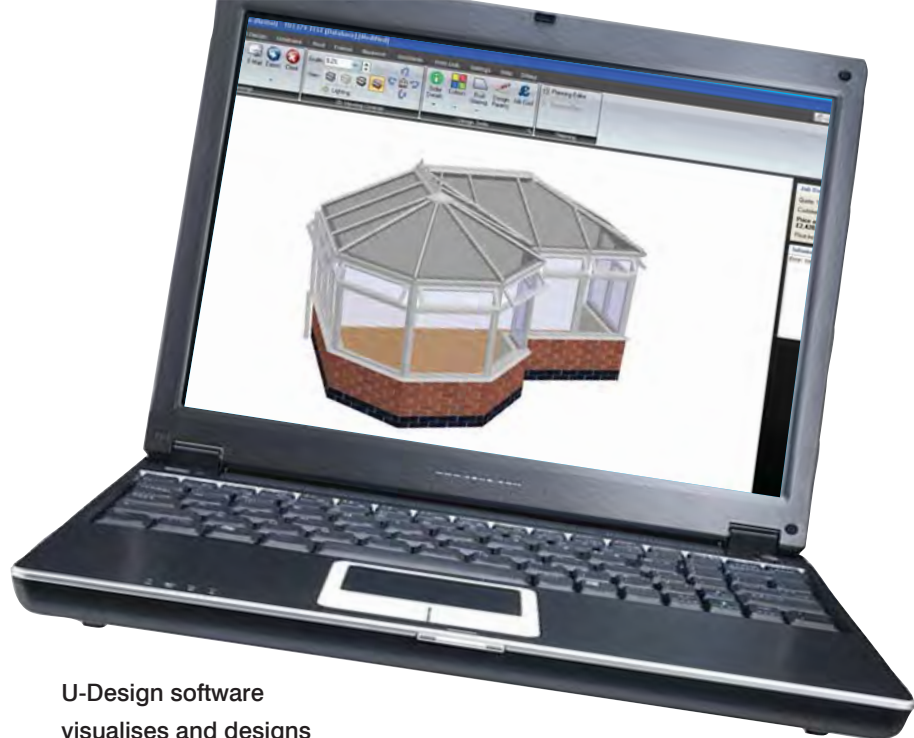
The software simultaneously designs the roof and prices the roof to the correct specification for the location of the conservatory. It should be remembered that there is a modest additional charge for designing the roof to meet loadings over 0.6 - but some retailers just price for the basic loading, in effect this is not fit for purpose for large parts of the country. Always provide the postcode to ensure 'fit for location' design and specification.

Certificate of Authenticity

Conservatory roofs are sent to site with a registration form that the fitter passes to the homeowner, who then registers with Ultraframe and in return receives a 'Certificate of Authenticity', confirming that they have had the genuine Ultraframe product installed. They also receive a FREE conservatory maintenance manual with hints and tips on how to care for the new conservatory.

As part of our philosophy...

We want to make trading between our trade partners and us, easy and error free. That's why our vision is to receive orders electronically from our trade partners. In fact, we encourage our partners to design a conservatory in the home or showroom, structurally prove it and 'fire it' through for computerised manufacturing, virtually untouched by human hands!



U-Design software visualises and designs conservatories

We rigorously tested our roof and alternatives - ask for the DVD of the Aero engine test at the Wintech Test Centre



Exacting design, meticulous specification / manufacturing and comprehensive service back up - all these attributes combine to make Ultraframe the brand of choice for both the trade and homeowners.

As you will see as you thumb through this technology guide, there is virtually nothing Ultraframe cannot do. From straight forward traditional conservatories through to high end complex shapes and to the next generation of crossover glazed extensions, the Ultraframe Classic roof is at the heart of each beautifully engineered construction that will deliver enjoyment for years and years.

Lets look at a number of other factors that make the Ultraframe roof unsurpassable...

Technical Support

Everyone assumes technical support is a retrospective activity, usually after problems arise. Although Ultraframe has this capacity for the rare occasions when site investigation is necessary, most of our resources are engaged at enquiry stage. Trade partners and home owners engage with our support services to discuss how to overcome potential issues, how to ensure a design is holistic and to look at engineering solutions. We believe its easier and less stressful to resource the front end rather than problem solve at the back end.

To demonstrate the lengths we go to we even produce a 'Jargon Manual' to help those new to the industry understand all the terminology.

- you can even search online if you are unsure!





Lindsey Garner Clarkson - Health and Safety Advisor - with the industry 'oscar' in 2011.



Receiving the G12 award in 2012

Manufacturing Prowess

Sector leaders like Ultraframe have a duty to lead. That's why we are passionate about the 3 'R's - reduce, reuse and recycle. Wherever possible, we look to reduce waste (including site packaging).

This drive to become more lean reduces our costs directly leading to further investment, innovation and value. In 2007 we won the Cranfield best Factory Award, in 2009 the Shigo Prize for Operational Efficiency and in 2010 the Best Finance Award.



At the glazing industry home improvement 'oscars', held in November each year, Ultraframe won 'Health and Safety Initiative' of the year in 2011 and won 'Retail promotional campaign of the year' in 2012



Darren Saunders (middle) receiving the Best Finance award from Lord Digby Jones of Birmingham (left).

Accreditation / Testing

In 1996, Ultraframe was the first roof system company to obtain British Board of Agrément approval for its products.

As we were the first in our sector, we worked with the BBA to define the testing regime that has now been adopted for all conservatory roof assessments. Ultraframe doesn't just rely on third party creditations, it undertakes its own testing on wind/snow loadings and of course durability/stability tests.

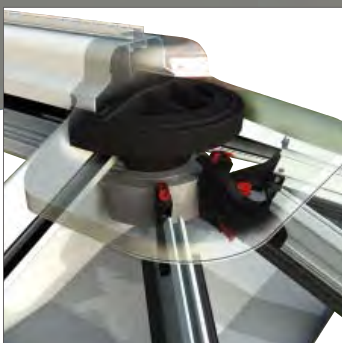
Ask to see the DVD of Ultraframes's roof being tested with 130mph winds.



The Classic main ridge can accommodate a pitch range of between 15-40° and 45° on gable designs, it is ventilated as standard through the ridge or wallplate. (see page 21 for further details)

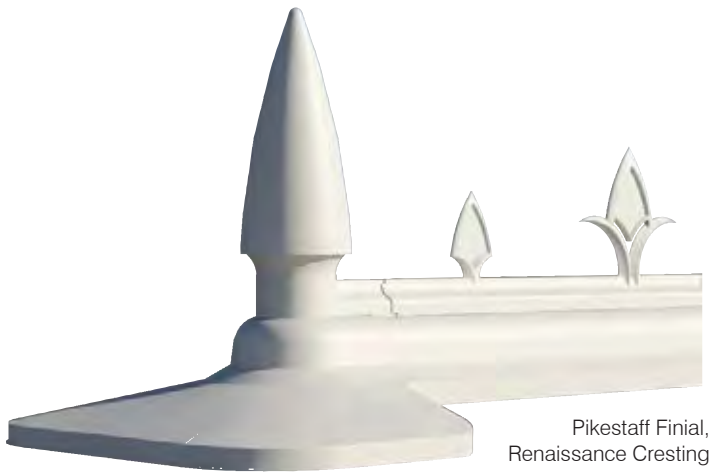
Features

At the intersection with the host wall, the Classic system features an integrated flashing trim to ensure rain water is shed away from this area. At the other end of the ridge, it features a geometrically correct 'hub' arrangement, which allows placement of glazing bars to create perfect alignment of the glazing material. Second generation speedloks take care of the engagement of the bars into the die cast aluminium hub. A weatherproof secondary 'tray' sits over the die cast hub and fits snugly under the PVC end cover.



PVC Crestings and finials

A choice of five different PVC finials and six crestings allows you to personalise the conservatory. Whichever style of cresting and finial combination chosen, rest assured the Ultraframe roof will be stylish and weatherproof.

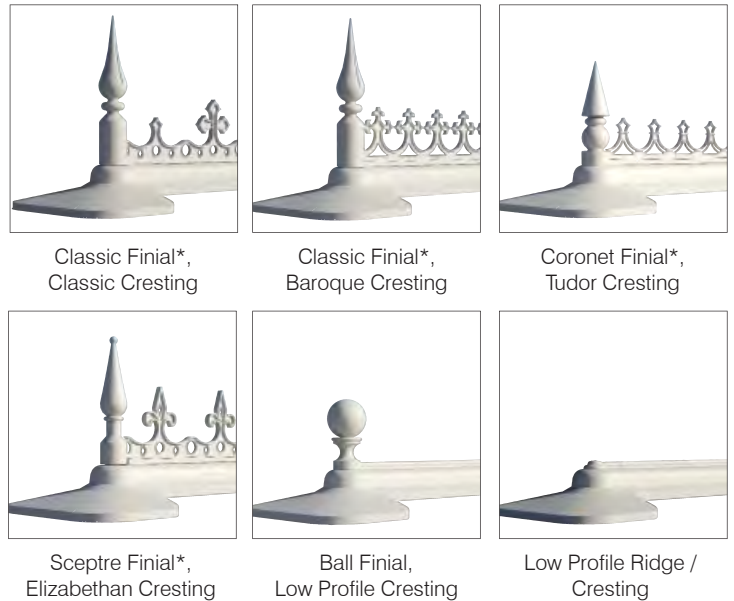


Pikestaff Finial,
Renaissance Cresting

The Pikestaff finial and Renaissance cresting feature

additional benefits over the other PVC finial/cresting options:

- EASY RUN - A streamlined body shape to help rainwater run off
- EASY FITTING - The cresting simply snaps over the existing track on the extruded ridge body, making it easier to fit.
- EASY CLEAN PVC which stays clean longer and makes cleaning easier.
- Whichever of the options you choose, they are included in the roof price.



Classic Finial*,
Classic Cresting

Classic Finial*,
Baroque Cresting

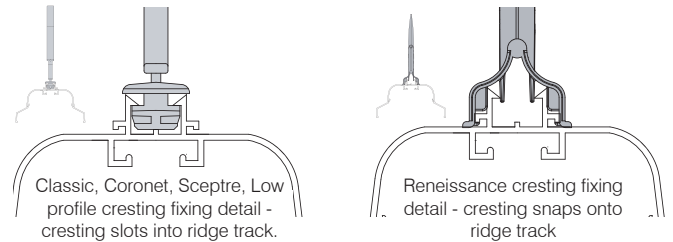
Coronet Finial*,
Tudor Cresting

Sceptre Finial*,
Elizabethan Cresting

Ball Finial,
Low Profile Cresting

Low Profile Ridge /
Cresting

Technical Specification



Classic, Coronet, Sceptre, Low
profile cresting fixing detail -
cresting slots into ridge track.

Renaissance cresting fixing
detail - cresting snaps onto
ridge track

Ventilated Half Ridge Assembly

This option is always specified on complex shaped roofs like 'P' or 'T' shapes. It can be specified for standard lean to roofs. (Upgrade option)



Wall Plate Assembly

Selected as standard (ventilated)
for basic lean to specification.

Unventilated low rise wall plate
for certain situations



Glazing bars exist as 'suites' - with different shaped bars for differing applications. The wineglass aluminium profile is designed for maximum torsional rigidity and to resist both compression and wind uplift forces. Light and heavy versions of the aluminium exist.

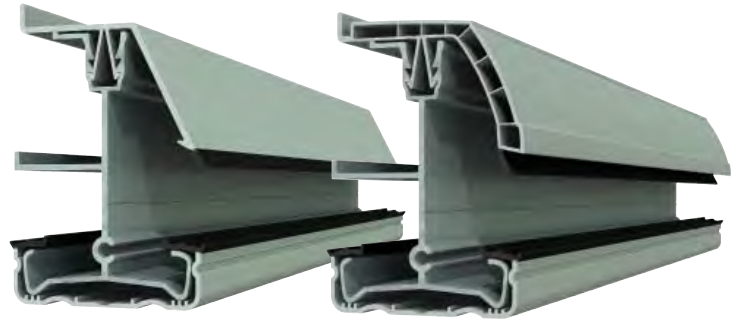
Specification

Glazing bars attach to the die cast aluminium ridge hub using Speedloks - click lock devices that allow speedy yet secure attachment.

The hub end can accommodate a maximum number of bars before the configuration software triggers the substitution of inter-rafters (see page 11).

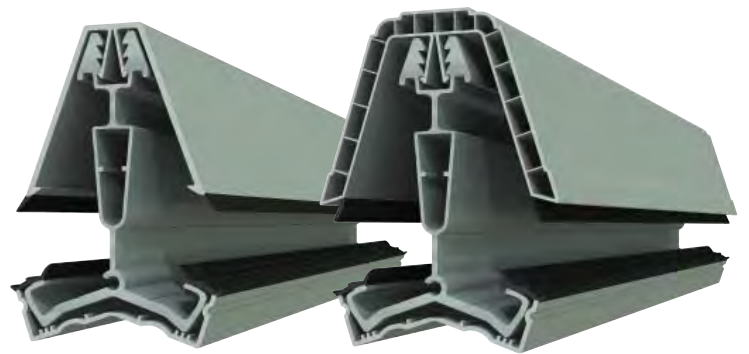
Onto the aluminium glazing bars can be attached varying designs of chambered external top caps or indeed different styles of internal undercladding.

The chambered top caps are more insulated than the standard single wall variants and are more resistant to the warping and twisting effect of solar heat gain, particularly when the roof is supplied in a dark colour. We would strongly recommend the chambered top caps.



Starter - Standard Capping

Starter - Chambered Capping (upgrade option)



Georgian - Standard Capping

Georgian - Chambered Capping (upgrade option)



Vic/Transom - Standard capping

Vic/Transom - Chambered Capping (upgrade option) - main picture features Dome, bevelled version also available see inset.



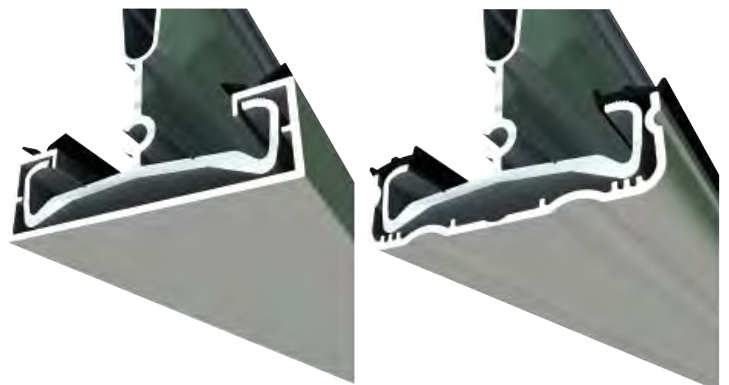
A twin bolt slides into the captivated bolt slot in the eaves beam, prior to the glazing bar being tightened down.



All glazing bars come in heavy and light versions



Bar with speedlok attachment - ensures perfect glazing alignment.



Standard - undercladding

Decorative - undercladding (no cost option)

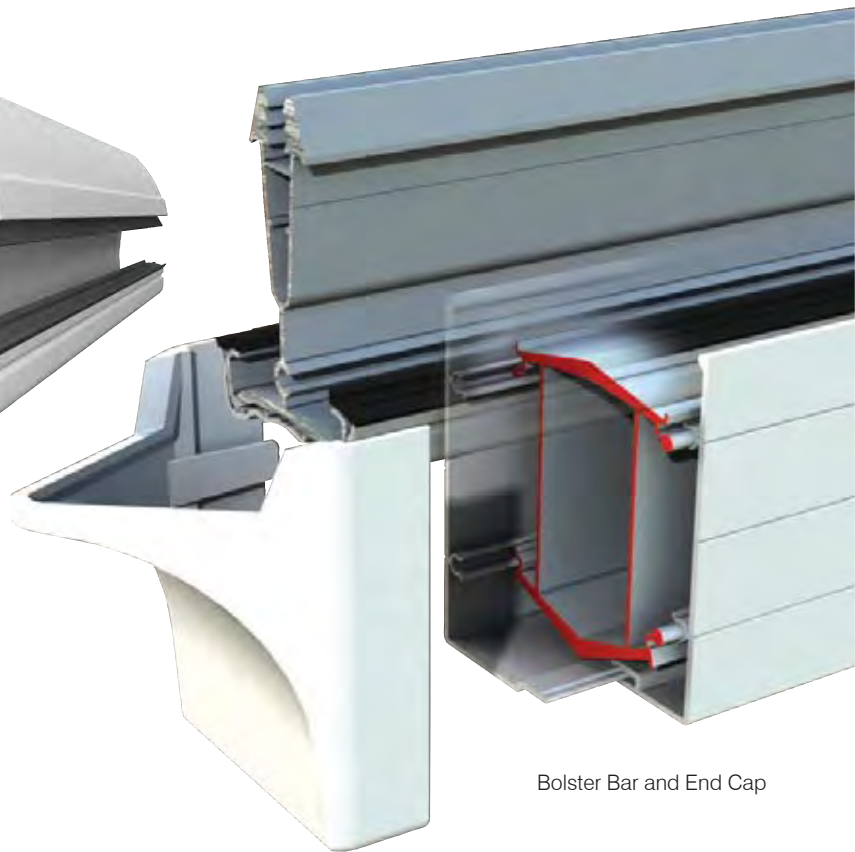
Re - inforced bars and Bolsters

Additional structural performance is needed in certain circumstances. Standard glazing bars can have steel reinforcement inserts.

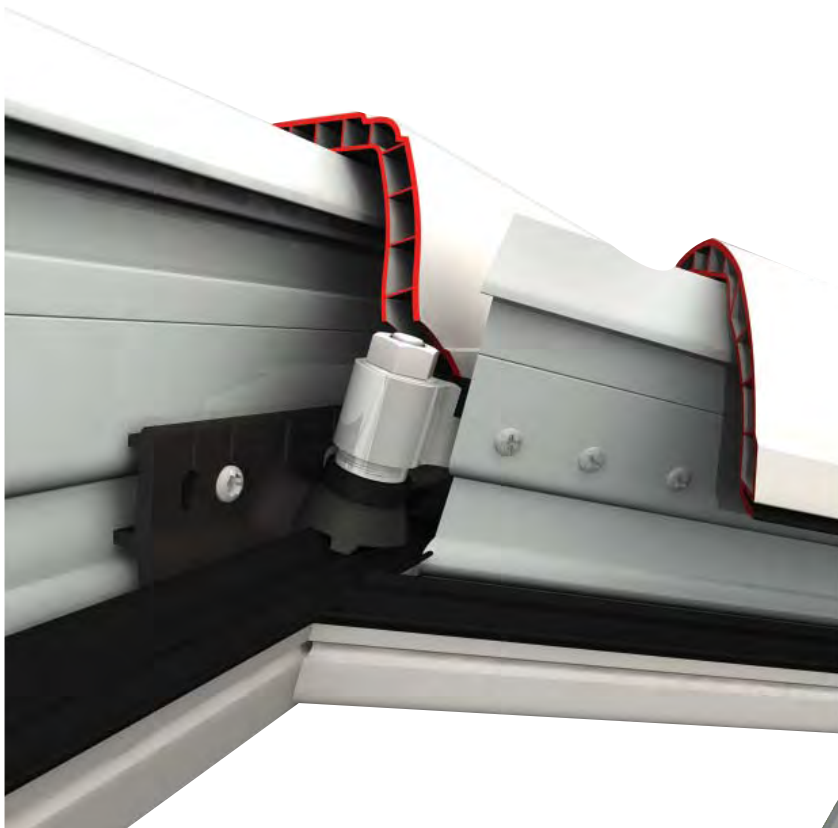


Reinforcement

A bolster is used when the conservatory span is too great for either the standard or reinforced glazing bar. This offers additional spanning performance of the glazing bar. The PVC cladding finishes shy of the ridge / wall plate and eaves and is finished with a PVC end cap.



Bolster Bar and End Cap



Jack Rafter

A key component in the long term performance of a Classic roof. Triple fixing of sleeved tenon provides robust performance. Joint design resists both positive and negative loadings.

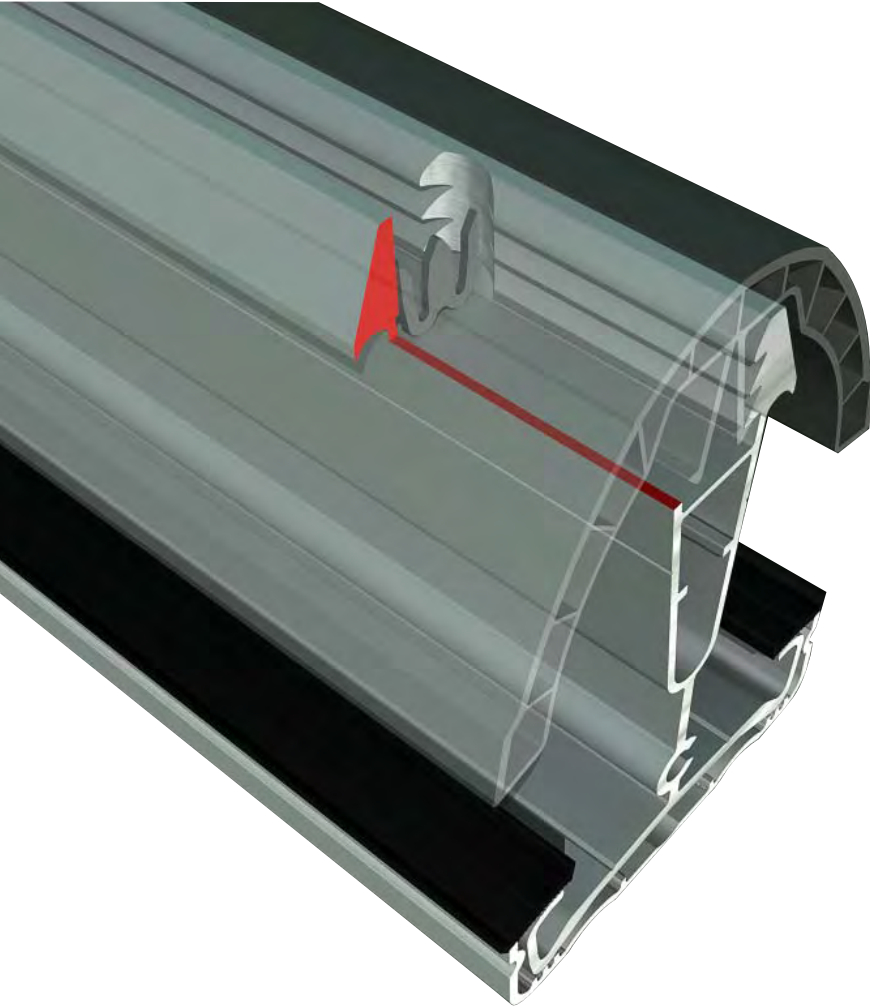


Inter - rafter

When the roof design calls for a large number of bars to terminate at the ridge, the inter - rafter is the solution.

The inter-rafter is a glazing bar that terminates shy of the ridge end, taking its support from two adjacent bars

A natural characteristic of a roof consisting of an aluminium core with PVC top caps is that these materials expand and contract by differing amounts. The anchor clip controls the point at which movement occurs to maintain the critical weather tight seal at the upslope (ridge) end to move at the bottom of the roof, in the gutter zone.



Whilst all roofing systems have this issue, Ultraframe are the only company to provide its customers with a tried, tested and patented solution to give long term peace of mind.

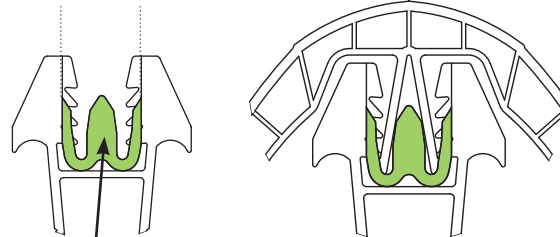
The Anchor Clip can be used with all of Ultraframe's suites of of pPVC top caps.

Anchor Clip Specification

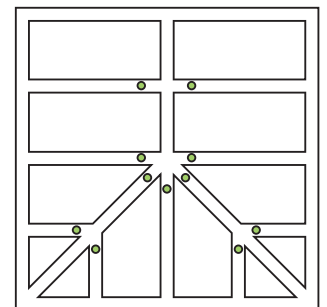
Anchor Clips are specified as standard and work in tandem with Ultraframe's existing product technology. Glazing bars are prepped at the ridge end of the slope by the factory insertion of a hole through the teeth in the aluminium bar into which is inserted a clip. The anchor clip grabs the barbs of the PVC top cap. Jack rafters are also fitted with anchor clips.



Factory inserted routed hole



Factory inserted Anchor Clip



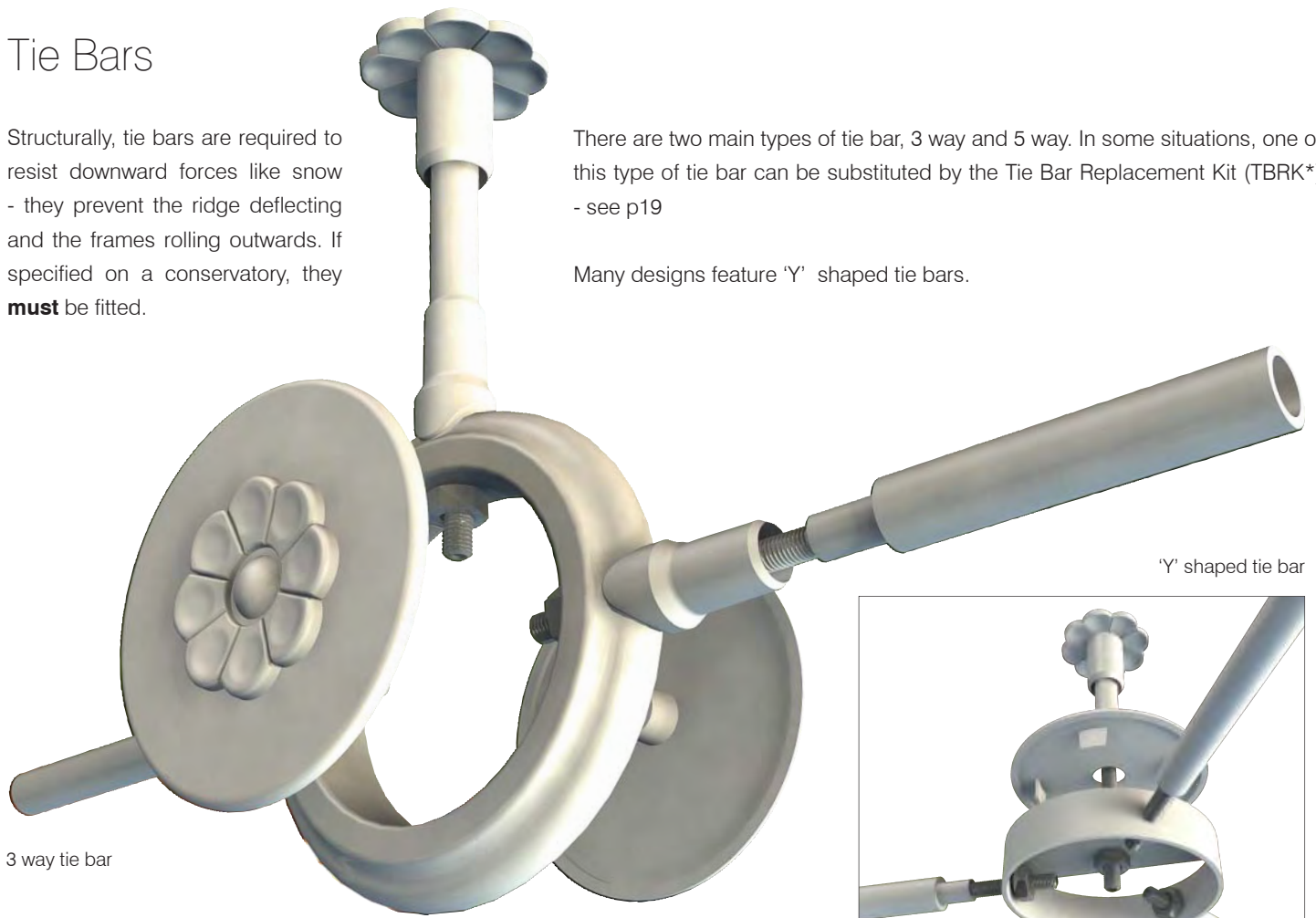
● Typical anchor clip positions

Tie Bars

Structurally, tie bars are required to resist downward forces like snow - they prevent the ridge deflecting and the frames rolling outwards. If specified on a conservatory, they **must** be fitted.

There are two main types of tie bar, 3 way and 5 way. In some situations, one of this type of tie bar can be substituted by the Tie Bar Replacement Kit (TBRK*) - see p19

Many designs feature 'Y' shaped tie bars.



3 way tie bar

'Y' shaped tie bar



Glazing Retention clips

Whichever type of glazing material is selected, retention clips are automatically specified to ensure that the chance of glazing panel slip is eliminated.



Sealed Unit Retention Kits

Polycarbonate Retention Kits



The standard eaves beam for the Classic System is a high strength one piece aluminium extrusion. It can accommodate pitches between 5° - 45°. See page 16 for a super duty version and page 17 for a version that can be used between 2½° - 5° pitch

Illustrated with Classic gutter, which is fitted as standard above 5°



Specification

The system can be used with window frames sizes starting from 58mm and the frames can be timber, aluminium or PVC.

To clad off the aluminium eaves beam is a standard 'V' groove fascia (shown across) which provides clean and simple lines - or upgrade option to the Ultraselect fascia and choose from 2 inserts. (see below)

The Classic system uses an 'ogee' profiled gutter along with proprietary clip fit gutter/eaves brackets. Square or round rain water down pipes can be chosen.

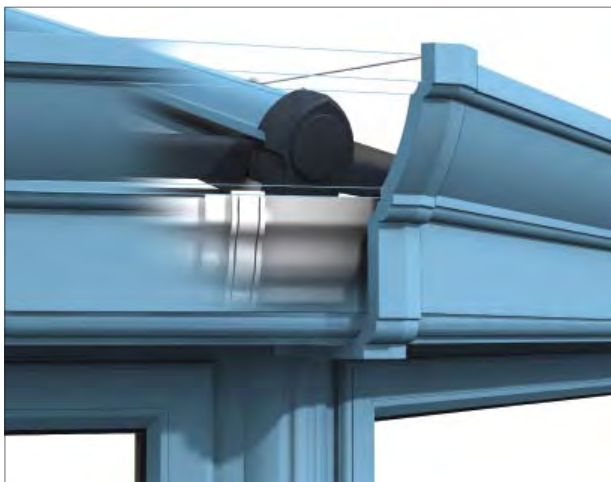
For those who want the ultimate in aesthetic options, the aluminium Cornice is available and hides the pvc gutter and glazing bar end caps.



A special eaves beam is specified on lantern roofs or when requested, for timber kerbed roof lights / atriums

Cornice

The Ultraframe Classic Aluminium suite is the only aluminium suite on the market which offers a decorative aluminium Cornice option using the existing gutter as a hidden 'liner'. Further enhancements to Cornice include a die cast 135 and 90 degree corner cover and straight jointers, which will help fitters achieve a consistent fit and finish at critical junctions.



Ultraselect Upgrade Option

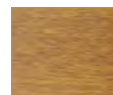
Personalise the interior decorative fascia board with the Ultraselect Tapestry infill - or choose the 'standard' infill

Tapestry

SFI003



Tapestry is also available in:-



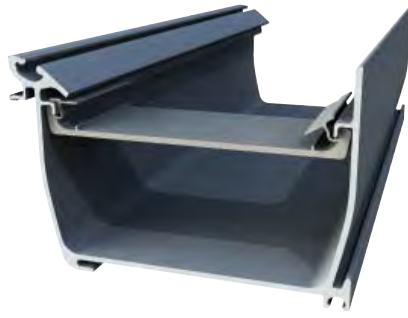
Light Oak



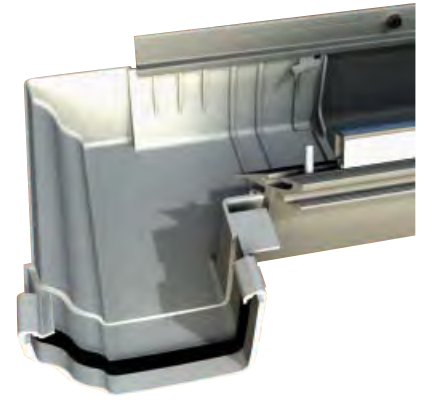
Rosewood / Mahogany

Box Gutters

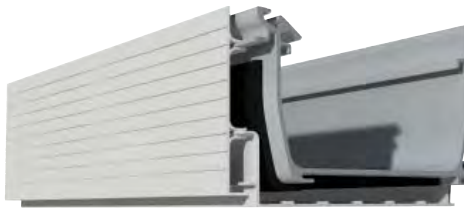
When a conservatory roof slopes backwards towards the host wall a box gutter is required. Ultraframe offers a choice of three main options:- 165mm standard, 265mm standard or custom design. The latter option is used when the design is particularly bespoke, with Ultraframe using every ounce of its design and fabrication expertise.



Gutter Strap Assembly



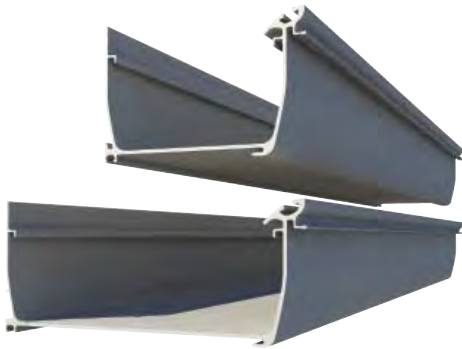
Boxgutter Adapter which comes with a measured 'shot' of Gutterbond sealant



Boxgutter with 'V' Groove Fascia



Raised Back Boxgutter - custom design



Top: 165mm Standard. Above: 265mm Standard



Boxgutter with Ultraselect Fascia and 'standard' infill

Support Specification

It is vital when box gutters are specified that - even at sales stage - the issue of providing adequate support is considered. Attachment to timber fascias alone is NOT sufficient and brick piers, gallows brackets and other hangers must be considered.

All of Ultraframe's box gutters are insulated to minimise condensation risk. Where box gutters are jointed, they are sleeved and bolted.

Injection moulded adapters are used to ensure seamless and watertight jointing between the Classic PVC gutter and the aluminium box gutter.

Each adapter comes complete with its own dry jointing gasket and measured 'shot' of Gutterbond proprietary sealant to ensure rapid completion even in the inclement weather typically found in the U.K.



Custom gallows brackets also available.

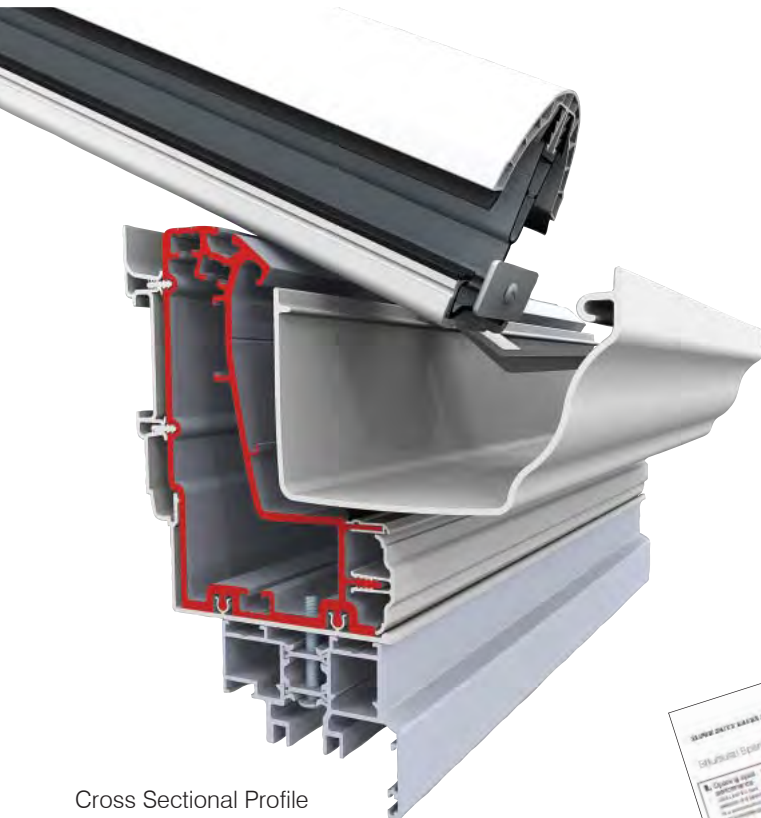


Gallows Bracket - off the shelf. Suitable for 165 or 265 boxgutters.

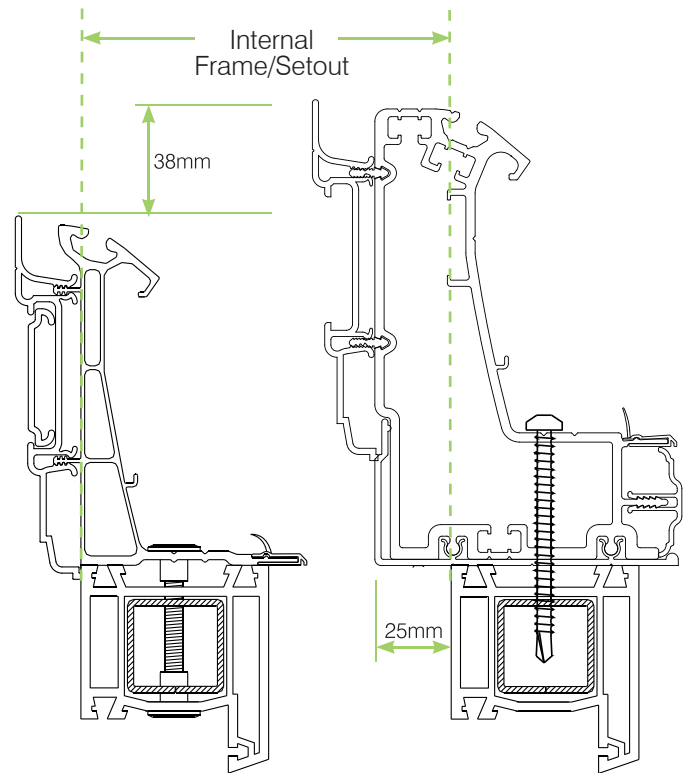


Hanger Bracket - alternative support for 165 box gutters.

The Super Duty Eaves Beam should be specified where additional spanning performance is needed, allowing confident specification of folding/sliding doors (or indeed any type of opening such as in-line sliders).

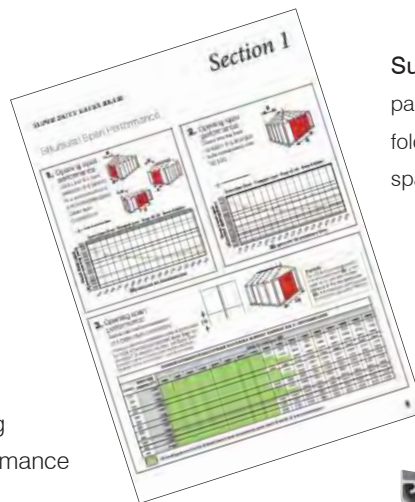


Cross Sectional Profile



Standard Eaves Beam - illustrated with Ultraframe's recommended means of installation, the Vic fixing kit (optional extra)

Super Duty Eaves Beam - Vic fixing kit is not suitable in this application



Super Duty Eaves Beam Charts - Refer to page 5 of the Super Duty Eave Beam & Aluminium folding/sliding doors Technology Guide for spanning performance.

Technical Specification

Super Duty Eaves Beam

- Structural 'beefier' aluminium profile that uses existing PVC components to clad and cap for optimum performance
- Sits 38mm taller than the standard eaves beam (remember this when calculating overall ridge heights).
- Needs to be specified all the way round the nominated conservatory and NOT simply on the facet into which the doors are to be fitted.
- Readily interfaces with box gutters and Gable Support Beam, to offer maximum integration and configurability
- Ultraframe's span charts need to be studied carefully BEFORE conservatory selling and design starts... the elevation into which the doors are to be fitted, the style of conservatory and the 'span onto' dimension all affect the maximum allowable width of opening when using the Super Duty Eaves Beam.
- If a conservatory design requires an opening width greater than that which can be offered with the Super Duty Eaves beam, then a portal/goalpost arrangement will be needed – Ultraframe can provide a custom solution.



If the loading conditions are more onerous than the Super Duty Eaves Beam can cater for, a goalpost arrangement is then specified

THE CLASSIC SYSTEM - LOW PITCH EAVES

if the Classic roof is required between 2.5 - 5° pitch, then in place of the standard Classic eaves beam it uses one that sits lower. It features a simple 'flowline' gutter too in place of the standard 'ogee' gutter.

Technical Specification

Low Pitch Eaves Beam

- For use between 2.5° to 5°- can be specified up to 10°
- Structural firrings at 2.5° and 5° are available
- Suitable for raked frames too



THESE ITEMS RELATE SPECIFICALLY TO THE LOW PITCH CLASSIC:

Structural Firrings

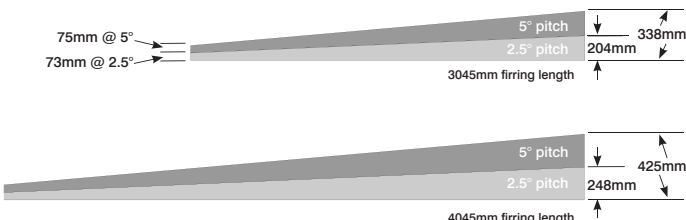
Ultraframe have gone one step further with these ready assembled interlocking profiles that not only fill the 'hole' between the side frames and the roof but which add substantial support to the whole structure particularly when doors are in the end elevations.



Steel reinforcement to each side is 'stage two'.

Aluminium box section is 'stage one' reinforcing.

- Available at 2.5° and 5° pitch in 3045mm and 4045mm lengths - these need to be cut to length on site.*
- The firrings consist of a series of inter connected/locking PVC profiles that are supplied pre-fabricated.
- Firrings are supplied in different 'conditions' to suit various projections and applications.
- The 'flowline' guttering can be clipped to the furring allowing the guttering to run along the front and sides of the conservatory. This can save the need for a soakaway as the guttering can be routed back to the house and rain water dispersed down the dwelling's existing fall pipes.



Box gutter specification

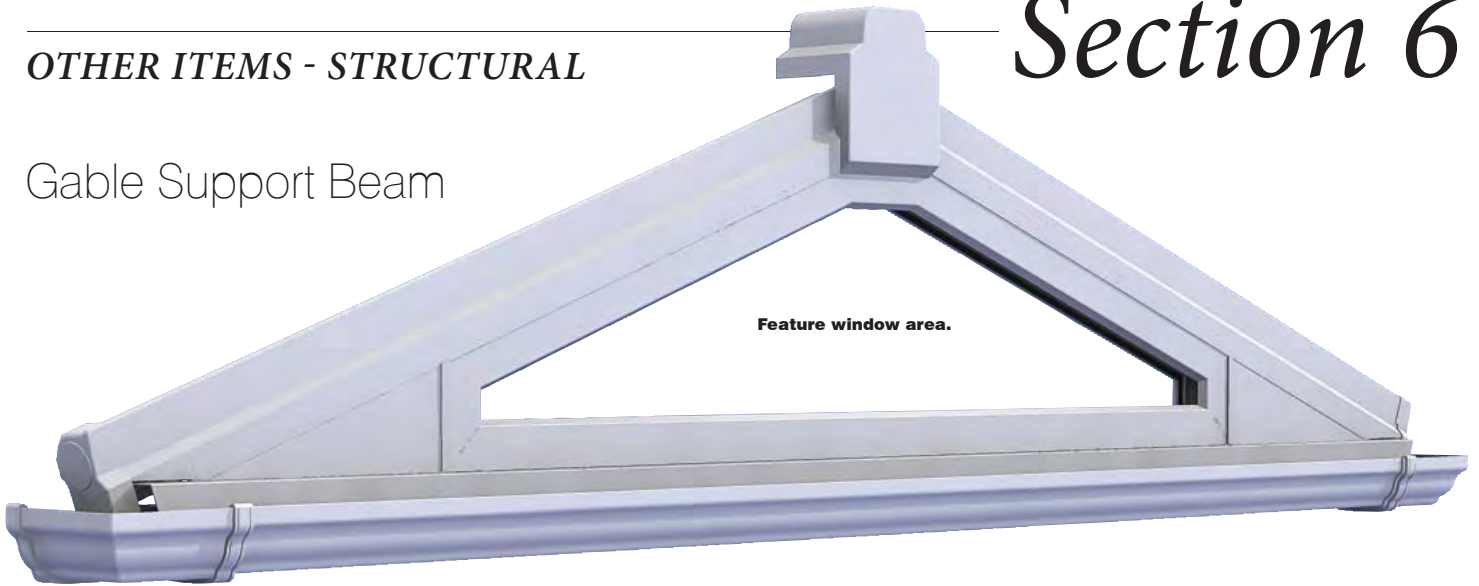
When there is insufficient height under the bungalow soffit it may necessary to utilise a box gutter with an extended leg and flange to gain extra height.

In these situations, the box gutter MUST be supported by brick piers or gallows brackets.

Always speak to the Ultraframe Technical Support Team about the correct design/specification in this area - the box gutter and structural gallows bracket are priced on a project by project basis.



Gable Support Beam

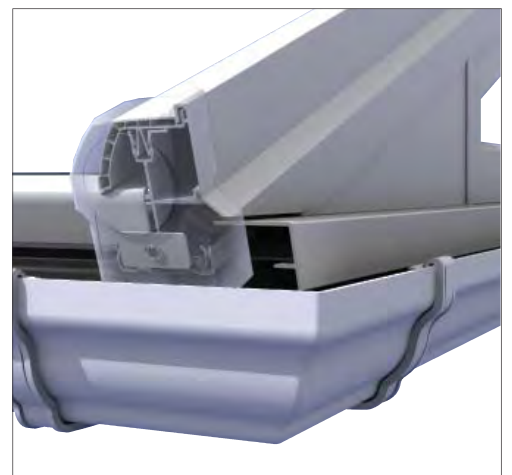
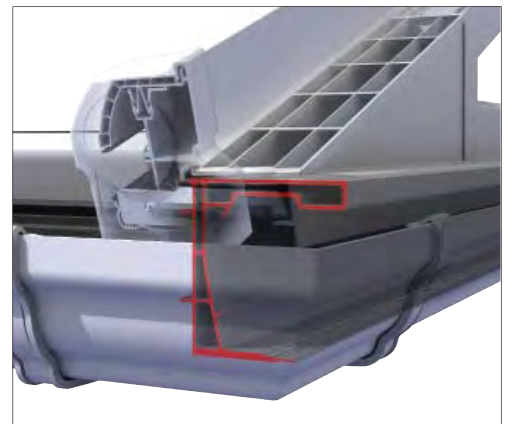


The Gable conservatory is ever more popular as it has a square front to maximise floor space for the homeowner whilst it has an interesting large infill window, into which feature designs like 'sunbursts' can be installed.

When doors are placed beneath a gable frame, additional structural support is needed to ensure frame wobble/deflection is eliminated.

The Ultraframe Gable Support beam interfaces with the standard Classic Eaves Beam to create one holistic structural 'collar'. It comes complete with 'cheese wedge' infills to ensure neat detailing.

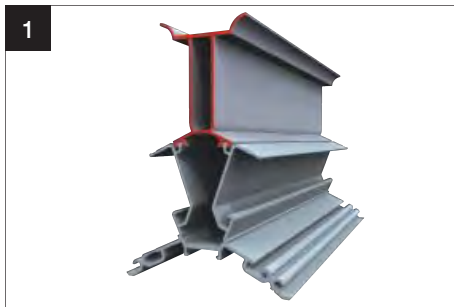
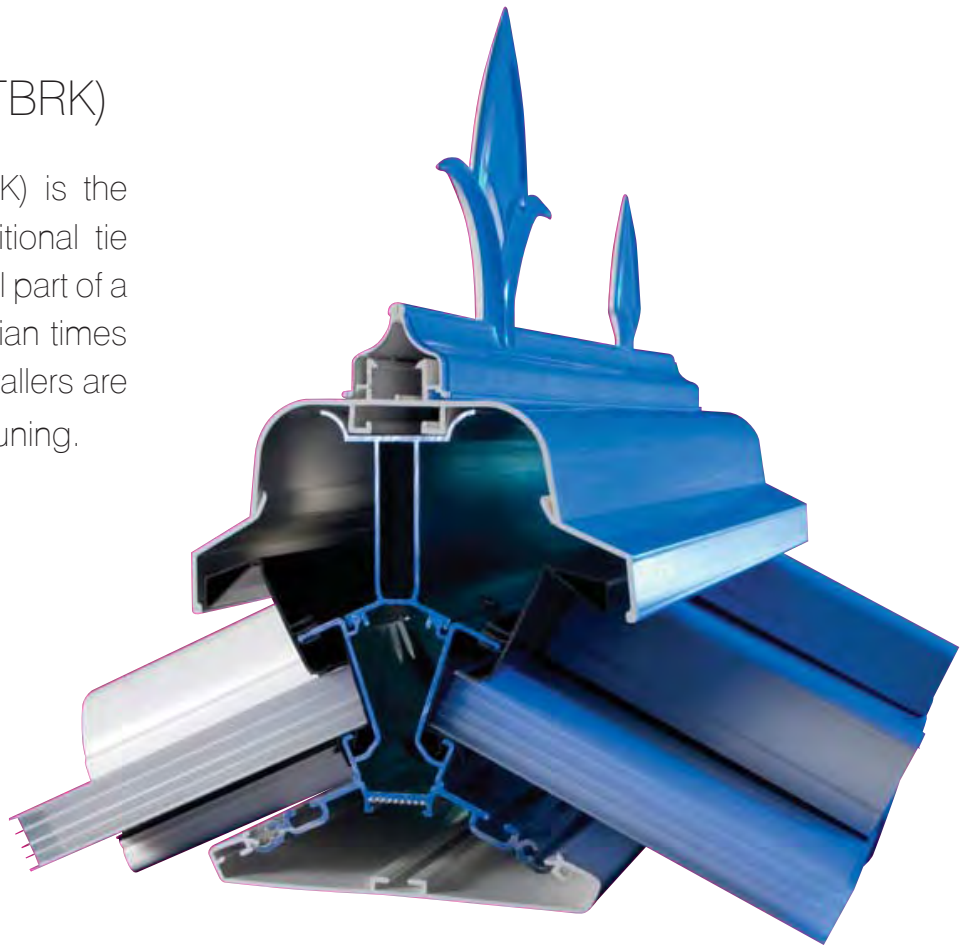
Ultraframe strongly recommends this upgrade option to be used on gable designs.



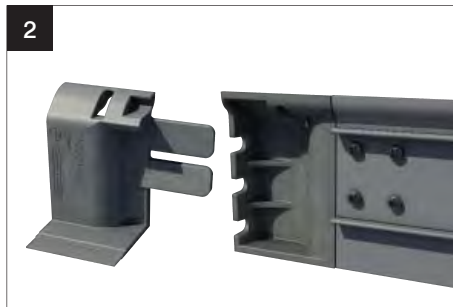
Tie Bar Replacement Kit (TBRK)

The Tie Bar Replacement Kit (TBRK) is the UK's only effective solution to traditional tie bars. Tie bars have been an essential part of a conservatory installation since Victorian times and conservatory designers and installers are well versed in their fitment and fine-tuning.

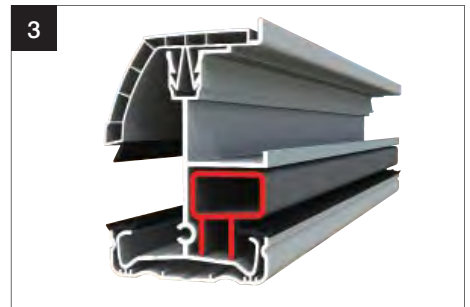
The TBRK features new state-of-the-art technology. To replace a tie bar* (some larger conservatory designs feature more than one tie bar - TBRK can only ever replace one) five special product measures are additionally specified by Ultraframe at the time of ordering.



1 An aluminium bolster beam extends along the entire length of the ridge and acts as one with the existing aluminium ridge body to virtually eliminate deflection.



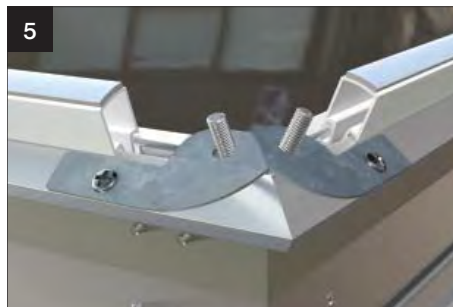
2 Cast aluminium 'end stop' on the eaves beam featuring integral slots for two anchor bolts to hold the conservatory to the host wall even more securely.



3 This short piece of reinforcement in each starter bar ensures that three anchor bolts are drilled into the host wall, when the reinforcement prevents the aluminium bar being crushed under excessive torque. It also ensures that additional reinforcement is offered where the bar intersects the eaves beam.



4 A 'Ridge Compression Plate' sits at the end of the aluminium ridge body where it joins the house wall - this distributes compression forces across the host wall and allows installers to assemble and suspend the starter bars prior to attaching the main ridge body.

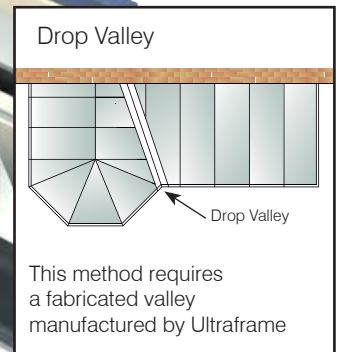
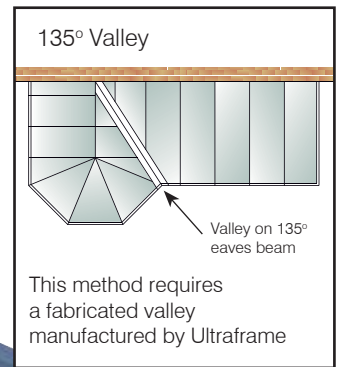
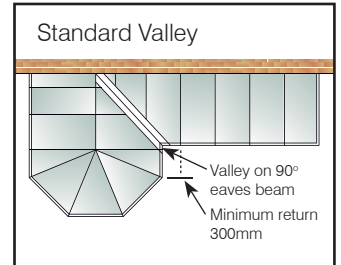


5 An additional cleat is inserted in the eaves beam corners (making two cleats in total) whilst this is backed up by a further butterfly cleat (illustrated).

*TBRK cannot replace tie bars in these situations - gable fronted designs 'Y' shaped tie bars - where they terminate on valleys.



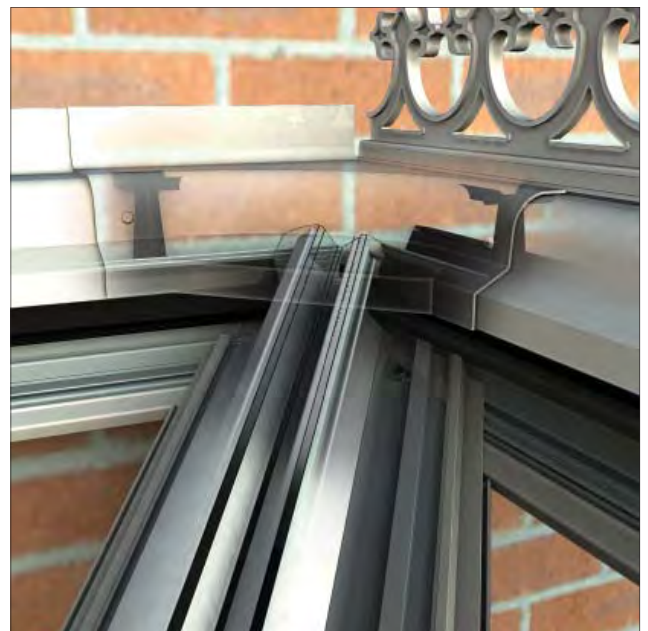
Valleys can be designed / used in the following ways:



The Valley is a heavy weight structural component that drains two adjacent glazed roof slopes and connects to the eaves beam and the ridge.

When glazing bars connect to the valley they use sleeved tenons to create strong joints - construction detail is the same as the jack rafter on p11

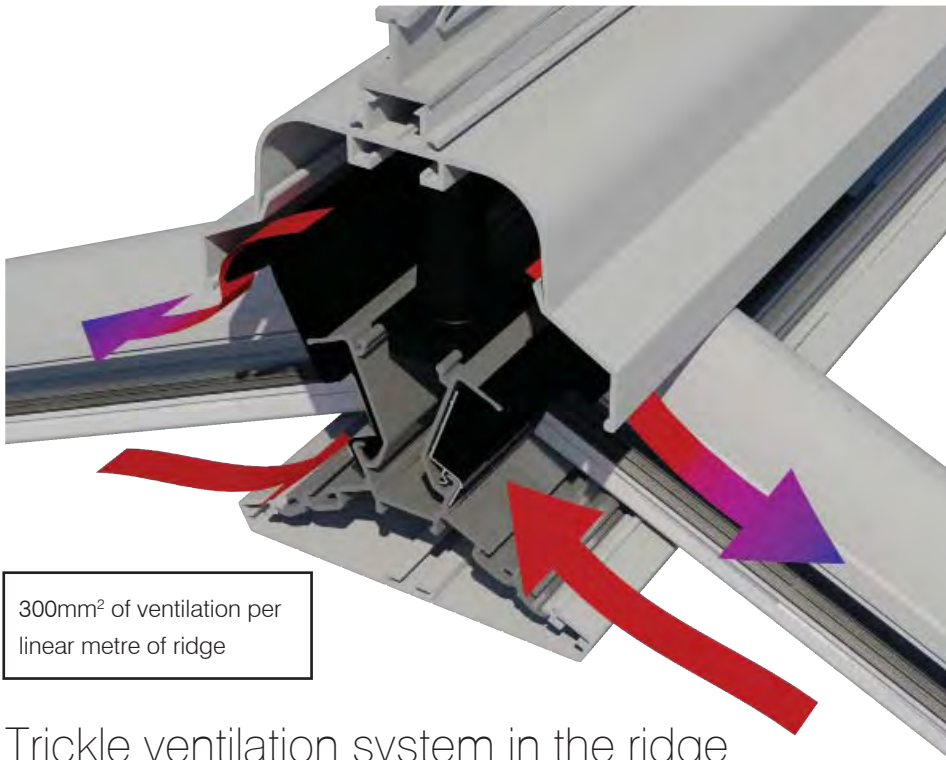
Triple fixing of sleeved tenon provides robust performance. Joint design resists both positive and negative loadings.



OTHER ITEMS - VENTILATION

Section 7

It is vital to the maintenance of a comfortable environment - ventilation is often overlooked by both consumers and manufacturers, but not Ultraframe, who are still the only conservatory roof brand to offer in built trickle ventilation as standard.

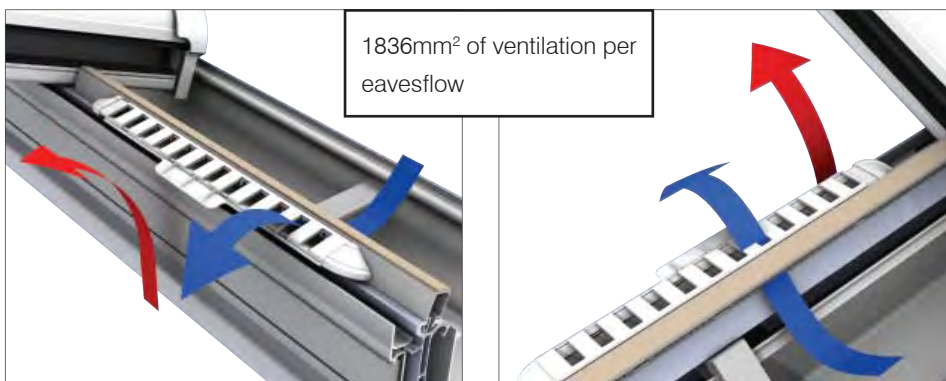


Trickle ventilation system in the ridge

Harnesses natural upward movement of warm air to carry stale, moist air to the roof apex for venting outside. This is standard in all duo pitch (Victorian, Georgian, Gable etc) Classic roofs. A version of this feature is included in the wallplate in lean to designs.

Eavesflow

This is an upgrade option (but standard on rosewood and light oak woodgrain foils). Eavesflow sits within the eaves beam, introducing clean fresh air to replace the warm moist air that exits through the ridge. (Eavesflow can be specified with the non - ventilated wallplate as an upgrade option.)



- The glazing support trim is punched and into this clips Eavesflow ventilation to provide an additional source of fresh air and complements the unique built-in ridge or wallplate ventilation system with slider controller for on/off regulation.

Opening roof vents

Roof vents can be specified with a pole operated screw jack mechanism or you can opt for a full climate control package of rain sensor and thermostat.



Pole operated screw jack mechanism



A climate control package is available to automate the roof vent.

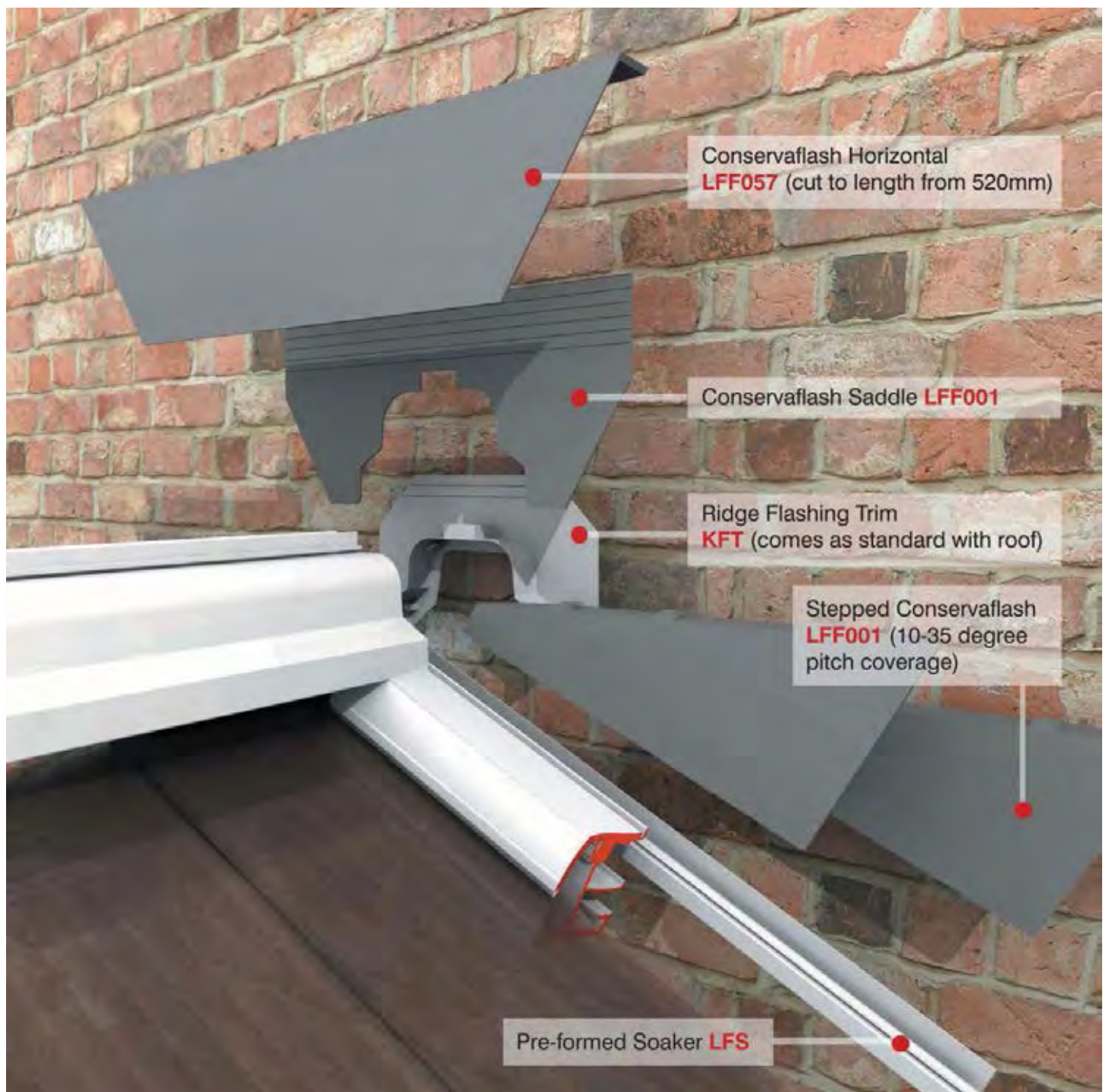
Conservaflash™ is a pre-formed PVC flashing system that will change the way you install.

Conservaflash™ is an engineered product offering professional results - in a flash! It is also covered within Ultraframe's BBA Certificate. Conservaflash™ can be specified when a roof is ordered and a pre-configured flashing pack will be delivered with the roof. Ultraframe Conservaflash™ can be specified when the host wall is of brick construction.

Specification

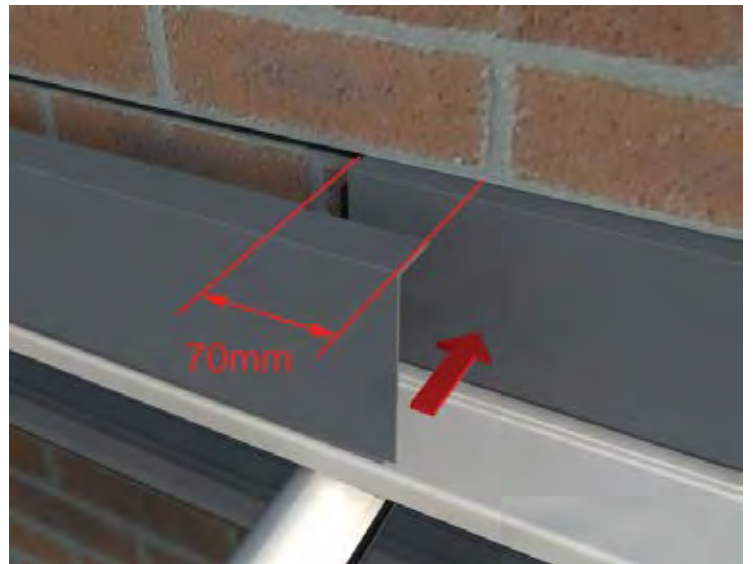
Conservaflash™ is manufactured from PVC and comprises:

- Extruded soaker that is pre-clipped into the starter bar.
- Stepped flashings, incorporating weather bars, for 5 different pitch ranges
- Universal horizontal flashing for lean-to's and aprons on duo-pitch roofs.



Features & benefits

- Save money when compared to buying lead.
- Save at least an hour on each installation.
- An engineered solution - each and every time.
- No waste - precise amount supplied.
- Comes with the roof - an integrated solution.
- Convenient, pre-packed with no environmental risks.
- Suitable for duo pitch and lean to 'gable to gable' designs.



Lean-to installation

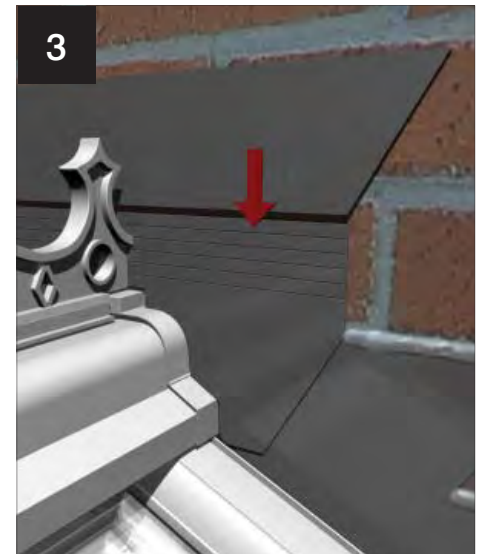
Installation overview



1 Apply 2 beads of silicone to integral weather-bars - insert into 35mm slot

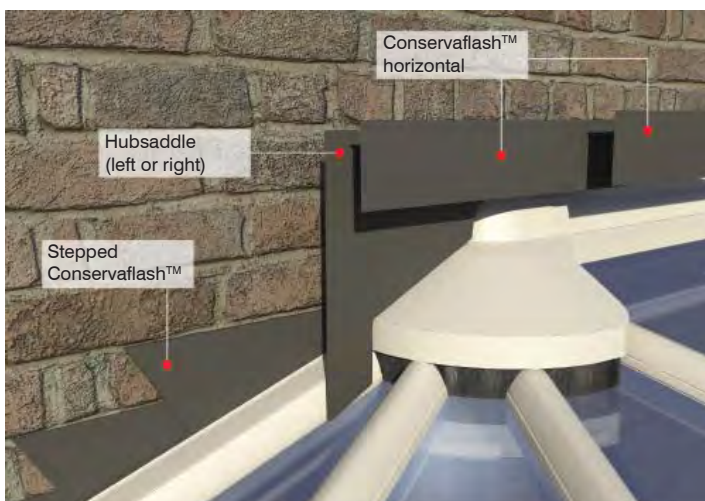


2 'Butter' with silicone and fit pre-cut saddle trim.

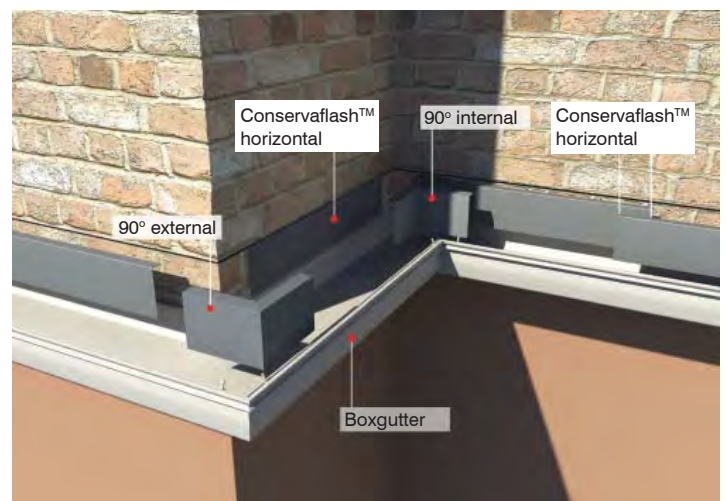


3 Offer up the horizontal flashing and cut ends as appropriate.

Coming soon



Saddle for halfridge hub ends



90° external / internal corners for boxgutters

When designing your conservatory, the choice of a glass or polycarbonate roof is an important one. To enable you to use your conservatory all year round, you need a glazing material that deflects heat from the sun in the Summer and retains the warmth from heating appliances in the Winter. You may also want a material that allows maximum light into your home.

Ultraframe Polycarbonate

Available in a wide range of specifications, colours and thicknesses, to suit your budget, your chosen conservatory colour and the position and orientation of the conservatory, polycarbonate is a lower cost alternative to glass and it can be treated to offer excellent solar protection and thermal properties, but this is at the cost of light transmission.

Properties

Polycarbonate is a very popular glazing material for conservatory roofs as it is lightweight, durable and exceptionally strong – up to 200 times stronger than glass and virtually shatterproof. All polycarbonates work to lessen the glare and heat from the sun to ensure that your conservatory can be as comfortable as possible all year round.

The standard range of polycarbonate thicknesses is 25mm or 35mm, with a colour choice of clear, bronze, opal, bronze/opal and solarguard. All are designed to reduce glare and minimise solar heat gain. Bronze/Opal gives a bright internal appearance even on a dull day, reduces solar heat gain and provides privacy. Solarguard limits the potential for heat build-up within the conservatory, whilst allowing light to enter the roof, deflecting solar radiation and reducing solar heat gain by up to 50%, when compared with conventional polycarbonates.

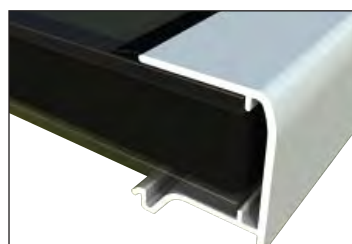
Benefits of the range

- Testing to Class 1 Spread of Flame Protection
- 10 year warranty for light transmission & breakage
- Superb thermal efficiency and strength due to the multi-wall construction

Details - Common to polycarbonate and sealed units



PVC Muntin Bar - joins long sealed units together



PVC End Closure Detail - creates additional protection at the gutter end of the glazing panel

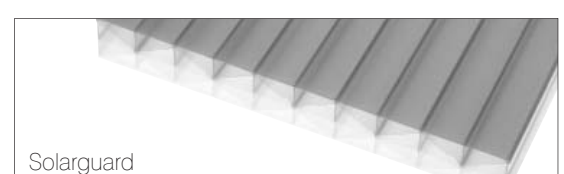
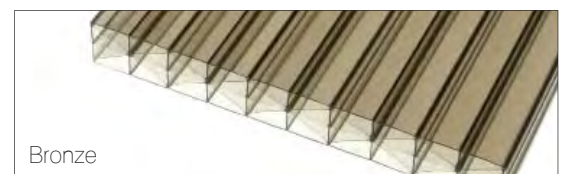


Glazing Material Retention Clips - Sealed Units Polycarbonate
See page 13 for further information



Colour options

Check out our ECO ROOF - using a double layer of polycarbonate! See page 28 & 29.



One call gets it all...

- Confidence by ordering from one source
- No mis-measures, split responsibility or waiting for glass sizes
- 5-7 day lead time - Pilkington glass used
- Dedicated roof glass factory - we know shapes!
- Delivered to your premises or site on special smaller vans
- All units are 4-16-4 toughened, gas filled and come with silver aluminium spacer as standard (bronze, dark bronze, gold & white also available)
- Option to have black warm edge spacer - add £3m²

Self Cleaning

- True self cleaning
- Keeps out nearly three quarters of the sun's heat energy
- Choose from:
 - Pilkington Activ in blue or neutral (solar control)
 - Pilkington Activ clear (NO solar control)
 - Saint Gobain aqua green (solar control)

Anti Sun/Clear

- Choose Anti Sun blue, grey, bronze or standard clear units
- Option of soft coat low e (1.1) or K glass (1.5) on the inner leaf
- Gives you varying performance characteristics at value price points

Ultraframe Sealed Units (4-16-4)

Code	Self Cleaning				Anti Sun (1.1)			Anti Sun(1.5)			Clear	
	SB	NC	NEW CL	NEW GR	A1	A2	NEW A3	B1	B2	NEW B3	C1	C2
Colour	Activ Blue	Activ Neutral*	Activ Clear	Aqua Green	Blue	Grey	Bronze	Blue	Grey	Bronze	Clear	Clear
'U' value	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.5 (K)	1.5 (K)	1.5 (K)	1.1	1.5 (K)
Solar Rejection	64%	63%	41%	73%	60%	57%	56%	55%	49%	47%	37%	28%
Light Transmission	52%	44%	75%	40%	57%	50%	54%	53%	47%	51%	80%	75%
Self Cleaning	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No
Spacer (Aluminium)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gas (Argon)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24mm* (4-16-4)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10yr Guarantee	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Neutral coating gives a slightly grey appearance

Ultraframe Polycarbonate

Polycarbonate Sheet	Light Transmission		Solar Rejection		U Value Wm ² K ⁻¹		Shading Efficiency	
	25mm	35mm	25mm	35mm	25mm	35mm	25mm	35mm
Clear	65%	51%	37%	45%	1.7	1.3	73%	72%
Opal	31%	29%	63%	65%	1.7	1.3	42%	41%
Bronze	24%	11%	74%	86%	1.7	1.3	30%	27%
Bronze / Opal	11%	18%	84%	78%	1.7	1.3	18%	17%
Solarguard	5%	8%	92%	92%	1.7	1.3	9%	9%

Light Transmission Percentage of light transmitted through the polycarbonate sheet.

Solar Rejection The proportion of the sun's energy that is transmitted through the sheet. The lower the percentage the better it is.

U Value Wm² K⁻¹ A measure of how good the material is at preventing heat loss to the outside. The lower the figure, the more thermally efficient it is.

Shading Efficiency The lower the figure the more shade is created.

Colour applied correctly has a profound positive effect on your wellbeing. It strongly influences how we interact with each other and our surroundings... so do you stick to conventional conservatory colours and finishes or do you choose something different?



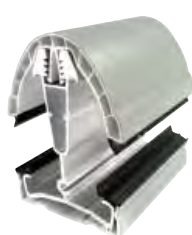
Coloured Foil Roofs are available in the following colours:



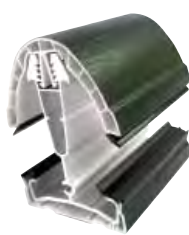
White
Paint matching:
RAL9003



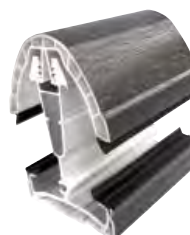
Cream
Paint matching:
RAL9001



Sage Green
Paint matching:
BS14C35



Fir Green
Paint matching:
RAL6009



Grey
Paint matching:
RAL7016



Ebony Black
Paint matching:
RAL8022



Irish Oak
Paint matching:
RAL1011

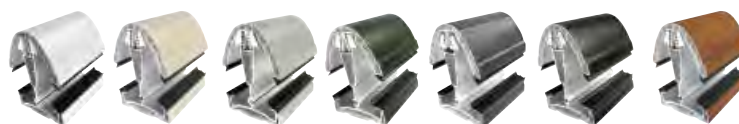
Colour options

These PVC conservatory roofs feature major parts that are actually foil laminated, with only a minority of parts actually painted.

The foil laminated products used on major items in the PVC roof and on the PVC side frames, have a real woodgrain texture to add a further dose of character. The products can be coloured one side or both, with the possibility to mix colours between the outside and the inside.

- Many major parts are coloured foils.
- A viable alternative to powder coated aluminium
- Matching PVC side frames in the same foil colours are widely available in the market
- The perfect complement to painted side frames on timber conservatories
- Can't see the colour you want?
Ask for a bespoke colour and we'll paint the roof.
- For full specification on which items are foiled / painted, please see overleaf.

Coloured foiled product chart



Item	Supplied Foiled*	Supplied Sprayed
Glazing Bar	Top Cappings Internal Claddings Bolster Covers Lean-to Cloaking Trim Muntin Bars Glazing End Channel End Caps	
Eaves Beam	Internal Cladding (PFTB) End Channel	Polysupport - To Internal Colour Under Gutter Trim (White on white roofs & black on other colours, if gutter is sprayed, UGT is supplied in matching paint) Internal Fascia Corners
Ridge	Undercladding and internal radius end Internal Half Ridge Undercladding Vented Wallplate Internal Vented Wallplate External External Ridge Capping* and radius ends Internal Radius Ends External Radius Ends	Pikestaff Finial Low Profile Finial Low Profile Cresting Renaissance Cresting Ball Finial External Half Ridge Capping Flashing Trim Half Ridge External Radius Ends Half Ridge and Vented Wallplate End Caps Gable End Cappings
Gutter		White Marley Classic Gutter on white roofs Black** Marley Classic Gutter on other standard colours Coloured Marley Classic Gutter (Supplied at Additional Cost)
Valleys	Internal Claddings	External Cladding
Box Gutter	Undercladding	Multiboard - Raised Back Box Gutters Adaptors
Roof Vents	N/A	Sprayed. Motors are white on white roofs and black on other coloured roofs.

Specification/notes

Dome chambered cappings supplied as standard.
Choose from low profile, Renaissance cresting and Pikestaff or Ball finial.
Suitable for 24mm glazing.
A chrome tie bar is specified on internally coloured roofs. White tie bars are used on white foiled roofs.

A coloured conservatory consists of foiled and painted parts. Every effort is made to ensure gloss levels are within reasonable tolerance. RAL and BS colour references are made in good faith - always give a sample swatch to your supplier when ordering any other parts (frames, cills etc) to match.

* On a white foiled roof, the only parts available foiled are glazing bar top caps, undercladdings, PFTB internal cladding, ridge undercladding, valley internals, box gutter undercladding, vented wallplate undercladding, half ridge undercladding, end channel, muntin bars and lean-to cloak trim. Remainder is standard body colour white.

** Black Marley is RAL9005



Carefully chosen colours create a space that works best for you and your home. Consider this...

- Black: powerful, sophisticated, elegance
- White/cream: calm, clean, sophisticated
- Green: harmony, balance, renewal
- Grey: calm, secure, reliable
- Brown: stable, comforting, enduring

The Ultraframe roof system is truly configurable, that's why we can undertake more shapes and styles than any other system - in fact, it's why we are market leader.

Pagoda

By having an intermediate beam at right angles to the roof slope, we can create a stunning design and allow the use of differing glazing materials 'North and South' of the beam. The beam allows the roof to be used on even bigger conservatories before a portal frame is needed to give additional support.



Woks

Why the weird name for this style? Because the ridge end caps look like the large pans used to cook chinese food! There can be full woks (360°), half woks or quarter woks. A further demonstration of the configurability of the Classic roof.



Full Wok



Quarter Wok



Three Quarter Wok



Lanterns

Similar to a Pagoda, where a roof slope is split in two, but with an extra row of windows mid slope. Stunning on certain period homes.



All standard conservatory's make do with just one layer of polycarbonate roof glazing or one sealed unit – Utopia features a 'double-double' layer to bring the U-value (a measure of thermal performance) right down from around 1.7 to only 0.53*.

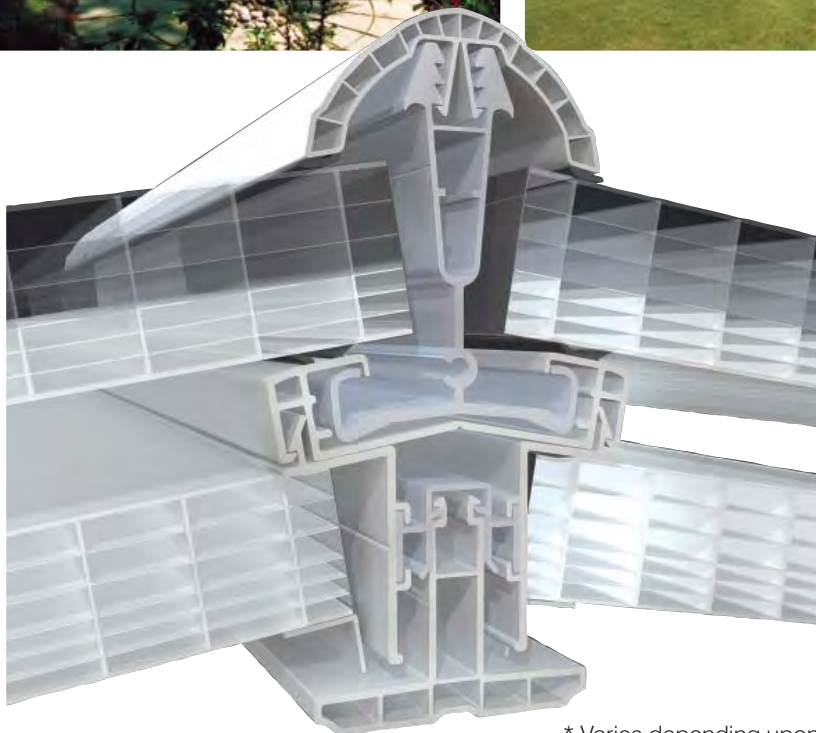
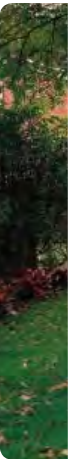
The Passivhaus Institute – the provider of eco design guidance to Europe's home builders – sets the maximum target for U-values in windows/glazing at 0.8, and so Utopia easily beats this. Which means fewer draughts as cold air is drawn around, and so a more comfortable and habitable room is created.

Ultraframe is a leader in transforming light and space and it's Utopia eco roof technology can be used for your planned conservatory. Most styles and designs of conservatory will benefit from this unique energy saving technology.

Standard Roof



With a roof 'U' value of around 1.7 cold draughts circulate close to the glazing, limiting comfort to the middle of the roof. Heating this roofspace – even with these limitations – costs £318 a year and uses a ghastly 2085 kilowatt hours of energy.



Utopia Roof

The eco roof has a typical 'U' value of 0.53*, so cold and draughts are virtually eliminated and the whole of the room feels more comfortable.

Therefore, the roof only needs 788 kilowatt hours of energy to heat – a massive 62% less than an ordinary roof – saving you hundreds of pounds.

Also, as it screens out the sun's solar energy, it doesn't overheat in summer either, leading to 365 days of comfortable use.

* Varies depending upon roof size and design

Better for the environment

We all want to do our little bit for the environment. From recycling to home insulation, there are so many ways to 'green' our homes and build a sustainable lifestyle.

And here at Ultraframe - as the leading designer and manufacturer of conservatory roofs - we're making big strides too. The Utopia roof is the latest in environmental technology, so if you want a conservatory that can be used all year round, there are even fewer compromises to make.

Energy saving and 365 days per year usage – the best of both worlds and it's not costing the earth.

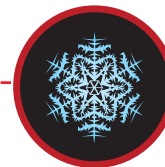
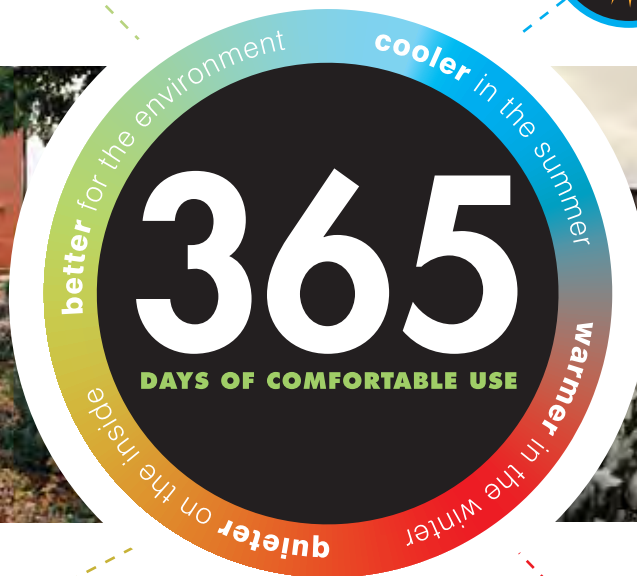
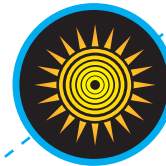


Cooler in the summer

Conservatories not fitted with the Ultraframe Utopia ecoroof overheat in summer because they admit large quantities of solar heat or 'short wave radiation'.

Conservatories fitted with the Ultraframe Utopia ecoroof screen out 97% of this solar energy, allowing even more hours of use in the summer months.

Manufactured with 35mm Heatguard polycarbonate externally and 32mm opal polycarbonate internally, the sun's solar energy is better reflected than the highest performing glass, extending usage in the summer months and not only keeping you cooler, but preventing dazzle and glare and reducing the fading effects on your furniture.



Quieter on the inside

The double layer polycarbonate system also provides a barrier to external noise transmission, allowing for a quieter and more peaceful internal environment, making it an ideal alternative to solid roof/tiled extensions.

Warmer in the winter

Unlike your neighbours who have an ordinary conservatory and so have limited use throughout the winter, when you ask for the Ultraframe Utopia ecoroof you'll be as comfortable in January as you are in June.

How does the Utopia ecoroof manage this miraculous feat? Compare it to the duvet on your bed, which is filled with lots of pockets of air – the ecoroof is the same, with 13 separate airpockets that insulate against the outside winter weather and prevent warm air generated from underfloor or central heating disappearing through the roof.

The benefit to you is your heating bills should be only 50% of what they would be for an ordinary conservatory roof – a great saving and kinder to the earth too.

Further enhancing the proven technology used in Ultraframe's Classic roof, the new Ultraframe Classic Aluminium suite combines state-of-the-art ideas and design technologies with elegant, contemporary profiles to provide a strong, rigid yet lightweight system that can be configured into virtually any roof design.



Base Offer

- Aluminium glazing bar top caps.
- Aluminium ridge body and aluminium low profile cresting.
- Aluminium cast ridge end, integral brush and weathering flashing (or downgrade to PVC radius end).
- Aluminium vent available

Upgrade Options

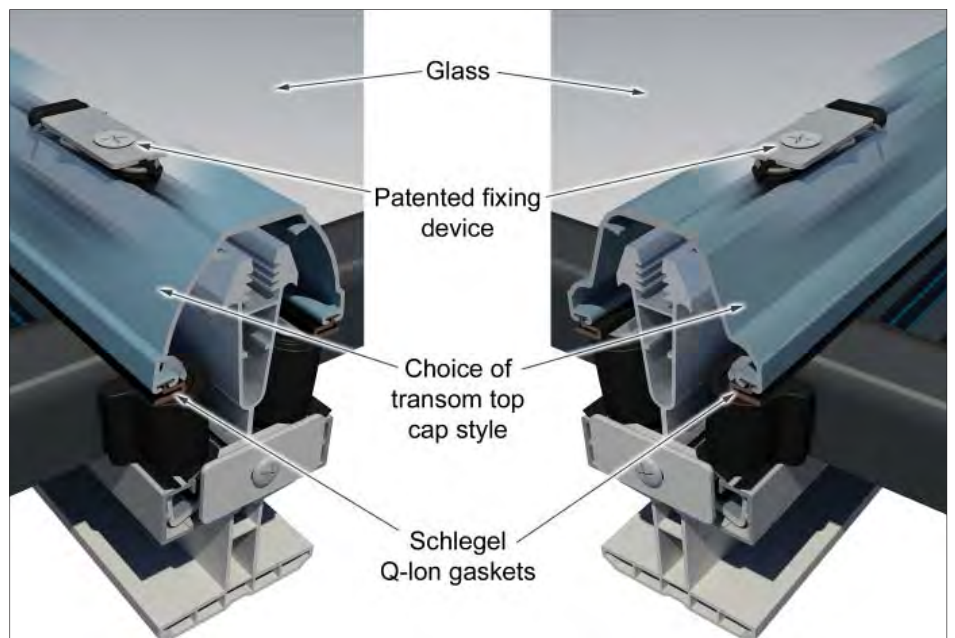
- Aluminium decorative Cornice.
- Aluminium ball finial.
- Aluminium cresting.
- Aluminium muntin.*
- Aluminium glazing end profile.*
- Cornice die cast aluminium corner cover in 135° and 90° angles.

* When Cornice is specified, these items are supplied in grey RAL 7016. This applies also to glazing bar end caps.

Transom Top Caps

When selling the Ultraframe Classic aluminium roof, retailers have the choice between two different shaped transom top caps; a contemporary and a traditional option.

All Ultraframe top caps in the range utilise innovative Schlegel Q-Ion gaskets which are inserted into the glazing bar top cap slots. Due to their unique design shape, when under compression, these gaskets create a double weatherseal, remaining operational and elastic even in the worst of weather conditions, without any loss in seal.



Colour Options

The Ultraframe Classic aluminium roof is available painted in a wide range of RAL specified colours. Choose a traditional white colour or break the mould with a contemporary grey or black roof. Virtually any other colour you can imagine can be matched using the RAL colour system.



Top Cap Clips

The Ultraframe Classic aluminium roof also takes a different approach to top cap retention.

To ensure that there is a constant thermal break and that no fixings puncture the primary weatherproofing, Ultraframe has developed a new patented device which is simply 'zipped' into the head of the aluminium bar whilst the roof is being built.

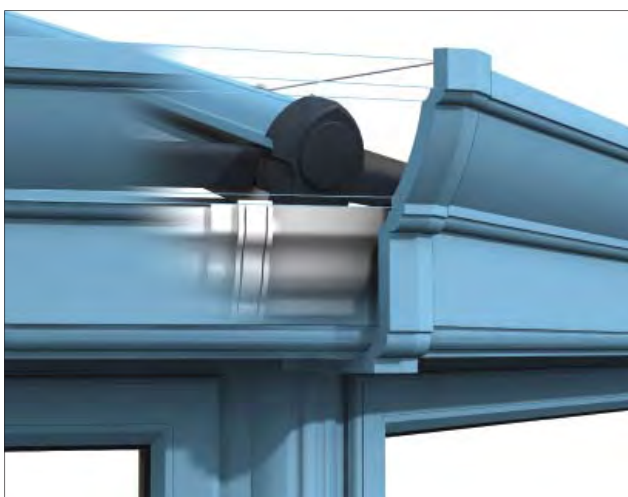
These spring clip security devices are then deployed at 500mm centres on site, nipped into final position before – with no more than the heel of the hand – the top cap is finally secured.



Cornice

The Ultraframe Classic Aluminium suite is the only aluminium suite on the market which offers a decorative aluminium Cornice option using the existing gutter as a hidden 'liner'.

Further enhancements to Cornice include a die cast 135 and 90 degree corner cover as well as straight jointers, which will help fitters achieve a consistent fit and finish at critical junctions.



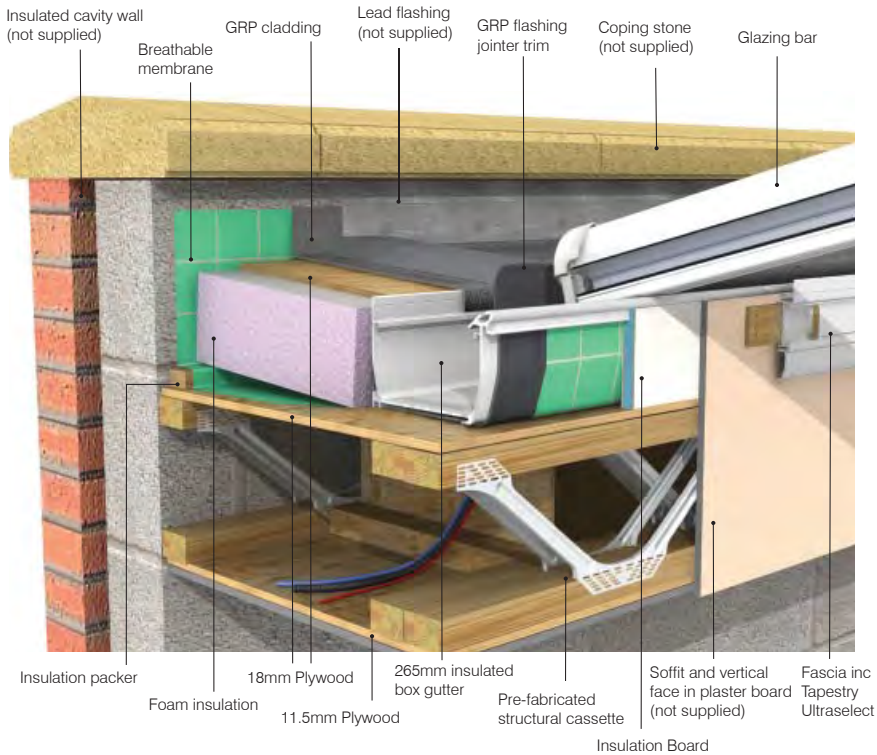
Elephants Trunk - optional

When cornice is specified and sits on a cill (for example with LivinRoom perimeter ceiling), the 'elephants trunk' is an elegant arrangement which allows a rain water pipe to exit from the gutter, all cloaked in a 'hopper' style trim.



The traditional Orangery is a serious home improvement project more akin to an extension than a conservatory. Ultraframe offers its traditional Orangery with either a brick parapet around the perimeter or in a fascia style.

Parapet cross section (Not to scale)

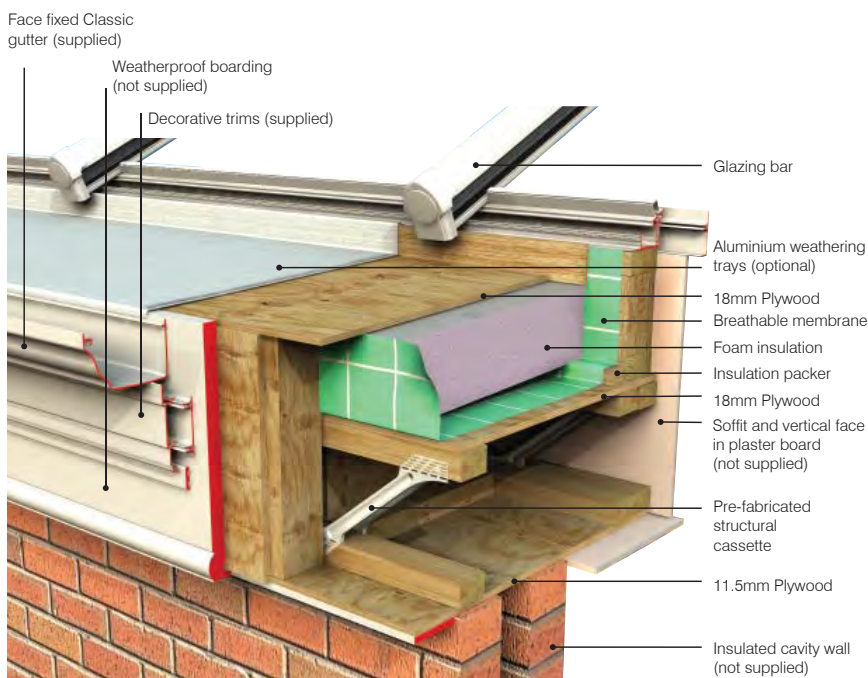


Standard specification

(Upgrade options are available)

- Classic roof
- Roof includes 265mm insulated box gutter all round with bolted stop end joints (parapet version)
- Package includes
 - Hipped ends
 - Pre-fabricated structural deck system
 - Insulation panels cut to size to achieve 0.25 'U' value
 - Aluminium sheet flat roof covering
 - All structural straps and fixings
 - Vapour barrier
- Typical roof pitch is 25° - actual pitch dependant upon width/projection
- Chambered glazing bar top caps
 - all suite options available
- Decorative glazing bar undercladding
- Eavesflow ventilation included
- Ultraselect Tapestry included (other choices available)
- A minimum of 2 outlets are provided on parapet version - PVC hoppers and rain water pipes are supplied.

Fascia cross section (Not to scale)



Livin Room is the best of both worlds, combining the light and sky of a conservatory with the walls and ceiling of an extension.

Livin Room is truly multi-functional, creating a pleasant and relaxing space for meditation or it can be a 'full on' family room. *Livin* Room offers more, lots more than either a conservatory or an extension. Consider these benefits when choosing Ultraframe's *Livin* Room which features the Classic roofing technology.

- Enjoy the light from a conservatory with the feel of an extension -providing greater overall value and the best of all worlds.
- Creates a whole new dynamic to the space - a 'real room/living room' feel.
- You can maintain light and space by using windows all round, have brick piers to give a greater sense of solidity or now specify Loggia columns.
- Better thermal efficiency when compared to a standard conservatory.
- This real room/living room feel means more styling and furnishing options and the perimeter ceiling is perfect for down lighters.
- Can be retro fitted to existing conservatory roofs.



NEW Loggia super insulated columns - replaces brick piers.

See separate brochure for more information.



Illustration shows below fascia option

Conservatories have always been an excellent way for consumers to blur the margin between home and garden, but Ultraframe is taking the idea to a new level with its Veranda glass extension.



Veranda can be executed in a number of different ways:

- Between two walls of the same length
- Between two walls of varying lengths
- In reverse pitch situations
- Mono pitch or duo pitch
- On top of glazed side frames
- As 'wrap arounds'

“ The light, bright and airy interior will add a new dimension to your home and provide a seamless link between your home and garden. ”



Rain Gutter detail

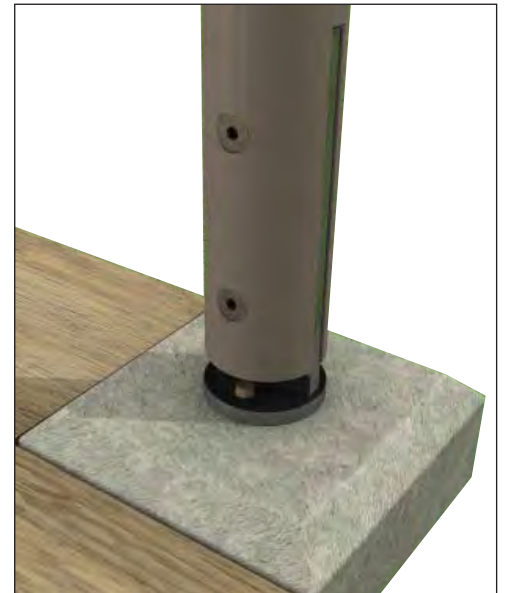
System elements

At the core of the Veranda is either the Classic or Classic Plus roof (Classic Plus glazing bar illustrated). At the intersection between internal and external space is the Super Duty Eaves Beam*, clad internally with the PFTB planked fascia and externally with a powder coated aluminium fascia.

The main Veranda beam is constructed from powder coated aluminium and acts as an integral gutter and support beam. Posts are part of the structural support package. There are two types of post - aluminium or oak. The oak post comes complete with gasketed stopends and splice plates to connect to the base.

An alternative to the oak post is the aluminium support post - this can mutually fulfill 2 functions when fabricated, as rain water pipe and post.

* On certain Veranda designs and on very wide openings, a 'goal post' support arrangement will be necessary and of course Ultraframe can design and manufacture this.



Bottom Bracket



Veranda Beam Assembly



Super Duty Eaves Beam
- Typical detail over doors

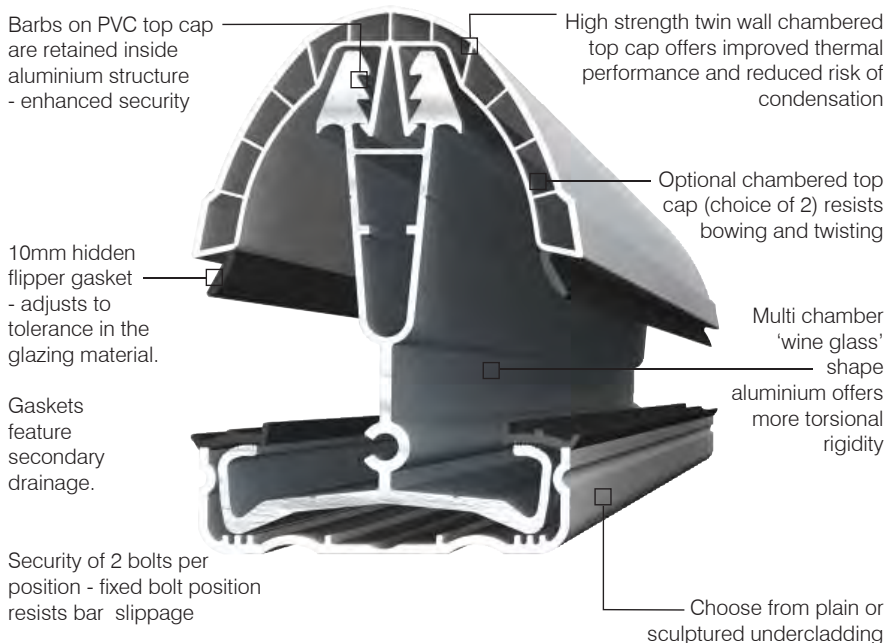
Having read this guide to the Classic Roof technology, you will have some idea why it is not only the best on the market, but why it is the most popular amongst the trade and satisfied homeowners too - after all, 1,500,000 satisfied customers can't be wrong, can they?!

Reasons to choose Ultraframe... outlining the Classic features and benefits

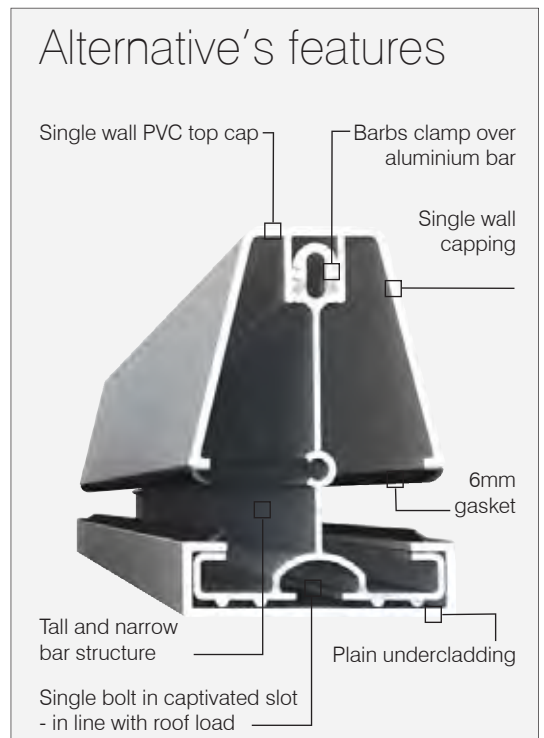
FEATURE	BENEFIT
Over 1 and a half million Classic conservatory roofs installed to date.	Tried, tested and trusted. The ultimate in peace of mind as you know the roofs are performing day in day out in all that the UK climate can throw at it.
The first conservatory roof to be BBA approved.	In 1996 we were the first to submit roofs for independent 3rd party accreditation.
Classic regarded as the most versatile system on the market	A sales team have the confidence that whatever design/style/shape they sell Classic can accommodate it.
Unique ridge ventilation as standard	Helps the homeowner to control internal air movement and internal temperatures.
Eavesbeam ventilation is optional	Combine ridge trickle ventilation with Eavesflow and you have the perfect combination of cross flow and convection working in tandem - effective minimisation of condensation.
PVCu twinwall glazing bar top cappings	Excellent thermal performance makes the conservatory warmer in winter - shape options for more choice.
The most thermally efficient 'traditional' roof on the market	No other 'traditional' roof comes close: 4 deg C (40%) warmer than competitors top caps.
Speedy glazing bar attachment at the ridge with speedloks	Proven technique using space age materials - speedy attachment on site
Revolutionary effective Tie Bar Replacement Kit	Remove unsightly tie bars with confidence
Reliable Classic gable frame support system	Eliminate frame wobble, particularly under double doors and remove the need for extra soak aways - saves money on site and looks good. Use on gable fronted and lean-to's
Superior internal decorative eaves cladding	4 styles of Ultraselect to choose from plus foils - tailor the conservatory to match an internal colour scheme
Conservaflash - Unique lead free flashing kit	Further speed up installation with the combined soaker and stepped PVC flashing - save time and money over lead
Engineered structurally proven jack rafter connecting kits	Whether it's wind uplift or heavy snow load, the connection point is strong and waterproof
Classic offers the widest selection of finials and crestings	With Classic, you are not stuck with one choice - Easyclean versions also
Fully insulated boxgutters to suit all possible applications	Reduces the chance of condensation
Extensive choice of optional glazing materials	From basic to high performance, there are options for all budgets which means that homeowners with varying budgets can access our technology

Spot the difference between key components and a hybrid of features available from others...

Ultraframe Bars



Alternative's features



Ultraframe Eaves Beam

High strength PVC twin wall chambered top cap offers improved thermal performance and reduced risk of condensation particularly when compared to the alternatives aluminium top cap.

Glazing support trim - optional ventilation version - anti 'roll out' hooks and adhesive convex shaped tape offers optimal performance at high and low pitch in resisting glazing movement.

Captivated bolt slot in eaves beam - keeps bolt at 90° to bar at all pitches. Resists bar slippage.

Multi chamber aluminium offers enhanced torsional rigidity and internally cleated joints, more resistance to bar thrust.

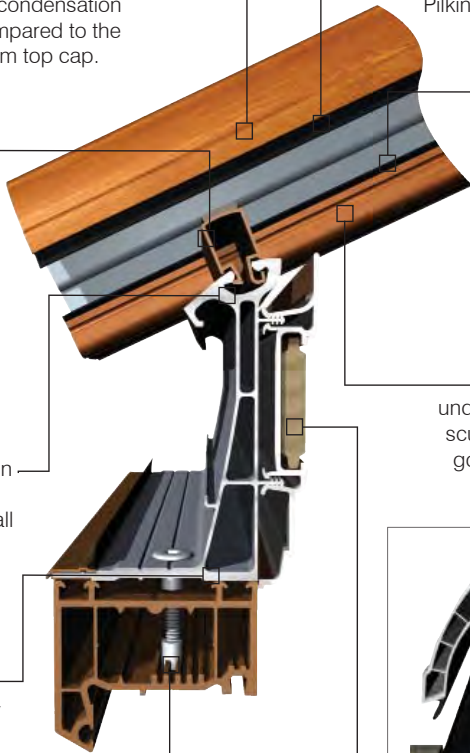
Specially designed fixing kit, fastens eaves beam to frames - up or down.

Co-extruded gaskets, compatible with self cleaning sealed units like Pilkington Active - reduced risk of contamination.

On PVC undercladding, foil wrap finishes short of the co-ex gasket - reduced risk of plasticiser migration into polycarbonate glazing which can cause surface crazing.

Choose from 2 undercladdings - plain or sculptured for additional good looks, stunning in woodgrain foils.

Choose from standard or Ultraselect fascia - with 4 different unique designs plus foil options.



Security of two bolts per position - fixed bolt position resists bar slippage.

Alternative's features

Foiled single wall aluminium top cap.

Separate 6mm threaded gasket applied in the factory or on site using silicone release sprays.

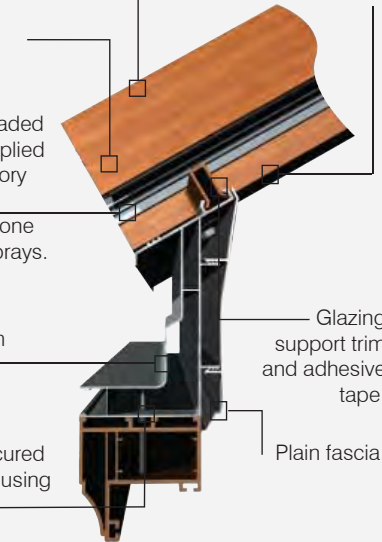
Aluminium eaves beam.

Eaves secured to frames using screws.

Plain undercladding.

Glazing support trim and adhesive tape.

Plain fascia.



Single bolt in captivated slot - inline with roof loads.

Ultraframe Jack Rafter

High strength twin wall chambered top cap offers improved thermal performance and reduced risk of condensation (Georgian cap one style only).

Optional chambered top cap (choice of 2) resists bowing and twisting

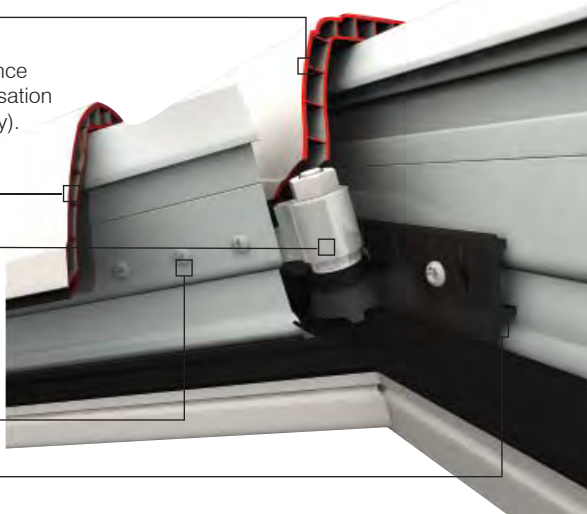
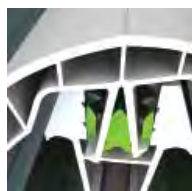
Jack rafter joints resist both negative and positive wind loads

Triple fixing of aluminium tenon provides robust performance

Multi point fixing to hip bar. Shape retained by pips in aluminium.

Choose from plain or sculptured undercladding

Anchor clip, additional security against PVC top cap movement. Maintains seals in jack rafter and ridge positions



Alternative's features

Barbs clamp over aluminium bar

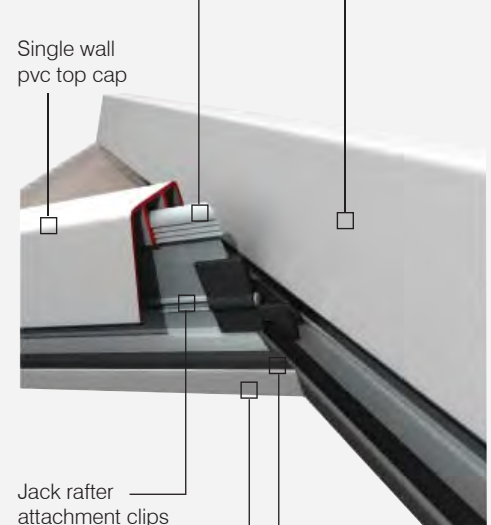
Single wall pvc top cap

Jack rafter attachment clips round tall central web and one fixing point engagement into shallow channel

Tall and narrow bar structure

6mm gaskets

Plain undercladding



ultraframe

Transforming light and space

www.ultraframe.co.uk

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