Orangery collection

An innovative range of orangery design solutions, incorporating proven aluminium and PVC-U assemblies for lantern and glazed roof features

Orangeries

synseal®

A choice of stunning orangery design solutions

Orangeries feature classically-styled architectural design elements to create pleasing and elegant building extensions that achieve the height of sophistication.

Synseal's range of innovative orangery solutions are designed to evoke traditional building methods yet utilise the very latest materials and construction techniques to deliver precise detailing and unrivalled aesthetic appeal, whilst ensuring speed and ease of installation.

Utilising proven roof glazing assemblies constructed from one of Synseal's market-leading conservatory roof systems, K2 or Global roof, these orangery design solutions can be specified with total confidence.

The Synseal orangery collection includes:

Integra
Substantial brick-built orangery with lantern roof.

Soffit depth: **752mm**
Roof glazing system: **K2 or Global**

Integra 210
Compact version of the proven Integra design.

Soffit depth: **455mm**
Roof glazing system: **K2**

Venetian
Hi-tech classical orangery.

Soffit depth: **604mm**
Roof glazing system: **K2 or Global**

Modena
Modern design with double soffit.

Soffit depth: **604mm (internal) and 495mm (external)**
Roof glazing system: **K2 or Global**

Rio
Glazed-style orangery with lantern roof feature.

Soffit depth: **604mm**
Roof glazing system: **K2 or Global**

globalsummer
Orangery style & elegance

Orangery upgrade for Global roofs.

Soffit depth: **300mm**
Roof glazing system: **Global**

Capella
Orangery upgrade for K2 roofs.

Soffit depth: **170, 300, 317 or 600mm**
Roof glazing system: **K2**

Integra

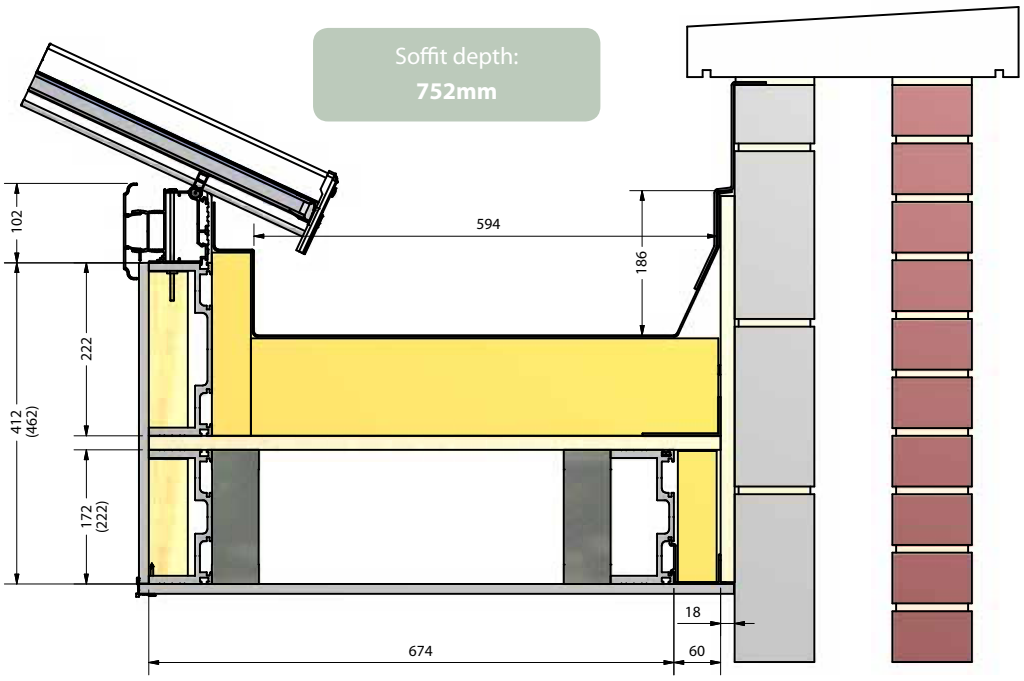
Integra is a classic and sturdy traditional brick-built orangery design which includes a lantern roof and wide perimeter gutter system supported inside the cavity wall, and discreetly concealed from view behind the external parapet.

The Integra system features an insulated "warm roof" construction that fully meets all Building Regulations and utilises modern materials to best effect – high strength structural aluminium replaces timber, and an integrated aluminium gutter replaces traditional flat roof membranes. The perimeter gutter has a polyester powder coat external finish and can be walked on in safety for maintenance purposes, due to the strength of the construction.

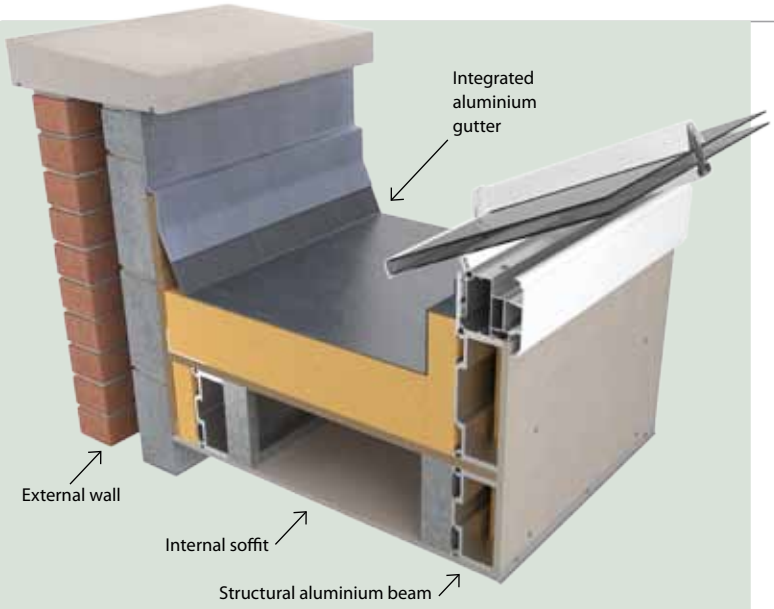
Integra features a traditional parapet wall that conceals the integrated aluminium gutter from view.

Integra provides a full one-stop solution for brick perimeter orangery roofs and is supplied to project-specific dimensions as an easy-to-fit kit, with no additional cutting or drilling of aluminium sections required, so that site installation can be carried out speedily and with precision.

Perimeter cross section



The glazed lantern is constructed using either Synseal's tried and tested K2 roof system, or the market-leading Global roof.



Internally a substantial plasterboard soffit 752mm in depth conceals the aluminium perimeter, primary and lantern beams and provides the classical orangery look, allowing downlighters or speakers to be integrated. The vertical face of the soffit extends right up to the underside of the glazing rafters and is 514mm in overall height, or 564mm if the deeper perimeter/primary beam is specified. A choice of internal trims can also be incorporated for a neat finish.

Gutter outlets are fully sealed and can accommodate a full range of decorative aluminium hoppers and downpipes.

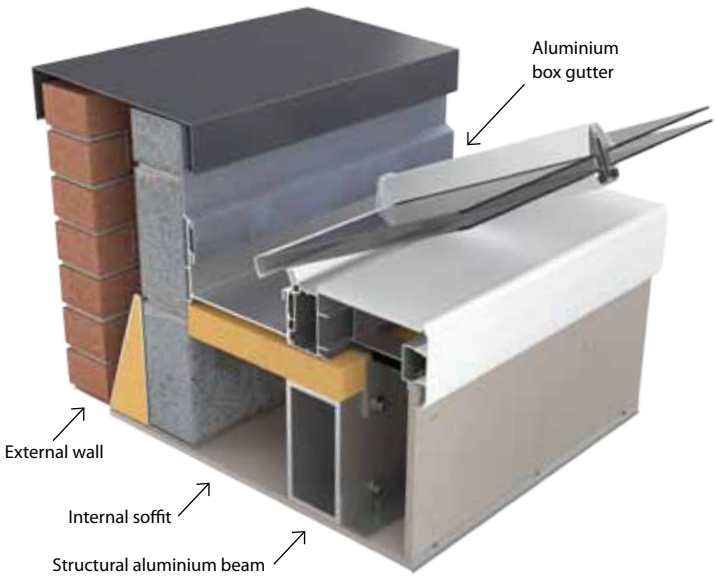
Integra 210

Using a technical blend of K2 roof system componentry and the full Integra orangery solution, Integra 210 is designed for installations with a brick-built perimeter cavity wall.

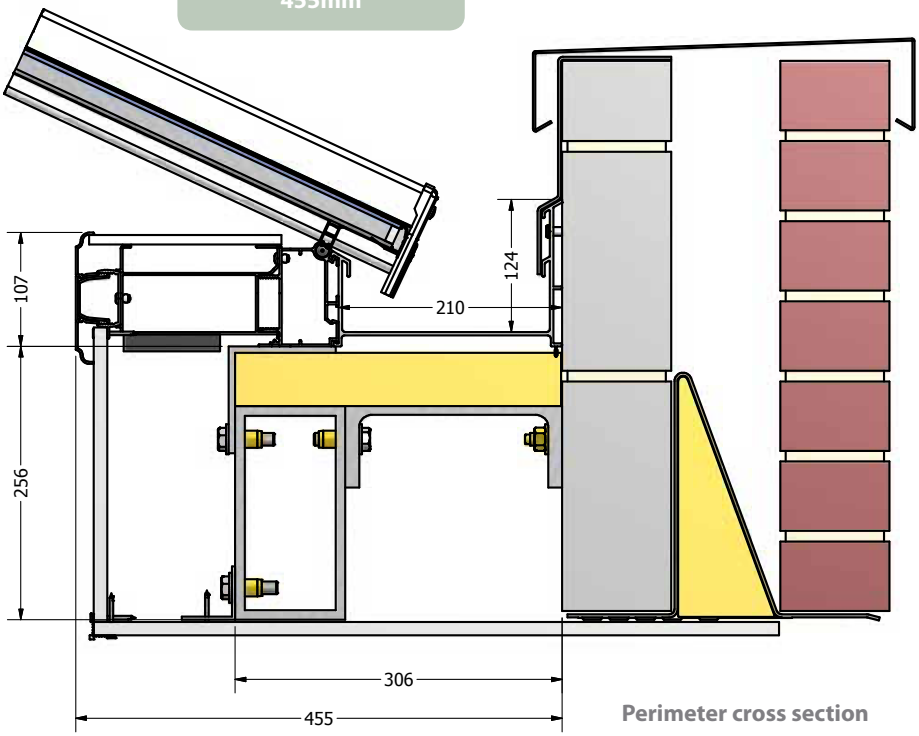
This compact system adaptation features a 210mm wide aluminium gutter with a polyester powder coat external finish, fitted above an insulation-capped gutter support bracket. A structural framework of strong purpose-designed aluminium portal sections is used to provide primary and secondary support beam details, with no need for timber constructions. These aluminium sections employ a patented connection system to ensure integrity of installation.

Gutter outlets are sealed and Integra 210 is supplied in kit format for ease of fitting, so no additional cutting or drilling of aluminium sections is necessary.

Internally, the Integra 210 design delivers a plasterboard orangery soffit which is 363mm in height and 455mm in depth, with a void for installing downlighters or speakers. A choice of internal trims can be selected to neatly top-off the vertical face of the soffit.



Soffit depth:
455mm



Perimeter cross section

Venetian

Venetian presents the ultimate in contemporary orangery design technology. The structural aluminium posts are optional yet give complete freedom, allowing designers to specify additional options such as fully-framed walls, brick work or large bi-folding doors in the knowledge that these elements do not support the roof.

Because the lantern roof is totally supported by Synseal's structural aluminium posts which are secured by bolts at foundation level, the sides of the orangery can be constructed with traditional brick walls or window walling for a modern, hi-tech appearance.

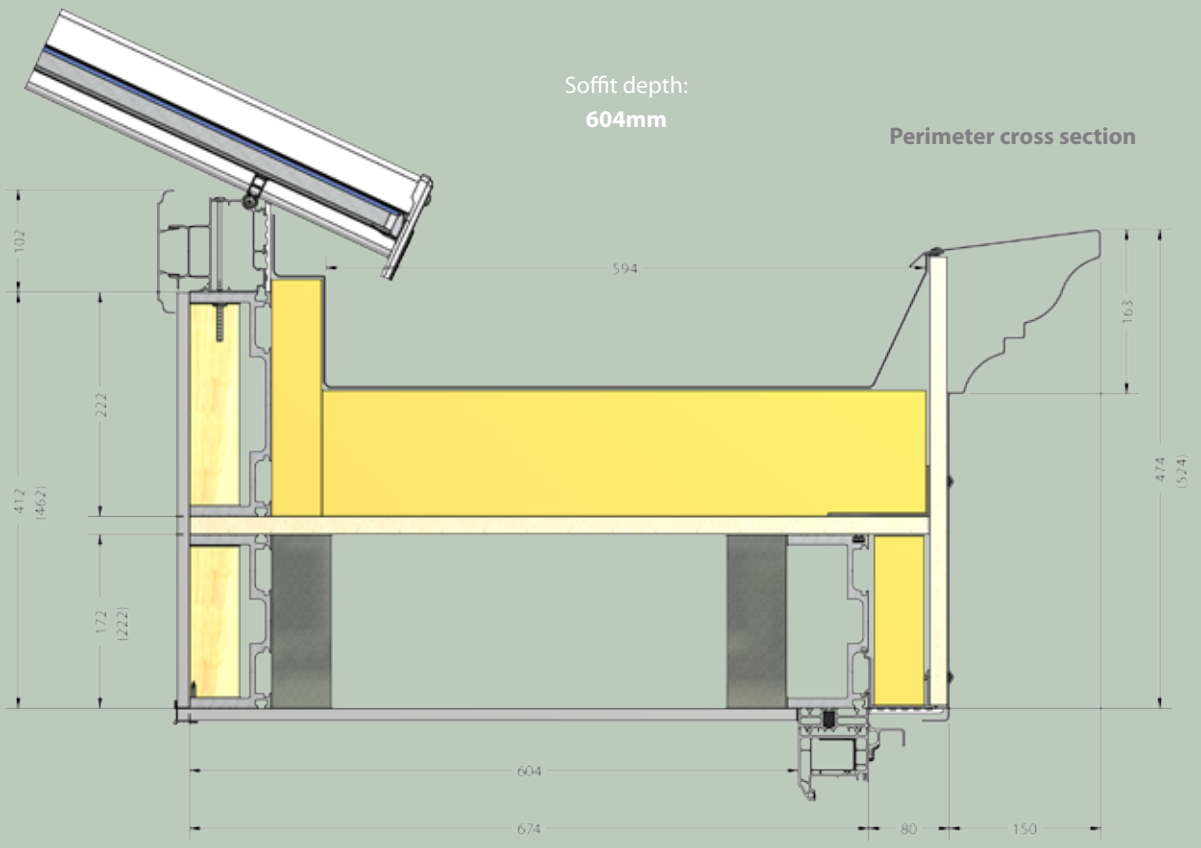
Including a fully-insulated "warm roof" construction for Building Regulations compliance, the Venetian features an external aluminium frieze with welded corners in polyester powder coated finish which can be 474mm or 524mm in depth. The design of the frieze neatly integrates with the gutter and decorative aluminium hoppers.

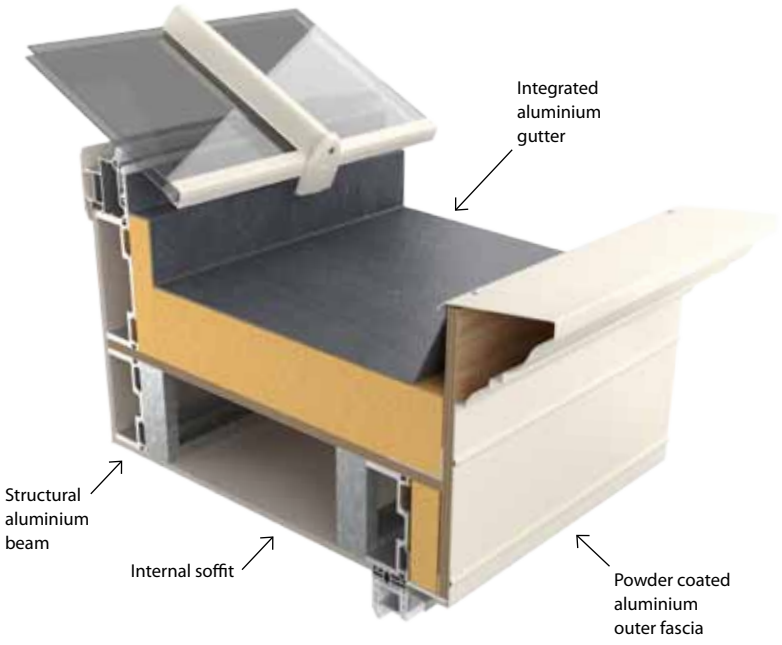
Gutter outlets are fully sealed and can accommodate a full range of decorative aluminium hoppers and downpipes.

global conservatory roof

Soffit depth:
604mm

Perimeter cross section





The glazed lantern is constructed using either Synseal's tried and tested K2 roof system, or the market-leading Global roof.

Internally, the Venetian design delivers an orangery soffit which is 604mm in depth and 514mm in overall height, or 564mm if the deeper perimeter/primary beam is specified, creating a void for downlighters or speakers. A choice of internal trims can be incorporated for a neat finish.

Venetian is supplied to project-specific dimensions in an easy-to-install kit that requires no drilling or cutting of the aluminium sections and the wide integrated aluminium gutter can be walked on for ease of maintenance.

Modena

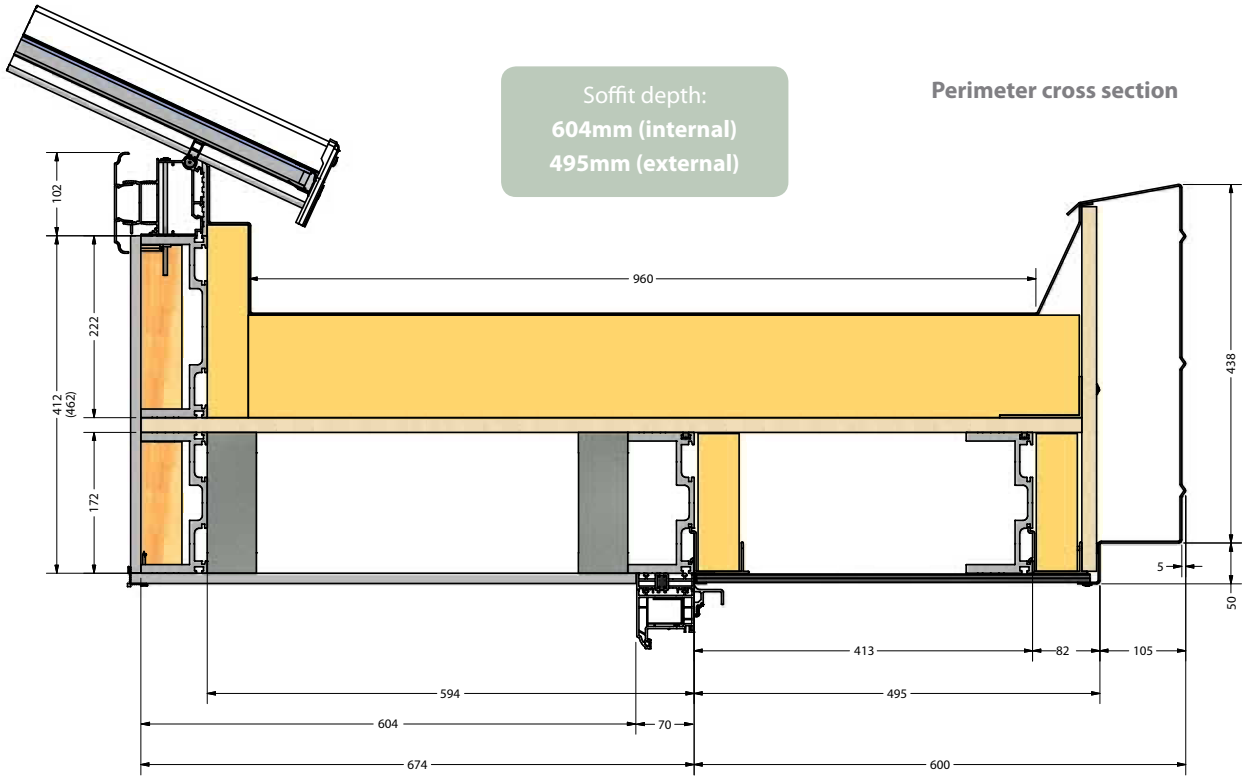
Modena offers all of the benefits of a structural orangery in a striking, modern form that is particularly suited to contemporary urban buildings, such as town houses.

Incorporating the same fully-insulated "warm roof" construction as the Venetian orangery with full Building Regulations compliance, Modena is designed to be fitted on brick-built columns or Synseal's structural aluminium posts. The design features an additional cantilevered perimeter beam to provide an external overhanging soffit which is 488mm in depth and can be fitted with downlighters for sheltered outside illumination. A substantial 960mm wide integrated aluminium gutter is faced with an aluminium-formed modern design frieze in polyester powder coated finish. The overall overhang of the external soffit and frieze combined is 600mm.

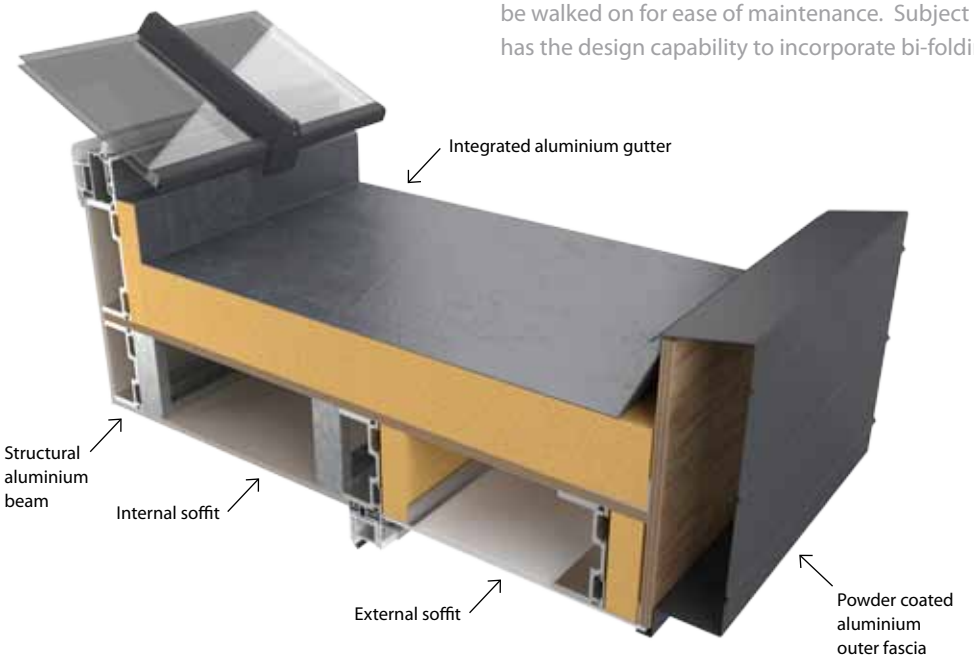
Internally, an internal plasterboarded soffit completes the orangery installation, to create a "double soffit" look. The Modena's internal soffit is 604mm in depth and 514mm in overall height, or 564mm if the deeper perimeter/primary beam is specified, providing a void for downlighters or speakers. A choice of internal trims can be selected to neatly top-off the vertical face of the soffit.

Soffit depth:
604mm (internal)
495mm (external)

Perimeter cross section



Modena is supplied to project-specific dimensions in an easy-to-install kit that requires no drilling or cutting of the aluminium sections and the sturdy integrated gutter can be walked on for ease of maintenance. Subject to size and loading limitations, Modena has the design capability to incorporate bi-folding doors up to 6.3 metres in width.



global conservatory roof

The glazed lantern is constructed using either Synseal's tried and tested K2 roof system, or the market-leading Global roof.

Rio

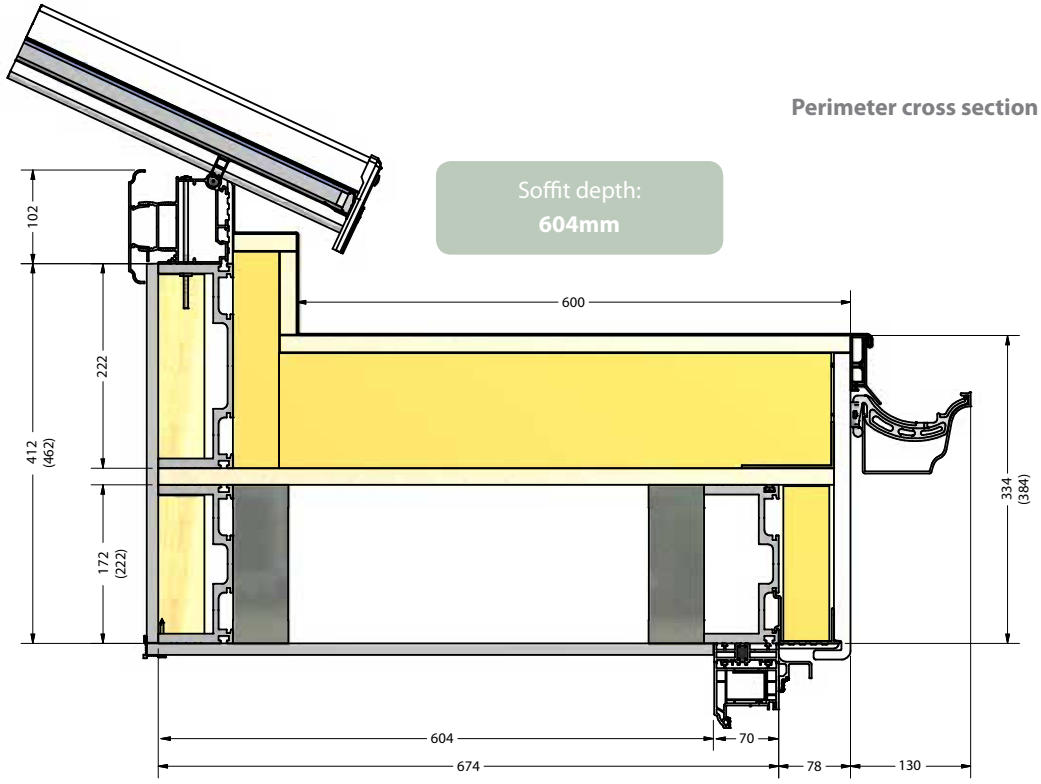
Rio's flat roof detailing delivers a strikingly different appearance from alternative orangery designs, with the eye-catching lantern visibly 'sat' on top for maximum visual impact.

Providing a cost-efficient solution for a true orangery, Rio is an elegant flat roof adaptation of the Venetian design which comfortably meets all standards whilst ensuring fast installation with minimal disruption.

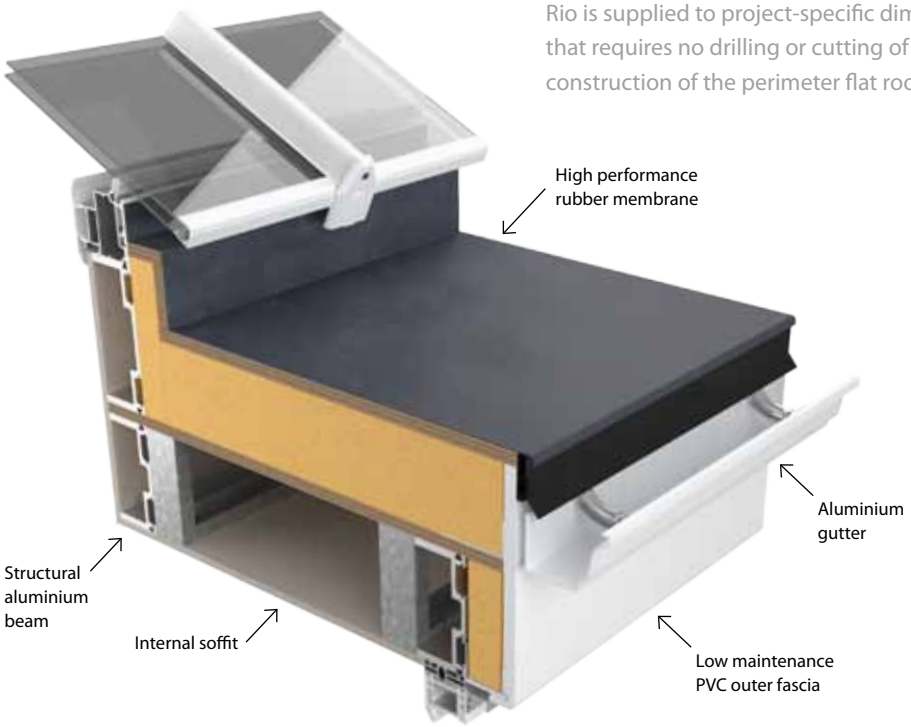
Including a fully-insulated "warm roof" construction for Building Regulations compliance, the Rio features a classically-styled glazed lantern roof fitted above a perimeter flat roof edge which is 600mm wide and surfaced with a waterproof EPDM rubber membrane. Drainage is provided by a profiled gutter mounted onto an aluminium and PVC decorative fascia.

Internally, the Rio design presents a plasterboard orangery soffit which is 604mm in depth and 514mm in overall height, or 564mm if the deeper perimeter/primary beam is specified, providing a void for downlighters or speakers. A choice of internal trims can be incorporated for a neat finish.

Perimeter cross section



Rio is supplied to project-specific dimensions in an easy-to-install kit that requires no drilling or cutting of the aluminium sections. The robust construction of the perimeter flat roof allows access for maintenance.



global conservatory roof

The glazed lantern is constructed using either Synseal's tried and tested K2 roof system, or the market-leading Global roof.

globalsummer

Orangery style & elegance

Global Summer is a design enhancement of Synseal's market-leading and proven Global conservatory roof to provide a cost-effective orangery solution. Global Summer delivers the distinguished look of a traditional orangery with external design features precisely engineered to provide a high quality aesthetic appearance.

T-shaped Chartwell Green Global Summer installation with gable-end mid section

As simple to install as the rest of the Global range, Global Summer uses high-quality aluminium decorative gutter fascias and internal pelmet pods that hook onto the eaves beam to create a soffit feature detail. These unique pelmet pods provide a rigid former for plastering to and allow downlighters or speakers to be incorporated into the internal soffit for added consumer appeal.

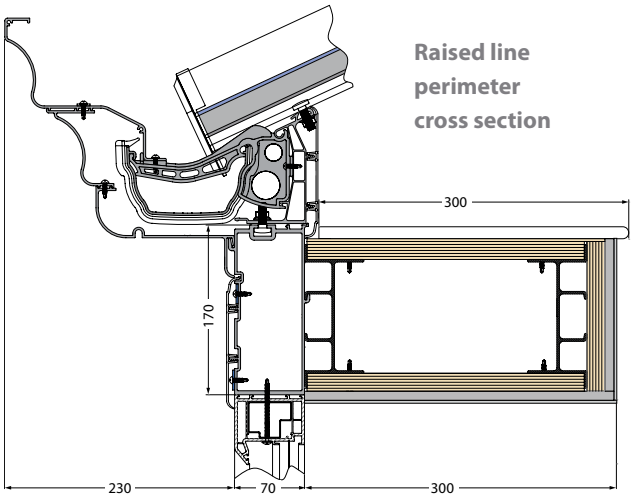
Decorative aluminium hopper

Ball finial

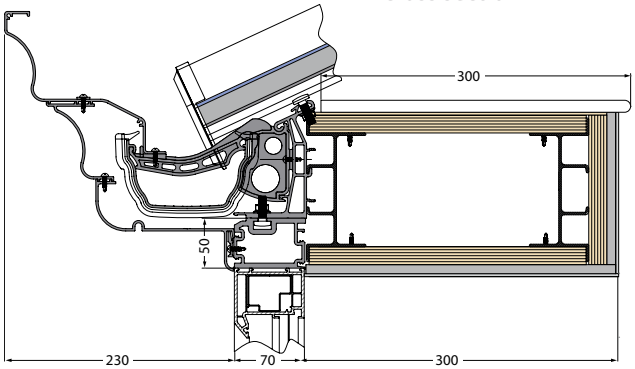
Decorative pilasters

Decorative pilasters help to evoke the aesthetics of classical orangery design. Manufactured in GRP and available in White, Blu White, Cream or Chartwell Green painted finishes, the pilasters perfectly complement the roof, include self-draining flutes and are a beautiful addition to any raised line Global Summer installation. They are manufactured to precisely fit window frames 1600mm in height without any need for on-site cutting.

Raised line perimeter cross section

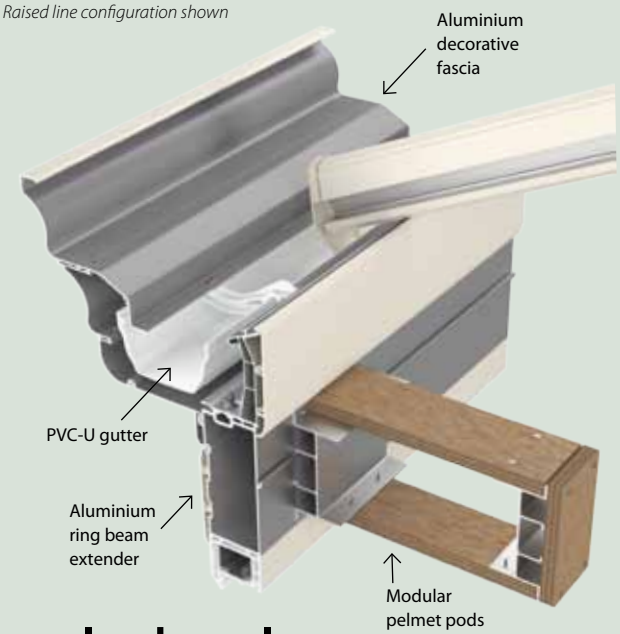


Low line perimeter cross section



Soffit depth:
300mm

Raised line configuration shown



global conservatory roof

Global Summer is a design enhancement of the market-leading Global roof.

Two fitting options

Global Summer has two main fitting options - raised line and low line - which alters the height that the decorative gutter fascia sits above the conservatory windows.

Raised line installation

Raised line installations use the orangery eaves beam extender beneath a standard eaves beam to lift the roof 170mm over the frames and provide increased space between the pelmet pod internal soffit and the roof. This increased height adds grandeur to Global Summer installations and delivers a more authentic orangery look.

Low line installation

Low line installations use a bi-fold door support underneath the heavy duty eaves beam to keep the pelmet pod internal soffit in line with the conservatory's gutter. Low line is ideal when the overall conservatory height needs to be contained, or to fit in with a more compact property's proportions.

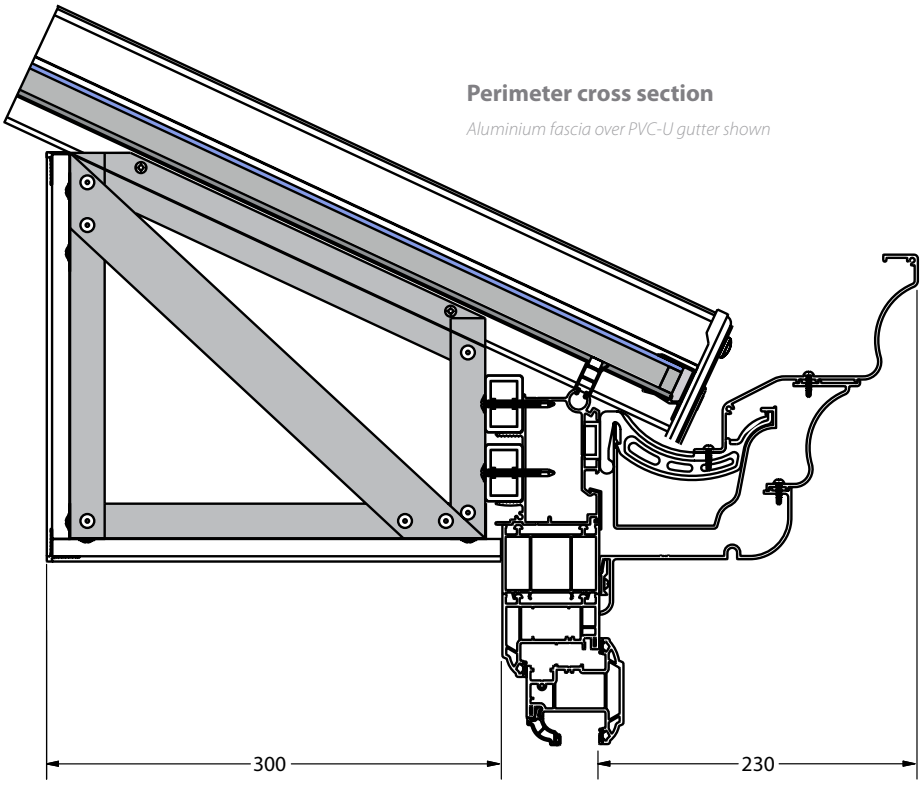
Capella

Capella is a modular system that offers a series of upgrade options for a standard K2 conservatory roof to achieve a customised orangery look, whilst avoiding the extra building work or added cost associated with fully structural orangeries.

With three gutter and two internal soffit design options, Capella is a highly flexible system solution which can even be retro-fitted to an existing K2 conservatory roof in some cases, subject to project restrictions.

In addition to a standard PVC-U gutter, Capella orangery-style gutter options include a high-fronted integrated aluminium gutter to conceal the end of the glazed roof rafters, or an attractive aluminium fascia over PVC-U gutter solution which is an adaptation of the popular Global Summer design.

Internally, Capella can provide orangery soffits allowing inclusion of downlighters and speakers through two methods of construction. Internal brackets capped top and bottom with PVC boards and faced with Cascade or Options trims can be used to create a shelf-style soffit which is 123mm in height and 170mm or 317mm in depth, according to specification. Alternatively, a fully-plastered soffit is available which uses easy-to-fit angle brackets to create a soffit which can be 300mm or 600mm in depth, and can range from 278mm to 418mm in height to accommodate 20˚, 25˚ (standard) or 30˚ roof pitches, according to project specification.



Perimeter cross section

Aluminium fascia over PVC-U gutter shown

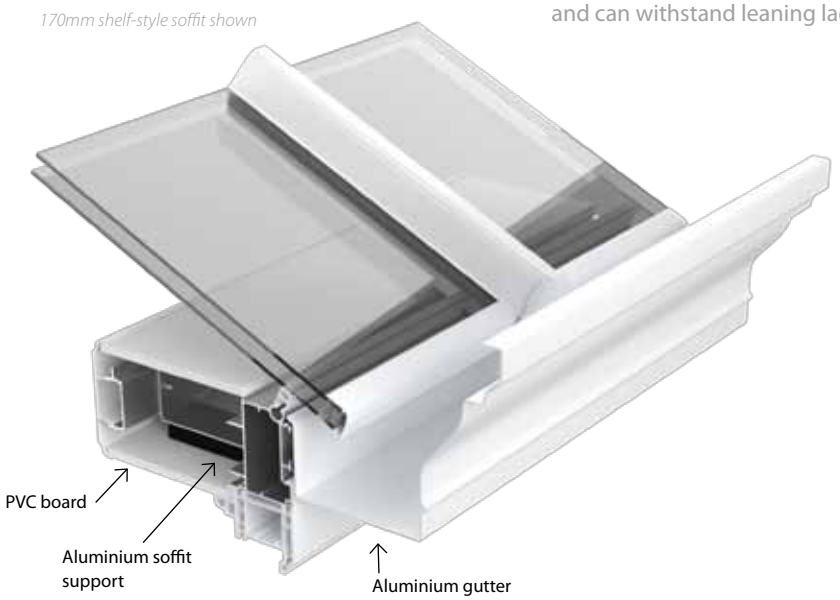
Four soffit options

Choose from 170mm or 317mm shelf-style soffit brackets capped top and bottom with PVC board, or the 300mm or 600mm angle soffit brackets for a plasterboard finish (shown here).

Optional features include decorative GRP pilasters 1600mm in height, that can be fitted above dwarf walls (as offered with Global Summer, for the aluminium fascia over PVC gutter option only), and privacy film can be professionally applied on-site to external faces of the roof glass across the lower perimeter to conceal the plastered soffit (when viewed from above).

Capella is supplied to project-specific dimensions in an easy-to-install kit, for speed of installation. The aluminium gutter and fascia options are strongly-built and can withstand leaning ladders for maintenance access.

170mm shelf-style soffit shown



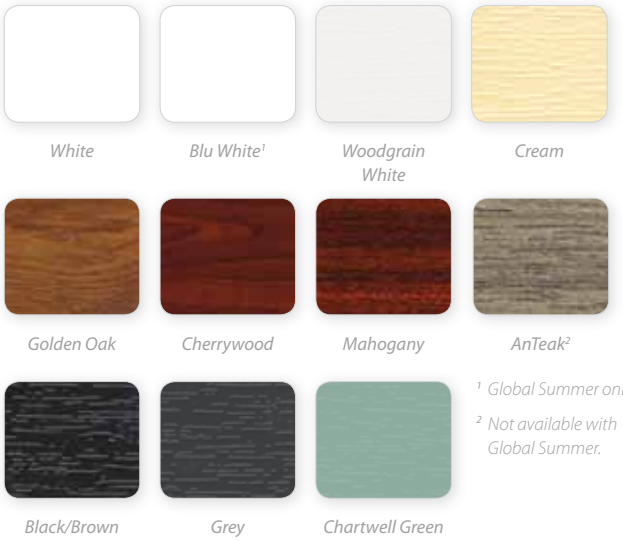
Constructed using Synseal's tried and tested K2 roof system.

Colours and decorative options

Orangery glazed roof assemblies can be supplied in traditional woodgrain and painted effect foils in a range of popular and contemporary colours. For a custom solution, aluminium roofing componentry can be powder coated to any specified RAL colour.

Different foil finishes can also be applied to internal and external faces, as required – for example, an eye-catching exterior colour can be combined with a White internal finish.

Colour finishes



White | *Blu White*[1] | *Woodgrain White* | *Cream*

Golden Oak | *Cherrywood* | *Mahogany* | *AnTeak*[2]

Black/Brown | *Grey* | *Chartwell Green*

[1] *Global Summer only.*

[2] *Not available with Global Summer.*

The colours shown are designed as a guide to the Woodgrain and Artisan Woodgrain Collection. Before making your final decision, please ensure you have seen a foil swatch.

Decorative features

Ball finials and decorative hoppers are manufactured in sturdy aluminium. Internal trims from the Options range can also be used to decorate the top edge of the internal orangery soffit when a K2 lantern roof is specified:

Decorative aluminium hopper

Ball finial

Internal trims from top right: Plain, Rope, Greek Key, Floral, Egg & Dart

Glazing options

Control of solar glare in summer and retention of heat in winter is best addressed by specifying high performance toughened and annealed roof glass.

Orangery roofs are typically glazed with 24mm insulated double glass (generally 4:16:4 or 6:12:6 units) as the weight of these DG units are easily handled by the roof.

globalglass®

A range of roof glass solutions is available from Global Glass, including solar control, low maintenance, low E and gas-filled options.

Solar control glass

Solar coated glass is commonly used on conservatory roofs to help prevent the build-up of heat during the hot summer months. The coating on the glass helps reflect heat from the sun back to the outside atmosphere, giving a more comfortable and useable living space. The glass is available in a range of tints which allows the glass to absorb more heat, whilst the coating reflects heat back to the outside.

Low maintenance glass

A revolutionary low maintenance coating is applied to the glass as part of the manufacturing process, which means that it is fused to the surface of the glass and therefore lasts the lifetime of the pane. The coating uses the rain and natural light from the sun to efficiently combat the dirt and grime that accumulates on the outside of the window. By reducing the need for manual cleaning, low maintenance glass provides an ideal and safe solution for keeping hard to reach or hazardous glazed surfaces clean.

Normal glass

Low maintenance glass

Double glazed units with spacer bar options

Low E glass

Low E glass has a microscopic metal coating which reflects heat back into the room. DG units incorporating this specially coated glass offer up to 33% more insulation than conventional insulated glass units.

CELSIUS™
PERFORMANCE GLASS

Global Summer interior finished in Chartwell Green with Celsius Elite high performance glass

Celsius Performance Glass utilises a Low E and solar control combination coating, with an Argon cavity filled cavity, to control the amount of visible light, UV and heat that pass through the glazed unit. Easy Clean technology is added to reduce maintenance requirements.

Attributes	Standard Glass	CELSIUS One™ PERFORMANCE GLASS	CELSIUS Elite™ PERFORMANCE GLASS	CELSIUS Clear™ PERFORMANCE GLASS
U-value	2.8	1.0	0.9	1.0
Solar factor	75%	22%	22%	42%
Visible light transmission	80%	38%	34%	61%
Heat reflection	25%	78%	78%	58%
UV protection	25%	94%	94%	73%
Toughened to BS EN 12150-1	✓	✓	✓	✓
Manufactured to BS EN 1279-2	✓	✓	✓	✓
10 year warranty against seal failure	✓	✓	✓	✓
Easy coat cleaning	✗	✓	✓	✓
Cavity fill	Air	Argon	Argon	Argon
Tinted	✗	Blue tint	Blue tint	Neutral tint

The at-a-glance comparison figures shown are for guidance purposes only. Slight variations may occur due to glass specification, time of year, manufacturing tolerance, point of manufacture and type of instrumentation used.

Solar Factor: The percentage of total energy (heat) from the sun which is able to pass through the glass.
Visible Light Transmission: The percentage of visible light which is directly transmitted through the glass.
UV Protection: The percentage of damaging UV rays from the sun which is unable to pass through the glass.

Technical support

At Synseal an experienced and skilled customer care team is always on hand to provide technical advice, answer any orangery design or roof glazing-related questions and assist with project enquiries.

Quality

Synseal orangery design solutions carry a 10 year guarantee, with manufacture and supply carried out under certificated BS EN ISO9001:2000 quality management systems.

Technical compliance – UK specification

Building Regulations Part A1 concerning loading of buildings is a key reference document when designing glazed roof structures. All weather parameters for specific site postcode, including an assessment of the local terrain and topography, prevailing wind speeds and pressures, are taken into account to determine how the roof will be constructed.

Orangery glazed roof assemblies are designed to meet the requirements of:

- **BS 8118-1:1991**
  (Code Of Practice For Structural Use Of Aluminium)
- **BS 6399-2:1997**
  (Code Of Practice For Wind Loads)
- **BS 6399-3:1998**
  (Code Of Practice For Imposed Wind Loads)

Global Summer corner detail in White

Building Regulations Part K4 should be consulted if glazed building elements are sited adjacent to busy pedestrian areas. In such situations, windows projecting internally or externally beyond 100mm should be sited 2 metres above floor or ground level, or barriers fitted to protect the public from collision.

Building Regulations Part L refers to different building types and itemise thermal U-value performance. Standards for refurbishment of existing buildings are more exacting and provide options for using WER 'whole unit' calculations in place of the established U-values. BRE 443 is a U-value reference document for non-vertical glazed surfaces.

Note: A-rated WER solutions for the whole window, frames and glass, can deliver insulation U-values as low as 0.8 W/m^{2}K. A-rated DSER (Door Set Energy Rating) solutions are now also available, enabling specification of thermally-efficient glazed wall envelopes encompassing both windows and doors.

Building Regulations Part M highlights the need for doors to be fitted with low thresholds to ensure easy access for all, including wheelchair users.

Building Regulations Part N specifies rules for visual manifestation of glazed elements, such as entrance doors, and deals with provision of access for cleaning.

Global Summer orangery in White with Celsius Elite high-performance glass

Part of Synseal's fleet of 39 delivery vehicles

Global Summer in Chartwell Green

Synseal's main site and manufacturing centre

Soffit detail showing integrated downlights

Venetian in Cream with bi-folding doors

Synseal is a leading UK manufacturer of conservatory roof, window and door systems

The Orangery Collection is part of Synseal's range of high quality glazing solutions, which includes Global, the UK's No 1 conservatory roof system and the tried and tested K2 roof system. Established over 30 years ago, Synseal Extrusions Ltd now employs over 900 people and has a turnover in excess of £100 million. Main operations are located at a UK-based 35 acre site with 70,000 square metres of production, warehousing and office facilities.

The corporate objective at Synseal is to deliver thermally efficient products of consistently excellent quality and design to markets worldwide, at competitive prices.

Synseal constantly seeks to develop environmentally friendly new products which will support sustainable development and reduce carbon consumption. New ranges are designed with 100% recyclability, improved performance and cost-effectiveness in mind.

Synseal is **ISO14001 accredited** which ensures that all company environmental management systems comply with and even exceed government mandates.

All quality management systems are **ISO9001 accredited** which ensures that all processes are constantly checked and improved upon, to reduce waste and increase efficiency.

Synseal products are independently tested and accredited by the British Standards Institute (**BSI**) and the British Board of Agrément (**BBA**).

ISO14001
Environmental management accreditation

BBA
Construction industry accreditation

ISO9001
Quality systems accreditation

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