IMPORTANT – THIS COMMUNICATION AFFECTS YOUR PROPERTY

COUNCIL OF THE ISLES OF SCILLY

Town Hall, The Parade, St Mary's TR21 0LW
Telephone: 01720 424455 – Email: planning@scilly.gov.uk

Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990
Town and Country Planning (Development Management Procedure) Order 2015

GRANTING OF LISTED BUILDING CONSENT

Application No:	P/25/054/LBC	**Date Application Registered:**	2nd July 2025

Applicant:
William Bax
Duchy of Cornwall
10 Buckingham Gate
London
SW1E 6LA

Agent:
Keith Sanders
Duchy of Cornwall
Hugh House
The Garrison
St Mary's
Isles of Scilly
TR21 0LS

Site Address: Ashvale Gallery Lower Town St Martin's Isles of Scilly TR25 0QW
Proposal: Removal of two cast iron rooflights and replacement with stainless steel rooflights

In pursuance of their powers under the above act, the Council hereby PERMIT the above development to be carried out in accordance with the following Conditions:

C1 **The development hereby authorised shall be begun not later than three years from the date of this consent.**
Reason: In accordance with the requirements of Section 18 of the Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended).

C2 **The development hereby permitted shall be carried out in accordance with the approved details only including:**

- **Plan 1 Location and Block Plan, received: 02/07/2025**
- **Plan 2 Proposed Elevations (Drawing Number: 10/0142/06/02), received: 11/06/2025**
- **Plan 3 Proposed Rooflight & Specification (Drawing Number: MGL3920A), received: 28/07/2025**
- **Design & Heritage Statement, received: 11/06/2025**

These are stamped as APPROVED
Reason: For the clarity and avoidance of doubt and in the interests of the character and appearance of the Listed Building and Conservation Area, Area of Outstanding Natural Beauty and Heritage Coast in accordance with Policies OE1 and OE7 of the Isles of Scilly Local Plan 2015-2030.

C3 **The materials used in the construction of the development hereby approved shall be as detailed within the permitted application particulars and shall be retained permanently as such, unless prior written consent is obtained from the Local Planning Authority to any variation.**
Reason: To safeguard the appearance of the listed building building and the character of the conservation area.

Further Information

1. **STATEMENT OF POSITIVE ENGAGEMENT:** In dealing with this application, the Council of the Isles of Scilly has actively sought to work with the applicants in a positive and creative way, in accordance with paragraph 39 of the National Planning Policy Framework 2024.
2. **BATS:** The Applicant is reminded of the provisions of the Wildlife and Countryside Act 1981 and the E.C. Conservation (Natural Habitats) Regulations Act 1994, the Habitat and Species Regulations 2012 and our Natural and Environment and Rural Communities biodiversity duty. This planning permission does not absolve the applicant from complying with the relevant law protecting species, including obtaining and complying with the terms and conditions of any licences required, as described in part IV B of Circular 06/2005. Care should be taken during the work and if bats are discovered, they should not be handled, work must stop immediately and a bat warden contacted. Extra care should be taken during the work, especially when alterations are carried out to buildings if fascia boards are removed as roosting bats could be found in these areas. If bats are found to be present during work, they must not be handled. Work must stop immediately and advice sought from licensed bat wardens. Call The Bat Conservation Trust's National Bat Helpline on 0845 1300 228 or Natural England (01872 245045) for advice.
3. **BIODIVERSITY NET GAIN:** Based on the information available this permission is considered to be one which will not require the approval of a biodiversity gain plan before development is begun because one or more of the statutory exemptions or transitional arrangements are considered to apply. These can be found in the legislation.
   The effect of paragraph 13 of Schedule 7A to the Town and Country Planning Act 1990 is that, unless an exception or a transitional arrangement applies, the planning permission granted for the development of land in England is deemed to have been granted subject to the condition ("the biodiversity gain condition") that development may not begin unless:
   (a) a Biodiversity Gain Plan2 has been submitted to the planning authority, and
   (b) the planning authority has approved the plan.
   The planning authority, for the purposes of determining whether to approve a Biodiversity Gain Plan in respect of this permission would be the Planning Department at the Council of the Isles of Scilly.
4. **COMMENCEMENT NOTICE:** Under Section 93G of the Town and Country Planning Act 1990 (as amended), this decision notice informs you that a 'commencement notice' must be served on the Local Planning Authority - subsections (2) and (3) are set out below:
   (2) Before the development is begun, the person proposing to carry it out must give a notice (a "commencement notice") to the local planning authority specifying the date on which the person expects the development to be begun.
   (3) Once a person has given a commencement notice, the person:
   - may give a further commencement notice substituting a new date for the date previously given, and
   - must do so if the development is not commenced on the date previously given

   The notice should be provided to the Local Planning Authority a minimum of seven (7) days before the development commences.
   Failure to provide the commencement notice could lead to the Local Planning Authority serving notice on them to require information to be provided, and if that is not provided within 21 days, they will be guilty of an offence, as below:
   (5) Where it appears to the local planning authority that a person has failed to comply with the requirements of subsection (2) or (3)(b), they may serve a notice on any relevant person requiring the relevant person to give the authority such of the information prescribed under subsection (4)(a) as the notice may specify.
   (7) A person on whom a notice under subsection (5) is served is guilty of an offence if they fail to give the information required by the notice within the period of 21 days beginning with the day on which it was served.
   (9) A person guilty of an offence under subsection (7) is liable on summary conviction to a fine not exceeding level 3 on the standard scale.
   PLEASE NOTE: The requirement under Section 93G of the Town and Country Planning Act 1990 (as amended) is separate from any requirements under the Community Infrastructure Levy Regulations 2010 (as amended) or any requirements for serving notices secured through the signed Section 106 Legal Agreement.
5. **BUILDING CONTROL:** This decision is not a determination under the Building Regulations. Please ensure that all building works accord with the Building Regulations and that all appropriate approvals are in place for each stage of the build project. You can contact Building Control for further advice or to make a building control application: buildingcontrol@cornwall.gov.uk.

Signed:

Chief Planning Officer

Duly Authorised Officer of the Council to make and issue Planning Decisions on behalf of the Council of the Isles of Scilly.

DATE OF ISSUE: 27 August 2025

COUNCIL OF THE ISLES OF SCILLY

Planning & Development Department
Town Hall, The Parade, St Mary's, Isles of Scilly, TR21 0LW
?0300 1234 105
?planning@scilly.gov.uk

Dear William Bax

IMPORTANT: Please sign and complete this **Commencement Certificate.**

Anyone intending to begin development under a granted planning permission (including permissions varied under Section 73) is required to notify the local authority of the Commencement Date.

What if plans change?
If development does not start on the stated date, a new notice must be submitted with the revised date.

What happens if you don't comply?
The local planning authority (LPA) can serve a notice requiring the information. Failure to respond within 21 days is an offence, punishable by a fine of up to £1,000, unless the person has a reasonable excuse.

Why is this important?
It gives LPAs better oversight of when development begins, helping with enforcement, monitoring, and infrastructure planning.

Relation to other notices:
This is separate from Building Control commencement notices, though similar in purpose.
This is to certify that decision notice: P/25/054/LBC and the accompanying conditions have been read and understood by the applicant: William Bax.

I/we intend to commence the development as approved: Removal of two cast iron rooflights and replacement with stainless steel rooflights at: Ashvale Gallery Lower Town St Martin's Isles Of Scilly TR25 0QW **on**:.....
I am/we are aware of any conditions that need to be discharged before works commence.
I/we will notify the Planning Department in advance of commencement in order that any pre-commencement conditions can be discharged.

Print Name:

Signed:

Date:

Please sign and return to the **above address** as soon as possible.

You are advised to note that Officers of the Local Planning Authority may inspect the project both during construction, on a spot-check basis, and once completed, to ensure that the proposal has complied with the approved plans and conditions. If the site is found to be inaccessible then contact details of the applicant/agent/contractor (delete as appropriate) are:

Name: **Contact Telephone Number:**

COUNCIL OF THE ISLES OF SCILLY

Planning Department
Old Wesleyan, Garrison Lane , St Mary's, Isles of Scilly, TR21 0JD
01720 424455
planning@scilly.gov.uk

THIS LETTER CONTAINS IMPORTANT INFORMATION REGARDING YOUR PERMISSION – PLEASE READ IF YOU ARE AN AGENT DEALING WITH IS ON BEHALF OF THE APPLICANT IT IS IMPORTANT TO LET THE APPLICANT KNOW OF ANY PRE-COMMENCMENT CONDITIONS

Dear Applicant,

This letter is intended to help you advance your project through the development process. Now that you have been granted permission, there may be further tasks you need to complete. Some aspects may not apply to your development; however, your attention is drawn to the following paragraphs, which provide advice on a range of matters including how to carry out your development and how to appeal against the decision made by the Local Planning Authority (LPA).

Carrying out the Development in Accordance with the Approved Plans
You must carry out your development in accordance with the stamped plans enclosed with this letter. Failure to do so may result in enforcement action being taken by the LPA and any unauthorised work carried out may have to be amended or removed from the site.

Discharging Conditions
Some conditions on the attached decision notice will need to be formally discharged by the LPA. In particular, any condition that needs to be carried out prior to development taking place, such as a 'source and disposal of materials' condition, an 'archaeological' condition or 'landscaping' condition must be formally discharged prior to the implementation of the planning permission. In the case of an archaeological condition, please contact the Planning Department for advice on the steps required. Whilst you do not need to formally discharge every condition on the decision notice, it is important you inform the Planning Department when the condition advises you to do so before you commence the implementation of this permission. Although we will aim to deal with any application to discharge conditions as expeditiously as possible, you are reminded to allow up **to 8 weeks** for the discharge of conditions process.

Please inform the Planning Department when your development or works will be commencing. This will enable the Council to monitor the discharge and compliance with conditions and provide guidance as necessary. We will not be able to provide you with any written confirmation on the discharge of pre-commencement conditions if you do not formally apply to discharge the conditions before you start works.

As with the rest of the planning application fees, central Government sets a fee within the same set of regulations for the formal discharge of conditions attached to planning permissions. Conditions are necessary to control approved works and development. Requests for confirmation that one or more planning conditions have been complied with are as follows (VAT is not payable on fees set by central government). More information can be found on the Council's website:

- Householder permissions - £86 per application
- Other permissions - £298 per application

Amendments
If you require a change to the development, contact the LPA to see if you can make a 'non material amendment' (NMA). They were introduced by the Government to reflect the fact that some schemes may need to change during the construction phase. The process involves a short application form and a 14 day consultation period. There is a fee of £44 for householder type applications and £298 in all other cases. The NMA should be determined within 28 days. If the change to your proposal is not considered to be non-material or minor, then you would need to submit a new planning application to reflect those changes. Please contact the Planning Department for more information on what level of amendment would be considered non-material if necessary.

If the scale of change is not considered to be 'non-material' you may be able to make a 'minor material amendment' which would require to you apply to vary the conditions (providing the change is not contrary to a specific condition). The fee for a householder variation of condition application would be £86, for other non-major (other than householder) development applications the fee would be £586 and for major development the fee would be £2,000.

Appealing Against the Decision
If you are aggrieved by any of the planning conditions attached to your decision notice, you can appeal to have specific conditions lifted or modified by the Secretary of State. All appeal decisions are considered by the Planning Inspectorate – a government department aimed at providing an unbiased judgement on a planning application. From the date of the decision notice attached you must lodge an appeal within the following time periods:

- Householder Application - 12 weeks
- Planning Application – 6 months
- Listed Building Consent – 6 months
- Advertisement Consent - 8 weeks
- Minor Commercial Application - 12 weeks
- Lawful Development Certificate – None (unless for LBC – 6 months)
- Other Types - 6 months

Note that these periods can change so you should check with the Planning Inspectorate for the most up to date list. You can apply to the Secretary of State to extend this period, although this will only be allowed in exceptional circumstances.

You find more information on appeal types including how to submit an appeal to the Planning Inspectorate by visiting https://www.gov.uk/topic/planning-development/planning-permission-appeals or you can obtain hard copy appeal forms by calling 0303 444 5000. Current appeal handling times can be found at: Appeals: How long they take page.

Building Regulations
With all building work, the owner of the property is responsible for meeting the relevant Planning and Building Regulations. Building Regulations apply to most building work so it is important to find out if you need permission. This consent is to ensure the safety of people in and around buildings in relation to structure, access, fire safety, infrastructure and appropriate insulation.

The Building Control function is carried out on behalf of the Council of the Isles of Scilly by Cornwall Council. All enquiries and Building Control applications should be made direct to Cornwall Council, via the following link Cornwall Council. This link also contains comprehensive information to assist you with all of your Building Control needs.

Building Control can be contacted via telephone by calling 01872 224792 (Option 1), via email buildingcontrol@cornwall.gov.uk or by post at:

Building Control
Cornwall
Council Pydar
House Pydar
Street Truro
Cornwall
TR1 1XU

Inspection Requests can also be made online:
https://www.cornwall.gov.uk/planning-and- building-control/building-control/book-an-inspection/

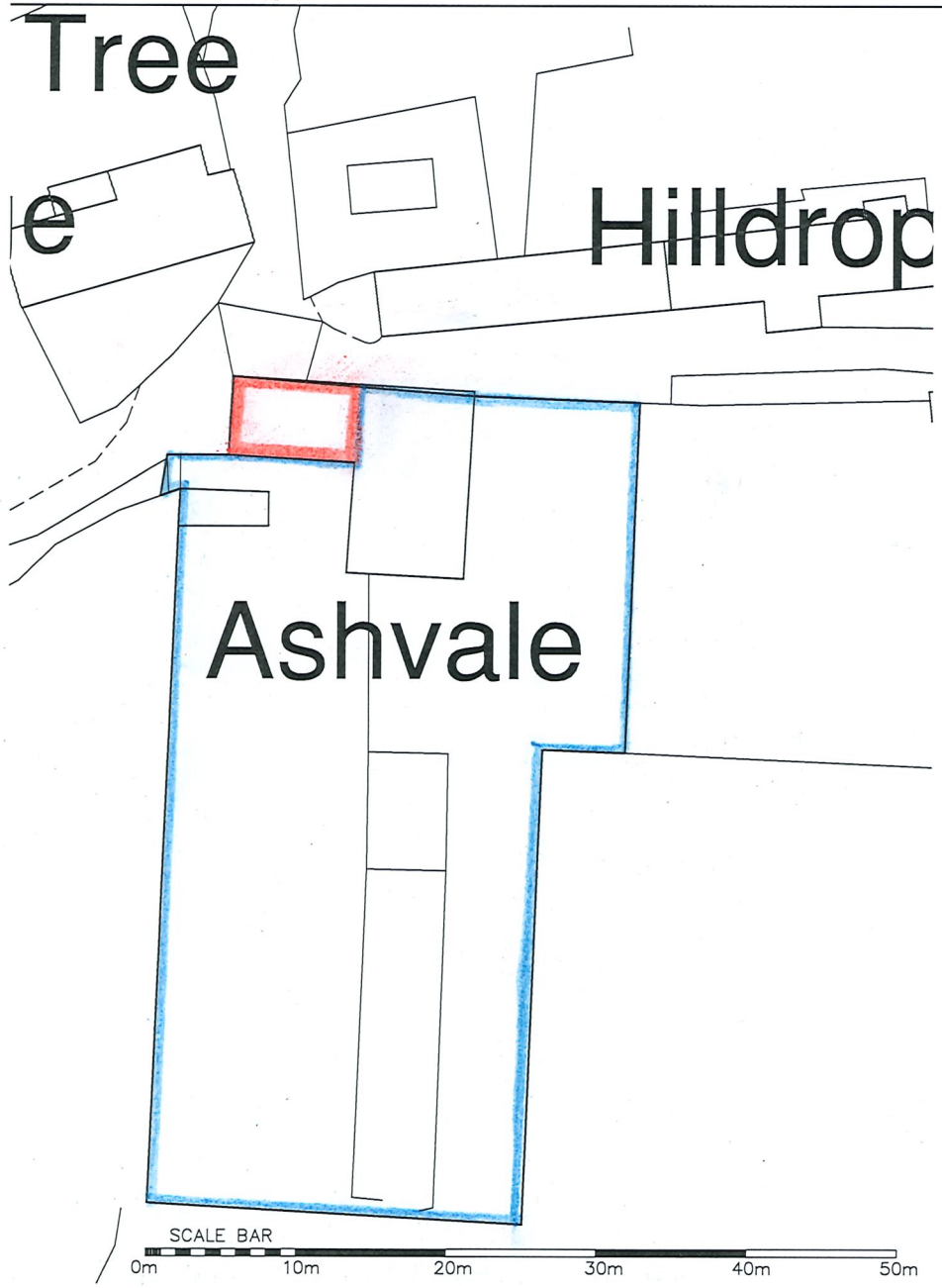
Registering/Altering Addresses
If you are building a new dwelling, sub dividing a dwelling into flats or need to change your address, please contact the Planning Department by email: planning@scilly.gov.uk who will be able to make alterations to local and national databases and ensure postcodes are allocated.

Connections to Utilities
If you require a connection to utilities such as water and sewerage, you will need to contact South West Water on 0800 0831821. Electricity connections are made by Western Power Distribution who can be contacted on 08456012989.

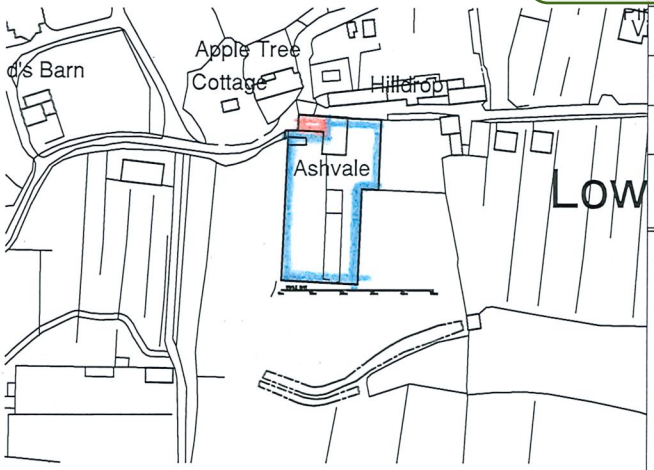
Should you require any further advice regarding any part of your development, please contact the Planning Department and we will be happy to help you.

RECEIVED
By Liv Rickman at 12:54 pm, Jul 02, 2025

APPROVED
By Lisa Walton at 5:33 pm, Aug 27, 2025



BLOCK PLAN 1:500



LOCATION PLAN 1:2500

REVISION	AMENDMENT	INITIALS	DATE

PROJECT
Ashvale

St Martins

Re-Roofing

DRAWING TITLE
Block and Location Plan

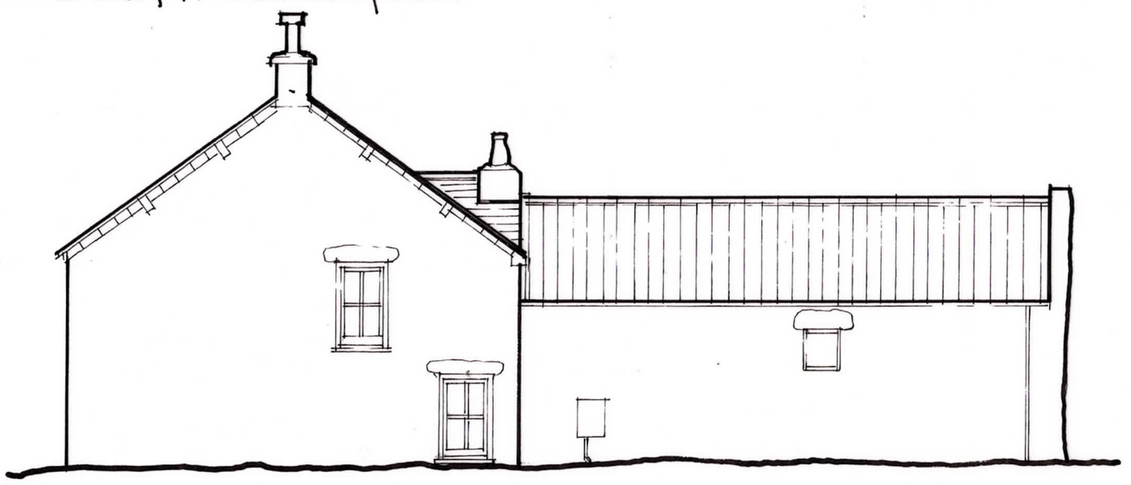
DUCHY *of* CORNWALL

ST MARY'S ISLES OF SCILLY TR21 0LS
Telephone: (01720) 422508 E-mail: ndean@duchyofcornwall.org

SCALE	DRAWN BY	DRAWING NO.	REV.
1:500/1:12500@A4	ND	10/0142-02 02	0
DATE	CHECKED BY		
28.01.2022	ND		

SOUTH ELEVATION

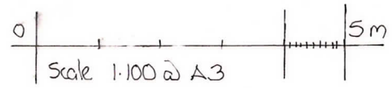
WEST ELEVATION



NORTH ELEVATION

EAST ELEVATION

REPLACEMENT OF 2NO. CAST IRON ROOFLIGHTS TO WORKSHOP AT ASHVALE, ST MARTINS, TR25 0QW



DATE: JUNE 2025 DRAWING NO: 10/0142/06/02 SCALE: 1:100 @ A3

ELEVATIONS AS PROPOSED

GENERAL INFORMATION
3RD ANGLE PROJECTION
DO NOT SCALE - IF IN DOUBT, ASK
REMOVE ALL SHARP EDGES AND BURRS

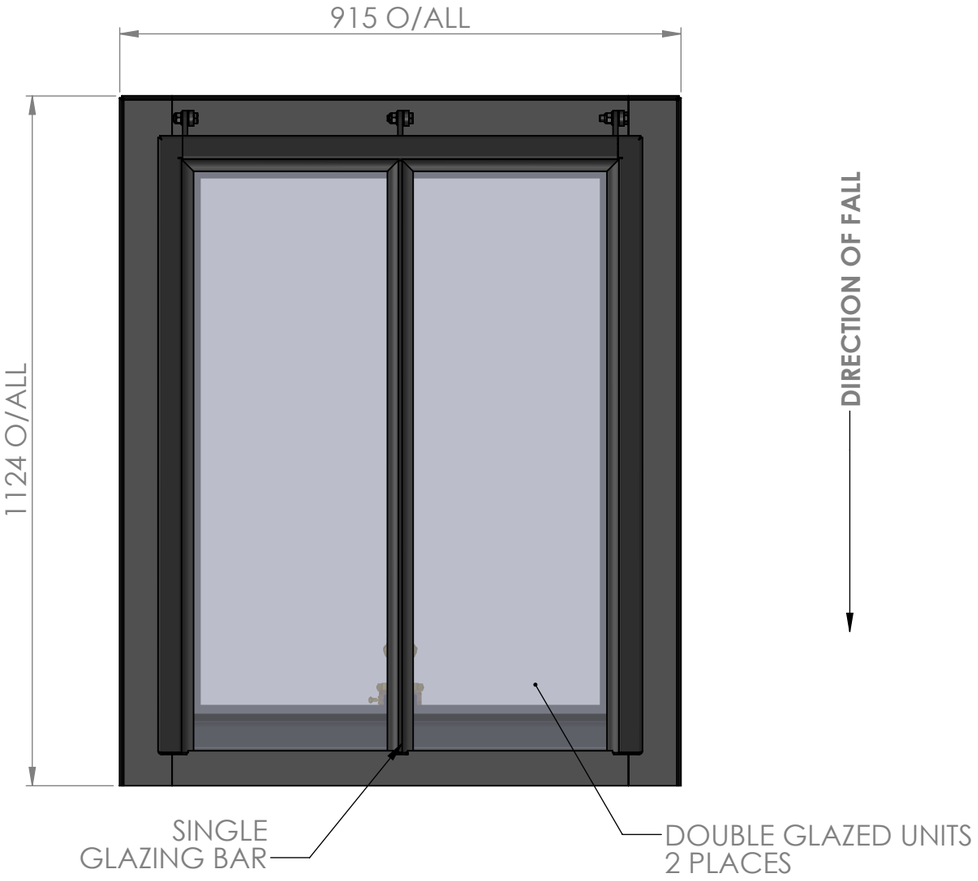
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MGL3921A	STELLA BESPOKE OPENING CONSERVATION ROOF WINDOW	2

TOLERANCES UNLESS OTHERWISE SPECIFIED	
LINEAR - 0 DECIMAL PLACES	±1.0mm
LINEAR - 1 DECIMAL PLACES	±0.50mm
LINEAR - 2 DECIMAL PLACES	±0.15mm
ANGULAR	±1.0°
SURFACE FINISH - GENERAL	3.2 µm
SURFACE FINISH - MACHINED	1.6 µm
SURFACE FINISH - GROUND	0.4 µm
SURFACE FINISH - POLISHED	0.2 µm
SCREW THREAD - INTERNAL	6H
SCREW THREAD - EXTERNAL	6g

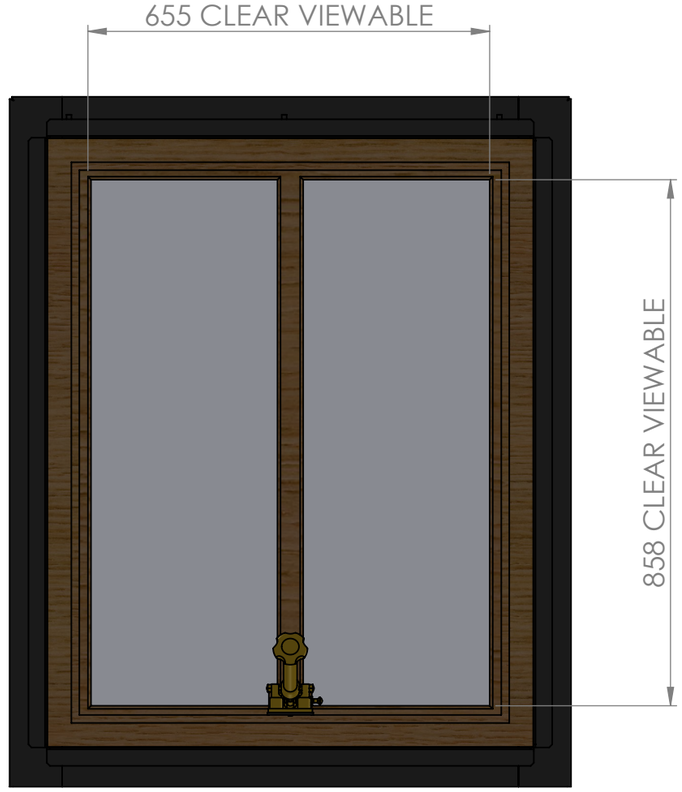
ENVIRONMENT CATEGORY - C5

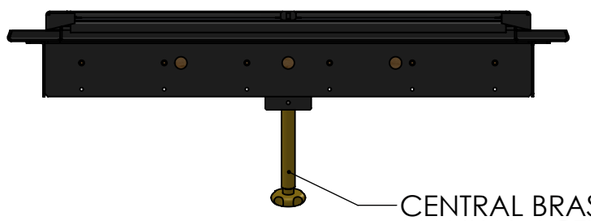
ROOF WINDOW U-VALUE 1.6

VIEW FROM OUTSIDE



VIEW FROM INSIDE BUILDING





APPROVED
By Lisa Walton at 5:32 pm, Aug 27, 2025

RECEIVED
By Tom.Anderton at 8:43 am, Jul 28, 2025

STELLA ROOFLIGHT

DRAWN: S.C

SCALE: 1:10

DATE: 24/11/2023

UNITS: mm; kg

WEIGHT: 58

TITLE: STELLA BESPOKE OPENING CONSERVATION ROOF WINDOW

REF: 740-RANSMWEY

MATERIAL: 316L ST STEEL

SEALS/SEALANT COLOUR: BLACK/BLACK

FINISH: BEAD BLAST & POWDER COAT TEXTURED BLACK

PART TYPE: MANUFACTURED

PART REF: MGL3920A

SHEET: 1 OF 3 - A3

DRG. No. MGL3920A

ISSUE: 1

GENERAL INFORMATION
3RD ANGLE PROJECTION
DO NOT SCALE - IF IN DOUBT, ASK
REMOVE ALL SHARP EDGES AND BURRS

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LINEAR - 0 DECIMAL PLACES	±1.0mm
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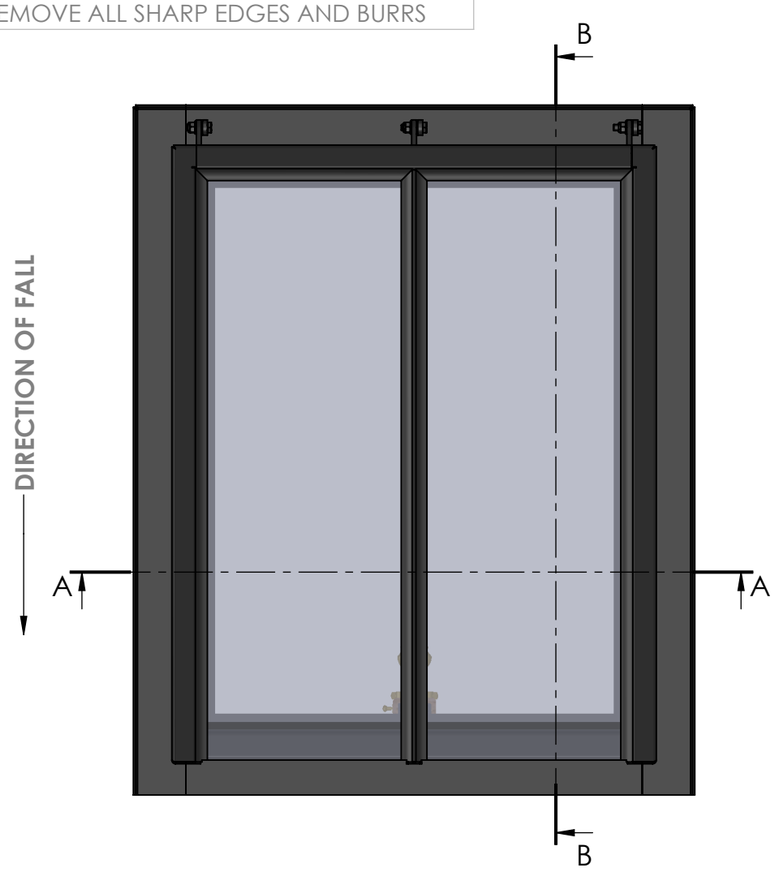
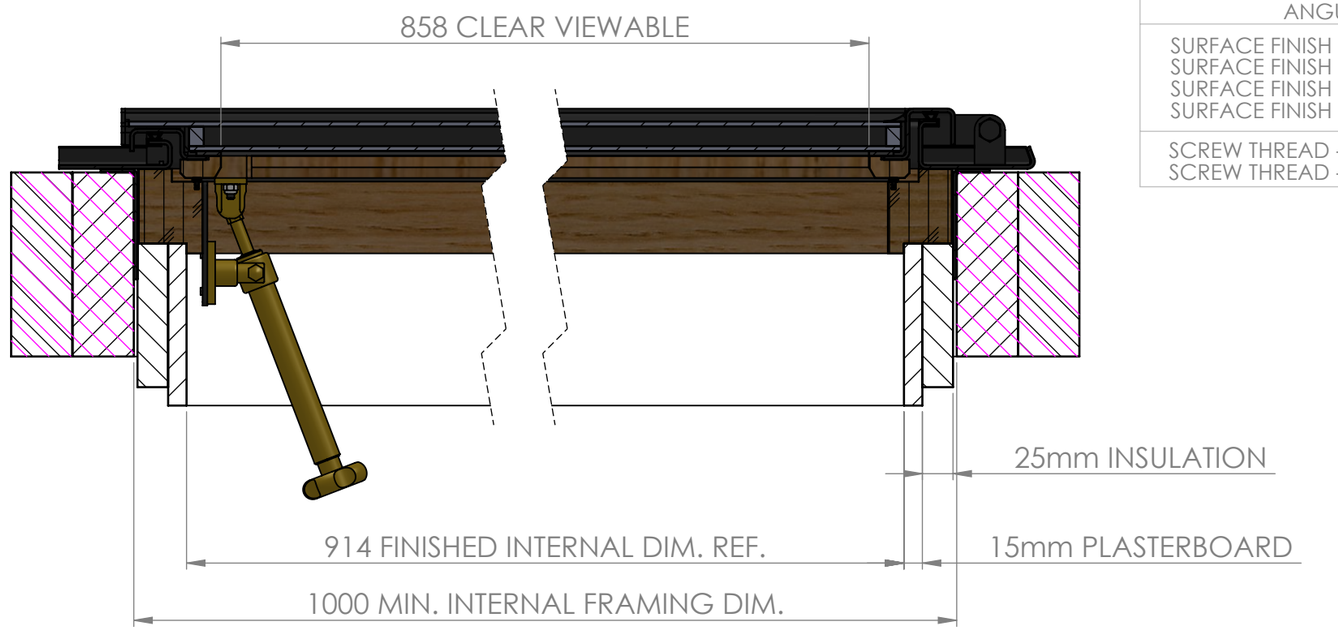
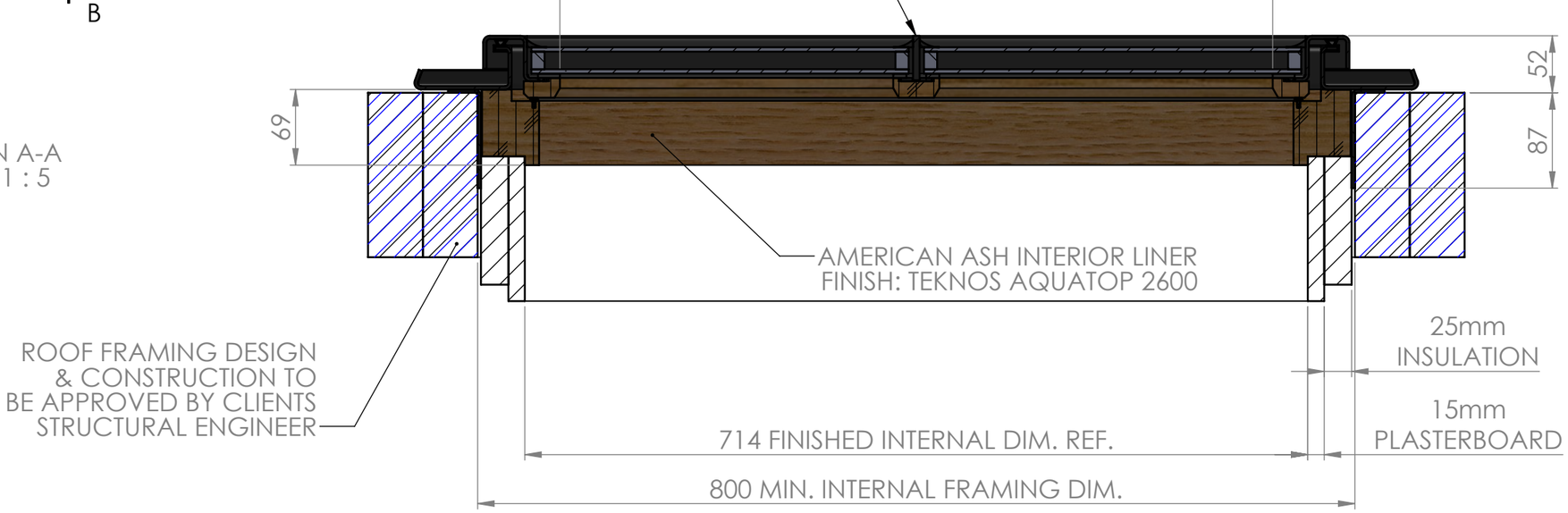
SCREW THREAD - INTERNAL	6H
SCREW THREAD - EXTERNAL	6g



SECTION B-B
SCALE 1 : 5



SECTION A-A
SCALE 1 : 5



STELLA ROOFLIGHT

DRAWN: S.C	TITLE: STELLA BESPOKE OPENING CONSERVATION ROOF WINDOW		SEALS/SEALANT COLOUR: BLACK/BLACK	PART TYPE: MANUFACTURED
SCALE: 1:10			FINISH: BEAD BLAST & POWDER COAT TEXTURED BLACK	PART REF: MGL3920A
DATE: 24/11/2023	UNITS: mm; kg	WEIGHT: 58	REF: 740-RANSMWEY	MATERIAL: 316L ST STEEL	SHEET: 2 OF 3 - A3	ISSUE: 1
					DRG. No. MGL3920A	

GENERAL INFORMATION
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SCREW THREAD - INTERNAL	6H
SCREW THREAD - EXTERNAL	6g

STELLA ROOF WINDOW NOTES:

METAL & GLASS LTD SHALL BEAR NO LIABILITY FOR FAILURE TO COMPLY WITH THE APPLICABLE LAWS, BUILDING CODES AND SAFETY REQUIREMENTS BY THE USER OF THE PRODUCT, ARCHITECT, INSTALLER OR OWNER OF THE BUILDING

ROOF WINDOW ENVIRONMENT CATEGORY - C5

STELLA CONSERVATION ROOF WINDOW TO BE ONLY INSTALLED IN ROOF PITCHES BETWEEN 17° & 70°

INSTALLER TO PROVIDE ADEQUATE FITTING ALLOWANCE TO ALL SIDES OF ROOF FRAMING TO ENSURE EASE OF INSTALLATION

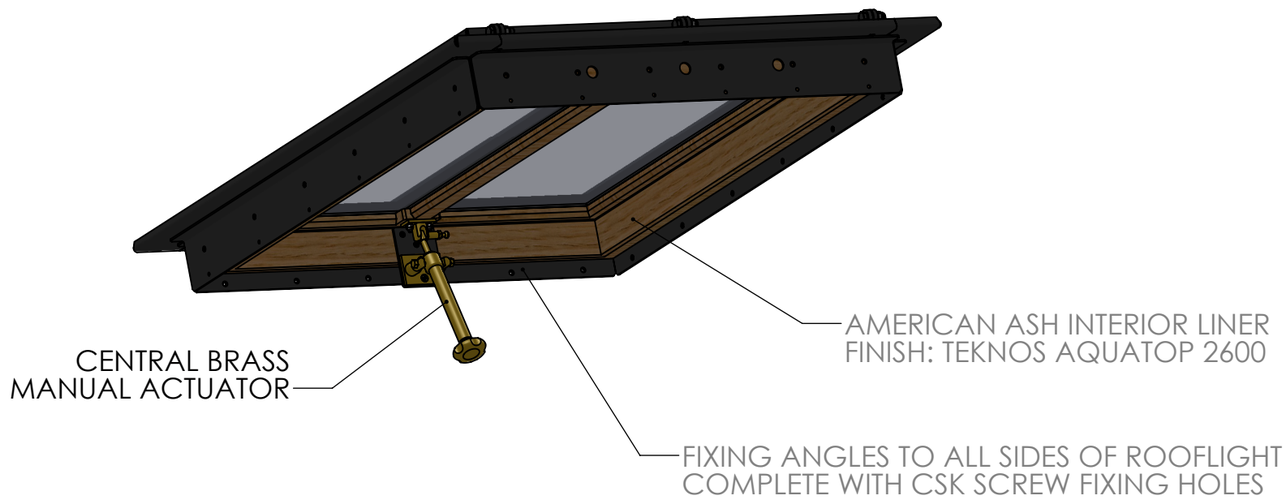
DESIGN & CONSTRUCTION OF ROOF FRAMING TO SUIT ROOF WINDOW LOADINGS TO BE APPROVED BY CLIENTS STRUCTURAL ENGINEER

ROOF WINDOW TO BE SUPPLIED FULLY GLAZED

GLAZING SPECIFICATION:

(TO BE APPROVED BY CLIENTS STRUCTURAL ENGINEER)

- 4mm TOUGHENED BIO CLEAN NATURAL SELF-CLEAN/SOLAR CONTROL OUTER
- 16mm BLACK WARM EDGE SPACER BAR (ARGON GAS)
- 4mm TOUGHENED PLANITHERM ONE LOW-E INNER



STELLA ROOFLIGHT

DRAWN: S.C	TITLE: STELLA BESPOKE OPENING CONSERVATION ROOF WINDOW		SEALS/SEALANT COLOUR: BLACK/BLACK	PART TYPE: MANUFACTURED	
SCALE: 1:10			FINISH: BEAD BLAST & POWDER COAT TEXTURED BLACK	PART REF: MGL3920A	
DATE: 24/11/2023	UNITS: mm; kg	WEIGHT: 58	REF: 740-RANSMWEY	MATERIAL: 316L ST STEEL	SHEET: 3 OF 3 - A3 DRG. No. MGL3920A ISSUE: 1

THE ULTIMATE GUIDE TO CONSERVATION ROOFLIGHTS

Independent advice for specifiers, architects and homeowners

CONTENTS

Technical knowledge and practical advice from industry experts

INTRODUCTION

In the realm of architectural preservation, where tradition meets innovation, the conservation rooflight stands as a symbol of harmonious coexistence between the past and the present.

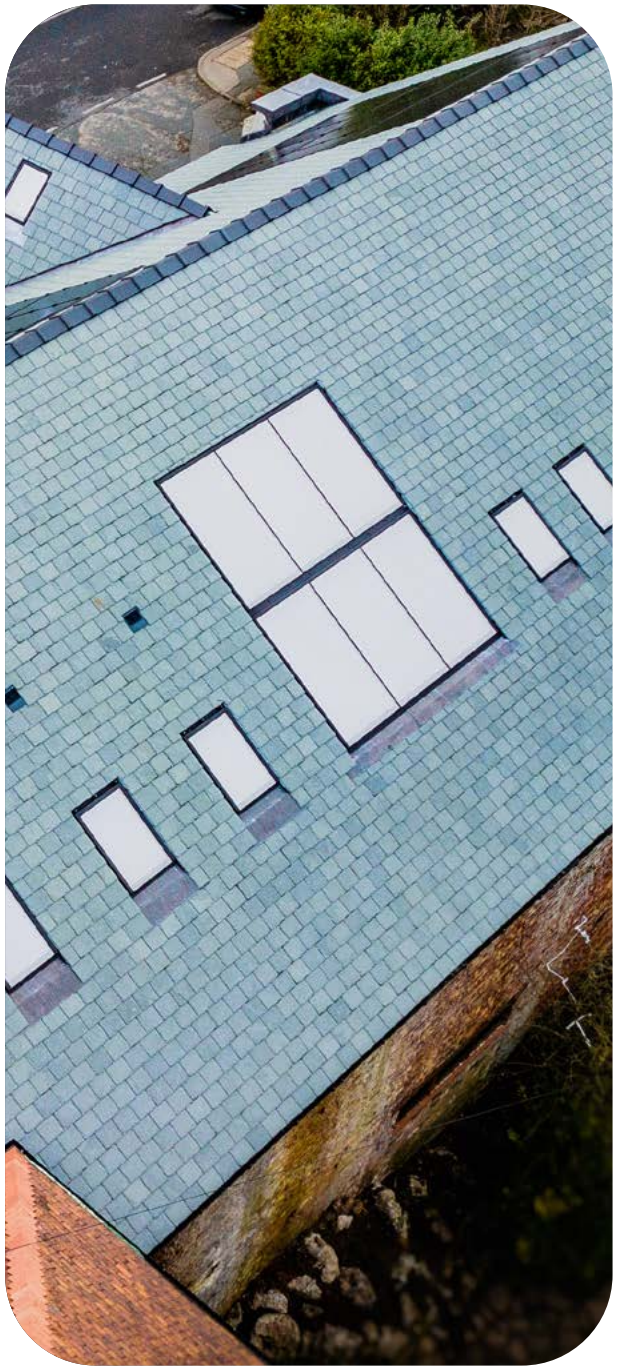
As custodians of our built heritage, it is our collective responsibility to ensure that every intervention is a thoughtful and well-informed one. This guide to conservation rooflights serves as an invaluable resource for those navigating the intricate terrain of heritage-conscious design and restoration.

This independent guide is a comprehensive compendium born out of a collaboration between seasoned experts and professionals who have dedicated their careers to innovation and conservation. It stands as a testament to the commitment of its contributors—specialists in conservation rooflight manufacturing, glass and glazing, roofing, and rooflight installation and building conservation—all of whom bring their wealth of knowledge to empower you, the discerning customer.

Conservation rooflights are not mere apertures to the sky; they are guardians of architectural authenticity, allowing natural light to dance within spaces steeped in history. Recognising their pivotal role in preserving the integrity of heritage structures, this guide aims to be your trusted companion in the journey towards acquiring the perfect conservation rooflight for your project.

Throughout these pages, you will find a meticulous exploration of every facet of conservation rooflights. From the intricacies of their design and manufacturing to the finer points of glass and glazing, the art of installation, advice on planning, and guidance on the multitude of bespoke options available. Each contributor brings forth a wealth of expertise, ensuring that you receive a well-rounded education on the subject.

Conservation rooflights are not mere apertures to the sky; they are guardians of architectural authenticity, allowing natural light to dance within spaces steeped in history



In a world inundated with choices, we understand the importance of making informed decisions. This guide does not advocate for a particular brand or product but rather equips you with the knowledge to make choices aligned with the unique needs of your conservation project. By presenting an unbiased perspective, we aim to empower you to navigate the market with confidence and clarity.

As you embark on your journey through the pages of this guide, envision it as a conversation with trusted advisors—individuals who have dedicated their professional lives to the meticulous craft of conserving our architectural heritage. May the insights contained herein illuminate your path, enabling you to make choices that not only meet your practical needs but also honour the timeless spirit of the structures you seek to preserve.

In the spirit of safeguarding our architectural legacy, we offer this guide as a compass, guiding you through the intricate landscape of conservation rooflights. May your endeavours be marked by sensitivity, wisdom, and a deep appreciation for the delicate dance between tradition and progress.

Happy reading and may your conservation project be as enduring as the structures they seek to preserve.

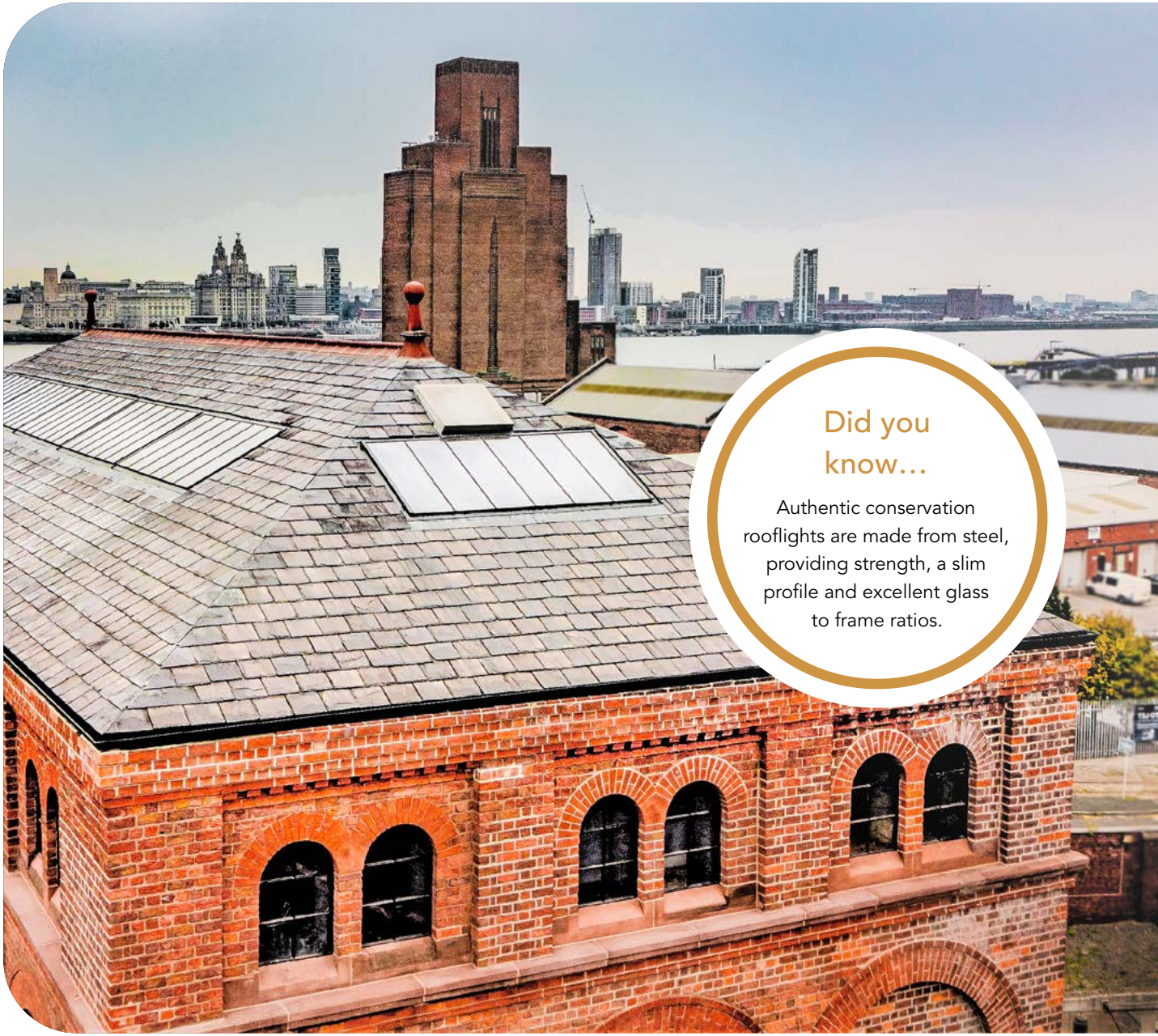
Paul Trace
Director, Stella Rooflight

WHAT IS A CONSERVATION ROOFLIGHT AND HOW DO THEY COMPARE WITH OTHER PRODUCTS?

A brief introduction to rooflights – what are my options?

There's a huge variety of choice in the conservation rooflight market and selecting the right product can be confusing.

We have listed a few of the more common types of rooflights and their typical applications:



Did you know…

Authentic conservation rooflights are made from steel, providing strength, a slim profile and excellent glass to frame ratios.

Flat rooflight	As the name suggests these rooflights are designed to sit on a flat or low pitched roof (typically between 5 and 15 degrees). They are often installed with an upstand, designed to enable any water to run off and not pool on the roof. Flat rooflights are manufactured in a variety of materials, with the most common being PVCu and aluminium. There is a huge amount of choice on the market and you will find a good range of standard and bespoke options, including both fixed and opening, of various sizes and glazing choice.
Lantern rooflights	These rooflights have a raised profile and are often used to create a dramatic architectural feature. They consist of a central raised section with sloping glass panels around the sides.
Pyramid rooflights	Similar to lantern rooflights, pyramid rooflights have a raised profile but with a pyramid shape. They are a stylish option that adds visual interest to a roof.
Domed rooflights	Domed rooflights have a curved shape that protrudes from the roof surface. They are commonly made of polycarbonate or acrylic, offering good impact resistance and thermal insulation.
Walk-on rooflights	These rooflights are designed to be walked upon, allowing for access to roof terraces or flat roofs. They are constructed with strengthened glass or other materials capable of bearing weight.
Light tubes	Also known as a tubular skylight or a sun tunnel a light tube is a device used to bring natural light into interior spaces where traditional windows or skylights may not be feasible. It consists of a metal or reflective tube that is installed between the roof and the ceiling of a building. The tube is designed to capture sunlight from the roof and channel it down into the room below. The top of the light tube typically has a dome or a lens that collects sunlight and directs it into the reflective tube.
Pitched rooflights	A pitched rooflight refers to a type of skylight or window specifically designed for installation on a pitched or sloping roof. Unlike flat rooflights that are installed on horizontal surfaces, pitched rooflights are angled to match the slope of the roof. A wide range of pitched rooflights are available on the market with both fixed and opening options and a various glazing, sizing, colour, and frame material choices.

What is the difference between a rooflight a skylight and a roof window?

The terminology can be confusing, but in reality, there isn't much difference between a rooflight, skylight or roof window and different manufacturers use different terminologies to refer to their products. Where it does make a difference is when it comes to product testing for thermal performance. You can read more about this in the U-Values and thermal performance section.

What is a conservation rooflight?

If you know that you need conservation rooflights for your project, the chances are that you have searched online and found plenty of choice. But what is a conservation rooflight and are they all the same?

To better understand what makes a rooflight a conservation style, it is important to understand the history behind this type of glazing and why the design is so sought after, not just on period properties but also more modern projects.

Without the ingenious concept of a rooflight the vision of transforming unconventional space into a well-lit property would be a daunting task, and in some cases an impossible option. For that reason, the conservation rooflight could be considered a highly influential building feature, which has given the construction industry a solution to introducing natural light into a property.

Although rooflights, or skylights as they are sometimes known as, have been around for centuries they became more prominent during the Victorian era as technology and building aspirations were stretched and roof glazing boomed. One of the most famous Victorian building projects was the Crystal Palace, which in 1851 used

glazing on an unprecedented scale to showcase just what could be achieved.

Mass-produced Victorian rooflights for residential use tended to be made from cast iron and the earliest examples would have smaller, lighter panes of glass. This was partially down to limits of glass technology at the time but also because of excise duties, which were imposed on glass by weight in the mid-18th century. These slim, single glazed rooflights with multiple panels of glass were unobtrusive in design and sat flush in the roof. Today it is this minimalist appearance that many people are seeking to achieve in their glazing designs.

As a result of their popularity, there are lots of conservation roof windows on the market, which can make choosing the right one virtually impossible unless one can identify what the differentiations are. An effective way to make this distinction is to look closer at the attributes of a true replica of a Victorian conservation rooflight.

What material is the conservation rooflight manufactured from?

If a conservation rooflight is all frame, then there is little point in having one. Genuine conservation designs should be manufactured with slim, clean lines and a low-profile to match the roofline. A number of skylight companies try to produce conservation rooflights using modern bulky aluminium profiles, which sit proud of the roofline, particularly slate. It is widely accepted that most authentic conservation rooflights are manufactured from steel because it provides great strength while offering a slim profile and excellent glass to frame ratios.

Single or double glazed?

Victorian rooflights would have been single glazed, however, today's modern building standards are much higher and so single glazing does not meet the minimum requirements for thermal efficiency (Part L). Double glazing is now the most popular option for genuine conservation rooflights because glazing technology is such that a modern double glazed unit can provide a number of benefits while remaining reasonably slender.

> Just because something is sold as a conservation rooflight, that doesn't automatically make it suitable for all building types.

Some conservation rooflight suppliers are keen to boast about offering triple glazing in their products, however, while this does offer a slightly improved thermal performance it comes at the expense of appearance. The optimal spacer bar thickness is 16mm so any decent triple glazed unit is going to be almost 50% thicker than a double glazed version. With a flush fitting profile being one of the main requirements of a conservation rooflight, the introduction of triple glazing makes that almost impossible on some roof types.

Glazing bars?

It is often a stipulation from the Conservation Officer that a conservation rooflight should have a glazing bar

to replicate that original Victorian appearance. It is not always the case but it is definitely worth checking whether you need them before purchasing any conservation rooflight.

If your conservation rooflight does require a glazing bar then it should be a genuine one. This is an area that separates those producing close replicas to the original Victorian rooflights and those who are trying to pass off modern skylights as something more traditional. A genuine glazing bar should be something which not only divides the glazing but also provides additional strength to the casement.

Top hung or centre pivot?

Once again, if you are looking for a close replica of a Victorian rooflight then a top hung profile will be the one you should opt for. Not only does a top hung design offer a more authentic appearance, it maximises the space below because the casement doesn't stick into the room. Smaller top hung rooflights also utilise beautiful brass ironmongery to operate the casement whereas centre pivot designs tend to rely on modern plastic handles, which are out of reach and offer nothing to enhance the internal aesthetics.

Is any old conservation rooflight suitable for my project?

Just because something is sold as a conservation rooflight, that doesn't automatically make it suitable for all building types. If your building is Listed or in a conservation area then the criteria for using conservation rooflights are much stricter and you should always gain approval, not only for their use but also the manufacturer that you would want to use.

There are only a handful of companies that specifically make conservation rooflights and even fewer who design, manufacture and assemble in the UK. Many conservation rooflights available online are simply other products which have been spruced up to look like they meet the requirements of that type of product. If you ask a supplier what the main difference is between their conservation rooflight and those used on modern buildings and the answer is a stuck on glazing bar, then you should avoid at all costs. Likewise, there are many elements which go into a genuine conservation design and price is always a reflection on quality.

Is there anything else I should consider when choosing my conservation rooflight?

With the UK Government pursuing a carbon neutral environment it is imperative that every action is taken to reduce energy consumption. Rooflights are energy efficient as they let in large amounts of natural light thus reducing the need for artificial lighting. Bringing natural daylight into your home is about much more than creating a bright, welcoming environment, it's about protecting your health and wellbeing and achieving a more positive way of life.

One way to ensure that you maximise the amount of available light is to increase the size of your rooflights… or is it? Just because you have a large rooflight this does not always guarantee lots of light and you should always check what the finished viewable (often referred to as clear viewable) area of the rooflight will be. You might think that a conservation rooflight with a whole frame size of 900mm (w) x 1200mm (h) would have a similar clear viewable area regardless of the manufacturer, but you would be wrong and bulky framed modern types or the flat rooflights posing as pitched conservation styles will let in considerably less light than a genuine steel framed version.

> With so many choices available, choosing the right conservation rooflight can be a bit of a minefield but with the right guidance and advice it need not be a stressful experience.

A BRIEF HISTORY OF CONSERVATION ROOFLIGHTS

Conservation rooflights, also known as heritage rooflights, have been a crucial part of architectural design for centuries.

Rooflights are an essential element of many historic buildings, and their evolution over time reflects the changing needs and priorities of architects, builders, and building owners.

The history of conservation rooflights can be traced back to the Middle Ages, when they were commonly used in churches and other religious buildings. At this time, they were typically small, narrow, and set high in the roof, designed primarily to allow natural light to enter the building while minimizing the loss of heat. They were often made of small panes of glass set in lead cames, and their design and placement were determined by the structural requirements of the building.

During the Georgian and Victorian eras, rooflights became more widespread in residential and commercial buildings, reflecting a growing interest in natural light and ventilation. As technology improved, larger and more complex rooflights were developed, often incorporating metal frames and ornate details. These rooflights were designed to be both functional and decorative, and their placement and design were carefully planned to complement the building's overall aesthetic.

In the early 20th century, the development of new materials, such as reinforced concrete and steel, led to further innovation in rooflight design. Architects and builders began to experiment with new shapes, sizes, and materials, creating rooflights that were both structurally sound and visually striking. The development of the art deco style in the 1920s and 30s saw the introduction of curved and streamlined rooflights, reflecting the era's interest in modernity and innovation.

The post-war period saw a renewed focus on energy efficiency and sustainability, leading to the development of more sophisticated rooflight systems. Glass technology improved, allowing for larger panes of glass to be used in rooflights, and insulation and glazing technology advanced, reducing heat loss and increasing energy efficiency.

Today, conservation rooflights continue to evolve, reflecting changing building regulations, environmental concerns, and technological advancements. Modern conservation rooflights are designed to balance the need for natural light and ventilation with the need to conserve energy and reduce carbon emissions. They are often made of high-performance materials such as double-glazed glass and stainless steel frames, and they are carefully engineered to meet the specific needs of each building.

CONSERVATION ROOFLIGHT MAINTENANCE TIPS

The strength, security and versatility of metal conservation rooflights make them an attractive option.

Customers are often sold on the promise of low maintenance. After all, exciting features such as self-cleaning glass and protective coating do help to provide peace of mind of the rooflight's longevity.

However, rooflights face a range of conditions that put them to the test. From rain, wind, hail and snow, the weather can almost certainly play a part in the longevity of your rooflight. Furthermore, different environments can also speed up corrosion, such as coastal locations with a high salt content atmosphere. In fact, if you live within 5km of the coast, then it is important to protect your rooflight with the right coating and an increased maintenance schedule.

Regular cleaning is essential to keep your conservation rooflights looking their best and functioning properly.

Be mindful of the material

There are two main options for metal conservation rooflights: carbon steel and stainless steel. Your choice of steel will dramatically change the amount of maintenance your rooflights require.

Carbon steel, also known as mild steel, is often used because it is a cheaper option. However, carbon steel is far more susceptible to rust. When the carbon steel is exposed to the environment, it oxidises, which causes rust. You can help to prevent this with a protective coating layer. However, if any scratches or chips occur in the paintwork, you expose the steel, making it vulnerable to corrosion.

The other option is stainless steel. This is more expensive in the short-term, but is corrosion-resistant. Stainless steel has higher chromium levels, which helps protect the steel from rusting and degradation. Arguably, due to the fact that stainless steel will not rust, the extended lifespan that it offers makes it a much more cost effective long-term solution.

My rooflights have a protective coating; do they need maintenance?

A protective coating such as paint or powder coating can help to ensure the longevity of your rooflight. While the protective coating helps to protect the steel, just like the paint on your car, it still needs regular cleaning, inspections and possible touch-ups to ensure it is in the best condition possible.

In the case of carbon steel rooflights, ensuring maintenance of the coating is essential to avoid corrosion. Whereas for stainless steel rooflights, maintaining the protective coating is largely for aesthetic purposes.

So, if you want to ensure that your rooflights provide a great return on investment, following a maintenance schedule can be vital – not just to protect the warranty but to ensure the rooflight's longevity.

Inspecting your rooflight

Regular inspection of your conservation rooflights is crucial to identify any issues early on and prevent them from developing into more significant problems. Here are some tips for inspecting your rooflights:

- Check the glass for any cracks, chips, or scratches that could compromise its integrity or affect its performance.
- Inspect the frame and sashes for signs of wear, such as rust or corrosion, and repair or replace as necessary.
- Check the weather seals around the frame to ensure they are intact and functioning properly. Replace any damaged or worn seals.
- Make sure the hardware, such as hinges and locks, are in good working order and lubricate them if necessary.

CONSERVATION ROOFLIGHT MAINTENANCE

Every four weeks

- Operate the opening and closing of the window to ensure the manual winder is in good working order or that electric motors are self-lubricating.
- Check all internal rubbers are clear of dust and debris.

These two tasks should be relatively easy to uphold for homeowners.

Every month

- Lubricate any manual spindles.
- Clean windows (if not self-cleaning glass).
- Operate gas springs to check the pressure.
- If you have opted for a manual spindle to open and close the window, then each month should include a quick check of the motion and a spray of light oil (such as WD40) to keep it moving freely and easily without any build-up or resistance.
- A monthly window clean can be essential to remove dirt from pollutants, rainwater, tree sap, pollen, and bird droppings if the glass is not self-cleaning. If your glass is self-cleaning, then a manual window clean only needs to happen every six months.
- If you have gas springs, make sure to operate your window at least once per month to check that they're working well and still have the correct level of pressure.

Every six months

- Check the paint finish to ensure that any debris is cleared away and that no damage to the coating has occurred since the last check.
- Clean any piston rods.
- Clean any self-cleaning windows.
- By this point, it can be important to take a closer look at your windows. Of course, it is not always easy to access your roof. So at this point, you may want to ask for professional help in giving your windows a quick check over and servicing.
- The first thing to do is to give the windows a clean. Depending on your environment, this may simply need a light hosing. However, you may prefer to use a mild detergent and warm water for an extra clean.

To clean the exterior of your windows:

- Brush away any dirt, debris or cobwebs.
- Use a mild detergent and warm water to clean the rooflight, its surround and fixings.
- Dry the whole area using a squeegee and finish with a soft, non-abrasive cloth.

To clean the interior of your windows:

- Lay a plastic sheet below the window and brush away dirt and dust.
- Clean the glass using a gentle cleaner, warm water and squeegee.
- Dry the window so that it is streak-free with a lint-free cloth.
- Once the glazing is clean, you can then check the paint and coating on the metalwork for any signs of chipping, cracking and corrosion. If you have carbon steel rooflights and you notice paintwork damage, then it's wise to get in touch with your installer, who can assist you in rectifying the issue before corrosion occurs. If you have stainless steel rooflights, then there is less urgency to remedy the issue, but you may choose to if it is part of your warranty or enhance its aesthetic.
- Finally, if you have a rooflight with gas springs, then the final six-month task is to clean the piston rod with a dry cloth, such as a kitchen towel.
- A final annual task is to check the hinge bolts are tight and then apply a very small amount of oil to the middle of the hinge and nylon washer. The oil here can evaporate quickly, so oiling the hinges at least once a year is an important aspect of maintenance.

It is important to check and follow your rooflight manufacturers' own maintenance guidance.

This is important not only to keep your rooflights looking their best but also to protect your warranty.

Repairing a conservation rooflight

If you notice any issues during your inspection, it's essential to address them promptly to prevent further damage. Here are some tips for repairing your conservation rooflights:

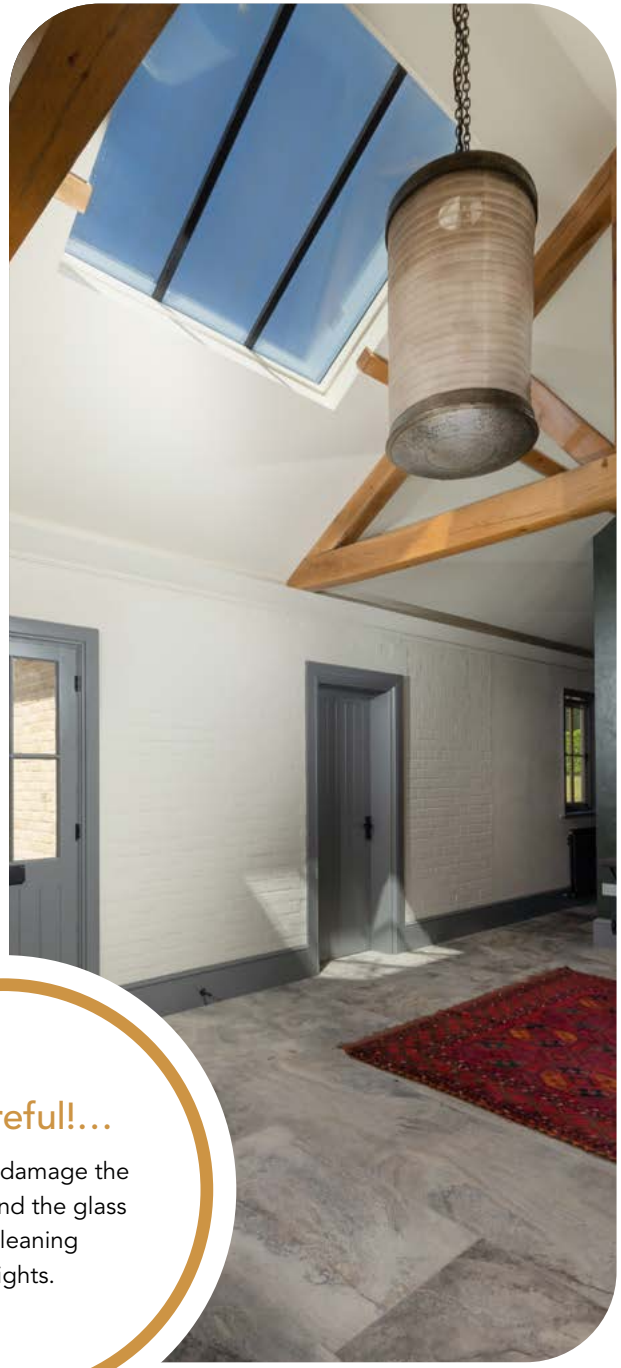
- For minor issues such as small cracks or chips in the glass, you can use a glass repair kit to fill the damaged area. However, for larger cracks or chips, it's best to replace the glass.
- If you have purchased mild or carbon steel rooflights they may rust over time. If you notice any signs of rust or corrosion on the frame, sand the affected area and repaint it with a rust-inhibiting primer and topcoat.
- Replace any damaged or worn weather seals to ensure the frame is properly sealed against the elements.
- If you notice any hardware issues, such as a loose hinge or lock, tighten or replace the hardware as necessary.

Other considerations for maintaining conservation rooflights

Roof windows are often positioned in difficult to reach places, high up in the roof of a property, which can make regular maintenance and cleaning difficult. If this is the case, then you should ensure that your conservation rooflights are made from stainless steel (especially if you live near the coast) as this will help protect the frame from rust.

All conservation rooflights should also come with a high quality paint or powder coat to protect the frame underneath. These coatings, however, are no substitute for the quality of the frame material and can easily get scratched or damaged, exposing the metalwork.

Your rooflight manufacturer should provide you with guidance relating to the specific maintenance requirements for their product. It is important to realise that failing to adhere to the manufacturers recommended maintenance guidelines and cleaning schedules may invalidate your products warranty.



Be Careful!...

It is easy to damage the silicon around the glass when cleaning rooflights.

WHY ARE BESPOKE ROOFLIGHTS BETTER FOR PERIOD PROPERTIES?

If you live in a period property, a converted barn, a Listed building, or a Conservation Area, the chances are that your home is unique.

You most likely appreciate the aesthetic appeal and unique and charming architectural design that your home offers. The intricate details, ornate mouldings, and craftsmanship that may be lacking in modern homes.

When you choose to live in a period property, you become the custodian of something more than a house – rather you are buying something of historical and cultural significance. Living in a home that has a rich history can be an attractive proposition, but it can also be a bit of a headache, especially when it comes to renovation or refurbishment.

Nothing is straightforward, when nothing is, well, straight! Finding a wall or a door frame that is square, or rafters that are equally spaced can present a challenge to even the most experienced builder or decorator.

A common theme among those that live in a period property is the need for a conservation rooflight that offers flexibility in its design. Rarely does a standard, off the shelf, rooflight match the requirement of a period property. Surely it makes no sense to change the roof structure of a 100-year-old building to fit the standard shapes and sizes of modern day building materials?!

> You can design your roof window to exactly the shape and size that it needs to be.

Fear not! Bespoke rooflights offer an excellent solution for traditional and period style homes. You can design your roof window to exactly the shape and size that it needs to be. You can design the spacing of the glazing bars to exactly fit the wonky rafters. You can choose materials and colours that compliment the internal and external aesthetic of your home. You can achieve an appearance that blends in with the rest of the building and just looks like it was meant to be there.

This can all be achieved while introducing the functionality and thermal performance of a rooflight that you would expect to see in a modern, contemporary home, such as high specification glazing, electronic actuation, wind and rain sensors and remote control operation.

Why are bespoke rooflights better for period properties?

How the bespoke rooflight process works

Designing custom rooflights is a creative process that begins with your unique vision. The first step is to decide how you want your rooflights to enhance your space. Whether you're looking to flood your home with natural light, create a stunning architectural focal point, or seamlessly blend heritage with modern design, your vision sets the stage for the entire journey.

Consider the primary purpose of your custom rooflights. Are they meant to illuminate a specific area, provide ventilation, or serve as a design statement? Understanding your goals helps in making informed choices during the design process.

Conclusion

Bespoke rooflight design is an art that marries aesthetics with functionality. Your vision, material choices and the final touches come together to create a product that transforms your space. Whether you're looking to illuminate a heritage property or infuse a contemporary home with natural light, the process ensures that your bespoke rooflight is a work of art, tailored to your exact requirements.

Architectural harmony:

Rooflights should harmonise with your building's architecture. Your design should respect the existing style while offering a contemporary touch. Careful consideration of the rooflight's shape, size, and materials is vital for achieving this harmony. The beauty of custom rooflight design lies in the ability to tailor every detail to your precise specifications. Choose materials that not only match your aesthetic preferences but also align with the practical needs of your space. The choice of materials influences factors like thermal performance, internal and external appearance, and functionality.

Opening options:

One of the first considerations will be whether you need an opening or fixed roof window – or perhaps a combination of both. If you require an opening rooflight then some conservation rooflight manufacturers offer a range of options depending on whether you prefer manual or electric operation.

Glazing options:

Custom roof windows offer the ability to select glazing options that suit your energy efficiency requirements. From double-glazed to triple-glazed units, the choice of glazing directly impacts insulation and thermal performance. Glass will typically make up 70% of your rooflight, and it's at the heart of controlling the flow of natural light, the level of safety and security, and of heat retention. It can even help protect furniture against fading.

Internal liners:

The internal liner of your rooflight not only provides additional thermal performance, but also completes the appearance of the inside of the rooflight, which arguably is more important than the outside, as it's what you will notice the most. You should always consider the use of a hard wood, such as American Ash, rather than plastic, and try to match the materials and colours with the design style you are trying to create elsewhere in your home.

Colours:

Many people prefer the natural appearance of their chosen hard wood (if that is your preference). However, bespoke manufactures also offer you the choice of a painted finish to match your internal decoration. They can usually match the colour of your liner to any desired colour. When it comes to the outside, you should also be able to finish your rooflight in an RAL colour of your choice.

CONSERVATION ROOFLIGHTS – WHAT LIES BENEATH?

An insight into steel framed conservation rooflights and the issue of rust, while highlighting some of the important considerations in the specification process.

Often specified in both period and contemporary projects, a steel framed rooflight design normally offers a superior glass to frame ratio, when compared with modern bulky rooflights. This extra access to both natural light and ventilation is two of the reasons why steel frames remain a popular choice. In certain applications, such as Listed buildings, conservation areas or sensitive replacements, steel framed rooflights should be the only choice, as these offer the most faithful replica of an original Victorian design.

The saying goes that 'beauty is only skin deep', however, when choosing or specifying rooflights it is important that you look beyond appearance and take into consideration the longevity and maintenance requirements of the materials used.

While the appearance of a steel framed rooflight is second to none there is an inherent shortcoming in the use of steel, particularly when used in a roof, and that is the potential for it to rust. The most common steel used for rooflights is mild steel (sometimes referred to as carbon steel) and in their naked form these materials offer virtually no resistance against rusting and will begin to corrode from the moment it comes into contact with the atmosphere.

Aren't all steel rooflights the same?

Mild steel (iron containing a small percentage of carbon, strong and tough but not readily tempered), also known as plain-carbon steel and low-carbon steel, is now the most common form of steel for conservation rooflights, because of its relatively low price and versatility.

Almost all rooflights are produced with some type of paint coating, which is designed to keep the main structure away from atmospheric conditions; in the case of mild/carbon steel rooflights this prevents them from rusting. It is worth noting that mild/carbon steel framed rooflights are totally dependent on the paint to stop the frames rusting and even the slightest damage during installation can signal the demise of your rooflight.

One of the ways to avoid the risk of rusting associated with steel framed rooflights is to specify a 316 marine grade stainless frame.

The most obvious difference between carbon steel and stainless steel is the ability to resist corrosion, with stainless steel (as the name implies) being the more corrosion resistant material. Both carbon steel and stainless steel contain iron, which oxidizes when exposed to the environment, creating rust. It is the presence of added chromium in stainless steel, which makes it more corrosion resistant than carbon steel.

Without wishing to overcomplicate the point, the chromium will attach itself to oxygen more readily than iron, but when the chromium attaches to the oxygen it creates a chromium oxide layer, which protects the rest of the material from degradation and corrosion. Carbon steel does not have enough chromium to form this chromium oxide layer, allowing oxygen to bond with the iron, which results in iron oxide, or rust. Therefore, if corrosion resistance is a key factor in your choice of specification, stainless steel has to be the way to go.

Protective coatings

Steel framed rooflights will usually have a powder coating or wet spray paint finish. Unlike mild/carbon steel, which relies on the coating for complete protection, a 316 marine grade stainless steel rooflight mainly has the coating for aesthetic purposes.

Powder coat is a type of coating that is applied as a free-flowing, dry powder. Unlike most conventional liquid paints, which are applied via an evaporating solvent, powder coating is typically applied electrostatically and then cured under heat. Powder coating is mainly used for coating of metals and is designed to create a finish that is tougher than conventional paint.

Done correctly powder coating provides a high-quality finish, which gives metalwork a more durable layer than liquid paints can offer, while still providing an attractive appearance. Applied to the right environment criteria, powder coated rooflights are more resistant to diminished coating quality as a result of impact, moisture, ultraviolet light, and other extreme weather conditions.

Powder coat applications should always be applied to a standard suitable for the location of the rooflight. The environment in which a rooflight is located is classified from C1 to C5 with the lower end of the scale (C1) for internal use in buildings with clean atmospheres, right up to marine coastal/industrial with aggressive atmosphere (C5). The most common application for steel framed rooflights is to a C3 standard, which covers urban and industrial atmospheres with moderate

sulphur dioxide pollution. While this should give a good standard of protection for most places in the UK there are a number of factors, which could affect the lifespan but are often overlooked.

It is easy to identify a property which is within 5km of the coast and specify the required marine coating, however if a property is located close to a road which is heavily gritted during the winter months this could potentially be as aggressive and corrosive to the powder coating as a property which is sited within a coastal environment. Ultimately identifying the right classification is not always as straightforward as looking up a postcode and careful consideration should be given to any environmental factors which may impact on the lifespan of the protective coating. Choosing the right durability is a question of cost but if the system doesn't last long enough, rectification could be expensive for the end user.

Paint coats are not magic coats!

Industrial coatings are no different to the paint on your car – they need cleaning and maintaining. Accumulated dirt may affect the design life of the system, and any mechanical damage almost certainly will. Therefore regular inspections should take place and minor damage must be touched up.

What many specifiers and end-users do not appreciate is that maintenance is not only required to keep up the aesthetic appearance, it is essential to prolong the life of the rooflight. From the moment the product is installed, the end-user is entirely responsible for providing that maintenance and failure to do so is likely to render any warranty void. The care and maintenance of a rooflight situated in a C3 environment is likely to be on an annual basis but this can increase to every three months in a coastal C4 location.

One of the biggest causes of steel rooflights rusting is a failure to adhere to maintenance guidelines either due to their inaccessible location or an unwillingness to undertake the work by the end-user. In fact it is often only when the rooflight is leaking that action is taken, and in most cases this is far too late to save the rooflight from a level of degradation that renders the product unsafe or no longer functional. It is normally at this point where the homeowner is told that the warranty is void and the problem is theirs to deal with.

With a mild/carbon steel rooflight it is essential that the specifier and end-user are fully aware of what is required to extend the product life. All rooflight companies will issue guarantee and maintenance paperwork with their products and most go to great lengths to publish the information on their websites but it is not uncommon for that information to be overlooked or lost and only returned to long after the time for maintenance has passed.

It is not just coastal rooflights that benefit from the longevity offered by stainless steel and if the rooflights are to be fitted in an inaccessible location, or your client is unlikely to head out with a ladder and a bucket of soapy water on a regular basis, then 316 marine grade stainless should be your first choice. There is no getting away from the initial price uplift of stainless in comparison to mild/carbon steel but without the overhead of repair or replacement, the whole life cost of stainless can be considerably less than the lower quality alternatives.

In summary

If you are intending to specify steel framed rooflights be it for either a traditional or contemporary project, then the advice would be to give greater consideration to the type of steel rather than just the appearance. You need to consider the location of the property, further than simply its proximity to the coast, and whether there are any factors that may adversely affect the coating life. Not only this but you should make your clients aware of their responsibilities to undertake the maintenance and check with your chosen supplier as to what level of care is likely to be required.

With some leading rooflight companies only offering a standard 12 month warranty on their products and always having the strict maintenance requirements to fall back on, you may want to simply consider designing out any potential issues by specifying 316 marine grade stainless from the outset. While all rooflights and all paint coatings will require some level of care, a stainless option will not suffer the same catastrophic material failure as a mild/carbon steel rooflight should your client not keep up with the maintenance.

CONDENSATION AND CONSERVATION ROOFLIGHTS

Almost every activity that we do within the home produces water vapour.

Whether it is cooking, washing or simply breathing we all add moisture to the atmosphere around us. Under normal circumstances the air within your home is able to support or absorb this moisture and hold it in suspension.

Moisture rich air circulates around the house and is changed as it travels out of windows and doors. This happens most months without any problems and you never notice any visible signs. That is until the balance shifts and gap between internal and external temperatures increases. One particular activity that likely to increase water vapour in the air is drying laundry indoors. Yes your clothes will dry quicker in the house but where does that water from your clothes go? It does not simply dry up and disappear but is absorbed into the air within the home.

When the summer months draw to a close, we start to keep the windows and doors shut for longer as the evening temperatures drop off. Our activities of cooking, washing and breathing continue unchanged but in the colder conditions and with windows closed, there are fewer air changes in the home. The air continues to circulate picking up more and more moisture as we go about our normal lives.

The amount of moisture or water vapour that can be held is increased by putting on the heating but there is still a limit to how much water the air can hold. In todays' world of high energy prices more and more of us are holding off that decision until absolutely necessary but the heating does much more than just warm us.

A good example of the air reaching saturation point is when we emerge from a bath or shower and see steam floating around in the bathroom. The air has absorbed as much as it can and you can suddenly see all this moisture before your eyes. We accept this as the norm and in most cases the water vapour will deposit itself on your mirror or tiled surfaces before clearing through into another room or out of the window.

Although not so exaggerated as in the bathroom scenario, our normal living activities produce large amounts of moisture which for certain months of the year start to manifest as condensation.

Condensation is the result of moisture saturated air coming into contact with a cold surface and then shedding its water onto that surface. Traditionally condensation would form on window frames and the glass as this would have been the point where the colder temperature of outside had the best opportunity to pass through into the warmer house.

Condensation and conservation rooflights

Years on from the old metal frame windows, most modern homes now have energy efficient glass in thermally broken frames, problem solved? Unfortunately not; in fact modern construction methods actually make the incidence of condensation more likely as the airtight designs reduce the opportunity for air to flow and change within the homes. Years ago most homes had a chimney and ill-fitting windows and doors which allowed the air to flow. Condensation appeared on the windows and that was widely accepted.

Modern windows and skylights do not suffer as much from condensation but modern living and home design actually increases the moisture within the air. This is not a problem when the heating is cranked up but without it you are more likely to see mould growth in the backs of wardrobes, the hall and in bedrooms than you are condensation on your windows. Two sleeping adults produce around 1 ½ pints of moisture in 8 hours which is absorbed as water vapour into the atmosphere. If you turn off your heating at night as the temperature drops, the air cannot hold as much moisture and it will deposit that when it comes into contact with a colder surface.

A new 3 bedroom house will absorb around 1500 gallons of water during the construction, much of which is dissipated into the indoor atmosphere during the drying out period. Adding heating and carpet will help but that is still a large amount of moisture being added to the air which is likely to be seen as condensation somewhere in the property.

The architects and product manufacturers continue to try and design out condensation from our homes but our very way of life still remains the biggest problem.

Cooking, showers & baths, drying clothes, better fitting windows and doors, no chimney all add to the problem and increase the risk of condensation.

Condensation is not caused by products but merely reflects the atmospheric conditions that we as occupants create. As such, we also have a responsibility to manage both the risk and the water when it does occur. Simply ignoring those beads of water on the glass in the morning will ultimately result in the discolouration of your window frames, silicone and rubbers. Ignore the water in your bathroom and the grout and silicone will go black and you may suffer from mould growth in corners and on the ceiling.

Unchecked, condensation will damage paintwork, curtains, wall coverings and fittings. Over time it will damage items beyond repair and could be costly. It is natural to regularly vacuum the carpets or dust the furniture, whereas maintaining our windows and rooflights seems less of a priority. Most view windows and skylights as unimportant or even products that do not require regular care, which is far from the truth.

All products require some maintenance, particularly those in coastal or high pollution environments. Why then should it not be as natural to clear away the water from the bedroom windows in the morning or wipe down the tiles in the bathroom after use and check the walls for any spots of damp or mould each month.

Despite the introduction of modern glazing, genuine steel framed windows and conservation rooflights will always have a slightly increased risk of developing condensation particularly when used in modern buildings.

The Glass & Glazing Federation (GGF) produce an information booklet about causes and advice for condensation which can be viewed on our downloads section. This guide not only explains how condensation forms but also gives practical tips about reducing the risk of it happening.

Some useful advice, taken from the GGF booklet pertaining to how to reduce condensation when formed on the room side surface of the inner glass is as follows:

1. Provide natural ventilation through an opening section of the window, or through a proprietary ventilating unit, or through an airbrick,
2. Where there is no open fire, or where existing flues have been blocked off (and cannot be unblocked), ensure that all vents are fitted and kept clear,
3. Open at least one window in each room for some part of the day to permit a change of air,
4. Ensure ventilation of all rooms where gas or oil heaters are used,
5. Fix hoods over cookers and other equipment producing steam, and ventilate them to the outside air,
6. Ensure that bathrooms and kitchens are ventilated in accordance with National Standards,
7. Draught proof internal doors and keep them closed to prevent transfer of air with a high water vapour content from the main moisture producing rooms – kitchens, bathrooms, and drying rooms. It should be borne in mind that water vapour does not remain in the room where it is first generated, but tends to migrate all over the house because:

   a. The water vapour pressure in the original room may be higher than elsewhere, and so the moist air will be forced out into rooms with a lower pressure, and

   b. Convection currents will carry it through the house,
8. Increase slightly the air temperature within the house,
9. In cold weather, keep some form of heating on permanently in the house,
10. Wherever practicable, fix radiators under windows to maintain the temperature of the inner glass at a reasonable level,
11. Condensation can be caused by isolating the inner glass from the warm room air with heavy curtains when drawn. To allow free passage of warm air to the glass, position curtains 15cm to 20cm away from the window, and ensure there are sufficient gaps at the top and bottom to permit continuous circulation. (Holes should be drilled along the top of any box pelmet used.)

In conclusion, condensation is caused by the way we live combined with a perception that modern products are somehow maintenance free. With a better understanding of how condensation comes about we can take action to reduce the possibility of it happening and care for our products when it does. Should your window or rooflight or ceiling suffer from condensation or mould growth it is most likely to be the reflection of the environment rather than any serious product failing. Clearing any moisture away from the affected area will extend the product life and stop unsightly mould patches spreading.

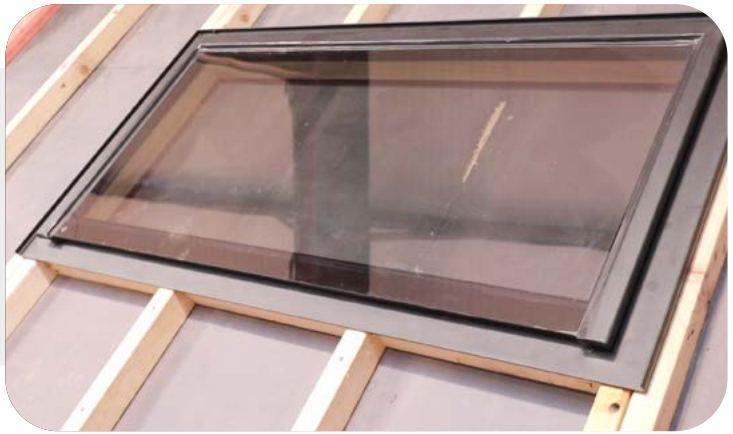
HOW TO INSTALL A CONSERVATION ROOFLIGHT

Stewart Rowles MioR
Managing Director, Master Roofers UK

STEP ONE

Framing the rooflight

- Getting the framing right for your conservation rooflight is important. Twin joists should be installed at the edges of the frame. This acts in two ways; one to create additional support for the rooflight, and secondly, so the battens for the roof are supported. The height of your rooflight frame is important for battening.
- Ensure the batten aligns with the weathering blade of the window frame.



STEP TWO

Installing the front tilt and battening

- To ensure the tilt is cut to a correct length firstly, measure your front apron. The tilt should be cut with a minimum of 100mm feathering from the depth of the batten to nothing. The overall length of the tilt should be 300mm longer than the aprons width.
- Cut two 150mm pieces off of the end of the tilt. You will need these later in the installation.
- The tilt should be installed, allowing a 5mm gap at the front of the frame. This is to allow the lead to pass freely over the tilt.
- Install a batten tight against the underside of the tilt. This is to support the head of the slate.

STEP THREE

Battening the sides of the rooflight

- The batten should be installed close to the weathering blade of the window frame. Allow a 5mm gap between the batten and the frame. Turn over the access felt and tack it into the ends of the battens.
- Finally, install the felts to the back of the window.

STEP FOUR

Weathering the top of the rooflight

- Carefully trim the felt at the rear of the frame, allowing some overhang.
- A batten should be installed tight against the top of the frame.
- Measure 100mm from the outside of the frame and slice a 'V' into the felt. Repeat this process on both sides.
- Turn the trimmed felt on top of the batten and nail it in line with the rafters. This will ensure the excess water is dispersed to the sides of the window frame.
- A weathering strip is installed at the rear of the window. This is to ensure that water can pass over the rear flashing when installed. In this scenario, a roof membrane tape is used to attach the weathering strip to the existing felt sheet.
- The remaining standard roofing batten is installed above the rooflight.

STEP FIVE

Installing the top flashing support board

- The rear weathering strip is now lifted out of the way. Temporarily lifting this strip allows access to the support board area.
- The top lead flashing must have full support underneath it and timber supports must be installed.
- Ensure the support boards are cut to match the width of the top flashing.
- Now a small tilt should be cut and installed at the lower parts of the support board. The tilt will help to support the tail of the slate or tile being used. Ensure the tilt is trimmed in line with the outside edges of the window frame.
- Finally, install the tilt approximately 25mm from the bottom edge of the support board

STEP SIX

Slating the bottom of the rooflight ready for the apron

- Now the 150mm tilt offcuts are needed. Install the two tail offcuts to the side of the window frame in line with the bottom. The tilt should be in line with the edge of the battening.
- Mark your slate in line with the edge of the battening and the tilt at the top.
- Now the slate can be marked halfway on the support button.
- The slate can now be nailed in place, and you can repeat this process on both sides of the window.
- Note that the slate is cut exactly to the edge of the tilt. This will be important for installing the apron later.

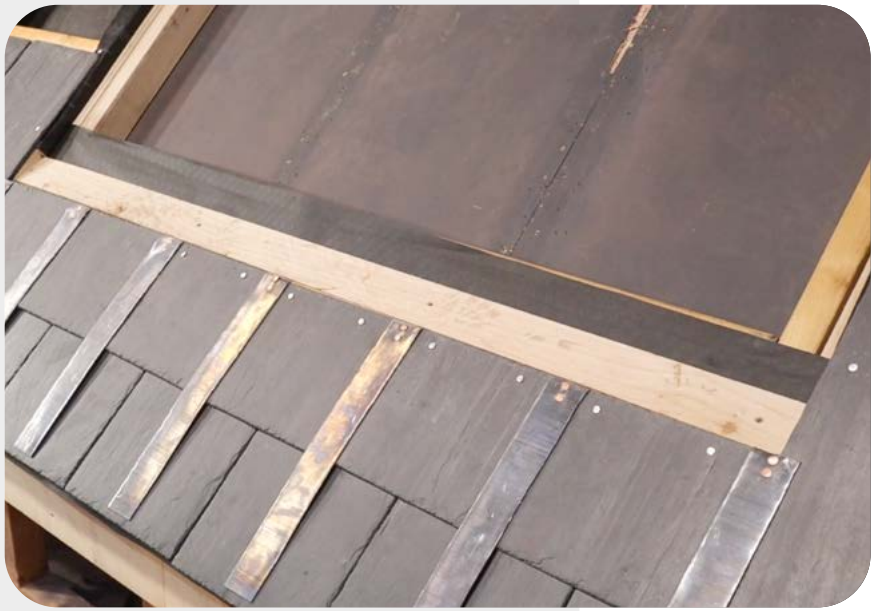
STEP SEVEN

Installing the tingles and lead apron

- Remove the tingles from the lead flashing kit. Your tingles should be installed at centres of 450mm. If you need more than the tingles supplied, you are able to trim off the excess from the top flashing, which will give you some additional tingles if needed.
- The tingles should be pre drilled and nailed as close to the top of the slate as possible. All the lead items in the flashing kit should be fixed with copper nails.
- All the marks and buckles must now be removed from the lead apron. This is a simple process that can be carried out with a lead dresser and a steel square. Use the square to act as a strong edge to dress the lead against, this will help to open out the welt at the back of the apron.
- Next, measure the width of the window frame to ensure that the welt that has been cut onto the flashing is the correct width.
- Draw a square line from the rear of the welt, all the way to the front of the flashing. Using a piece of timber hold it against the line that you have marked ready to form and fold up the lead on a 90 degree angle. You will need to use a lead dresser to tighten up the curve. Repeat this process on both sides of the apron flashing, which is now ready to be installed.
- At this stage, the rooflight should be removed from the opening. You will need to do this to install the apron correctly. The top edge of the lead flashing should align with the timber framing of the window opening. Use copper nails to fix the centre third of the flashing, the nails should be spaced at 150mm apart.
- Now the wings of the lead apron can be bossed. For this, you will need a bossing stick and a flat dresser, moving the lead in the fanning motion, boss the lead outwards towards the sides of the slate roof.
- Finally, a flat dresser can be used to create a nice, even and flat surface for the slate above to sit against.
- The lead tingles can now be trimmed. Allow 50mm extending past the bottom of the apron and gently snip off two small corners from each tingle. The tingles can now be turned and dressed flat.

Have you considered...

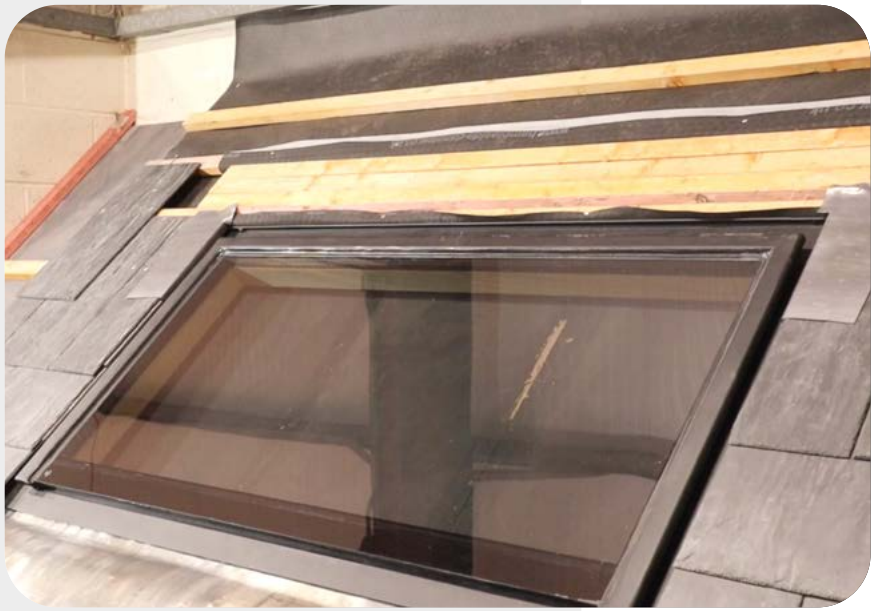
If you have a large, heavy rooflight, how will you lift it into position on the roof?



STEP EIGHT

Installing the rooflight soakers

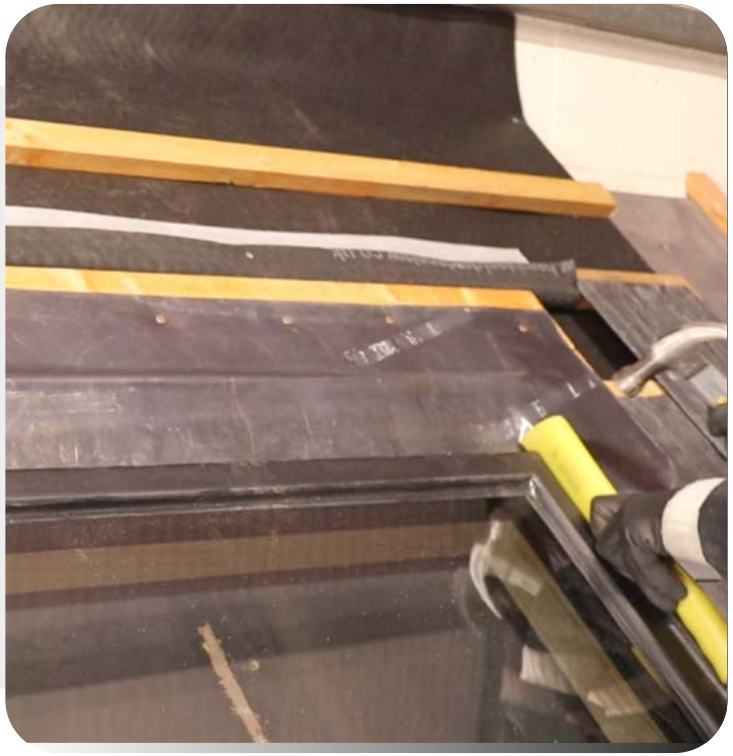
- Firstly, you will need the two soakers with an angled outer edge. The soaker marked 'first soaker' must be installed on the right hand side of the window.
- Trim the soaker so it sits flush against the slates and so that the folded edge of the soaker sits neatly against the weather channel of the rooflights.
- A helpful method for keeping your slates in line at the side of the rooflight is to install a runner batten and this will help you to keep a straight line with your slates and soakers.
- A simple method for cutting your slates is to flip them upside down, hold them tight against the runner batten and mark the slate 3mm from the corresponding slate next to it. Do this at the top and the bottom of the slate. Marking and cutting your slates on the rear will leave a pleasing front edge when finally trimmed.
- Use a straight edge to join the two marks together and now cut the slate from the back side. Any additional holes in the slate should also be punctured through the back. Place the slates tight up against the runner battens while nailing.
- The standard, soakers can now be installed. They should be laid with the smallest part of the tapered band at the top of the slate. Once again, the soakers should be installed with copper nails. Repeat this process until you have reached the top of the window frame on both sides.



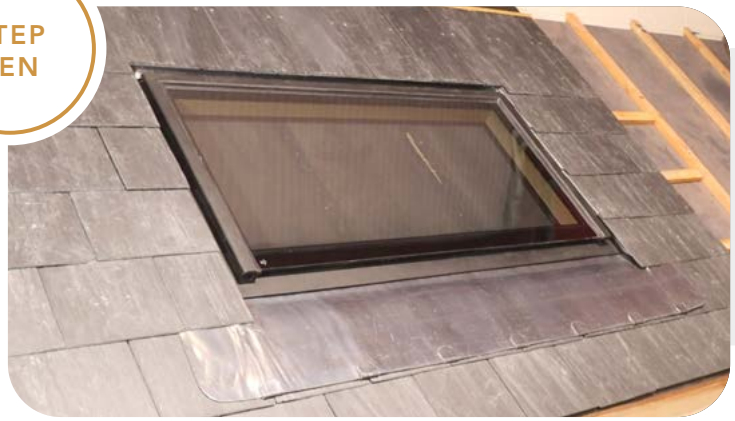
STEP NINE

Installing the top flashing

- In preparation for the top flashing to be installed, the felt has been turned over to create a trough. In other scenarios, the weathering strip may need to drape down over the rear flashing.
- A simple method to smooth out the marks in the rear flashing is to hold your fingers on the raised points and bend the flashing. Finish the process with a flat dresser around the outer edges.
- Next, trim the guide to cut only the line ensuring that the corner areas are rounded. This is important as it will make bossing the corners easier at a later stage.
- With the top flashing trimmed it can now be placed onto the roof.
- The top flashing can now be installed, ensuring the flashing will cover the rear of the rooflight frame correctly. Dress the lead neatly around the tilt which was previously installed. Now the bossing and dressing can be carried out at the rear of the rooflight, taking special care to boss carefully around the rear corners.



STEP TEN



Finishing the slates above the rooflights

- Now that the rear flashing has been installed the final slates can be cut. Carefully mark the slates and remember to transfer the marks onto the rear so that the slate can be cut from behind. Once the L-shaped slates have been cut, a series of smaller slates will then need to be cut and fitted next to those.
- Slating around the rooflight is now complete and you can resume normal slating above this area.

ROOFLIGHTS AND PLANNING PERMISSION – WHAT YOU NEED TO KNOW

Generally speaking, having a rooflight installed does not require planning permission, provided it meets certain requirements.

Instead this falls under what are known as a building's permitted developments. The criteria it must adhere to are as follows:

- The rooflight cannot protrude above the highest part of the existing roof.
- Any and all windows installed must be less than 150mm above the current roof plane.
- Obscured glazing is to be used for side-facing windows (for privacy).
- Unless the windows are higher than 1.7m above the floor, they shouldn't be openable.

If these conditions aren't met, then the chances are you'll require additional planning permissions.

Can you install a rooflight in a listed property?

There are many more factors to consider when looking to install a conservation rooflight in a listed property, barn conversion or a property situated in a designated Conservation Area. You'll first have to check whether the property is subject to an Article 4 Direction. A useful resource on this subject can be found on the Historic England website here >

An article 4 direction is made by the local planning authority. It restricts the scope of permitted development rights either in relation to a particular area or site, or a particular type of development anywhere in the authority's area. Where an article 4 direction is in effect, a planning application may be required for developments that would otherwise have been permitted. Article 4 directions are used to control works that could threaten the character of an area of acknowledged importance, such as a conservation area.

If your listed property falls under such regulations, you must consult the relevant planning authorities. It's likely that you will require additional planning permissions for any possibility of installing a rooflight.

You'll still likely require building regulations approval

If the good news is that your rooflight probably won't require planning permissions, the slightly less good news is that you'll still likely require approval under the Building Regulations in order to install a rooflight. Why?

- You're probably going to have to alter the roof structure in some way (usually the rafters or joists) to install the rooflight (by creating an opening for it).
- A proposed rooflight will have to showcase its energy efficiency, so that it doesn't lead to excess heat loss.
- It needs to be shown that the roof can support the weight of the proposed new rooflight; if not, then structural changes will need to be made so that it can.

Further useful information on rooflights and Planning can be found on the Planning Portal website here >

The decision pending your application for a conservation rooflight will very much depend on your local Conservation Officer. They will take into consideration factors such as the original characteristics of your property, and those of any surrounding properties, as well as the character of the local area.

It is likely that your conservation roof window will need to be of a traditional metal frame construction (rather than a plastic modern alternative) and may require a glazing bar. Importantly, it will probably need to sit flush within the roof line in order to minimise any visual impact from ground level.

So, provided that your rooflight meets the criteria outlined above, then you shouldn't have too much trouble specifying and installing a rooflight without any additional planning permissions.

CONSERVATION ROOFLIGHTS AND BUILDING REGULATIONS

Conservation rooflights have become increasingly popular in recent years, as they offer a way to bring natural light into buildings while maintaining their historic character.

However, when it comes to installing conservation rooflights in historic buildings, there are specific building regulations that must be considered. In this article, we will offer specific advice about historic buildings and complying with UK building regulations.

The first thing to consider when installing conservation rooflights in a historic building is whether or not you need planning permission. In some cases, planning permission may not be required if the rooflights are not visible from the street and do not alter the external appearance of the building. However, it is always best to check with your local planning authority before proceeding with any installation work.

Once you have established whether or not you need planning permission, the next step is to ensure that the rooflights meet the requirements of UK building regulations. The regulations that are relevant to rooflights include Part B (Fire Safety), Part L (Conservation of Fuel and Power), and Part K (Protection from Falling, Collision and Impact).

Part B (Fire Safety) requires that rooflights be designed and installed in such a way as to prevent the spread of fire. This means that they must be constructed from materials that are fire-resistant, and that they must be installed in such a way as to maintain the integrity of the roof. If the building is Listed, then it is important to consult with the local conservation officer to ensure that any proposed works are sympathetic to the building's historic fabric.

Part L (Conservation of Fuel and Power) requires that rooflights meet certain thermal performance standards. This means that they must be designed to prevent heat loss and to reduce the need for artificial lighting during the day. If the building is Listed, it may be necessary to use specialist conservation rooflights which are designed to replicate the historic appearance of the original rooflights.

Part K (Protection from Falling, Collision and Impact) requires that rooflights be designed and installed in such a way as to prevent people from falling through them or being injured by them. This means that they must be strong enough to withstand the weight of a person, and that they must be designed to prevent people from slipping or tripping on them.

It is also important to consider the impact that the installation of conservation rooflights may have on the building's historic fabric. If the building is Listed, then it is important to consult with the local conservation officer to ensure that any proposed works are sympathetic to the building's historic fabric. This may involve using specialist conservation rooflights which are designed to replicate the historic appearance of the original rooflights.

In conclusion, if you are considering installing conservation rooflights in a historic building, it is important to ensure that you comply with UK building regulations. This will involve considering the requirements of Part B (Fire Safety), Part L (Conservation of Fuel and Power), and Part K (Protection from Falling, Collision and Impact). If the building is Listed, then it is important to consult with the local conservation officer to ensure that any proposed works are sympathetic to the building's historic fabric. By following these guidelines, you can ensure that your conservation rooflights are installed in a way that is safe, energy-efficient, and sympathetic to the historic character of the building.

SHEDDING SOME LIGHT ON THE NEW PART L BUILDING REGULATIONS FOR ROOFLIGHTS AND THERMAL PERFORMANCE

Why the need for new regulations?

A major part of the UK's commitment to meeting its targets for carbon reduction is being driven by a tightening of the Building Regulations surrounding energy efficiency standards for homes.

The Ministry of Housing, Communities and Local Government (MHCLG) argues that by making our buildings more energy efficient and embracing smart technologies, we can cut energy bills, reduce demand for energy, and boost economic growth while meeting our targets for carbon reduction and maintaining healthy environments. As such it has introduced 'The Future Homes Standard' to ensure all new homes achieve a 30% improvement in energy efficiency standards by 2025.

The new Building Regulations, which came into effect in June 2022, aimed at achieving these targets comprise five new Approved Documents.

Manufacturers, architects, specifiers and customers looking to install rooflights and roof windows will be most interested in uplifts to the Approved Document L, Conservation of fuel and power Vol 1: Dwellings.

What do the new regulations state?

For rooflights, skylights and roof windows (of which the definition is crucially important), the relevant consideration is the thermal transmittance. This is measured as a U-value in units of W/m²K, which stands for Watts/meter square Kelvin. The lower the U-value the more efficient the construction is at keeping heat flow through the structure to a minimum.

The new regulations deem the worst acceptable U-values to be 2.2W/(m²K) for rooflights and 1.6 W(m²K) for roof windows.

Rooflights v roof windows – what's the difference?

To correctly assess whether an element meets the new limiting U-value figure, the U-value must be calculated for the element in the appropriate plane – either horizontal or vertical. Now this makes a big difference, as testing the same product in either a horizontal or vertical position will make a significant difference to the resulting U-value figure. With the vertical position providing a much lower (better) U-value figure.

This is where the definition of the terms rooflight and roof window prove crucial in determining how they should be tested and what the relevant U-value should be for each. According to the Approved Document the following definitions apply:

Rooflight: A glazed unit installed out of plane with the surface of the roof on a kerb or upstand. Also sometimes referred to as a skylight.

Roof window: A window installed in the same orientation as, and in plane with, the surrounding roof.

Therefore, while we might refer to our product as a rooflight or skylight, the official terminology for a conservation rooflight, which is designed to sit flush within a roof line, should be a roof window.

According to the approved document, the U-values for roof windows should be calculated based on a vertical position. For rooflights, U-values should be calculated based on a horizontal position.

Further guidance in the Building Research Establishment's BR 443 tells us that U-values for roof windows and rooflights are usually quoted for the in the vertical plane. This allows comparison of different products that could be used at different inclinations. However, for the purposes for calculating heat losses from buildings, U-values should relate to the plane of the component as installed in the building.

This can be done by calculating the U-value of rooflights and roof windows, allowing for the angle of the roof in respect of both surface resistances and gas space resistances. Alternatively the following adjustments can be made to U-values assessed for the component in the vertical plane:

	U-value adjustment (W/m²K)	
Inclination of roof	Twin skin or double glazed	Triple skin or triple glazed
70° or more (treated as vertical)	0.0	0.0
<70° and >60°	+0.2	+0.1
≤60° and >40°	+0.3	+0.2
≤40° and >20°	+0.4	+0.2
≤20° (treated as horizontal)	+0.5	+0.3

What is the best U-value that you are likely to achieve?

It is important to understand that there is much ambiguity surrounding rooflights, skylights and roof windows and the U-values quoted by various manufacturers. The much-coveted U-value figure has become a powerful sales tool for those claiming to be 'the best performing' or 'most thermally efficient' rooflight on the market and you will often see figures advertised that are misleading. Some companies confuse the issue by quoting the centre pane figure for the glass, rather than a whole frame U-value, which is the legal requirement.

In any case, caution is advised when researching the various products available and you should always request evidence to support the thermal performance claims made.

U-value calculations for roof windows and rooflights must be undertaken by an approved UKAS accredited product certification agency, who will calculate accurate thermal performance figures based on the individual make up of components in the product's construction.

A huge caveat for conservation properties – exemptions for historic and traditional dwellings

While it is not always the case, it stands to reason that the majority of conservation rooflights are installed in traditional properties, barn conversions, and Listed buildings. If your project involves such a property, you may find that there are exemptions to these new regulations.

The Approved Document states that the energy efficiency of historic and traditional dwellings should be improved only if doing so will not cause long-term deterioration of the building's fabric or fittings.

New extensions to historical and traditional dwellings should comply fully with the energy efficiency standards, unless there is a need to match the external appearance or character of the extension to that of the host building. In which case, the work should comply with standards in the approved document to the extent that it is reasonably practicable.

In determining whether full energy efficiency improvements should be made, the building control body should consider the advice of the local authority's conservation officer.

Additional guidance is available in Historic England's Energy Efficiency and Historic Buildings: Application of Part L of the Building Regulations to Historic and Traditionally Constructed Buildings.

HOW MUCH DOES A ROOFLIGHT COST?

The price variation between rooflight products can be significant and it's not always obvious why one product is more or less expensive than another.

With rooflights, as with most things in life, you tend to get what you pay for, and it very much depends on the size and specification of your project and the quality of finish you are hoping to achieve, as to which rooflight is best for you.

The rooflight market is a crowded place, with products to fit every budget, from cheap imported standard size roof windows to high end, bespoke products, and everything in between!

Standard sized rooflights tend to be a less expensive option due to the fact that they are made in bulk, often overseas where production is cheaper. Whereas bespoke products, as you might expect, come at a premium due to the additional time and skill involved in their manufacture.

What makes up the majority of the cost of a conservation rooflight?

The cost of most building materials has increased over the past 18 months or so and unfortunately the main materials involved in the cost of manufacturing a conservation rooflight (glass, steel and timber) have been some of the most severely affected.

In the case of a genuine conservation rooflight, the most significant cost involved will be the manufacture of the steel frame. In addition to the sheet metal cost, the manufacturing process involves precision engineering equipment such as laser cutting, metal pressing and highly skilled welding.

The next biggest material cost is the glazing. With the huge increases the UK has experienced in energy costs, glass has become extremely expensive to manufacture. Unfortunately, as energy prices continue to soar, glass prices are unlikely to reduce any time soon.

A major consideration when it comes to the cost of a rooflight, will be whether or not they need to open. Opening rooflights are much more expensive to manufacture and can range in price depending on whether they need to be manual or electronically operated. You can also add to the cost with add-ons such as wind or rain sensors.

All steel rooflights will be finished in a specialist paint coating to offer additional protection. Again, this requires a skilled tradesperson to apply the coating and adds an additional layer of cost to the manufacturing process.

To a lesser extent, the liner of your rooflight will also contribute to the overall cost and there are an abundance of options to choose from here as well.

Ancillary costs, such as rubber seals, silicone, screws, and even the packaging that the product arrives on will be factored in to the overall cost of manufacturing.

As you can see, these costs all start to add up!

Are bespoke rooflights more expensive than standard 'off the shelf' products?

In short yes. This is due to the fact that bespoke rooflights are made to order and are one offs. They will require individual cad drawings and bespoke manufacturing. Making one of anything always costs more money.

WHY DO SOME ROOFLIGHTS COST MORE THAN OTHERS?

Rooflight Size

The obvious starting point here is to consider the size of the rooflight required. It stands to reason that larger rooflights will cost more, as more material is required to make it.

That being said, conservation rooflights start out life as a flat sheet of steel, so if a rooflight is 1m in length or 1.2m in length there will be little difference in the price. However, a 4m long rooflight will certainly cost more than a 1m long rooflight.

Type of rooflight material

Another really important factor in the cost of conservation rooflights is the type of steel they are made from. A marine grade 316 stainless steel frame is typically 20-30% more expensive than mild or carbon steel, however, when balanced with the fact that stainless will not rust, most believe it is worth the extra investment.

Some rooflight companies will try and pass off other materials, such as aluminium or even plastic, as a conservation rooflight. While these might offer a cheaper alternative, they will rarely satisfy your Conservation Officer, who prefer the slender lines and flush fit offered by steel.

Fixed or opening rooflights

We have already discussed the cost difference between opening and fixed rooflights, but it's worth also noting that winders for manually opening rooflights vary considerably between manufacturers. While some rooflights have cheap, fairly flimsy winders, others use high grade solid brass, which not only provides peace of mind that they won't fail when lifting the heavy glass units, but also look fantastic. Of course, there is again a price premium for this type of quality finish.

The quality of electric actuators also varies, so it's worth checking to see where these are manufactured. Of course, they should meet UK legislation regarding lifting performance, however, the cheaper ones don't last as long as the better quality (usually German) versions.

Rooflight glazing

When it comes to glazing, there is also plenty of choice which will impact price. All rooflights must comply with Part L of the Building Regulations, which govern thermal performance. However, customers can choose whether they require double or triple glazing, or options such as toughened glass. Of course, it goes without saying that the higher the specification of glazing, the higher the cost tends to be.

Rooflight liners

There is also a huge difference between manufacturers when it comes to the quality (and cost) of the internal rooflight liners. While some use cheap plastic or soft wood, others use a variety of hard woods, such as American Ash. The type and quality of the liner can not only impact the internal finish, but will also affect the thermal performance.

Rooflight finish

While paint coatings will typically be either a powder coat or wet spray finish, there are still differences in the quality of paint used. This won't necessarily have a major impact on the price of the overall rooflight, but you may find it interesting to know that there are variances in quality here too and that the cheaper paint coverings won't last as long as the better quality ones.

UK manufactured rooflights

Another big difference to take into consideration when looking into the cost of rooflights, is where they are made. As with most things, you won't be surprised to find that the cheaper rooflight products on the market are manufactured in Eastern Europe or Asia. If you prefer your rooflight to be made closer to home then buying British is a must, even if there is a slight premium in price.

Delivery

You may find that the delivery costs appear rather high when reviewing your rooflight quote – especially if you are looking at a bespoke rooflight quote. If this is the case then consider that some companies go to great lengths to protect their products in transit and often specialist transportation is required for delivery. Unlike the postal service, specialist transport costs are calculated on distance travelled, so if you live in a remote area or on an island, then this will impact delivery charges.

In addition, a bespoke rooflight will require an individually designed bespoke made pallet, which may cost several hundred pounds in materials!

The location of the rooflight and installation

Most rooflight companies are supply only. This means that the cost to install a rooflight is additional to the rooflight purchase itself. Larger, heavier rooflights will also cost more to install, which needs taking into consideration when working out your budget. If you have a large rooflight, the chances are it will require specialist lifting equipment, such as cranes or forklifts. It may even be necessary to apply for road closures to ensure the crane or lifting equipment has suitable access.

It's always a good idea to check installation costs with your builder before ordering your rooflight.

CHOOSING THE RIGHT ROOFLIGHT GLAZING FOR YOUR CONSERVATION ROOFLIGHT

Ceawlin Hickman
Cornwall Glass

Roofing products are subjected to a wide variety of conditions, such as weather, structural loads, internal/external atmospheres, misuse etc.

All of which should be considered when choosing the appropriate glazing for your conservation rooflight.

The size of your glass panes and the design loadings applied can determine the appropriate glass thicknesses required. As a general rule, the larger the pane of glass, the thicker the unit needs to be. This is an often overlooked aspect with DIY'ers or inexperienced installers and individuals should seek advice from competent persons who are knowledgeable in this field.

A coat for all occasions

A variety of glass coatings are available that can achieve certain performances, for example, improvements in thermal performance, solar reflectance, light transmission, U.V. protection etc. Sometimes these are limited to the appropriate thickness of glass, and your rooflight manufacturer will be able to advise on what is and isn't possible.

Some rooflight suppliers may choose to supply prefab designs to reduce lead times, however these may not be suitable when considering the appropriate loadings of the building structure in its given location.

Thermal performance and temperature control

When it comes to rooflights and glazing, thermal performance refers to the heat transfer between the building and its surroundings. It is a factor that is concerned with how well a structure responds to heat flow between the inside and outside and is measured in terms of heat loss, which is represented as a U-Value.

> Thermal insulation is the method of preventing heat transfer between objects in thermal contact.

Thermal performances in glass have improved over the years with advances in new technology. This has in the main been driven by developments in low-emissivity glazing, which lets the sun's rays pass through the glass, yet reflects any indoor heat back into the room so that it does not escape – forming a shield against the cold. The use of low-e glass is mandatory in most cases.

Triple Glazed Units (TGU) can reduce U-Values further and may be a consideration for decreased heat loss. TGUs can weigh considerably more than standard double glazed units and consideration should be given to the increased overall thickness of sealed units, especially when it comes to structural loads and lifting the rooflights into position in the roof.

Rooflights with larger glass surface areas will have a greater impact in terms of solar gain into properties. If consideration has not been given to this then a room can become too hot and uncomfortable, especially during hot summer days. Solar control coatings on glass can help reduce the solar gain (G-Value) and allow the space to be enjoyable during these periods of the year.

The effective use of solar control glass can reduce the need for air-conditioning and blinds, which in itself can lead to substantial cost savings.

Sunlight protection

A common cause of fading furniture is heat and infrared light from the sun. The sun's heat is responsible for about a quarter of all the fading seen in homes. However, the biggest culprit when it comes to furniture fading is harmful UV rays.

Research has shown that 40% of fading is caused by UV rays, another 25% of fading is due to heat, with 25% being caused by normal visible light. The remaining 10% cause of fading is from indoor artificial lighting, humidity, and poor dye anchorage.

The good news is that UV radiation can be virtually eliminated using PVB laminated glass.

Optimising the performance of glazing must always involve a compromise between overall performance parameters and making a choice on grounds of aesthetics and budget restraints.

Safety

The performance of a product is defined as its behaviour related to foreseeable use. For roofs, this means protecting the inside of a building from the weather. Therefore, they do not have to provide the same level of performance that is required for floors.

However, for the purpose of designing the structure, which supports them, roofs are assigned loads to be supported depending on whether access onto them is or is not required. These loads are static loads. However, these static loads do not account for the fact that people who walk across roofs may stumble and fall onto them, applying an instantaneous load which may be much greater than the static loads prescribed for the roofs.

Under these types of impact, roofs have failed, allowing the person to fall through and suffer serious injury or death.

Glazed roofs can always be designed to withstand any specified loading or impact, typically by using glass which has higher strength, and by designing the frame and supports to carry the load. There may, however, be considerable cost implications and other constraints. These include limitations from the manufacturing and fabrication processes and the ease with which heavy glass panes can be safely handled during transportation and construction.

Conservation rooflights are typically not designed to be walked on, however, the designer of a building with a glass roof should consider the maintenance requirements for the roof and any other equipment sited on adjacent areas of solid roofing to establish whether there is a risk that people may walk, fall or drop things on the glass and hence the appropriate performance required for the glazed roof.

Robustness is concerned with damage to glass as a result of impact. This sets the performance requirements for the upper pane of glass.

Safety is concerned with preventing falls from height through the glass and preventing glass from falling. This sets a minimum performance for the lower pane of glass.

Toughened glass

In some instances it may be necessary to produce rooflights manufactured with toughened glass units, and you should refer to the 'Elephant in the Roof' article in this guide which discusses the instances in which toughened glass may be required.

As the name suggests, toughened glass units are stronger than standard glazing units and if broken are designed to form small particles called dice. The formation of the fracture pattern causes the pane to expand. If this expansion is not restrained the particles are more likely to separate and fall. If this expansion is restrained on one face, as in structural sealant glazing, the pane may bow. If the pane bows outwards sufficiently, it may fall under gravity.

If the inner pane remains unbroken and the outer broken pane of toughened glass does not fall immediately, it may stay in place for some considerable time. However, it may fall at any time and, particularly if it is above a populated area, it should be removed as soon as possible.

It important to understand that toughened glass can spontaneously break due to Nickle Sulphide Inclusions (NSI). Visually, you will not be able to see these tiny particles of metal, but they can still be present in the glass. Unfortunately, there is no way to totally remove the risk of NSI. Therefore, a risk assessment should be completed to assess the value of objects below the rooflight and the people hours spent beneath it.

Nickel Sulphide Inclusion is a rare yet accepted anomaly within glass manufacturing and no glazier processors or suppliers can provide a warranty against breakages from this phenomenon.

You can reduce the risk of an NSI breakage by putting the glass through an additional process called Heat Soaking. The glass is heated to 250°C after the tempering process to force any panel with Nickel Sulphide impurities to shatter. The resulting glass that survives the testing therefore has a lower chance of containing NSI, reducing the risk of broken panels to the end user.

Heat-soaked toughened glass used as a monolithic pane should not be used more than 13m above lowest floor level. Toughened glass may fragment when fractured but fragments falling from this height will gain sufficient kinetic energy to cause a serious injury.

Heat-soaked toughened glass may be used at heights of between 5 and 13m above lowest floor level provided a risk analysis shows that the resulting hazard is tolerable. Toughened glass used in these situations should be no more than 6mm thick and the pane size should not exceed 3m².

Thicker glass will break into larger fragments. A pane of this size weighs 45kg and even if fully fragmented larger masses of glass should not be allowed to fall from these heights.

Laminated glass can be selected so that its less likely to fall from place when broken. Laminated glass supported on only two edges is more likely to fall from place post failure than that supported on four edges.

Overhead glazing may present a hazard from glass falling on people and a risk assessment is required when using glass in these situations.

The risk assessment should take account of:

- The probability of glass failure
- The probability of broken glass falling
- The consequences of glass falling.

SELF CLEANING GLASS AND ROOFLIGHTS

Few people actually enjoy the task of cleaning their windows, especially if there are a lot of them.

However, when it comes to rooflights, access for cleaning and maintenance can be a real problem, as they are often situated high up in the roof and inaccessible. Therefore self-cleaning glazing is an important consideration when looking at the specification of your rooflight.

But what is self cleaning glass and how does it work?

There are actually two types of self cleaning glass: hydrophobic and hydrophilic. Both types clean themselves using water by rolling droplets down the glazing. However, hydrophilic coatings are based on titania and have an additional property that allows them to chemically break down absorbed dirt in the sunlight

Hydrophilic self cleaning glass

Hydrophilic self cleaning glass is often referred to as having the "lotus effect", which means it has a very high level of water repellence, much like the leaves of a lotus flower. The titanium dioxide coating on the glass reacts with UV light to generate electrons that break down organic dirt into tiny pieces which rainwater can wash away.

Hydrophilic self cleaning glass panels produce a non-stick surface (much like a frying pan) that water can run off without causing streaking. These types of coatings are resistant to scratches and work on both organic and inorganic dirt. Hydrophilic self cleaning glass reduces the need for manual window washing, keeping your rooflights cleaner for longer.

Photocatalytic self cleaning glass

Photocatalytic self cleaning glass works much the same as hydrophilic self cleaning glass, except that it has an extra coating. This additional coating of titanium dioxide uses the sunlight to break down dirt on the glazing through a process called photo catalytic decomposition. When it rains the water then washes away any build up of dirt.

The coating on the glazing is designed to make any water that hits the glass spread out into an even sheet and easily run off, taking any of the loosened dirt along with it. The even run off of water means that no streaks are left behind and your rooflights dry quickly. The coating on photocatalytic self cleaning glass rooflights is strong and has a long life span.

What is the best type of self cleaning glass?

It is widely acknowledged that Saint Gobain BIOCLEAN self-cleaning glass is among the best on the market which offers a highly effective solution. This high performance glazing offers a dual-action 'hydrophilic' and 'photocatalytic' coating, which as explained above, uses daylight and rain to break down and wash away organic dirt. The special coating works without altering the transparency of the glazing.

How long does self cleaning glass last?

While glass that cleans itself seems like a magic bullet solution, your rooflights will still require some care and maintenance, just less of it. The self cleaning coating on Saint Gobain glass is permanent and the SGG BIOCLEAN® functionality will remain the same over the life of the glazing.

It's important to note that there are some cases where self-cleaning glass might not deliver the results expected of it. For example, wind-blown spray in coastal areas can cause salt crystals to adhere to the surface. As salt is an inorganic contaminant, it can't be broken down by the photocatalytic action of all self clean glazing. While this is worth considering, the technology will make the glass cleaner than ordinary glass after a light hosing or rainfall.

In summary, it is important to consider a high specification self cleaning glass for your rooflight as it stands to reason that most people are either unable or unwilling to climb up onto the roof to clean them. When it comes to specifying your rooflight and comparing costs, make sure you are making direct comparisons on the type of glazing used, as not all self clean glazing is the same.

The benefits of self cleaning glass

- A permanent self-cleaning coating that lasts the lifetime of a window
- Glass stays cleaner for longer
- Ongoing cost savings with reduced window cleaning bills
- Clear view outside even when it's raining, thanks to the sheeting effect
- Kinder to the environment with a less frequent use of water and detergents
- Less dirt and grime adheres to the glass so any cleaning is quick and easy
- Perfect for rooflights as they are often situated in hard-to-reach areas that are difficult to clean.

U-WHAT?!

Understanding the thermal performance (U-values) of rooflights and what to look out for in the specification process

One of the most important elements of modern building materials is thermal performance, which is measured in terms of heat loss. In the construction industry this is commonly expressed as a U-value or even sometimes an R-value. U-value calculations will invariably be required early on in the building strategy stage as it provides an indication as to how much heat loss a building is likely to suffer upon completion. The products used in the build are normally required to be tested and a figure for each component given. One example of where this is an essential requirement is rooflights.

Thermal transmittance (U-value) is measured in units of W/m²K which stands for Watts/meter square Kelvin. The lower the U-value the more efficient the construction is at keeping heat flow through the structure to a minimum. It is worth noting that it's not just the building materials and products that have an impact on the thermal performance of a building, as both workmanship and installation standards can strongly affect the thermal transmittance. If insulation is fitted poorly, with gaps and cold bridges, then the thermal transmittance can be considerably higher than desired, no matter how good the individual products are.

Thermal transmittance takes heat loss due to conduction, convection and radiation into account. The amount of heat conducted through a material of a given volume, in a unit of time i.e. the rate of conduction is why the units are measured as W/K.

There are guidelines in the UK, set out in Building Regulations Approved Document Part L (Conservation of Fuel and Power), that give the maximum U-value that materials and structures are allowed to have in a range of buildings, including domestic properties. It sets a national standard to ensure that homes must be built to a certain performance level of energy efficiency for both the reduction of carbon emissions and the reduction of residents heating bills.

A U-value is one of the most difficult thermal measurements to calculate and so it is important that any figures are produced using reliable software from a bona fide source. When it comes to rooflight suppliers providing U-value figures for their products, rooflight manufacturers all want the lowest possible number to prove that their rooflights give the best thermal performance, which ultimately reduces heat loss for their customers. In the rush to be the best, it is not inconceivable that figures get a little massaged so it is always best to ask for a copy of the test performance report to ensure that a) the figures are genuine and b) that the figures were produced in the correct way.

Despite them being used in their millions across the

Important consideration…

Make sure the U-Value quoted is for the whole product, not just the centre glass pane!

country, you might be surprised to find out that there is no specific test for a rooflight. Instead rooflights are tested to BS EN ISO 10077-1:2017, which is a thermal performance test for windows, doors and shutters.

So does this actually matter? Well, actually yes it does because most rooflights cannot be used in the same way as windows and this will result in a change to the U-value. For example, the pitch of the roof will change the thermal performance of your rooflight. However, the testing of rooflight performance is based on either a vertical (above 60 degrees) or horizontal (0 degree) pitch. Both of these positions are usually outside the maximum and minimum pitch that rooflight manufacturers recommend for their rooflight products.

There is quite a bit of difference in the U-values given to rooflights at both ends of the scale. Some rooflights, for example, might achieve a U-value of 1.5 W/m²K in the horizontal position but this can improve to 1.1 W/m²K when used above 60 degrees. Now when you ask most companies what the U-value is for their rooflight which figure do you think you will be given? This is why it is important to either ask for both figures or to request data to support the figures quoted.

The design of a rooflight is also critical to the thermal performance. Most modern rooflights are produced from thermally broken aluminium, which is then clad internally with wood to provide very good U-values. Whilst making the frames more thermally efficient, this approach also makes the rooflights chunky, which often results in them sticking several inches above the roofline and providing poor frame to glass ratios. It is not uncommon for some rooflight frames to make up over 40% of its overall size, which ultimately means 40% less light entering a building.

One of the easiest ways to lower a U-value on a window or rooflight is to increase the thickness of the glazing. A decent double glazed unit will give a centre pane value of 1.0W/m²K and a triple around 0.5W/m²K. Then of course there are some that offer quad glazing, which reduces this figure further. However, it should also be noted that by reducing the U-value in this way, you will be significantly increasing the weight of the product, the cost and also the depth of the rooflight profile.

If you are working on a Listed Building or in a Conservation area then you will require a conservation rooflight design, which should sit completely flush with your roofline. If you are looking to use quad glazing or modern bulky rooflights to improve thermal performance then this will most certainly be to the detriment of the buildings aesthetics.

There are a few exceptions relating to the thermal requirements in certain buildings and it is always a good idea to take professional advice should your project fall into one of the following categories:

i. Where the replacement roof windows are unable to meet the requirements because of the need to maintain the external appearance of the façade or the character of the building, replacement windows should meet a centre pane U-value of 1.2 W/m2K.

ii. Buildings which are; Listed in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990; In a conservation area designated in accordance with section 69 of that Act; or Included in the schedule of monuments maintained under section 1 of the Ancient Monuments and Archaeological Areas Act 1979; Carports.

iii. Buildings which are; Listed in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990; In a conservation area designated in accordance with section 69 of that Act; or Included in the schedule of monuments maintained under section 1 of the Ancient Monuments and Archaeological Areas Act 1979; Used primarily or solely used as places of worship; Stand-alone buildings with floor area less than 50m²; Carports; Temporary building with a planned time of use less than 2 years.

In conclusion, despite the fact that the testing methods for obtaining a rooflight's thermal performance could do with an overhaul, a U-value figure can be important when both choosing products and in the overall construction of your property. The lower the figure the more thermally efficient a product or building is and this can contribute to reducing heating costs.

It is also important that the figures provided are genuine and it is advisable to request proof that U-values being quoted are not only correct but are applicable for the application that you are using that product.

WHAT QUESTIONS SHOULD I ASK WHEN CONSIDERING A CONSERVATION ROOFLIGHT?

WHAT IF I LIVE IN A CONSERVATION AREA OR A LISTED PROPERTY?

The chances are you will need a genuine conservation rooflight, which sits flush within the roofline and fits in with the aesthetics of the surrounding area. You may need approval from your local Conservation Officer before ordering your rooflight. Always check first!

DO I NEED AN OPENING OR FIXED ROOFLIGHT DESIGN?

That will depend on a number of factors including if ventilation or access is required, or if there are budget constraints. Fixed designs are generally a lot less expensive.

HOW WILL MY ROOFLIGHT BE DELIVERED?

Most rooflights will arrive on a pallet. Depending on the size and weight, they may be too large for a tail lift facility. If that is the case it is essential that you have suitable facilities to unload the delivery vehicle. A variety of vehicles may be used for deliveries and it is important that you tell your manufacturer about any access or issues which may have an impact on your delivery.

You should always arrange a delivery date with your manufacturer to ensure that you have ample time to make arrangements. It is important to organise your site to be ready for delivery and avoid any additional charges.

If you are not intending to install your rooflight immediately make sure you have suitable dry storage for your rooflight.

DO I NEED A BESPOKE OR STANDARD SIZE ROOFLIGHT?

If you live in a period property the chances are that you may need something of a bespoke size and design to fit between non-standard rafter sizes.

If you have a modern property, you may still want a bespoke option which allows for greater flexibility and individuality of design.

HOW WILL MY ROOFLIGHT BE INSTALLED?

Most rooflight companies are supply only, which means you will have to arrange installation with your roofer or builder. Conservation rooflights need to be installed flush with in the roofline and may require a specialist conservation builder to do the job correctly.

Incorrect installation can be a costly mistake, so its' worth doing your due diligence in advance when it comes to finding a suitable installer.

HOW AM I GOING TO GET MY ROOFLIGHT IN POSITION?

Do not leave this to chance. Make sure you discuss this important factor in advance with your builder. They will need to know the exact weight and size of the rooflight to ensure that there is enough manpower or specialist lifting equipment to get your rooflight on to the roof and also to ensure that the roof is sturdy enough to carry the weight.

It may be necessary to use a crane to lift your rooflight on to the roof. If this is the case make sure your rooflight manufacturer knows this so they can include lifting eyes to the frame. It may also be necessary to lift or crane the rooflight into position directly from the delivery vehicle. This will require carefully planned logistics from all parties involved.

WHAT DOES THE WARRANTY ON MY ROOFLIGHT COVER?

Warranties will cover various elements of your rooflight, from the frame to the glass. Make sure you read all the small print and don't be fooled by misleading guarantees and warranties. Most warranties will require you to follow some form of maintenance schedule to ensure their validity.

ARE ALL CONSERVATION ROOFLIGHTS THE SAME?

Definitely not! There's a huge difference in the type of products available in the conservation rooflight market. Make sure you are comparing like for like when it comes to doing your research and obtaining quotes and consider what the most important things are in your decision making process.

WHAT TYPE OF GLASS DO I NEED?

Glass types for bespoke conservation rooflights are varied and can include options for increased thermal performance, improved security, safety and solar control. Make sure you discuss your preferred options with your rooflight manufacturer.

WHAT IF I LIVE NEAR THE COAST?

If you live within a 5 mile radius of the coast then your metal conservation rooflight will be affected by issues of rust. This can be overcome by specifying 316L stainless steel in the manufacturing process.

HOW QUICKLY DO I NEED MY ROOFLIGHT?

Don't leave your rooflight purchase until the last minute – especially if you require something bespoke. The bespoke rooflight manufacturing process can take up to 12 weeks.

Timings will be crucial, especially if you have a large hole in your roof in the middle of winter and / or if storage on your site is an issue.

Engage with your rooflight company at an early stage to agree exact timelines for manufacturing and delivery to avoid any misunderstanding or disappointment.

CAN I ACCESS MY ROOFLIGHT FOR MAINTENANCE?

Rooflights are typically placed high up on the roof where accessibility is an issue. This can create problems with maintenance schedules, which must be upheld to ensure the validity of the rooflight's warranty. You may require the services of a specialist cleaning company for both the internal and external upkeep.

DE-MYSTIFYING ROOFLIGHT TERMINOLOGY

There are many different ways to describe skylights and the components used in installing and operating them. Not only this but the term skylight is also referred to as many different things such as rooflight, roof window, sky light or occasionally people refer to them as Velux, who are of course a manufacturer of skylights.

Actuators	The mechanisms used to electronically open and close the skylights. A range of electronic actuation devices are available subject to the requirements of the opening casement. If you require your roof window to have some or all of the casements opening then it is also possible to include such functions as wind or rain sensors. Modern actuators can be operated by switch, remote control or even by your mobile device using a dedicated App. Your manufacturer will be able to advise on the specific options for your rooflight.
Baseplate	The part of the rooflight that contains the hinges for the casement to be bolted onto. The fixing lugs are located on the underside of the baseplate along with the wooden interior liner. This piece of the skylight sits between the structural support timbers (rafters).
Bespoke skylights	This term is used to describe a rooflight which is custom made to your specification. This can be a change to a conservation rooflight, a more contemporary roof window or a range of roof windows for a flat roof application. You often have the ability to change a whole range of options including glazing specification, colour, change the wood that your liner is made from, add or remove glazing bars and have opening or fixed casements.
Casement	This is the opening piece of the rooflight which contains the self-clean glass units. This section is fixed onto the baseplate hinges. The casement is viewable once fitted in the roof.
Coastal location	Coastal rooflights are typically classified as anything within 5kms of the coast, however if you have any questions about the location of your property or the likely implications of high salinity or pollution content in the atmosphere, speak to your rooflight manufacturer who should be able to advise on the suitability of their product.
Condensation	Condensation is the water that results from the conversion of water vapour in the atmosphere. The air in our homes always contains water vapour which is usually invisible. The warmer the air, the more water vapour it can hold but there is a limit to the amount it can hold for a given temperature.
Conservation rooflight	During the 18th century rooflights, in their most primitive form, were used to bring light into agricultural buildings. It therefore seems uncanny that todays rooflights are yet again providing an architectural design solution to the increasing trend of converting old or disused industrial buildings into domestic dwellings or business premises. Conservation rooflights are easily recognised by their low profile which means they sit flush and remain unobtrusive to the buildings original architecture. Another characteristic is their slender appearance as conservation requirements stipulate that a minimal amount of framework should be visible. This design feature becomes even more significant when rooflights are placed next to each other.
Contemporary skylights	A stylish and streamlined roof window for customers who are seeking a more modern look for their roof glazing. The design remains low profile and unobtrusive whilst offering a high specification of energy efficient, self-clean glazing. These typically do not have glazing bars in the same way that conservation rooflights do.

Rooflight terminology

Escape rooflights	Access or escape skylights and are fitted with gas struts so the skylight casement stays open in the event of an emergency.
Gas struts	Are pressurised cylinders that are attached to the rooflights so that they can remain open unaided in a similar way to the boot of your car.
Hand winder	Is the mechanism used to open and close the rooflights when the rooflights are within reach. These typically have a handle or a wheel on the end to aid operation.
Pole winder	Is the mechanism used to open and close the rooflights when the rooflights are out of reach. This type of rooflight mechanism would usually be operated by a separate crank pole.
Head detail	The top section of the rooflight.
Jamb detail	The side sections of the rooflight.
Cill	The bottom section of the rooflight.
Linking bars	The bars used to link skylights together so that they are in continuous runs. Occasionally specifiers refer to these as Studio-Linked.
Listed building	A building or other structure officially designated as being of a special architectural, historical or cultural significance. If your property is Listed you will need to work closely with your local authority before making changes to the building fabric.
Overall sizing	The maximum width and length of the baseplate, much of which is covered by the tiles or slates.
Pitched roof	A roof structure where the roof is set at a slant. Most conservation skylights can be used between 17 and 70 degrees in slate and tile or 30 and 60 degrees in a pantile roof.
Roof window	An architectural term for the frameset with glass which is fitted to an opening in the roof to admit daylight.
Rooflight	Another way of describing the frameset with glass in that is fitted to an opening in the roof to admit daylight.
Skylight	Another word to describe the frameset with glass in that's fitted to an opening in the roof to admit daylight.
Self-cleaning glass	An important technological breakthrough was introduced to the UK in 2002, in the form of the worlds first self-cleaning glass. Considered by many to be an impossible dream, self-cleaning glass makes maintaining rooflights significantly easier. Saint Gobain BioClean is effectively the same as conventional glass, but with a specially developed coating on the outside, that once exposed to daylight, reacts in two ways. Firstly, it breaks down any organic dirt deposits through a photocatalytic process, and secondly, when it rains, instead of forming droplets, the water spreads evenly over the surface and takes the dirt off with it. It is kinder to the environment than ordinary glass and it is the ideal choice for situations where cleaning will be costly or difficult.
U-Value	Often called the overall heat transfer coefficient and describes how well a building element conducts heat.

FIXED VS OPENING ROOFLIGHTS

WHAT ARE THE PROS AND CONS?

Choosing the right rooflight design for your project is important both from an aesthetical and practical viewpoint.

Of course you'll want your rooflight to look good and perform well, but one of the other major considerations which you'll want to factor in, is whether your rooflight has the ability to open or not.

What are the pros and cons of each?

As an obvious starting point, the only real downsides to a fixed design is lack of ventilation and/or the ability to access the roof. If there is a requirement for either of these things then an opening rooflight design is a must.

However, if you can live without the need for an opening design then fixed rooflights do offer a number of benefits. Perhaps the greatest of which being that they are significantly cheaper and can cost up to 30% less than an opening rooflight.

Fixed rooflights are also more thermally efficient and tend to offer a slimmer profile and greater viewable area than an opening alternative. Another important factor is that they weigh less, which means that they can be less expensive to transport and install. Large and heavy rooflights often need specialist crane equipment in the installation process, which will add further expense.

Where an opening rooflight is the preferred option there are also a number of considerations to bear in mind.

Manual or electric opening rooflight?

When it comes to opening rooflights, size is everything and the bigger the opening section, the heavier it is, meaning the more power is required to lift it.

Smaller opening rooflights tend to operate manually, but if you opt for a large rooflight most will be operated with electric actuation. A size limit for a manually operated rooflight will typically be up to around 1000mm (w) x 1500mm (h) or 1350mm (w) x 1100mm (h). Anything beyond these dimensions and the winder will start to have problems with the casement weight and the ability to tightly close the corners.

Bear in mind that the quality robustness of the manual winder can vary significantly between rooflight manufacturers. Some manufacturers are prone to using cheaper, and significantly lower quality imports, so it's well worth checking what your rooflight manufacturer recommends as a maximum size for a manually operated rooflight.

For larger sizes it is better to consider some kind of electric actuator option. These may be supported by wind, rain and temperature sensor options, depending on what your manufacturer offers.

As the casement size and weight of your rooflight increases, so does the number of drives required to lift it, so there is a trade off in that bigger single casements offer more light but they are more expensive to operate.

The chain actuators are typically located at the cill of the rooflight and are visible from the inside, although some manufacturers can offer a concealed actuator design, where the drives are fitted within the liner. This does result in a slight reduction in clear viewable area but leaves the cill area clear of any interruption.

Drives can have various chain lengths and would normally be expected to achieve an opening distance of around 350mm. These can sometimes be operated by wall switch or remote options. Some manufacturers even offer the option of operating the rooflight via your smart phone.

It is also worth noting that manufacturers usually include a wind sensor with any opening casement which is larger than 2000mm x 1000mm. This sensor automatically closes the casement or prevents it from opening when the wind speed reaches a certain limit. Please check this with your rooflight manufacturer as if you are designing a large area of opening roof glazing it is important that you consider the impact wind has on open rooflights along with the potential damage that can occur if wind sensors are not used.

Can I have a combination of fixed and opening rooflights?

In short, yes – you absolutely can have a mix of both.

With most modern rooflight designs you tend to see a run of much smaller rooflights linked side by side with multiple casements opening to achieve the required ventilation. Bespoke rooflight manufacturers have the ability to make much larger opening casements, which provides both increased light and ventilation when compared to linking.

In this way customers are offered the best of both worlds and they can choose a combination of fixed and opening rooflights, with a variety of manual mechanisms, gas struts or electric actuators to suit their needs.

In conclusion

If cost is a significant factor in your project then there are a couple of important questions to consider:

- **Does your rooflight need to open for access or ventilation?**

  A fixed rooflight is a lot more cost effective than an opening version. If you have alternative sources of ventilation in the room then it might not be necessary to have your rooflight opening.

- **If it does need to open, is it small enough to operate manually?**

  A rooflight which can open with a manual screwjack winder will be considerably cheaper than an electrically actuated version. Anything up to 1000mm wide x 1200mm high can operate with a manual winder so if your rooflight is only slightly bigger than those dimensions, you could save a lot of money by reducing the size slightly.

Have you considered...

A mix of fixed and opening rooflights to achieve the best of both world's.

COASTAL LIVING: HOW 316L STAINLESS STEEL PROTECTS YOUR ROOFLIGHTS

The Coastal Challenge

Coastal living can offer some fantastic benefits such as breath-taking views and a serene environment, but it comes with its own set of challenges, particularly when it comes to maintaining the integrity of your home. One of the key concerns for homeowners in coastal areas is the corrosive power of salty sea air. It can wreak havoc on building materials, causing rust and degradation over time. This is where the choice of materials for your rooflights becomes critical.

The stainless steel solution

When it comes to coastal areas (properties within a 5 mile radius of the sea), durability and rust resistance are non-negotiable qualities for any building material. There are many different types of steel, however, 316L stainless steel is the best choice when it comes to frame material for your conservation rooflight.

316L stainless steel is a marine-grade alloy renowned for its exceptional corrosion resistance properties. Let's delve into why this material is the gold standard for protecting your rooflights by highlighting its key benefits:

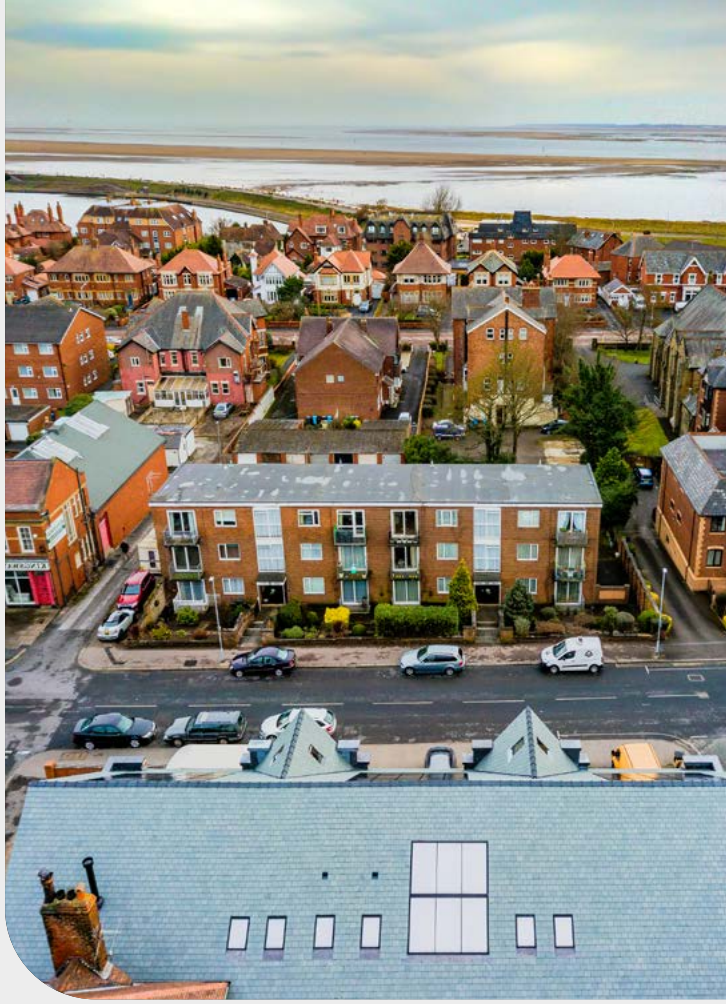
Unparalleled durability

Coastal environments subject buildings to harsh conditions – the constant exposure to salt-laden air and sea spray. Lesser materials might succumb to corrosion and weaken over time. However, 316L stainless steel stands firm, retaining its structural integrity year after year. This longevity ensures that your rooflights continue to adorn your home with beauty and functionality for generations.

Rust resistance

The primary concern in coastal living is rust, which can be a relentless adversary. Beware – unless specifically specified, most metal rooflights are made using a mild or carbon steel and are only protected from the elements by a thin powder or paint coating, which will wear off in time. These rooflights will inevitably rust over time and can be expensive to replace.

With 316L stainless steel, rust becomes a distant worry. The alloy's unique composition, including chromium, molybdenum, and nickel, forms a protective layer that prevents corrosion, even in the harshest seaside conditions. This means your rooflights remain not only aesthetically pleasing but also structurally sound, unaffected by rust's damaging effects.



Low maintenance, high performance

Choosing 316L stainless steel for your rooflights simplifies maintenance. Unlike materials that require frequent inspections and treatments, these rooflights demand minimal upkeep. You can enjoy the stunning views of the coast without the hassle of constant maintenance tasks.

The extra investment in 316L stainless steel rooflights will definitely pay off in the long run.

ROOFLIGHTS AND SECURITY WHAT YOU NEED TO KNOW...

Something people often ask when considering having a rooflight installed is whether they're a security risk or not.

After all, there's no point having a gorgeous feature put into your home if it's going to jeopardise its safety.

Fortunately, though, the answer is no, they're not a security risk – at least, no more so than any other window in your property. But that's not to say you shouldn't still take pains to make sure your rooflight is appropriately secured.

Why do criminals target windows?

When looking to break into a property, windows are amongst the easiest points-of-entry for criminals to target. Besides the obvious flaw in that many people leave their windows open, particularly in the warmer months, windows often also have limited security/safety features.

They may be single-paned and easier to smash through, for instance, or lacking in lockable handles. So, when you have a rooflight installed, it's important that you consider having some additional security features installed, too.

First of all, its worth noting that, unlike windows, rooflights are usually situated high up on the roof of a property, and generally not the best place for an intruder to consider entering.

Rooflight security to consider

Toughened glazing

Consider installing a rooflight with extra-strong window glazing. Some intruders are less discrete with their break-in methods, and will often resort to simply trying to break through the glass of a window, itself. By reinforcing that glazing with a tougher, more durable option, you reduce that risk.

The important thing to note with toughened glazing is that it works best if the inner pane is made from laminated glass; otherwise, the toughened glass can still be vulnerable to the more vociferous of burglary attempts. The laminated pane is made up of several thin panes each separated by a film. In turn, this makes the glass far harder to smash.

Impossible to open from the outside

If you have an opening rooflight it is almost impossible to prize it open from the outside. There are no external screws or fittings which can be removed to enable access. Obviously if you have a fixed rooflight, they are not designed to open in any case.

UNDERSTANDING YOUR CONSERVATION ROOFLIGHT APPROVAL DRAWING

Once you have placed your order with a conservation rooflight company, this is when they will begin the process of issuing an approval drawing.

The purpose of this drawing is to ensure that everyone involved with your project has a visual record of the rooflight and knows exactly what is being delivered. This should mean that you can avoid any unwanted surprises – especially if you have ordered a bespoke conservation rooflight.

A drawing can contain a lot of information about the rooflights including dimensions, weight, glass specification and various other important design features which will help you better understand the product.

It is important that customers read and understand the information that is contained within the approval drawing to avoid any confusion or unpreparedness for things such as the size and weight of a rooflight when it arrives on site. This useful guide is intended to highlight the key points of an approval drawing.

General

It is important to understand that all companies are different in the information and level of detail that they provide, however, your approval drawing should contain details which are unique to your project. This might include information such as the weight, size, frame material, sealant and tape details and the paint finish. There will also be details concerning the manufacturing tolerances and the drawing reference numbers.

It is at this point that you (the customer) carefully consider everything in these approval drawings to ensure that you are happy that it reflects what has been discussed with the manufacturer at the point of order. If this is not the case, then speak to the manufacturer to discuss any particular changes that you would like to incorporate. Don't be afraid to ask questions if there is anything that you are unsure of.

Drawings can be altered (usually without cost) until you are happy to proceed with the manufacturing process. It is important that all the information on your drawing is checked by everyone involved in the process (architect, builder, etc) and that everyone is aware of how the rooflight will be unloaded, positioned on the roof, and fitted before it arrives on site.

Appearance

Your rooflight approval drawing should show both the internal and external appearance. This includes

any glazing bars, the internal liner and any opening mechanism if you have chosen an opening design. This page will usually include the external frame measurements and the clear viewable dimensions.

It might also show a cross section through the width and height of the rooflight, and where relevant, contain the internal rafter (fixing) dimensions, which are the measurements you need for your rafter spacing.

A variety of additional information may also be included, such as the wood type for your liner and any colour reference, if you are having it painted.

You might also expect to find details concerning the required roof pitch and your glazing specification, based on your rooflight size.

Size

Your rooflight approval drawing should show a number of different important dimensions.

Clear viewable: This is the finished viewable size taken from the internal face of the liner. This will be your finished size after the installation of your rooflight is completed. Some companies are reluctant to promote this size as those with big and bulky frames tend to offer quite small clear viewable dimensions in comparison to their advertised rooflight size.

Rafter: This is the fixing size taken from the internal faces of your rafters. This is usually the most critical dimension for our rooflights as this determines the fixing position of the frame in your roof.

Overall: This is the overall external measurement of your rooflight from one outer edge to the other. Much of the external framework of a conservation rooflight will be covered by your tiles or slates and is therefore unseen. It is not uncommon for rooflight companies to provide this overall size for their rooflights, which is why it is important for you to check what that means for the clear viewable size.

Weight

Your rooflight drawing should show you the total weight of your rooflight. The figure shown will normally be the overall weight of your rooflight, including the glazing, but excluding the pallet or any lead flashing kit that may come with it. You can always expect your rooflight to come fully glazed and assembled.

You will need to check with the manufacturer how your rooflight is being delivered and ensure that you have made arrangements for either a mechanical lift or have enough people on site to unload the delivery vehicle. It is essential that your site team are aware of the size and weight of your rooflight and ready to receive the delivery vehicle on the agreed date.

Lifting eyes

For larger rooflights it is possible for some manufacturers to include lifting eyes on the rooflight to allow the frame to be fitted by a crane. These eyelets should be clearly shown on the drawing and will be located at the side and or the head section of the rooflight. You should discuss this important element with your rooflight manufacturer who, even if they are a supply only company, should be able to advise on the recommended lifting of their product.

Where the lifting eyes are required, it is essential that a spreader bar is used. If you show your rooflight approval drawing to the crane company they will be able to better understand what is required before your rooflight arrives on site.

The lifting eyes will be removable and should be taken out of the frame as soon as the lift is finished. Your rooflight company might supply bolts to replace the eyelets and seal the threaded section. It is also advisable to apply a small bead of silicone to the bolts.

Delivery & storage

Most bespoke rooflights are too large for a tail lift facility so it is essential that you have suitable facilities to unload the delivery vehicle. Each company will use a variety of vehicles for deliveries and it is important that you tell your rooflight manufacturer about any access or issues which may have an impact on your delivery. They should always arrange a delivery date with you to ensure that you have ample time to make arrangements. It is important to organise your site to be ready for delivery and avoid any additional charges.

> If you are not intending to install your rooflight immediately make sure you have suitable dry storage for your rooflight.

EMBRACING NATURE'S LIGHT BENEFITS OF NATURAL DAYLIGHT

The importance of effectively introducing light into home design for wellbeing, health and productivity.

The influence of natural daylight

The introduction of natural light into a living or working space has far-reaching effects on occupants' overall health, productivity, and mood. Researchers have found several compelling reasons to prioritise natural daylight in home design:

Improved wellbeing: Exposure to natural light has been linked to enhanced mood and reduced feelings of stress and anxiety. Sunlight triggers the release of serotonin in the brain, which contributes to feelings of happiness and well-being. Homes that receive ample natural daylight offer a healthier and more uplifting environment for their inhabitants.

Enhanced health: Natural daylight exposure plays a crucial role in regulating the body's circadian rhythm, which governs our sleep-wake cycle. A well-regulated circadian rhythm is associated with better sleep quality, increased energy levels, and improved immune function. By incorporating natural daylight into home design, occupants can enjoy a more balanced and healthy lifestyle.

Boosted productivity: For individuals working from home, the impact of natural daylight on productivity cannot be underestimated. Research indicates that exposure to daylight in workspaces can result in higher productivity levels, increased focus, and reduced instances of eye strain and headaches. A well-lit home office that embraces natural light can create a more conducive environment for efficient and creative work.

Designing home workspaces with natural daylight

Integrating natural daylight into home workspaces requires thoughtful planning and design. Here are some practical tips for maximising the benefits of natural light in your home office:

Positioning: Choose a workspace that allows ample natural light to flow in throughout the day. Position your desk near the brightest part of the room to make the most of the available daylight.

Solar control: Opt for glazing treatments, such as solar controlled glass, that control the amount of sunlight entering the room. This way, you can avoid glare on screens while still enjoying the benefits of natural light.

Reflective surfaces: Incorporate reflective surfaces, such as light-colored walls and furniture, to help distribute and amplify natural light within the workspace.

Biophilic elements: In addition to natural light, consider adding other biophilic elements to your home office, such as indoor plants and natural materials. These elements further enhance the connection to nature and promote a calming and inspiring atmosphere.

The role of the rooflight

Rooflights can help to provide natural light with qualities appropriate to the use of the building. Rooflights let in light from the brightest part of the sky and are not generally affected by external obstructions, such as trees or other buildings. They also provide a more even pattern of light than vertical windows.

Rooflights can form part of an effective technical lighting scheme, particularly in conjunction with efficiently controlled artificial lighting, to produce specified illumination levels for particular tasks. According to leading consultants, horizontal rooflights provide three times more light than vertical windows (the equivalent of 10,000 candles on a sunny day), which is more than 200 times the light needed for most educational or work related tasks.

In addition, rooflights can also add to the more subjective qualities of spaces as an integral part of the building's architecture. They can provide views of the sky and promote a sense of well-being and connection with the outside without the distractions encountered with views through vertical glass windows.

These facts are well understood by most people involved in building design. However the huge potential of rooflights to provide exactly the amount, type and distribution of natural light required to meet any given specification is not always appreciated.

In conclusion, as our lives become increasingly urbanised and technology-driven, biophilic design emerges as a powerful tool to reintegrate nature into our built environments. Natural daylight, a fundamental aspect of biophilic design, has a profound impact on wellbeing, health, and productivity.

For those embracing the trend of home working, the incorporation of natural daylight into home design is an essential step towards creating a nurturing and productive workspace. By prioritising the inclusion of natural light via rooflights, we can foster a more balanced and harmonious living environment that promotes our overall happiness and performance.

THE ELEPHANT IN THE ROOF

The practicalities involved in specifying large conservation rooflights

Specifying large conservation rooflights

We often see grand plans with expansive areas of roof glazing, as architects continue to seek innovative ways in which to exploit natural daylight. As much as bespoke rooflights can certainly help bring these designs to life, there are some important factors that need to be considered when the glazing is turned from drawing to reality.

In recent years we have noticed a trend towards larger rooflights, with sizes regularly exceeding 2500mm in width, height or both. While a bespoke rooflight manufacturer can certainly accommodate these, one has to appreciate the practicalities of weight, transportation and cost.

It stands to reason that the larger the rooflight, the thicker the glass will need to be, therefore as rooflight sizes get bigger their weight can increase exponentially. In context, a double glazed unit made using 4mm thick glass, weighs 20kgs per square metre and those using 6mm are 30kgs per square metre. Triple glazed units are 30kgs and 45kgs respectively. Add the metal frames and liners into the equation and you can start to see how even a modest sized conservation rooflight can weigh something akin to a small elephant! Indeed it's not uncommon for rooflights to weigh in excess of 200kg.

The reality is that when you scale things up even the simplest plans can start to become complex - a truth that should be all too familiar to architects. It is important to consider at an early planning stage how the rooflight is going to be lifted from the ground to roof level and what the weight implications might be for the structure. It is possible to weld eyelets to the rooflight frame to aid the lifting process and we would suggest doing this on frames which weigh in excess of 100kg, which is the point where we expect a crane might be required. However, does the site have suitable access for any specialist lifting equipment, and has this additional cost been budgeted for?

The weight of an opening rooflight will also determine whether it is manually operated or requires electric actuation. We would suggest that the largest manually operated rooflight be around 1000mm wide or 1400mm high. Anything over this size will generally require electric actuation to lift the weight and in the case of wider casements, to provide a tight seal. Manual operating casements are less expensive than electric so there is a cost element that also needs to be considered when specifying larger opening rooflights. There is no maximum size in terms of what is possible to manufacture, although it is worth keeping in mind that a single piece of glass with an area over 5m2 becomes significantly more expensive.

Fortunately there are alternatives to using large expensive single panes of glazing, such as introducing glazing bars to reduce the unit sizes, linking frames, and having more than one casement. This not only makes the rooflights easier to transport, lift and install, but can also reduce the price.

If a large, single rooflight is the only option for your project then you must also make sure that it is safe to install. While rooflight manufacturers will be able to provide advice on a suitable specification for the job in terms of materials, glazing thickness, functionality and installation, it is ultimately the responsibility of a structural engineer to ensure that the product being specified is fit (and safe) for the building that it is fitted into.

To avoid any ambiguity it is essential that the architect, structural engineer and rooflight manufacturer discuss large rooflight installations, likely weights, load bearings, site access, and lifting capacity at an early stage to avoid any problems down the line. It is not advisable to leave this for the builder to deal with at the last minute.

Another area for consideration should be the safety of large areas of glazing situated high up in a roof structure. Again, much like an elephant, there is a lot of grey area here!

Regardless of size your rooflight should meet the BS 5516-2: 2004 patent glazing and sloping glazing for buildings standard. This code of practice for sloping glazing defines that inner panes must always be laminated wherever rooflights are more than 5 metres above floor level (increased to 13 metres for panes less than 3 square metres) or are located over water (e.g. swimming pools). The Standard permits the use of toughened inner panes in other applications (for example where rooflights are less than 5 metres from floor level), but only where a stringent risk assessment for the particular application has been completed and has concluded that the use of toughened glass does not give any additional risk to those below the rooflight.

No glass is impervious to breakage so it is important to remember that roof glazing can and often does sit high above common areas in a home or office, so there will always be an element of concern if a unit were to break.

Certain industry bodies are calling for all rooflight glazing to include a laminated inner pane to provide greater security in the event that the glass breaks. Much the same as how car windscreens are required by law to be laminated to protect passengers from shattered glass in the event of an accident. There can be no dispute that laminated glass is safer because it forms a net when broken, which remains in one piece, whereas toughened glass breaks into little cubes and will fall down onto whatever is below.

As laminated glass is more expensive, the industry perhaps sees this as a way of combatting the cohort of cheap imported rooflight products that have flooded the market with potentially dangerous products.

However, laminating rooflight glass creates its own unique set of problems, as annealed laminate is prone to thermal fracture and heat stress. This risk can be reduced by polishing edges, however the low-e coating is not practical for polished edges as there is a risk of damaging the coating. Swapping the low-e coating for a laminated glass with treated edges is likely to have a negative impact on the thermal performance of the unit. Using products such as SGG Cool-Lite on the outer pane can help as this has both solar reflective and thermal coatings but these do not have a self-clean coating which is an important consideration for pitched rooflights as they are usually positioned out of reach.

Thermal Stress is created when one area of a glass pane gets hotter than an adjacent area. If the stress is

too great, then the glass will crack. The stress level at which the glass will break is governed by several factors. Toughened glass is very resilient and not prone to failing due to thermal stress. Laminated glass and annealed glass behave in a similar way and the thicker the glass the less tolerant it becomes, which is an important factor for larger rooflights.

The temperature difference for a location can be calculated and the risk of breakage due to thermal reasons reduced. However, to assess the thermal risk you will need to take the following factors into consideration:

- Type of glass being specified for the insulating glass units
- Where the building is located
- Orientation of the rooflight
- Size of any glazing bars (if required)
- Details of any internal shading such as blinds or louvres
- The framing material and powder coat colour
- The window size and if it opens as this will change the angle to the sun
- Whether any radiators are located directly below the rooflight
- Any other details like other buildings or trees casting a shadow onto the glass.

The risk of thermal cracking and heat stress changes throughout the year with the highest risk seasons being spring and autumn due to the low angle of the sun and the lower evening temperatures.

Solar control glass either reflects energy or absorbs it to reradiate the heat outwards. By its nature it gets hotter than clear glass and glass that is designed for thermal efficiency alone. Whilst the majority of installations are within the operating tolerance, in some cases fluctuation in heat can put the stress beyond the limits.

Laminated glass is also heavier which needs to be remembered when planning lifting schedules and structural requirements.

Another issue experienced with laminated glass is a phenomenon called lensing, where images become distorted. This doesn't necessarily cause such an issue with flat rooflight glazing where the view is a simple sky backdrop, but on pitched rooflights with a view of a landscape, this distortion will be a problem.

In summary, while there is a growing trend for projects to include more and larger rooflights, it is not as straightforward as just adding them to the plans. Clearly there is so much more to specifying large conservation rooflights than meets the eye and while your rooflight manufacturer will be able to provide recommendations, ultimately having a better understanding of what glazing is required and involving a qualified structural engineer in the early phases will resolve any issues you may have further down the line.

CONSERVATION ROOFLIGHTS AND GLAZING BARS EXPLAINED

Conservation rooflight glazing bars are an essential part of any conservation rooflight.

These bars help to create the distinct and traditional look of the rooflight while also providing structural support to the glazing.

What are conservation rooflight glazing bars?

Conservation rooflight glazing bars are the metal frames that hold the individual panes of glass in a conservation rooflight. These bars are designed to be slim and unobtrusive, providing maximum daylight while maintaining the traditional look of the rooflight. They are typically made of a durable material such as steel and can be painted (along with the rest of the frame) to match the colour of the roof.

Why are conservation rooflight glazing bars important?

Conservation rooflight glazing bars are an important part of the rooflight's design. They not only provide structural support to the glazing but also contribute to the overall aesthetic of the rooflight. The slim profile of the bars allows for maximum daylight to enter the room while maintaining a traditional appearance. This is particularly important for buildings in conservation areas, where maintaining the historical integrity of the building is crucial.

Indeed, a Conservation Officer may make it a requirement of your planning consent that genuine conservation rooflight glazing bars are included in your rooflight design. This may be to exactly replicate any replacement windows or to remain in-keeping with the aesthetics of the surrounding area.

Features of conservation rooflight glazing bars

There are several features to consider when choosing conservation rooflight glazing bars:

Material: The bars can be made of aluminium or steel. Aluminium bars are lightweight and corrosion-resistant, while steel bars are strong and durable.

Finish: The bars can be finished in a range of colours to match the roof or surrounding architecture. They should have the same protective paint or powder coating as the rest of the frame to protect against the elements.

Profile: The profile of the bars can be slim or more substantial, depending on the desired aesthetic and structural requirements. Again, it is likely that a Conservation Officer will insist on slim, subtle glazing bars, which better match the Victorian original design. It will also allow more daylight into room, which is the primary function of the rooflight.

Glazing: The bars can be designed to hold single, double or even triple glazing, depending on the insulation requirements of the building.

Important consideration for conservation rooflight glazing bars

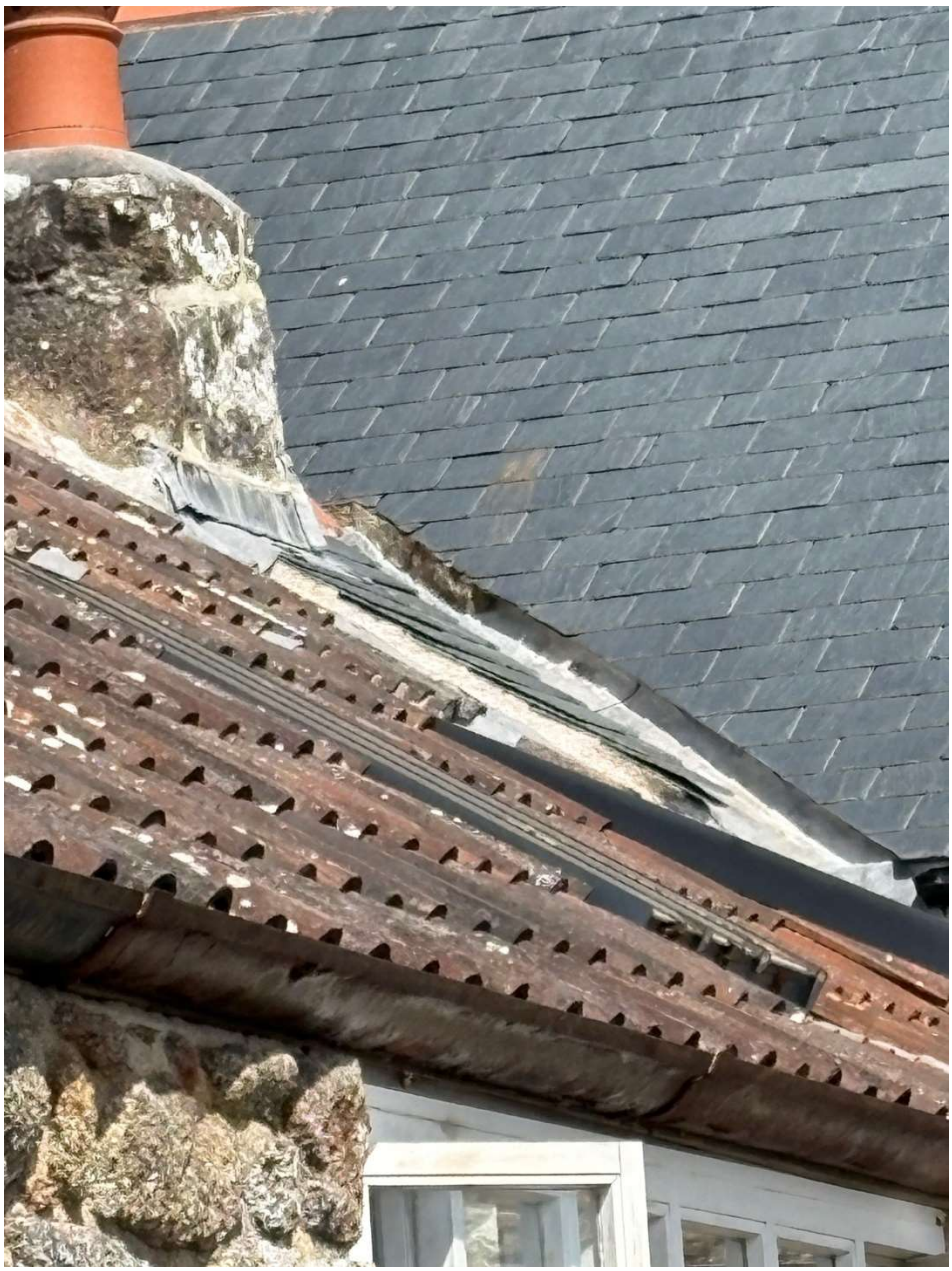
If you require glazing bars for your conservation rooflight then it is extremely important to understand that not all products are the same. Some companies use stuck on plastic glazing bars, which may look authentic, yet can cause problems. As previously mentioned, glazing bars should form part of the frame itself and provide additional strength and durability. Stuck on glazing bars can also suffer from maintenance problems as debris often gets stuck in and around this area.

Furthermore, it is not recommended that tapes or glues are used on high performance self-clean glazing units as it will damage the glass. Rooflight glazing bars should provide a slim profile (no more than 40mm wide internally) and provide both strength and an original appearance that stuck on plastic bars simply cannot.

In conclusion, conservation rooflight glazing bars are an essential part of any conservation rooflight. They provide structural support to the glazing while maintaining the traditional look of the rooflight. When choosing conservation rooflight glazing bars, it is important to consider the material, finish, profile, and glazing requirements. By carefully selecting the right glazing bars, you can create a rooflight that not only looks great but also provides all the benefits of natural daylight.

Design and Heritage Statement

Ashvale
Lower Town
St Martins



Prepared by :
Keith Sanders
Commercial Building Surveyor

10th June 2025

DUCHY *of* CORNWALL

The proposal is to replace 2 no. rusting cast iron rooflights to the workshop section of the property

Ashvale is a 4 bedroom dwelling with adjoining workshop where the tenants produce gold and silver jewellery. The first floor of the workshop is provided with 2no. 1270 x 970 mm high triple panelled rooflights to provide light to work benches. These are rusting badly and cannot be opened as the frames are falling apart. This means no natural ventilation can be provided to the first floor workshop area.

The property is located in Lower Town in a cluster of dwellings and agricultural buildings. The most prominent building in the area is a large 30 bedroom hotel at the western end of the island.

Ashvale is not an imposing building. The majority of which viewed from the road is the lower studio/workshop section with its flank wall on the edge of the roadway past the dwellings gable end and the worshop. The prominent residential section of the building is set approximately one metre below the track level and therefore is difficult to view in its entirety from the roadway.

The combination of buildings on the site are grade II listed.

The listing describes the property as a *Farmhouse. Mid C19, incorporating older former dwelling. Uncoursed and roughly coursed granite rubble with C20 slate and pantile roof; brick end stacks to main mid C19 range and truncated end stack to older range. 3-unit plan to main range and 2-unit plan to older range at right angles to west two storeys. Main 3-window range has granite lintols over panelled door and horned 2/2-pane sashes. Lower former dwelling has granite lintols over C20 plank door and small window; concrete lintol over C20 window to right and C20 window under eaves. Interior: former dwelling has pegged A frame trusses.*

The proposal is to remove the later addition cast iron roof lights from the older range at first floor level and replace with marine grade stainless steel with manual corkscrew window opening winders. The rooflights will be triple glazed. The finish to the windows to be black to match the existing and the rooflights will have a three light configuration to match the existing and will be set flush in the roof plain with the surrounding pantile roof finished.

The Existing Issue

The existing rooflights are rusting out due to saltwater corrosion. They can no longer we opened to provide natural ventilation to the work areas. Pieces of the window frame are detaching and falling to the ground. They require replacement with a corrosion resistant material capable of dealing with the environmental conditions of the island.

Impact

There will be a subtle change to the external appearance of the building's roof element

The change will be apparent due to the triple glazed glass units employed in the rooflight's manufacture and the frame section sizes may vary slightly from the ones on the present rooflights. The colour will remain black as a finish to the rooflights and a hardwood lining will be installed internally to mask the frame sections against the adjoining A frame trusses. The new rooflights will re-establish natural ventilation paths to the internal working area.