neo™

neo™, Residential Property in Kent. For the full case study visit:
www.therooflightcompany.co.uk/case-studies

Why specify neo™ ?

A roof window range suitable for pitched roofs between 20° and 60°.

Designed from the architects' point of view

Representing an innovative concept in roof window design, **neo™** results from a collaboration between the Rooflight Company design team and a group of architects. The result is a roof window where form and function are equally balanced.

Frameless Appearance

Due to its edge-to-edge glazing and ultra-low profile, **neo™** does not dominate the roof; the overall appearance is one of a sheet of glass. These aesthetic advantages are cleverly combined with blinds to suit your interior.

Clear, uncluttered Views

All models are top hinged and choice of concealed motors, a discreet handle at the cill or a telescopic polewinder is available. Linings have simple, clean lines so that all you can see is natural light.

Choice

Choose from 15 sizes in Portrait, Landscape or Square format. For a limitless run of rooflights, a linking system is available for **neo™** Steel. See page 22 for details of the linking options available.

Neat and Easy Installation

The flashing kit ensures neat and easy on-site fitment which blends seamlessly into most roof tile types.

Performance and Quality

neo™ is CE Marked to EN 14351-1:2006+A1:2010.

neo™ Steel achieves a whole window u-value (Uw) of 1.4Wm²K in accordance with EN ISO 10077-2:2012. The u-value results are for the window orientated in the vertical plane.

neo Fortecom® achieves a whole window u-value (Uw) of 1.3Wm²K in accordance with EN ISO 10077-2:2012. The u-value results are for the window orientated in the vertical plane.

Les Bardeaux, BAS MOOARC Architects
"The roof windows are wonderful and in sympathy with the crisp lines of the design." Jamie Falla.

Twelve **neo™** roof windows were specified for this project as they matched the minimalist design of the overall building.

neo™ Case Studies

Broadclyst Primary School, Devon

When architects at NPS South West were briefed to design five new classrooms for Broadclyst Primary School in Devon, they knew they were facing a challenge as the original school building is one of the oldest in the country - a Grade II Listed Georgian building co-owned by the National Trust and Devon County Council.

When it came to the specification of the roof windows both clients were most insistent that they be flush fitting. **neo™** roof windows from the Rooflight Company presented an ideal solution - it lies flush with the roof, and also has a contemporary appearance. As Project Architect David Price states: "The **neo™** appealed to me as it is completely flush and frameless." Fortunately the National Trust and both sets of planners concurred.

Broadclyst Primary School, Devon by NPS South West. **neo™** 57P.

Residence, Cambridge

A major component in the success of this attic conversion in a Victorian end-of terrace house in Cambridge was the selection of **neo™**. As well as providing light and ventilation, the top-hung **neo™** windows can be opened to 600mm. Some other roof windows stand out from the roof and have exposed opening mechanisms, whereas **neo™** has a totally frameless appearance both inside and out.

Architectural Designer, Judith Perry says: "I am delighted with the result. The **neo™** roof windows have clean lines and lie completely flush with the slate roof and their oak linings (available on Fortecom®) compliment the specially designed oak doors and windows."

Residence, Cambridge by Sohnius Perry. **neo™** 94P.

Wheal Friendly Garden, Cornwall

The objective to provide sustainable living accommodation in an idyllic setting has been achieved for six eco-homes in St Agnes, Cornwall. Award-winning architects Simon Conder Associates have designed into the scheme various energy-saving features such as a ground source heat pump, warm and cooling air distributed through an energy-efficient ventilation system and super insulation. The decision to specify the largest square size of **neo** Fortecom® was based on a desire to maintain a contemporary appearance and have a completely flush frameless roof window that would not detract from the timber roof. On the inside it is minimalist in appearance and finished with simple oak linings.

The first of six eco-houses in St Agnes, Cornwall designed by Simon Conder Associates. **neo™** 93S.

Les Bardeaux, Guernsey

Les Bardeaux is a newly-built open-plan family home set within a wooded enclave in Guernsey. Jamie Falla, the Project Architect, was tasked with creating an elegant, sustainable home for the future - ensuring that environmentally sympathetic materials were used to meet the Level 4 and 5 Code for Sustainable Homes. High performance glazing, together with the latest insulating techniques and a renewable energy-heating source, resulted in a house that far exceeds regulations for thermal performance. The use of existing site conditions was a key element of the brief, and the Architect maximised the level of natural light through the use of **neo** Fortecom®. Featuring a sleek, contemporary design and flush edge-to-edge glazing, the **neo™** specified by Jamie Falla offers a roof window that combines unique properties with a frameless, minimalist appearance to complement modern architecture and interiors perfectly.

Les Bardeaux was shortlisted for the RIBA South East Downland Prize 2010.

Specification Details for neo™

Frame Construction

neo™ is available in a choice of two materials; Fortecom® and Steel:

Fortecom®

Fortecom® is a pultruded fibre-reinforced composite which is slim, strong and designed to withstand the most hostile environments. Considered to be in the 'high-tech' league of modern materials, it has a proven track record in demanding environments such as those found in the oil exploration and aerospace industries. With its inherent high mechanical strength and anti-corrosive properties it offers many benefits over traditional materials and the frame comes with a 12 year guarantee.*

neo Fortecom® meets the requirements of BS 6375-1:2009 exposures category 2000 and the pultrusion process receives and 'A' rating in the BRE "Green Guide to Composites".

Steel

The **neo™** Steel frame consists of 3mm steel with a protective coating plus polyester powder coating and the frame has a guarantee of 12 years.

Glazing

A typical glazing specification produces a glass centre pane u-value of 1.0Wm²K for **neo™** Steel and 1.1Wm²K for neo Fortecom®. Within our standard range we offer 8 different glazing specifications covering the most popular options and purposes. Please ask for details of our standard options or to enquire about any other to suit your particular needs

Rooflights to match any roof covering

The standard colour for the Fortecom® and the Steel version is Umber Grey (RAL 7022). Black (RAL 9005) is readily available as an option. Any RAL colour can be specified to match the roof covering.

*Dependent on location and maintenance regime undertaken.
See www.therooflightcompany.co.uk for details
Any RAL colour can be specified to match the roof covering.

Linings

Both **neo** Fortecom® and **neo™** Steel roof windows are provided with moisture resistant linings which can be painted on-site to suit the room interior.

An oak lining is available with **neo™** Fortecom®.

Openings

neo™ is openable via use of a sleek manual handle for within hand reach, a telescopic polewinder for out of hand reach (please check where access and height restrictions apply), or with concealed motors for electric actuation. For more information on motors see page 38. **neo™** is also available fixed shut.

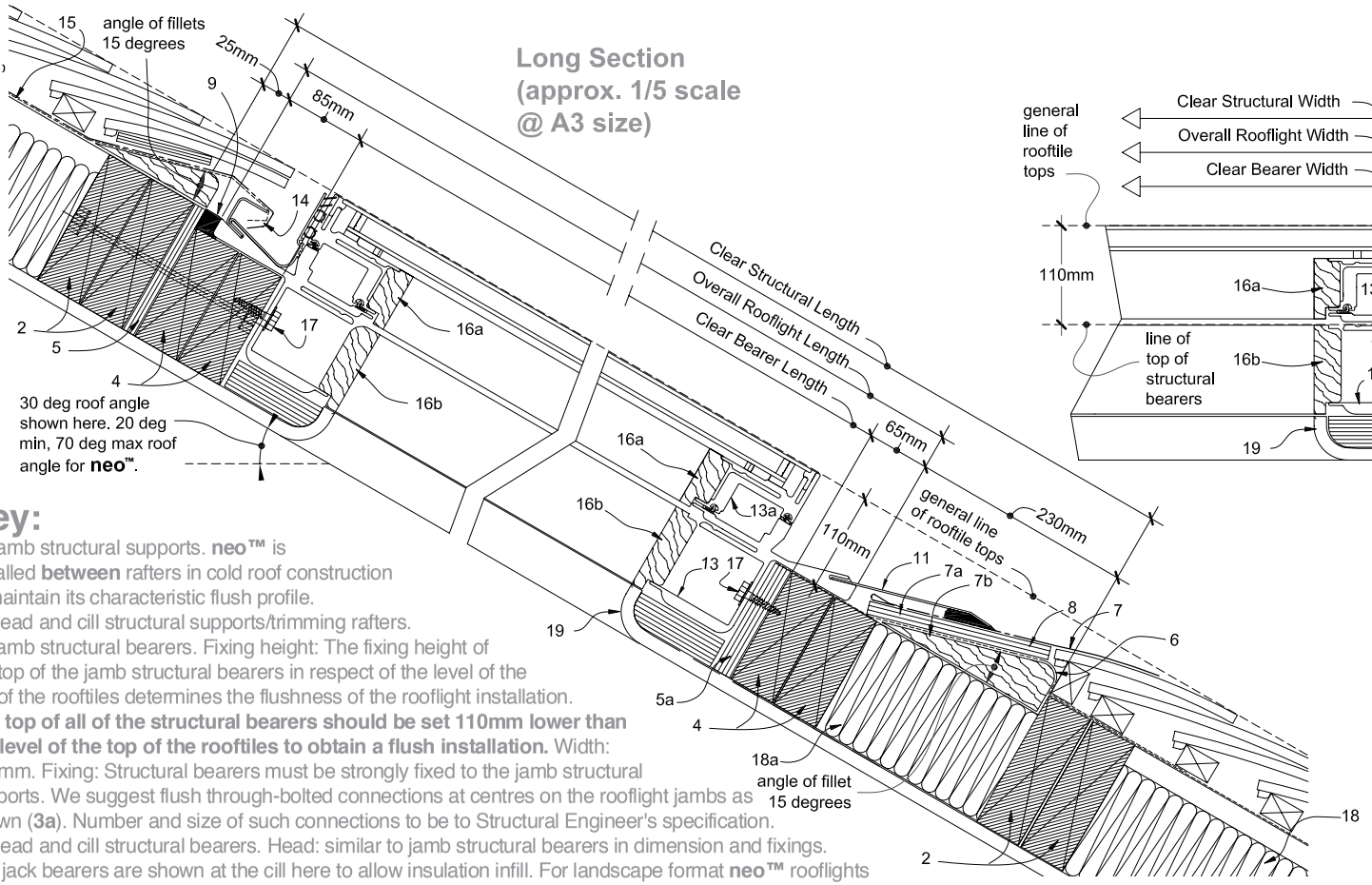
Sleek handle for manual opening.

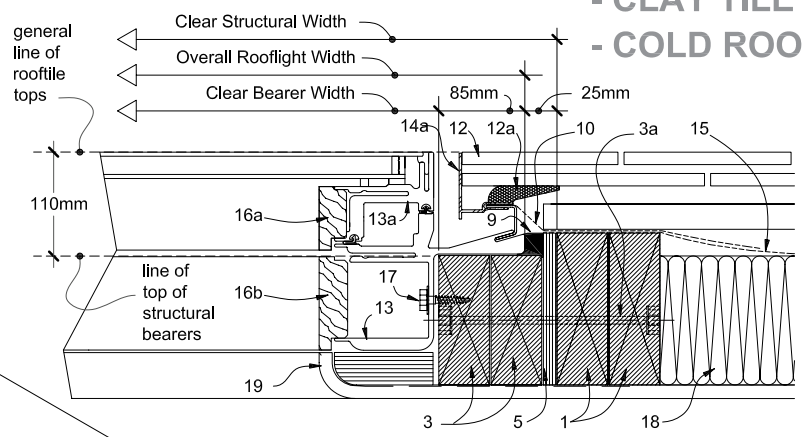
Polewinder for out of hand reach.

Fixed shut option for **neo™**

Cross Section of the neo™ Fortecom®

neo™ - CLAY TILE - COLD ROOF





Cross Section
(approx. 1/5 scale
@ A3 size)

0 100 200 300

scale - mm

Note: there is a 5mm fitting tolerance inside all bearers/packers.

Key:

1. Jamb structural supports. **neo™** is installed **between** rafters in cold roof construction to maintain its characteristic flush profile.

2. Head and cill structural supports/trimming rafters.

3. Jamb structural bearers. Fixing height: The fixing height of the top of the jamb structural bearers in respect of the level of the top of the rooftiles determines the flushness of the rooflight installation. **The top of all of the structural bearers should be set 110mm lower than the level of the top of the rooftiles to obtain a flush installation.** Width: 100mm. Fixing: Structural bearers must be strongly fixed to the jamb structural supports. We suggest flush through-bolted connections at centres on the rooflight jambs as shown (**3a**). Number and size of such connections to be to Structural Engineer's specification.

4. Head and cill structural bearers. Head: similar to jamb structural bearers in dimension and fixings. Cill: jack bearers are shown at the cill here to allow insulation infill. For landscape format **neo™** rooflights head and cill bearers should be through-bolted to the head and cill structural trimmers through solid packing, and steel angle connectors considered for the trimming rafter/jamb structural member joints.

5. 12mm WBP ply lining to jambs and head. This provides a clean firm backing for the perimeter silicone seal. Ensure that the ply is clean, dry and free from grease and loose particles. 5a. 18mm ply cill standoffs. Fix the rooflight through standoff blocks of 18mm ply at the cill. These space the rooflight away from the cill bearers to accommodate electrical wiring where required. Infill remaining gaps with insulation material.

6. Cill felt tray. Install a roofing membrane tray under the rooflight cill as shown. This is to pass down from under the rooflight cill and UNDER the ply cill substrate but OVER the tilting fillet and ends overlapping the general roofing felt at the cill as shown.

7. Cill flashing (supplied as part of the Flashing Kit). In severe exposures consider clipping down at centres and consider clipping down rooftiles also. Flashing sits on 15mm WBP or marine-grade ply substrate (**7a**) on a treated sw or hardwood tilting fillet (**7b**) with an internal fillet angle of 15 degrees. Lap the lead flashing over the tiles below by the rooftile-recommended headlap and welt it under the rooflight cill flashing piece as shown.

8. Lay a continuous thick bead of low-modulus neutral cure silicone across the cill lead flashing for the full width of the rooflight JUST PRIOR TO installation of the rooflight baseplate. Ensure that the fillet is thick enough to make continuous contact with the flashing and the cill flashing piece, and wipe away any visible excess.

9. Perimeter seal - to jambs and head. To be a thick continuous fillet of low-modulus neutral cure silicone as shown. This is laid in AFTER installation of the rooflight.

10. Jamb flashing aprons, part of the jamb flashing assembly (supplied as part of the Flashing Kit). They pass UNDER the battens but OVER the general roofing membrane. The battens are tacked in position at the rooflight jambs only until the Flashing Kit is installed and the jamb aprons are slid under them. Then they are fixed home.

11. Rooflight cill flashing piece. This is part of the rooflight assy.

12. Clay rooftiles. The jamb tiles are dry-bedded on the jamb weathering foam (**12a**) which is bent over and compressed under them as they are fixed down. Additional fixing holes or a mortar bed may be required under some tiles where only one batten fixing is possible.

13. Rooflight baseplate. Rooflight casement (**13a**).

14. Head flashing (supplied as part of the Flashing Kit). In severe exposures consider clipping down rooftiles. Jamb flashing assembly **(14a)** - UPVC soaker upstand.

15. General roofing membrane.

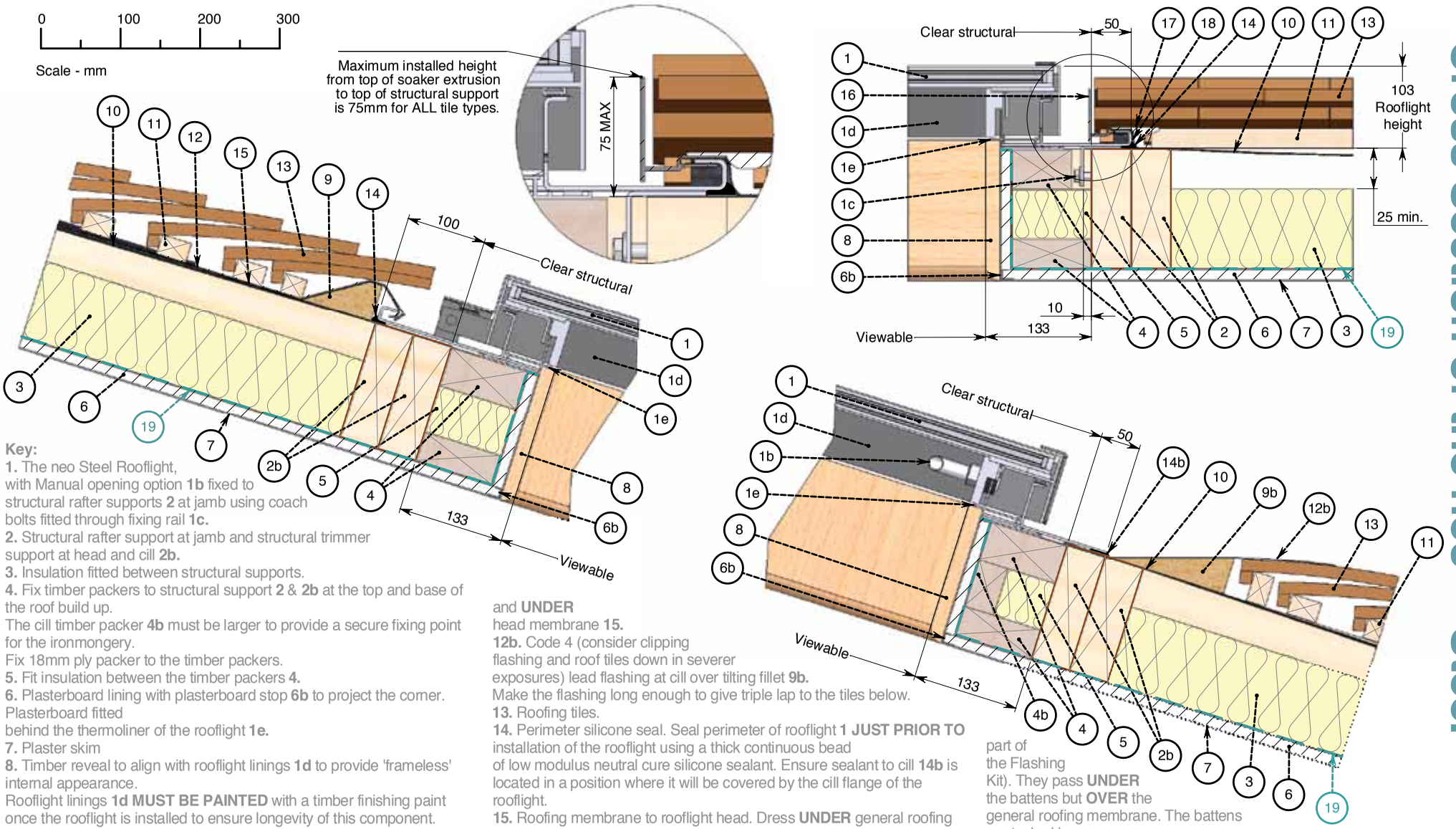
16. Rooflight linings. These are part of the rooflight assembly. The linings (**16a & 16b**) are preinstalled. The baseplate linings (**16b**) must be removed during installation to allow the fixing (**17**) of the Rooflight. Ensure the linings are refitted afterwards.

17. Fixing coachbolts (supplied with rooflight). These are screwed to the structural bearers through yellow-marked holes in the baseplate.

18. General roof insulation. Roof insulation between jack bearers (**18a**).

19. Internal finishes abutment to rooflight lining. To be specified by project designer. Here shown as a timber architrave to match the rooflight lining.

Cross Section of the neo™ Steel



Key:

1. The neo Steel Rooflight, with Manual opening option **1b** fixed to structural rafter supports **2** at jamb using coach bolts fitted through fixing rail **1c.**

2. Structural rafter support at jamb and structural trimmer support at head and cill **2b.**

3. Insulation fitted between structural supports.

4. Fix timber packers to structural support **2** & **2b** at the top and base of the roof build up.
The cill timber packer **4b** must be larger to provide a secure fixing point for the ironmongery.
Fix 18mm ply packer to the timber packers.

5. Fit insulation between the timber packers **4.**

6. Plasterboard lining with plasterboard stop **6b** to project the corner. Plasterboard fitted behind the thermoliner of the rooflight **1e.**

7. Plaster skim

8. Timber reveal to align with rooflight linings **1d** to provide 'frameless' internal appearance.
Rooflight linings **1d MUST BE PAINTED** with a timber finishing paint once the rooflight is installed to ensure longevity of this component.
If the linings **1d** have been factory painted, they do not require an additional paint finish. Please refer to label attached to Roof Window.

9. Head hardwood tilting fillet.

9b. Cill hardwood tilting fillet - to provide minimum 5 degree fall for shedding rain water.

10. Line of breathable membrane. Roofing membrane must be allowed to 'sag' between rafters.

11. Softwood battens.

12. Code 3 (consider using code 4 and clipping down roof tiles in severer exposures) lead flashing at head.
Carry flashing up the roof and lap **UNDER** general roofing membrane **10** and **UNDER** head membrane **15.**

12b. Code 4 (consider clipping flashing and roof tiles down in severer exposures) lead flashing at cill over tilting fillet **9b.**
Make the flashing long enough to give triple lap to the tiles below.

13. Roofing tiles.

14. Perimeter silicone seal. Seal perimeter of rooflight **1 JUST PRIOR TO** installation of the rooflight using a thick continuous bead of low modulus neutral cure silicone sealant. Ensure sealant to cill **14b** is located in a position where it will be covered by the cill flange of the rooflight.

15. Roofing membrane to rooflight head. Dress **UNDER** general roofing membrane **18, UNDER** lead flashing **12** and **OVER** general roofing membrane **10** to ensure suitable lap.

16. Jamb flashing assembly - uPVC soaker up stand. Maximum installed height from top of soaker to top of structural support is 75mm. Trim soaker to accommodate thinner tile types.
Refer to the flashing kit installation guide for more information.

17. Jamb weathering foam which is bent over and compressed under tiles as they are fixed down. Additional fixing holes or a mortar bed may be required under some tiles where only one batten fixing is possible.

18. Jamb flashing aprons, part of the jamb flashing assembly (supplied as part of the Flashing Kit). They pass **UNDER** the battens but **OVER** the general roofing membrane. The battens are tacked in position at the rooflight jambs only until the Flashing Kit is installed and the jamb aprons are slid under them. Then they are fixed home.

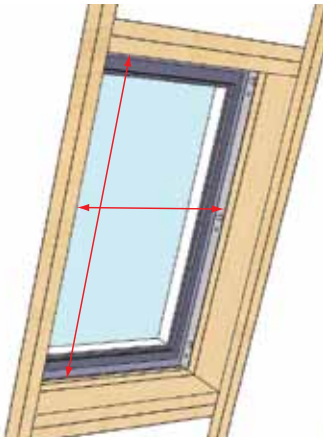
19. Vapour barrier (Blue).

Please Note:
These sectional details are provided as an installation suggestion. Due to the differing nature of installations we strongly advise you to consult your rooflight installer to verify fitness for purpose. This drawing does not constitute a structural proposal. Sufficiency of structural supports to be checked by rooflight purchaser's structural consultant.

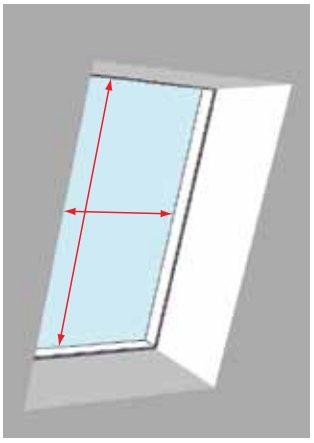
neo™ Steel Sizes

Clear Viewable Width (mm)	277	379	461	531	616	835	941	956	1451	1536
Clear Structural Width (mm)	543	645	727	797	882	1101	1207	1222	1717	1802
Between the Rafter Clear Structural Width* (mm)	663	765	847	917	1002	1221	1327	1342	1837	1922

Clear Viewable Length (mm)	Clear Structural Length (mm)	Between the Rafter Clear Structural Length* (mm)	
436	702	962	neo-S1 35kgs
539	805	1065	neo-S2 43kgs
616	882	1142	neo-S14 56kgs; neo-S11 76kgs; neo-S12 99kgs
761	1027	1287	neo-S4 56kgs
842	1108	1368	neo-S3 55kgs; neo-S6 62kgs
941	1207	1467	neo-S15 87kgs; neo-S13* 124kgs
956	1222	1482	neo-S7 71kgs
1147	1413	1673	neo-S9 92kgs
1156	1422	1682	neo-S5 72kgs
1451	1717	1977	neo-S8 94kgs
1536	1802	2062	neo-S10* 118kgs



Structural Measurements.



Viewable Measurements.

*Where **neo™** is required to sit flush to the roofline within narrow roof build-ups below 103mm (from the top of the structural rafter to the outer face of the roof tile) we recommend a between-the-rafter installation.