

# Standard Flat Glass Rooflight Datasheet

July 2024

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## PRODUCT DESCRIPTION

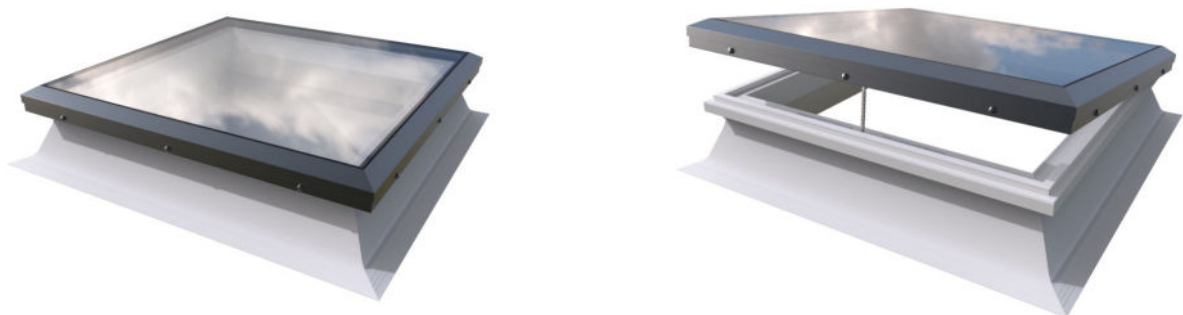
Individual glass rooflights intended for installation on flat roofs of all modern building types to provide natural light (and ventilation where specified). Rooflights are manufactured to ISO 9001 industry standards.

## APPEARANCE

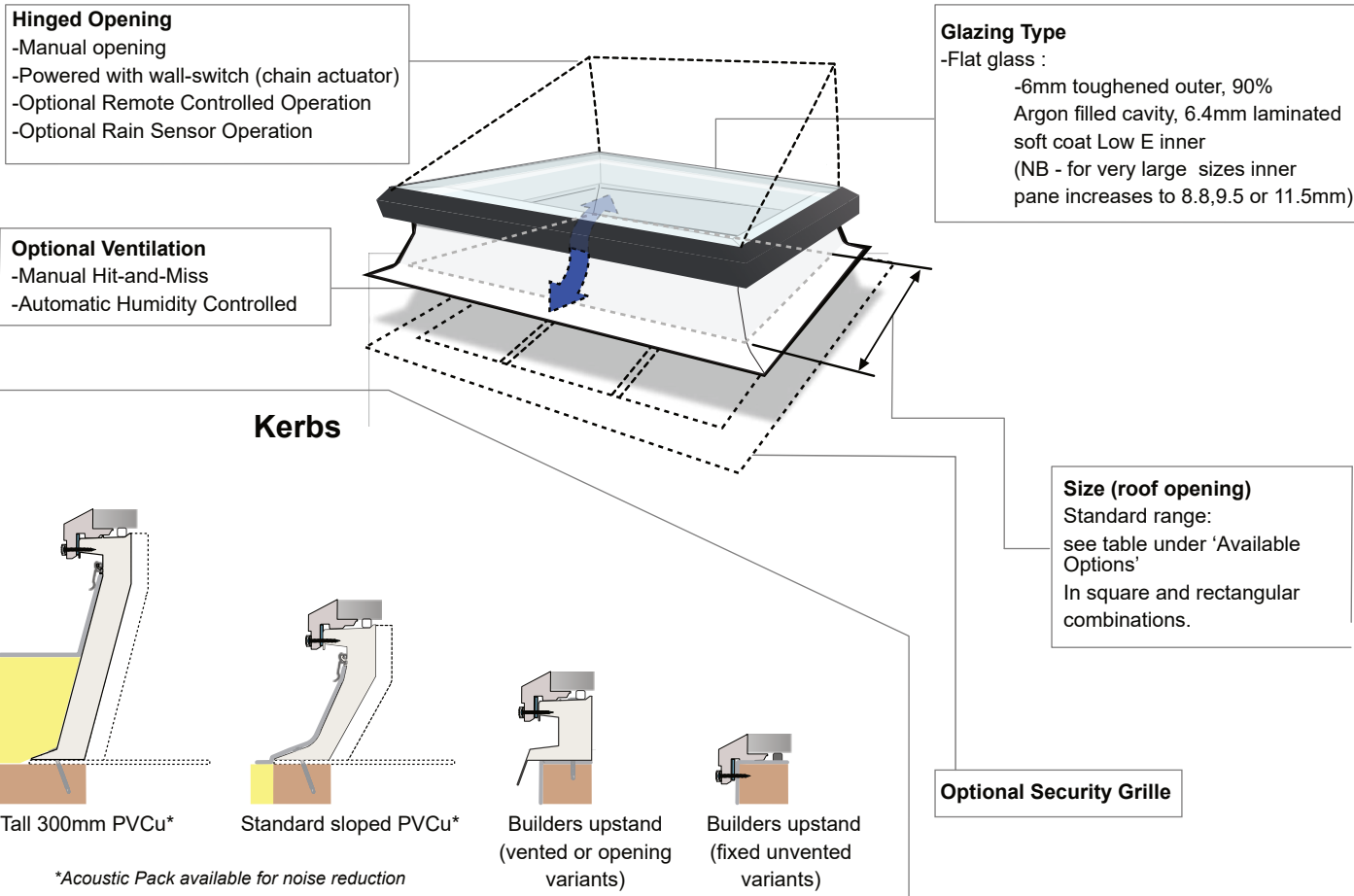
Sleek and contemporary design with a slimline powder coated frame and flush fitting glass panel.

## DESIGN FEATURES

- Premium rooflight offering a robust build as well as protection against intrusion or vandalism.
- Components of powered opening rooflights (230V) are completely concealed for an unobstructed light well.
- For ease of installation, the tapered kerb foot does not require timber fillets and an integral clamp holds the roofing membrane in place and provides a clean external finish for all roofing types.
- Powder coated aluminium frame as standard in a choice of RAL 7016 grey or RAL 9005 black.
- U<sub>i</sub> value to as low as 1.46 W/m<sup>2</sup>K.
- Laminated inner pane for safety of anyone beneath the rooflight.
- Fragile (non-fragile options available).



## PRODUCT OPTIONS SUMMARY (See page 2 onwards for details)



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## COMPOSITION

The double glazed glass panel is made up of: 6mm toughened outer, a 90% argon filled cavity, with a 6.4mm laminated soft coat Low E inner. For larger sizes the inner pane thickness is increased to 8.8mm, 9.5mm or 11.5mm.

The frame is extruded aluminium, powder coated in a choice of RAL 7016 grey or RAL 9005 black to provide a premium appearance and highly appealing finish, and is thermally isolated to provide excellent thermal performance. The kerbs are manufactured from Lead & Cadmium free un-plasticised PVC rigid multi-wall extruded profile, with internal white finish. The Glass, PVC-U and Aluminium which comprise the product can be recycled at the end of useful product life.

## DURABILITY

Flat glass units are expected to remain fit for purpose in normal industrial conditions for a period of 20 years (with a warranty available providing a 10 year guarantee) i.e. they will not become perforated, lose significant structural integrity, or distort to the extent of losing weather-tightness. The available warranty also guarantees:

- Electrical actuators (where present), for a period of 1 year (actuators have a design life of at least 10,000 cycles).
- Insulated glass used in the construction of the rooflight for 5 years.

## SAFETY

These rooflights incorporate a laminated inner pane for the safety of anyone beneath the rooflight, minimising risk of glass falling into the space below if either glass pane should break, in accordance with industry recommendations. These rooflights are fragile (as defined by CWCT and ACR): they are not suitable for foot traffic and may not resist a person falling onto them; suitable precautions should be taken (by others, following a risk assessment) to ensure the safety of anyone accessing the roof area where the product is installed. Alternative specifications which are non-fragile for use on Class 2 roofs are available on request. All glass panels are BS EN12150, BS 14449 and BS 1279 compliant.

## FIRE PERFORMANCE

Glass is designated Class A to EN13501 part 1, as it is included in the list of CWFT (classified without further test) materials published in the Official Journal of the EU (see European Commission Decision 96/603/EC).

These rooflights are glazed with a 6mm toughened outer pane and can therefore be regarded as having a B<sub>ROOF</sub>(t4) classification as per English building regulations.

## AVAILABLE OPTIONS

| Sizes of Rooflights                                                                                                                                                                                           |                    |             |                    |             |                    |             |                    |                                           |                    |                                             |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------|-------------|--------------------|-------------|--------------------|-------------------------------------------|--------------------|---------------------------------------------|--------------------|
| <b>Bold, black text indicates unit size, <i>Italic grey text indicates daylight area (mm)</i></b><br><b>Note:</b> Custom sizes are available on request. Please contact the supplier to discuss requirements. |                    |             |                    |             |                    |             |                    | Standard minimum<br>rooflight pitch of 2° |                    | Minimum pitch of<br>highlighted units is 4° |                    |
|                                                                                                                                                                                                               |                    |             |                    |             |                    |             |                    |                                           |                    |                                             |                    |
| Standard sizes                                                                                                                                                                                                |                    |             |                    |             |                    |             |                    |                                           |                    |                                             |                    |
| 600 x 600                                                                                                                                                                                                     | <i>450 x 450</i>   | 750 x 750   | <i>600 x 600</i>   | 900 x 900   | <i>750 x 750</i>   | 1000 x 1000 | <i>850 x 850</i>   | 1200 x 1200                               | <i>1050 x 1050</i> | 1500 x 1000                                 | <i>1350 x 850</i>  |
| 900 x 600                                                                                                                                                                                                     | <i>750 x 450</i>   | 1200 x 600  | <i>1050 x 450</i>  | 1200 x 900  | <i>1050 x 750</i>  |             |                    |                                           |                    |                                             |                    |
| Non-standard sizes                                                                                                                                                                                            |                    |             |                    |             |                    |             |                    |                                           |                    |                                             |                    |
| 750 x 600                                                                                                                                                                                                     | <i>600 x 450</i>   | 1500 x 1050 | <i>1350 x 900</i>  | 1800 x 1350 | <i>1650 x 1200</i> | 2100 x 1050 | <i>1950 x 900</i>  | 2550 x 1350                               | <i>2400 x 1200</i> | 3000 x 1650                                 | <i>2850 x 1500</i> |
| 900 x 750                                                                                                                                                                                                     | <i>750 x 600</i>   | 1500 x 1200 | <i>1350 x 1050</i> | 1800 x 1500 | <i>1650 x 1350</i> | 2100 x 1200 | <i>1950 x 1050</i> | 2550 x 1500                               | <i>2400 x 1350</i> | 3150 x 1050                                 | <i>3000 x 900</i>  |
| 1050 x 600                                                                                                                                                                                                    | <i>900 x 450</i>   | 1500 x 1350 | <i>1350 x 1200</i> | 1800 x 1650 | <i>1650 x 1500</i> | 2100 x 1350 | <i>1950 x 1200</i> | 2550 x 1650                               | <i>2400 x 1500</i> | 3150 x 1200                                 | <i>3000 x 1050</i> |
| 1050 x 750                                                                                                                                                                                                    | <i>900 x 600</i>   | 1500 x 1500 | <i>1350 x 1350</i> | 1800 x 1800 | <i>1650 x 1650</i> | 2100 x 1500 | <i>1950 x 1350</i> | 2700 x 1050                               | <i>2550 x 900</i>  | 3150 x 1350                                 | <i>3000 x 1200</i> |
| 1050 x 900                                                                                                                                                                                                    | <i>900 x 750</i>   | 1650 x 600  | <i>1500 x 450</i>  | 1950 x 750  | <i>1800 x 600</i>  | 2100 x 1650 | <i>1950 x 1500</i> | 2700 x 1200                               | <i>2550 x 1050</i> | 3150 x 1500                                 | <i>3000 x 1350</i> |
| 1050 x 1050                                                                                                                                                                                                   | <i>900 x 900</i>   | 1650 x 750  | <i>1500 x 600</i>  | 1950 x 900  | <i>1800 x 750</i>  | 2250 x 1050 | <i>2100 x 900</i>  | 2700 x 1350                               | <i>2550 x 1200</i> | 3150 x 1650                                 | <i>3000 x 1500</i> |
| 1200 x 750                                                                                                                                                                                                    | <i>1050 x 600</i>  | 1650 x 900  | <i>1500 x 750</i>  | 1950 x 1050 | <i>1800 x 900</i>  | 2250 x 1200 | <i>2100 x 1050</i> | 2700 x 1500                               | <i>2550 x 1350</i> | 3300 x 1200                                 | <i>3150 x 1050</i> |
| 1200 x 1050                                                                                                                                                                                                   | <i>1050 x 900</i>  | 1650 x 1050 | <i>1500 x 900</i>  | 1950 x 1200 | <i>1800 x 1050</i> | 2250 x 1350 | <i>2100 x 1200</i> | 2700 x 1650                               | <i>2550 x 1500</i> | 3300 x 1350                                 | <i>3150 x 1200</i> |
| 1350 x 600                                                                                                                                                                                                    | <i>1200 x 450</i>  | 1650 x 1200 | <i>1500 x 1050</i> | 1950 x 1350 | <i>1800 x 1200</i> | 2250 x 1500 | <i>2100 x 1350</i> | 2850 x 1050                               | <i>2700 x 900</i>  | 3300 x 1500                                 | <i>3150 x 1350</i> |
| 1350 x 750                                                                                                                                                                                                    | <i>1200 x 600</i>  | 1650 x 1350 | <i>1500 x 1200</i> | 1950 x 1500 | <i>1800 x 1350</i> | 2250 x 1650 | <i>2100 x 1500</i> | 2850 x 1200                               | <i>2700 x 1050</i> | 3300 x 1650                                 | <i>3150 x 1500</i> |
| 1350 x 900                                                                                                                                                                                                    | <i>1200 x 750</i>  | 1650 x 1500 | <i>1500 x 1350</i> | 1950 x 1650 | <i>1800 x 1500</i> | 2400 x 1050 | <i>2250 x 900</i>  | 2850 x 1350                               | <i>2700 x 1200</i> | 3450 x 1200                                 | <i>3300 x 1050</i> |
| 1350 x 1050                                                                                                                                                                                                   | <i>1200 x 900</i>  | 1650 x 1650 | <i>1500 x 1500</i> | 1950 x 1800 | <i>1800 x 1650</i> | 2400 x 1200 | <i>2250 x 1050</i> | 2850 x 1500                               | <i>2700 x 1350</i> | 3450 x 1350                                 | <i>3300 x 1200</i> |
| 1350 x 1200                                                                                                                                                                                                   | <i>1200 x 1050</i> | 1800 x 600  | <i>1650 x 450</i>  | 1950 x 1950 | <i>1800 x 1800</i> | 2400 x 1350 | <i>2250 x 1200</i> | 2850 x 1650                               | <i>2700 x 1500</i> | 3450 x 1500                                 | <i>3300 x 1350</i> |
| 1350 x 1350                                                                                                                                                                                                   | <i>1200 x 1200</i> | 1800 x 750  | <i>1650 x 600</i>  | 2000 x 1000 | <i>1850 x 850</i>  | 2400 x 1500 | <i>2250 x 1350</i> | 3000 x 1050                               | <i>2850 x 900</i>  | 3450 x 1650                                 | <i>3300 x 1500</i> |
| 1500 x 600                                                                                                                                                                                                    | <i>1350 x 450</i>  | 1800 x 900  | <i>1650 x 750</i>  | 2000 x 1500 | <i>1850 x 1350</i> | 2400 x 1650 | <i>2250 x 1500</i> | 3000 x 1200                               | <i>2850 x 1050</i> | 3600 x 1500                                 | <i>3450 x 1350</i> |
| 1500 x 750                                                                                                                                                                                                    | <i>1350 x 600</i>  | 1800 x 1050 | <i>1650 x 900</i>  | 2000 x 2000 | <i>1850 x 1850</i> | 2550 x 1050 | <i>2400 x 900</i>  | 3000 x 1350                               | <i>2850 x 1200</i> | 3600 x 1650                                 | <i>3450 x 1350</i> |
| 1500 x 900                                                                                                                                                                                                    | <i>1350 x 750</i>  | 1800 x 1200 | <i>1650 x 1050</i> | 2100 x 900  | <i>1950 x 750</i>  | 2550 x 1200 | <i>2400 x 1050</i> | 3000 x 1500                               | <i>2850 x 1350</i> |                                             |                    |

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## SIZE RESTRICTIONS

Please note that restrictions apply due to size, wind loadings and weight. For fixed units with a PVC kerb, the maximum size is 2000mm x 2000mm (square) and 2850mm x 1650mm (rectangle). For powered opening rooflights, size is normally restricted to a maximum of 1200mm x 1200mm (square) and 1500mm x 1000mm (rectangle). Size of the largest manual opening rooflight is restricted to 1200mm x 1200mm.

## SECURITY

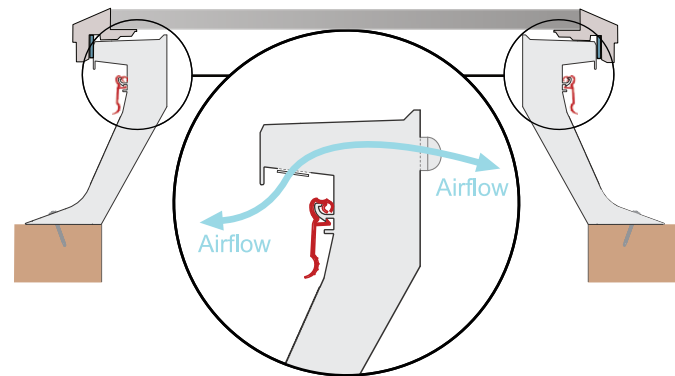
All fixed units are fitted to a builders upstand or a PVC kerb using self-drilling fixings. All fixing heads are concealed using colour-matched cover caps. Optional security grilles are designed to fit beneath the foot of the kerb to provide additional security where required.

## SECURITY GRILLE

Designed to fit beneath the foot of the kerb to provide additional security where required. It is powder coated in a white finish, and available in all sizes where a PVC kerb is an option.

## VENTILATION

Ventilation can help reduce humidity, and reduce risk of condensation and should be considered in any areas of high humidity. Flat glass rooflights may be unvented or can incorporate vents. These can either be hit-and-miss manually controlled trickle vents or automatic humidity controlled vents and are available in all sizes where a PVC kerb is an option.



| Ventilation Options                               |                                                                                                                    |                                                                                                    |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Ventilation Type                                  | Description                                                                                                        | Rating                                                                                             |
| Trickle Ventilation (Hit-and-Miss)                | Manually operated trickle ventilation provides background ventilation to the interior                              | Provides 8400mm² Equivalent Area Ventilation                                                       |
| Automatic Humidity Controlled Trickle Ventilation | Humidity controlled trickle ventilation is sensor controlled to open and close in response to room humidity levels | Provides 7822mm² Equivalent Area Ventilation and provides superior protection against condensation |

## ROOF APPLICATIONS

Flat Glass units are suitable for mounting at pitches of 2°-15°.

A minimum pitch of 2° or 4° is required to prevent water ponding on the glass leading to rapid dirt build up. See table under 'Available Options' for minimum pitch according to size.

## OPENING OPTIONS

Units can also be opened on concealed hinges using actuators to create a large ventilation area. Powered opening rooflights are not suitable for use in conditions at risk of high humidity (e.g. domestic bathrooms).

| Opening Options                         |                                                                                                                                            |                            |          |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| Opening Type                            | Description                                                                                                                                | Geometric Ventilation Area |          |
|                                         |                                                                                                                                            | Min                        | Max      |
| Manual Opening (MLD)                    | Hinged opening rooflight which is operated manually via a worm gear drive with an extension pole                                           | 0.300 m²                   | 0.683 m² |
| Powered Opening (PCD/PCR)               | Powered hinged opening rooflight with completely concealed operating mechanism. Opened and closed using a control switch or remote control | 0.211 m²                   | 0.725 m² |
| Sensor Controlled Powered Opening (PCS) | Powered hinged opening rooflight which includes rain sensors for automatic operation                                                       | 0.211 m²                   | 0.725 m² |

## GLAZING OPTIONS & TRANSMISSION VALUES

Laminate pane thickness varies with size so a range of values are quoted. Other glazing options are available on request. If non-standard glass is used, glazing performance may differ from the table shown.

| Overall Glazing Performance |           |                     |             |
|-----------------------------|-----------|---------------------|-------------|
| Light                       |           | Solar Energy        |             |
| Transmission                | 77% - 79% | G-Value             | 0.56 - 0.59 |
| Reflection                  | 12%       | Shading coefficient | 0.64 - 0.68 |

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## THERMAL PERFORMANCE (England, Scotland & Wales)

There is currently no method set out for assessing the thermal performance of flat glass rooflights, so the method shown in Rooflight Association (formerly NARM) NTD2 has been adopted as the most appropriate. Thermal transmittance is defined as a  $U_{rc}$  value for a rooflight with a PVC kerb and a  $U_i$  value for a rooflight fitted to a builders upstand. The thermal transmittance values (assessed horizontally) are shown below.

| Thermal Performance<br>(England, Scotland and Wales) |                        |             |                    |                       |
|------------------------------------------------------|------------------------|-------------|--------------------|-----------------------|
| Rooflight Variant                                    |                        | Size range  | Surface:area ratio | $U_i / U_{rc}$ value  |
|                                                      |                        |             |                    | W/(m <sup>2</sup> .K) |
| Unvented, Fixed Rooflight on Builders Upstand        | (U <sub>i</sub> )      | 600 x 600   | 2.31               | 1.46                  |
|                                                      |                        | 3600 x 1650 | 1.27               | 1.63                  |
| Vented or Opening Rooflight on Builders Upstand      | (U <sub>i</sub> )      | 600 x 600   | 1.64               | 1.78                  |
|                                                      |                        | 2850 x 1650 | 1.21               | 1.72                  |
| Rooflight with standard 150mm Sloped Kerb            | (U <sub>rc 150</sub> ) | 600 x 600   | 2.44               | 1.83                  |
|                                                      |                        | 2850 x 1650 | 1.43               | 1.75                  |
| Rooflight with standard 300mm Tall Kerb              | (U <sub>rc 300</sub> ) | 600 x 600   | 3.38               | 1.73                  |
|                                                      |                        | 2850 x 1650 | 1.43               | 1.71                  |

\*The overall thermal performance of rooflights is still referred to as a  $U_a$ -value in the building regulations, rather than  $U_i/U_{rc}$  value as per the calculation method. Values stated are therefore equivalent to a  $U_a$ -value assessed horizontally.

## THERMAL PERFORMANCE (Republic of Ireland & Northern Ireland)

The thermal performance of flat glass is assessed in the vertical plane and declared as a  $U_d$  value of the glazing system. (The glazing used in flat glass achieves a centre pane U value of 1.1W/m<sup>2</sup>K)

| Thermal Performance<br>(Republic of Ireland, Northern Ireland) |                   |             |             |
|----------------------------------------------------------------|-------------------|-------------|-------------|
| Rooflight Variant                                              |                   | Size range  | $U_d$ value |
| Unvented, Fixed Rooflight on Builders Upstand                  | (U <sub>d</sub> ) | 600 x 600   | 1.76        |
|                                                                |                   | 3600 x 1650 | 1.26        |
| Vented or Opening Rooflight on Builders Upstand                | (U <sub>d</sub> ) | 600 x 600   | 1.63        |
|                                                                |                   | 2850 x 1650 | 1.29        |
| Rooflight with standard 150mm Sloped Kerb                      | (U <sub>d</sub> ) | 600 x 600   | 1.32        |
|                                                                |                   | 2850 x 1650 | 1.21        |
| Rooflight with standard 300mm Tall Kerb                        | (U <sub>d</sub> ) | 600 x 600   | 1.22        |
|                                                                |                   | 2850 x 1650 | 1.17        |

## ACOUSTIC PERFORMANCE

Units achieve a direct airborne sound insulation value of 37db (Rw). This value can be improved further by the fitting of a kerb acoustic pack. The acoustic pack is not available with vented or opening options.

## ANNEALED, LAMINATED INNER PANE

These Flat Glass rooflights are manufactured using double glazing which includes an inner pane of annealed, laminated safety glass, which prevents falling glass in the event of accidental breakage, for the safety of those below the rooflight.

In some circumstances, annealed, laminated safety glass can be subject to thermal stress fracture in the event of uneven heat build-up directly under the glass. Installation of blinds, or any other alterations made to the lightwell below the rooflight, must be done so with consideration to the risk of thermal stress fracture. In the case of blinds, the risk of thermal stress fracture can never be fully removed, but it can be reduced by choosing light coloured blinds, positioning them as far away from the glass as possible, and including ventilation in the rooflight specification.

More detailed guidance can be obtained upon request.

## WIND AND SNOW LOAD

Units have been tested to show that, when correctly fitted in accordance with our instructions and unit is closed, they will resist wind loads calculated in accordance with BS EN 1991-1-4: 2005, and imposed loads in accordance with BS EN 1873: 2005 as shown in table below.

| Resistance to Snow and Wind Loads |                               |                               |
|-----------------------------------|-------------------------------|-------------------------------|
|                                   | Snow Load (N.m <sup>2</sup> ) | Wind Load (N.m <sup>2</sup> ) |
| Fixed                             | 1200                          | 2400                          |
| Opening                           | 1200                          | 1200                          |

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## GENERAL PRODUCT DIMENSIONS

Differing kerb options available depending on project specification. When the rooflight is to be fitted to an existing upstand, fixed unventilated rooflights can be fitted directly, and opening or ventilated options are supplied complete with an adapter kerb.

Where no upstand exists, units can be supplied with 150mm PVC kerb (for mounting at roof surface level) or 300mm PVC kerb (for mounting below insulation).

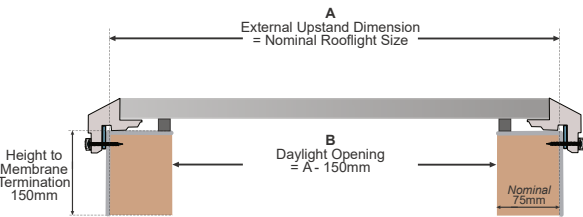


Figure 1: Fixed & Unventilated option directly fixed to builders upstand

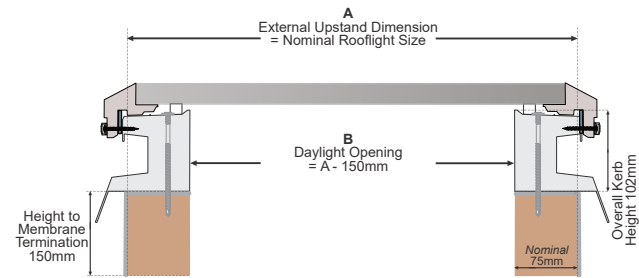


Figure 2: opening / ventilated rooflight on builders upstand

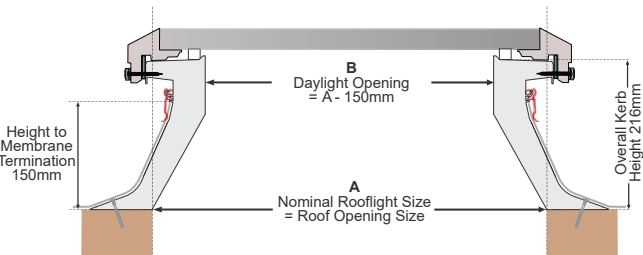


Figure 3: Rooflight with 150mm PVC kerb

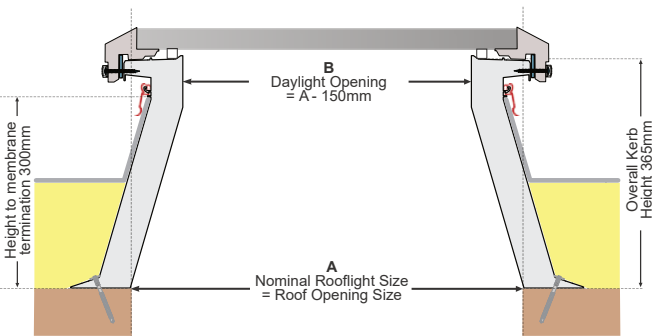


Figure 4: Rooflight with 300mm PVC kerb

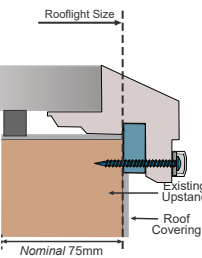


Figure 5: rooflight with builders upstand detail

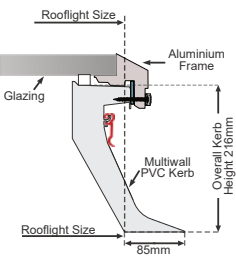


Figure 6: rooflight with 150mm PVC kerb detail

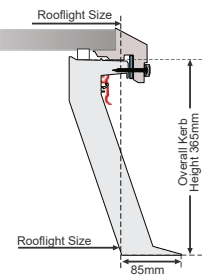


Figure 7: rooflight with 300mm PVC kerb detail

| Product Overall Height & Weight                      |                        |                               |     |                          |     |                         |     |
|------------------------------------------------------|------------------------|-------------------------------|-----|--------------------------|-----|-------------------------|-----|
|                                                      | Nominal Dome Size (mm) | Builders upstand H(mm) W*(Kg) |     | Sloped Kerb H(mm) W*(Kg) |     | 300mm Kerb H(mm) W*(Kg) |     |
| Fixed unvented standard flat glass rooflight*        | Min 600 x 600          | 82                            | 18  | 259                      | 25  | 407                     | 28  |
|                                                      | Max 3600 x 1650        | 82                            | 264 | 259                      | -   | 407                     | -   |
| Opening standard flat glass rooflight* (when closed) | Min 600 x 600          | 185                           | 25  | 259                      | 28  | 407                     | 30  |
|                                                      | Max 2400 x 1500        | 185                           | 179 | 259                      | 188 | 407                     | 195 |

\*Contact supplier for weights of unit sizes not listed above  
#Product weights given above exclude packaging weights

## INSTALLATION, HANDLING, MAINTENANCE & STORAGE

Full installation details, maintenance and product care details are available on request.