

Product Description

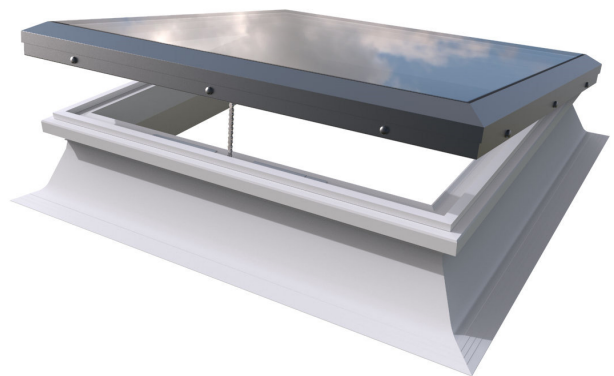
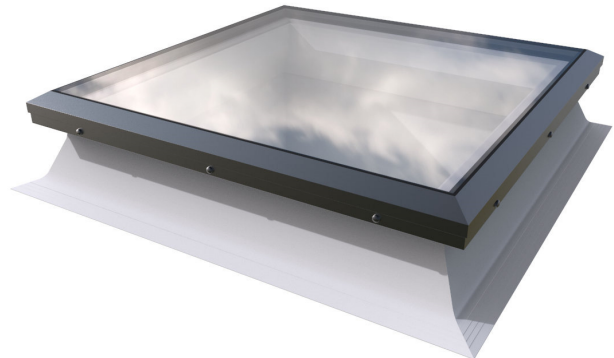
Brett Martin Daylight Systems' Mardome Glass Trade Rooflights are individual glass rooflights intended for installation on flat roofs of all modern building types to provide natural light (and ventilation where specified). Mardome Glass Trade Rooflights are manufactured to ISO 9001 industry standards.

Appearance

Mardome Glass Trade exhibits a 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.
- Powder coated aluminium frame as standard (RAL 7016).
- Centre pane U-value of 1.1 W/m²K.
- Components of powered opening rooflights (230V) are completely concealed for an unobstructed light well.
- Tested to be non-fragile to CWCT TN-92 (for class 2 roofs) and Class B non-fragile to ACR[M]001.
- 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.



Product Options Summary (see page 2 onwards for details)

Hinged Opening

- Manual opening
- Powered with wall-switch (chain actuator)
- Optional Remote Controlled Operation
- Optional Rain Sensor Operation

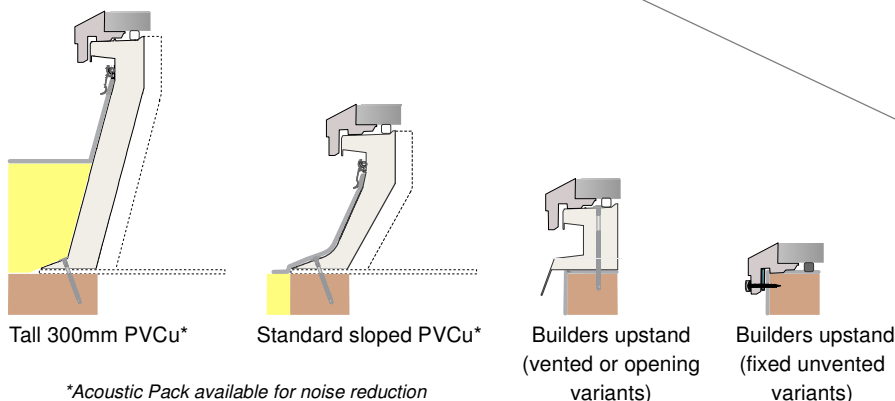
Optional Ventilation

- Manual Hit-and-Miss
- Automatic Humidity Controlled
- Powervent high extraction ventilation

Glazing Type

- Flat glass :
 - 6mm toughened outer, 90% Argon filled cavity, 9.5mm laminated soft coat Low E inner with 1.5mm PVB interlayer.
 - (NB - for very large sizes inner pane increases to 11.5mm)
 - CWCT TN-92 for class 2 roofs
 - ACR[M]001 Class B non-fragile
 - Glass panel is P4A secure

Kerb



*Acoustic Pack available for noise reduction

Size (roof opening)

Standard range:
see Table 1 on Page 2
In square and rectangular combinations.

Optional Burglar Bars

TECHNICAL SUPPORT:

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Composition

The double glazed glass panel is made up of: 6mm toughened outer, a 90% argon filled cavity, with a 9.5mm laminated soft coat Low E inner (inc. 1.5mm PVB interlayer). For larger sizes the inner pane thickness is increased to 11.5mm.

The frame is extruded aluminium, with a powder coating (RAL 7016) to provide a premium appearance and highly appealing finish. The rooflight assembly is thermally broken 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

Mardome Glass Trade units are expected to remain fit for purpose in normal industrial conditions for a period of 20 years (guaranteed for 10 years), i.e. they will not become perforated, lose significant structural integrity or distort to the extent of losing weather-tightness. Electrical actuators (where present), are guaranteed 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 is guaranteed for 5 years.

Safety Requirements/CDM Regulations

Mardome Glass Trade achieves CWCT TN-92 non-fragility on class-2 roofs and ACR[M]001 class B non-fragility when new and fully installed in accordance with Brett Martin Daylight Systems' installation guides. Foot traffic on rooflights should always be avoided; impacts such as foot traffic or a falling person may cause damage which could necessitate rooflight replacement. All glass panels are BS EN12150, BS 14449 and BS 1279 compliant.

Security

All fixed Mardome Glass Trade 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.

Fire Rating

Building Regulations Approved Document B (2006 edition, amended 2007) sets out the rules for fire safety of buildings, which can be met by achieving specific fire ratings to either British (BS476) or European (BS EN 13501) test standards.

Brett Martin Mardome Glass Trade achieves Class 1 to BS 476 part 7.

Available Options

Table 1
Sizes of Rooflights

Bold indicates unit size, Italics indicates daylight area
(mm)

Standard sizes					
600 x 600	<i>450 x 450</i>	900 x 900	<i>750 x 750</i>	1200 x 900	<i>1050 x 750</i>
750 x 750	<i>600 x 600</i>	1000 x 1000	<i>850 x 850</i>	1200 x 1200	<i>1050 x 1050</i>
900 x 600	<i>750 x 450</i>	1200 x 600	<i>1050 x 450</i>	1500 x 1000	<i>1350 x 850</i>
Non-standard sizes					
750 x 600	<i>600 x 450</i>	1950 x 1200	<i>1800 x 1050</i>	3000 x 1200	<i>2850 x 1050</i>
900 x 750	<i>750 x 600</i>	1950 x 1350	<i>1800 x 1200</i>	3000 x 1350	<i>2850 x 1200</i>
1050 x 600	<i>900 x 450</i>	1950 x 1500	<i>1800 x 1350</i>	3000 x 1500	<i>2850 x 1350</i>
1050 x 750	<i>900 x 600</i>	1950 x 1650	<i>1800 x 1500</i>	3000 x 1650	<i>2850 x 1500</i>
1050 x 900	<i>900 x 750</i>	1950 x 1800	<i>1800 x 1650</i>	3150 x 1050	<i>3000 x 900</i>
1050 x 1050	<i>900 x 900</i>	1950 x 1950	<i>1800 x 1800</i>	3150 x 1200	<i>3000 x 1050</i>
1200 x 750	<i>1050 x 600</i>	2000 x 1000	<i>1850 x 850</i>	3150 x 1350	<i>3000 x 1200</i>
1200 x 1050	<i>1050 x 900</i>	2000 x 1500	<i>1850 x 1350</i>	3150 x 1500	<i>3000 x 1350</i>
1350 x 600	<i>1200 x 450</i>	2000 x 2000	<i>1850 x 1850</i>	3150 x 1650	<i>3000 x 1500</i>
1350 x 750	<i>1200 x 600</i>	2100 x 900	<i>1950 x 750</i>	3300 x 1200	<i>3150 x 1050</i>
1350 x 900	<i>1200 x 750</i>	2100 x 1050	<i>1950 x 900</i>	3300 x 1350	<i>3150 x 1200</i>
1350 x 1050	<i>1200 x 900</i>	2100 x 1200	<i>1950 x 1050</i>	3300 x 1500	<i>3150 x 1350</i>
1350 x 1200	<i>1200 x 1050</i>	2100 x 1350	<i>1950 x 1200</i>	3300 x 1650	<i>3150 x 1500</i>
1350 x 1350	<i>1200 x 1200</i>	2100 x 1500	<i>1950 x 1350</i>	3450 x 1200	<i>3300 x 1050</i>
1500 x 600	<i>1350 x 450</i>	2100 x 1650	<i>1950 x 1500</i>	3450 x 1350	<i>3300 x 1200</i>
1500 x 750	<i>1350 x 600</i>	2250 x 1050	<i>2100 x 900</i>	3450 x 1500	<i>3300 x 1350</i>
1500 x 900	<i>1350 x 750</i>	2250 x 1200	<i>2100 x 1050</i>	3450 x 1650	<i>3300 x 1500</i>
1500 x 1050	<i>1350 x 900</i>	2250 x 1350	<i>2100 x 1200</i>	3600 x 1500	<i>3450 x 1350</i>
1500 x 1200	<i>1350 x 1050</i>	2250 x 1500	<i>2100 x 1350</i>	3600 x 1650	<i>3450 x 1350</i>
1500 x 1350	<i>1350 x 1200</i>	2250 x 1650	<i>2100 x 1500</i>		
1500 x 1500	<i>1350 x 1350</i>	2400 x 1050	<i>2250 x 900</i>		
1650 x 600	<i>1500 x 450</i>	2400 x 1200	<i>2250 x 1050</i>		
1650 x 750	<i>1500 x 600</i>	2400 x 1350	<i>2250 x 1200</i>		
1650 x 900	<i>1500 x 750</i>	2400 x 1500	<i>2250 x 1350</i>		
1650 x 1050	<i>1500 x 900</i>	2400 x 1650	<i>2250 x 1500</i>		
1650 x 1200	<i>1500 x 1050</i>	2550 x 1050	<i>2400 x 900</i>		
1650 x 1350	<i>1500 x 1200</i>	2550 x 1200	<i>2400 x 1050</i>		
1650 x 1500	<i>1500 x 1350</i>	2550 x 1350	<i>2400 x 1200</i>		
1650 x 1650	<i>1500 x 1500</i>	2550 x 1500	<i>2400 x 1350</i>		
1800 x 600	<i>1650 x 450</i>	2550 x 1650	<i>2400 x 1500</i>		
1800 x 750	<i>1650 x 600</i>	2700 x 1050	<i>2550 x 900</i>		
1800 x 900	<i>1650 x 750</i>	2700 x 1200	<i>2550 x 1050</i>		
1800 x 1050	<i>1650 x 900</i>	2700 x 1350	<i>2550 x 1200</i>		
1800 x 1200	<i>1650 x 1050</i>	2700 x 1500	<i>2550 x 1350</i>		
1800 x 1350	<i>1650 x 1200</i>	2700 x 1650	<i>2550 x 1500</i>		
1800 x 1500	<i>1650 x 1350</i>	2850 x 1050	<i>2700 x 900</i>		
1800 x 1650	<i>1650 x 1500</i>	2850 x 1200	<i>2700 x 1050</i>		
1800 x 1800	<i>1650 x 1650</i>	2850 x 1350	<i>2700 x 1200</i>		
1950 x 750	<i>1800 x 600</i>	2850 x 1500	<i>2700 x 1350</i>		
1950 x 900	<i>1800 x 750</i>	2850 x 1650	<i>2700 x 1500</i>		
1950 x 1050	<i>1800 x 900</i>	3000 x 1050	<i>2850 x 900</i>		

Standard minimum rooflight pitch of 2°

Minimum pitch of highlighted units is 4°

Note: Custom sizes are available on request. Please contact BMDS to discuss requirements.

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Available Options Continued

Ventilation:

Ventilation can help reduce humidity, and reduce risk of condensation and should be considered in any areas of high humidity. Mardome Glass Trade rooflights may be unvented or can incorporate vents. These can either be hit-and-miss manually controlled trickle vents, automatic humidity controlled vents or high powered extraction ventilation (Powervent: Details listed in Table 2.)

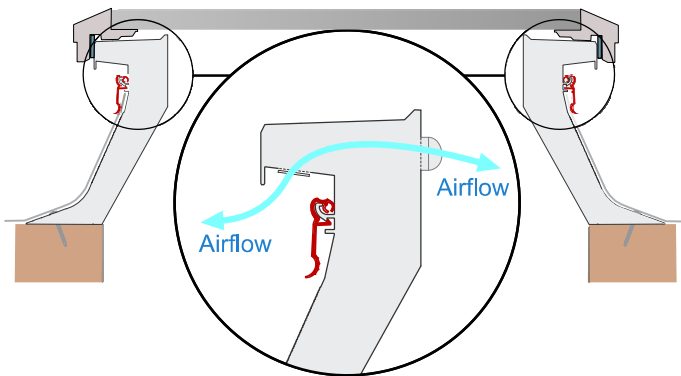


Table 2
Ventilation Options

Ventilation Type	Description	Rating
Trickle Ventilation (Hit-and-Miss)	Manually operated trickle ventilation provides background ventilation to the interior	Provides 8400mm ² 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 7822mm ² Equivalent Area Ventilation and provides superior protection against condensation
'Powervent' high extraction ventilation	Kerb mounted, electrically powered fans providing excellent extraction rates for a variety of applications	Ventilation levels between 55-880 m ³ /hr depending on number of fans and rooflight size

Mardome Glass Trade can also be opened on concealed hinges using actuators to create a large ventilation area. Opening rooflights can contribute to room ventilation as required by Part F of the Building Regulations.

Table 3
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 m ²	0.714 m ²
Powered Opening (PCD/PCR)	Powered hinged opening rooflight with completely concealed operating mechanism. Opened and closed using a control switch or remote control	0.210 m ²	1.176 m ²
Sensor Controlled Powered Opening (PCS)	Powered hinged opening rooflight which includes rain sensors for automatic operation	0.210 m ²	1.176 m ²

Size Restrictions for Opening Options:

Please note that restrictions apply due to size, wind loadings and weight. 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.

Roof Applications:

Mardome Glass Trade units are suitable for flat roof applications with a pitch of 2°-15°. 2° is typical for a 'flat roof'. If a roof is less than 2°, packers (not supplied) will need to be placed under the kerb of the unit or on the top of a builders upstand to raise to the minimum 2°. This is to prevent water ponding on the glass leading to rapid dirt build up. A minimum of 4° pitch is required for sizes where both the length and width are larger than 1650mm.

Acoustic Performance:

Mardome Glass Trade units achieve a direct airborne sound insulation value of 39db (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.

Glazing Options & Transmission Values

The glazing used achieves the following values:

Table 4

Light		Solar Energy	
Transmission	76% - 78%	g-value	0.60 - 0.62
Reflection	12%	Shading coefficient	0.69 - 0.71

Thermal Performance

Table 5
Mardome Glass Trade Thermal Efficiency

	Size	Centre Pane U-Value (W/m ² K)	U _a -Value (W/m ² K)
Rooflight fixed to Builder's Upstand	600 x 600	1.1	1.78
	3600 x 1650	1.1	1.27
Rooflight With Sloped Kerb	600 x 600	1.1	1.36
	2850 x 1650	1.1	1.52

Product Accessories

Burglar Bar:

The Mardome Burglar Bar is 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.

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General Product Dimensions

Mardome Glass Trade offers differing kerb options 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, Mardome Glass Trade can be supplied with 150mm PVC kerb (for mounting at roof surface level) or 300mm PVC kerb (for mounting below insulation).

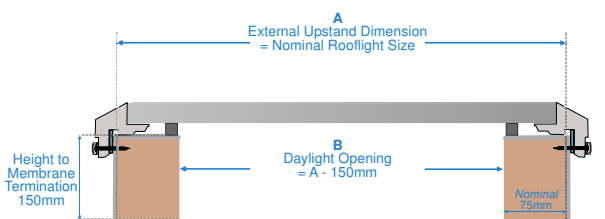


Figure 1: Fixed & Unventilated option directly fixed to builders upstand

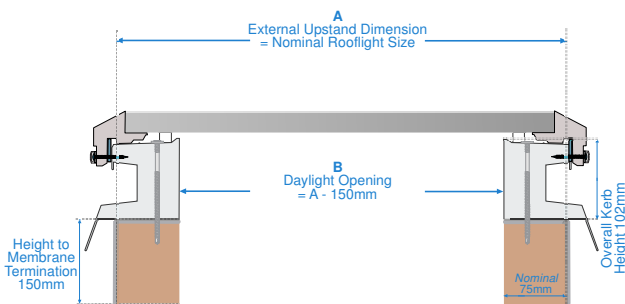


Figure 2: opening / ventilated rooflight on builders upstand

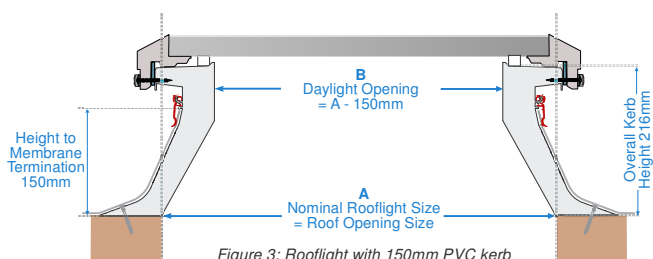


Figure 3: Rooflight with 150mm PVC kerb

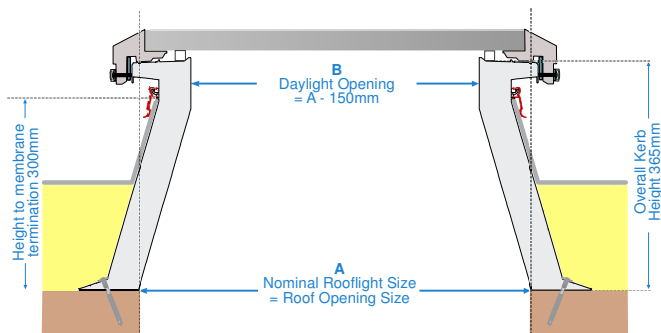


Figure 4: Rooflight with 300mm PVC kerb

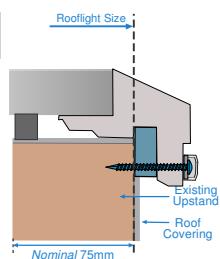


Figure 5: rooflight with builders upstand detail

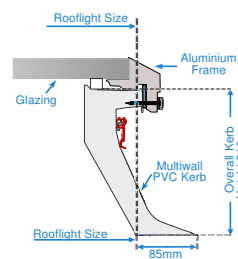


Figure 6: rooflight with 150mm PVC kerb detail

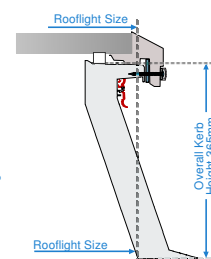


Figure 7: rooflight with 300mm PVC kerb detail

Wind and Snow Load

Mardome Glass Trade has been tested to show that, when correctly fitted in accordance with our instructions, 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 6.

Table 6

Resistance to Snow and Wind Loads (figures in excess of)

Snow Load (N.m ²)	Wind Load (N.m ²)
1200	2400

Table 7

Product Overall Height & Weight

Description	Nominal Dome Size (mm)	Builders upstand		Sloped Kerb		300mm Kerb	
		H(mm)	W ² (Kg)	H(mm)	W ² (Kg)	H(mm)	W ² (Kg)
Fixed Unvented Mardome Glass Trade*	Min 600 x 600	82	17.4	257	25.3	406	24.8
	Max 3600 x 1650	82	263.5	257	-	406	-
Opening Mardome Glass Trade* (when closed)	Min 600 x 600	82	24.6	257	27.6	406	30.0
	Max 2400 x 1500	82	182.6	257	191.0	406	198.2

*Contact Brett Martin Daylight Systems 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, can be found in the relevant Technical Bulletins.

Table 8

Technical Bulletins

Technical Bulletin	Technical Bulletin Description
TB209	Datasheet Mardome Glass Product Care
TB400	Installation Mardome Glass Trade Fixed
TB401	Installation Mardome Glass Trade Powered Opening
TB402	Installation Mardome Glass Trade Manual Opening

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