

# Mardome Reflex

# Mardome Circular

# TB201

## Mardome Reflex & Circular Datasheet

### Product Description

Brett Martin Daylight Systems Mardome Reflex is an individual polycarbonate 'glazing only' dome rooflight intended for refurbishment projects on flat roofs of all modern building types to provide natural light. Mardome Circular is available as 'glazing only' or with 175mm tall kerb, if required.

Mardome Rooflights are designed and manufactured under an ISO9001 approved quality system. Product options which will help to satisfy differing requirements for light transmission and thermal performance are available.

Brett Martin Daylight Systems Mardome Reflex and Circular Rooflight Domes have full BBA approval and are certified under 06/4385.



### Design Features

- Glazing only for refurbishment or economical circular applications.
- Contemporary design (dome and pyramid options).
- Options to satisfy requirements for light transmission and thermal performance.
- U<sub>i</sub> value as low as 1.15 W/m<sup>2</sup>K
- Suitable for flat roof applications with a pitch of typically 0°-15° – speak to technical for pitches greater than this.

### Appearance

Mardome Reflex is a 'glazing only' specification dome to fit existing upstands. The low profile dome or pyramid shape improves the aesthetics and also the clarity of light.

Mardome Circular domes provide an economical solution where circular rooflights are required. They are available to fit existing upstands or can be supplied with an insulated GRP kerb. It's contemporary design gives a clean white internal appearance and unobtrusive exterior.

### Composition

The outer dome of Mardome Reflex and Circular is manufactured from 3mm impact resistant Marlon FSX polycarbonate sheet which is co-extruded with a UV protective coating to both sides. The inner domes are manufactured from 2mm impact resistant Marlon FS polycarbonate sheeting for double and triple skin options. The polycarbonate which comprise the product can be recycled at the end of useful product life.

The Mardome Circular kerb is manufactured from insulated GRP with a gloss gel coat finish to the interior.

### Durability

Mardome Reflex and Circular Rooflights 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 polycarbonate used in Mardome rooflights against loss of light transmission, discolouration or loss of impact strength for 10 years.

### Safety Requirements and CDM

Mardome Reflex and Circular Rooflights achieve Class B non-fragility to ACR[M]001 when new and fully installed in accordance with Brett Martin Daylight Systems' installation guides. Foot traffic on all rooflights should always be avoided; impacts such as foot traffic or a falling person may cause damage which may necessitate rooflight replacement.

### Security

Mardome Reflex and Circular rooflights are manufactured from polycarbonate which has an impact strength 200x greater than glass, therefore making breakage very difficult. Please refer to BBA Certificate 06/4385, Section 14 for more details.

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### Fire Performance

**B-s1,d0** in accordance with EN 13501-1.

### Available Sizes & Options

Available in 70mm and 100mm flat flanges, Mardome Reflex can be mechanically fixed to existing kerbs of varying dimensions.

Mardome Reflex and Circular are fixed unventilated only specification domes. If ventilation or opening options are required, please see our Mardome Trade range of rooflights.

Square	Rectangular									Circular
450 x 450	600 x 750	750 x 900	900 x 1050	1050 x 1200	1200 x 1350	1350 x 1500	1500 x 1650	1650 x 1800	1800 x 1950	600
600 x 600	600 x 900	750 x 1050	900 x 1200	1050 x 1350	1200 x 1500	1350 x 1650	1500 x 1800	1650 x 1950	1800 x 2100	750
750 x 750	600 x 1050	750 x 1200	900 x 1350	1050 x 1500	1200 x 1650	1350 x 1800	1500 x 1950	1650 x 2100	1800 x 2250	900
900 x 900	600 x 1200	750 x 1350	900 x 1500	1050 x 1650	1200 x 1800	1350 x 1950	1500 x 2100	1650 x 2250	1800 x 2400	1050
1050 x 1050	600 x 1350	750 x 1500	900 x 1650	1050 x 1800	1200 x 1950	1350 x 2100	1500 x 2250	1650 x 2400		1200
1200 x 1200	600 x 1500	750 x 1650	900 x 1800	1050 x 1950	1200 x 2100	1350 x 2250	1500 x 2400			1350
1350 x 1350	600 x 1650	750 x 1800	900 x 1950	1050 x 2100	1200 x 2250	1350 x 2400				1500
1500 x 1500	600 x 1800	750 x 1950	900 x 2100	1050 x 2250	1200 x 2400					1800
1650 x 1650										
1800 x 1800										

### Standard Glazing Values

Mardome Reflex and Circular Rooflights are available with a selection of glazing tint options depending on the required level of light transmission.

Glazing Performance								
Tint	Light Effect	Light Transmission			Shading Coefficient		Transmittance (G-Value)	
		Single Skin	Double Skin	Triple Skin	Double Skin	Triple Skin	Double Skin	Triple Skin
Clear	High Visibility	90%	85%	78%	0.84	0.76	0.73	0.66
Opal	Diffused light & Solar Control	37%	35%	32%	0.38	0.34	0.33	0.30
Patterned	Privacy	84%	78%	72%				

### Thermal Performance (England, Scotland and Wales)

These polycarbonate rooflights have been assessed in the horizontal plane using the methodology in EN 1873:2014 and in accordance with Rooflight Association (formerly NARM) NTD2. Thermal transmittance is defined as a  $U_c$  value for a rooflight with combined GRP kerb and a  $U_r$  value for a rooflight fitted to a builders upstand. The thermal transmittance values (assessed horizontally) are shown below.

Thermal Performance (England, Scotland and Wales)					
Rooflight Variant		Size range	Surface:area ratio	DOUBLE SKIN	TRIPLE SKIN
				$U_r / U_c$ value	$U_r / U_c$ value
				W/(m <sup>2</sup> .K)	W/(m <sup>2</sup> .K)
Mardome Reflex Unvented, Fixed Rooflight on Builders Upstand	$(U_c)$	600 x 600	1.11	1.94	1.26
		1800 x 2400	1.03	2.66	1.77
Mardome Circular Unvented, Fixed Rooflight on Builders Upstand	$(U_c)$	Ø600	2.25	2.10	1.37
		Ø1800	1.21	2.67	1.78
Mardome Circular Rooflight with standard 175mm Sloped Kerb	$(U_{c175})$	Ø600	2.15	1.50	1.15
		Ø1800	1.39	2.26	1.55

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



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### Thermal Performance (Republic of Ireland and Northern Ireland)

The thermal transmittance of these rooflights is measured by BS EN ISO 12567-2: 2005, where they have been assessed in the vertical plane. The thermal performance is declared as a centre pane U-value of the glazing system and is shown in the table.

Thermal Performance (Republic of Ireland and Northern Ireland)			
Rooflight Variant	Size range	DOUBLE SKIN	TRIPLE SKIN
		W/(m <sup>2</sup> .K)	W/(m <sup>2</sup> .K)
Mardome Reflex / Mardome Circular, Unvented fixed to Builders upstand	600 x 600	2.70	1.80
	1800 x 2400		
Mardome Circular Unvented, rooflight with standard 175mm sloped kerb	Ø600	1.86	1.54
	Ø1800	2.31	1.69

### Wind and Snow Loads

Mardome Rooflights have been independently tested to show that when correctly fitted in accordance with our instructions, 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.

Resistance to Snow & Wind Loads			
Rooflight Variant	Dimensions (mm)	Snow Load (N/m <sup>2</sup> )	Wind Load (N/m <sup>2</sup> )
Domed	1200 x 2400	1125	1500
Pyramid	1500 x 1500	1750	3000

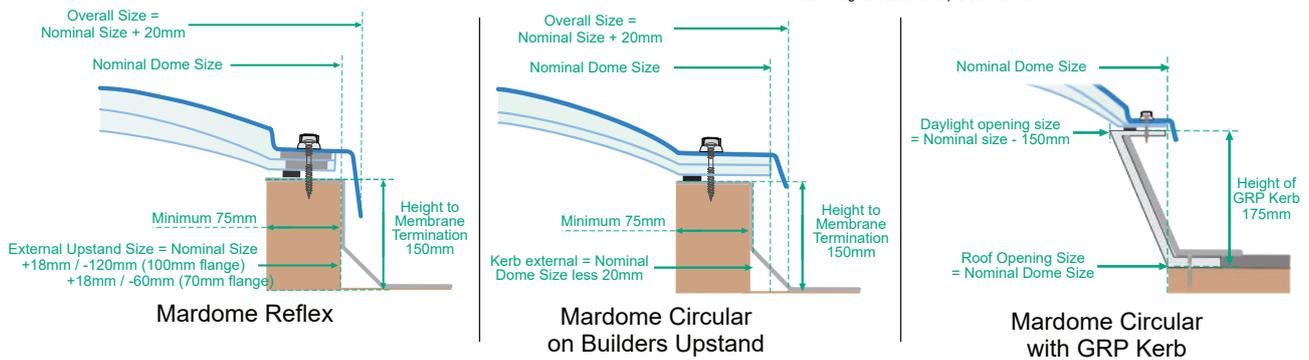
Please refer to BBA Certificate 06/4385, Product Sheet 4, Section 9 for more info.

### Product Dimensions

Mardome Reflex and Circular Rooflight products have differing height and weight. As this value varies with rooflight size and specification, a range of values is quoted below. For more details contact Brett Martin Daylight Systems.

Product Overall Height & Weight			
Rooflight Variant	Nominal Size	Height (mm)	Weight (kg)
Reflex Dome direct to builders upstand	450 x 450	54	2.1
	2400 x 1800	178	37.9
Circular Dome direct to builders upstand	600 x 600	80	3.1
	1800 x 1800	241	27.5
Circular Dome on GRP Kerb	600	255	6.1
	1800	416	36.6

Note: Weights based on triple skin dome.



### Installation, Handling, Maintenance & Storage

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

