

# Product data sheet

## HYDOME ROOFLIGHT For natural daylighting

Hydome is a range of are high quality and durable rooflights designed to make optimum use of natural daylight and enhance the internal environment.

Hydome units are available in a wide range of sizes and shapes and come with a PVCu white self-finish. In addition the choice of glazing, ventilation and higher security options available make Hydome suitable to meet virtually any specifier and client requirement on new build and refurbishment projects.

Tested to the highest standards, Hydome rooflights are designed for use on most flat roofs, including bitumen and single ply waterproofing systems, hot melt, liquid, GRP, asphalt and lead. Usually specified with Hydome proprietary insulated upstands to accommodate roof insulation or Hydome can also be installed on existing builder's kerbs.



## Key benefits

- Choice of shapes, sizes and glazing options to suit almost all requirements.
- Patented high security screwbolt fixing.
- BBA certified.
- Certified to EN1873:1200 Joules & ACR(M):0012005 Class B.
- Polycarbonate domes are deemed to be non-fragile.
- Glazing can be clear or diffused with heat reflect options.
- Ventilation and access options available.
- Available with PVC upstand or direct.
- Large range of accessories available including operating rods, control panels, thermostats, rain sensors and remote control.

## Shapes and sizes

Hydome rooflights are thermoformed from robust polycarbonate sheet and are available in a choice of shapes and profiles in a large range of sizes.

The shape of a rooflight relates to the shape of the hole in the roof. Hydome is available in the following shapes:

- Square
- Rectangular
- Circular

Hydome units are available in the following profiles (i.e. the side-view contour shape of the rooflight):

- Domes
- Pyramid
- Trapezoidal



The extensive range of 140 sizes on offer ranges from 400 x 300mm to 1900 x 2900mm. Please consult Axter Ltd for further details.

## Glazing Options - Thermoformed glazing

Hydome rooflights are glazed in single, double, triple, quad or eco multiwall polycarbonate. The most common types of glazing include diffused, clear or heat reflect. Polycarbonate has an impact strength up to 250 times greater than glass.

- Polycarbonate single skin.
- Polycarbonate double skin.
- Polycarbonate eco triple skin.
- Polycarbonate eco quad skin.
- Polycarbonate eco 10mm glazing.
- Polycarbonate eco 16mm glazing.

## Finish

The glazing finish options on Hydome units are clear, opal diffused, bronze or heat reflect (which reflects up to 81% of the heat radiation). All Hydome rooflights have a minimum 3mm thick glazing and have been tested and certified according to EN 1873:1200 Joules and ACR(M):001:2005 Class B. Inner skin thickness varies depending on the dome size.

See Technical Information section below for glazing specification and performance tables.

## Upstands

Hydome upstands are designed to be used in conjunction with Hydome rooflights to provide a thermally broken interface which in turn helps to improve the overall thermal efficiency of the roof. Upstands are available in uPVC or GRP and enhance the overall appearance of the rooflight. They are supplied pre-finished in white internally, therefore require no further decoration.

Splayed upstands give an excellent spread of light through the room, whilst the vertical units are available where the dimensions of the roof aperture need to be maintained. All ventilation, access hatch and smoke vent options can be used in conjunction with Hydome upstands. Options available:

- Hydome upstand eco uPVC 150mm Vertical.
- Hydome upstand eco uPVC 150mm Splayed.
- Hydome upstand GRP 150mm Splayed.
- Hydome upstand eco uPVC 300mm Splayed.
- Hydome upstand GRP 300mm Splayed.
- Hydome upstand eco uPVC 350mm Oversleeve Splayed.

Hydome rooflights can also be installed on to a builder's upstand.

### Hydome upstand adaptors

A Hydome adaptor is a thermally broken uPVC adaptor for situations where a manual or electric opening rooflight is required and is installed to an existing builder's upstand or a Hydome upstand. Options available:

- Hydome uPVC Adaptor 50mm high.
- Hydome uPVC Adaptor 80mm high.

### Hydome collars

Hydome collars provide a thermally broken solution for replacing existing or installing new rooflights and would typically be installed to a builder's upstand. Options available:

- Hydome collar 150mm Splayed.
- Hydome 150mm Vertical.

## Multiple Hydome rooflights

For long applications, e.g. 3m to 6m, two or more Hydome units can be installed together by means of linked T-Collar adaptors.

These are self-supporting up to a span of 1m. For spans over 1m a structural support will be required. Where necessary, linked T-Collar adaptors are supplied in individual sections for jointing on site, utilising a standing seam detail.

Hydome upstands can also be used in conjunction with multiple rooflights. For roof openings longer than 6m, we would normally recommend a continuous Hydome barrel vault rooflight. Contact Axter for further information.

## Ventilation

Natural ventilation of rooms is important for the health, comfort and performance of occupants and it also reduces building running costs by reducing energy consumption. Effective air flow is also paramount for meeting building regulations.

Natural ventilation controls are available, including wind, rain and temperature sensors, humidity and CO2 monitors, remote controls, and time-controlled opening and closing. They are designed to provide advanced switching options to control comfort ventilation for electrically opening rooflights. The controls are compatible with both modular and continuous rooflight ranges and all building types. Various options can be used in conjunction with each other.

The following options are available for Hydome rooflights:

### Permanent Trickle

Permanent ventilation is provided by spacer washers being inserted in the Hydome fixings, providing a continuous 5 to 10mm weatherproof vent around the perimeter of the rooflight.

### Controllable Trickle

Controllable trickle ventilation is an adjustable slot vent which is fitted to two or four sides of a Hydome upstand or collar. It can provide 8000mm<sup>2</sup> ventilation area when fitted to two sides and can be adjusted by hand.

### Controllable Rotating Trickle

Rotating trickle ventilation is an easily adjustable vent which is fitted to two or four sides of a Hydome upstand or collar. It can provide 8,000mm<sup>2</sup> ventilation area when fitted to two sides and can be adjusted by hand.

### Controllable Rotating

Controllable rotating vents are a fully insulated unit which is fitted to two or four sides of a Hydome upstand or collar and can provide a minimum 11,000mm<sup>2</sup> ventilation area when fitted to two sides. Adjusted by Winding Rod available separately in 1.5m, 2m, 3m or 4m lengths.

### Hinged Manual Spindle Opening

Hinged opening vents provide the maximum ventilation area to allow rapid air movement. The manual spindle operation can be opened to any point up to 300mm and is operated by a Winding Rod available separately in 1.5m, 2m, 3m or 4m lengths.

### Hinged Electric Actuator Opening

Powered hinged opening vents provide the maximum ventilation area to allow rapid air movement opening to 400 or 600mm. The electric actuator operation allows control by a wall mounted open/close switch with options for wind, rain and temperature sensors, as well as CO2 monitors, and a range of control panels available separately.

### Powered Ventilation

Where natural ventilation is insufficient, Hydome units can be supplied with Vent Axia Solo or Centrif Duo centrifugal extract fans, fitted to one or more sides. These are mounted in the side wall of Hydome uPVC 150 Vertical or Hydome uPVC 300 Splayed upstand and have an extract performance of 85 m<sup>3</sup>/hr (24 l/s) or 220 m<sup>3</sup>/hr (61 l/s) respectively.

### Smoke Ventilation

Hydome units are also available with smoke ventilation – this is our Em-Vent range – [click here for more information](#).

### Opening for Access

Axter also offers options for manual or electric opening for roof access – this is the Hydome Pyro / Pyropass range. Contact us for further details.

## Security

### Secure fixings

Patented, high security screwbolts are supplied factory fitted as standard to Hydome units. Once installed, the fixing cannot be removed using common tools. The screwbolt is highly resistant to tampering or forced entry. The fixing is sleeved within the body of the screwbolt avoiding pressure being exerted on the rooflight glazing as the fixing is tightened.

### Frame

A fully enclosed, tamper-proof frame is also available for Hydome rooflights, for a totally secure fixing. It is simple to install and provides a neat, unobtrusive appearance, with no visible fixings. The design of the frame incorporates standard Hydome rooflights in single, double or triple skin construction. The frame is made from aluminium extrusions to BS 1474, Quality 6063/T6, and is supplied in mill finish. Polyester powder coated frames are also available.

Hydome rooflights with the security frame will not rust or be affected by atmospheric pollution. Once installed, they are maintenance free. The frame is supplied factory fitted to a Hydome upstand or collar. For mounting to a builder's upstand, the frame will need to be supplied with an adaptor frame.

### Features

- Fully enclosed tamper-proof frame.
- High security fixing detail.
- Simple to install.
- Unobtrusive appearance with no visible fixings.
- Completely weatherproof.
- Self-draining.

### Security grid

Where a higher level of security is needed, a security grid is available for most sizes and designs of Hydome. Polyester powder coated frames are also available. The grid provides extra strength to the complete installation whilst also acting as an extra visual deterrent to potential intruders. The type of security grid varies according to size. Further information available from Axter.

## Certification and performance

### Non-Fragile

Axter Hydome rooflights are 'out-of plane' rooflights, and provided they are specified with polycarbonate glazing, can be deemed to be 'non-fragile'.

### Impact tested

Hydome polycarbonate rooflights have undergone large body impact testing by an independent accredited test organisation and comply to an energy level of 1200 Joules when tested to pr EN 1873, and ACR(M)001: 2005 to Class B. They have also undergone hard body impact testing in accordance with NBN EN 13964:2007.

### BBA & ISO

Hydome polycarbonate rooflights are manufactured to ISO 9001 and carry BBA certification.

### CE Certified

Hydome polycarbonate rooflights are manufactured in accordance with European standards and hold a CE mark according to EN1873.

Hydome rooflights, upstands, hinged opening frames and rotating ventilators are certified as providing adequate resistance to precipitation, according to EN1873 – Weathertightness.

## Performance

When installed in accordance with the manufacturer's recommendations, Hydome rooflight units are expected to exceed the life of the roof covering. Hydome units are guaranteed against the effects of defective design, materials or construction for ten years, subject to certain conditions.

## Technical information

Certification	
Test	Result
Air permeability to EN1873	A4
Watertightness to EN1873	Pass
Impact test to EN1873	1200/J
Impact test to ACR (M) 001:2005	Class B

Performance of glazing materials	
Typical values	Polycarbonate
Fire ratings:	
To BS 476: Part 3	AA
To BS 476: Part 7	Class 1 (Class 0 for Building Regulation purposes)
To 1991 Building Regulations	Tp(a)
Service temperature	-50°C to +120°C

\*information for 3mm thick glazing unless noted otherwise. Class 0 for Building Regulation purposes.

## Thermal transmission

Values below are calculated U-Values unless denoted otherwise. Complete unit U- Values are available on request.

Typical values	U-Value (W/m <sup>2</sup> K)
Single glazed	5.36
Double glazed	2.68
Triple glazed	1.78
Quad glazed	1.24
Eco 10	1.23
Eco 16	0.85

Glazing Specification				
	Light transmission (LT%)	Solar heat gain factor (g%)	Sound reduction (dB)	Thermal transmission (W.m <sup>2</sup> K)*
Single clear	83%	83%	12	5.36
Single opal diffused	58%	60%	12	5.36
Single heat reflect	49%	59%	12	5.36
Double clear	77%	69%	20	2.68
Double opal diffused	51%	50%	20	2.68
Double heat reflect	43%	49%	20	2.68
Triple clear	70%	60%	22	1.78
Triple opal diffused	45%	43%	22	1.78
Triple heat reflect	40%	44%	22	1.70
Quad clear	63%	52%	23	1.24
Quad opal diffused	58%	46%	23	1.24
Quad heat reflect	35%	37%	23	1.37
Eco 10mm opal diffused	51%	43%	21	1.23
Eco 10mm heat reflect	18%	21%	21	1.23
Eco 16mm opal diffused	39%	32%	22	0.9
Eco 16mm heat reflect	16%	19%	22	1.03

\*Therma transmission refers to U-values. For Ud-values, please contact Axter.

## Hydome upstands

### Thermal transmission

Upstand type	U-Value (W/m <sup>2</sup> K)
Hydome upstand eco uPVC 150mm Vertical	1.00*
Hydome upstand eco uPVC 150mm Splayed	0.92
Hydome upstand GRP 150mm Splayed	1.82
Hydome upstand eco uPVC 300mm Splayed	1.00*
Hydome upstand GRP 300mm Splayed	1.07
Hydome upstand eco uPVC 350mm Oversleeve Splayed	0.89

\*measured in hot box in the vertical BS EN ISO 12567-2:2005

## Hydome standard sizes

### Hydome with 150mm upstand

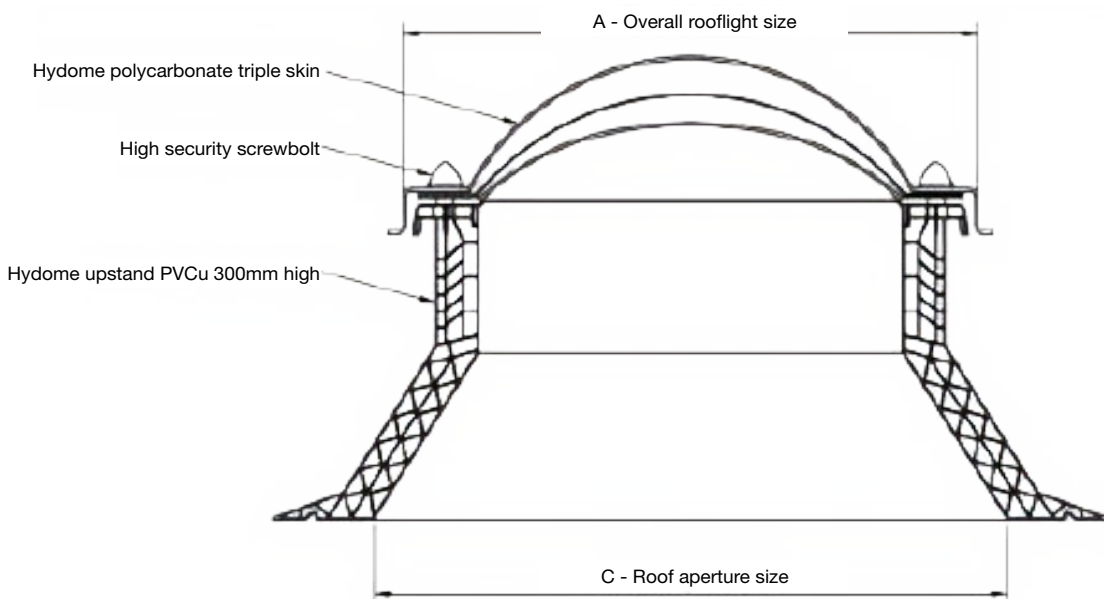
Splayed	Vertical
To suit roof opening size (mm)	
600 x 600	400 x 400
700 x 700	500 x 500
750 x 750	550 x 550
800 x 800	600 x 600
900 x 900	700 x 700
950 x 950	750 x 750
1000 x 1000	800 x 800
1100 x 1100	900 x 900
1200 x 1200	1000 x 1000
1250 x 1250	1050 x 1050
1300 x 1300	1100 x 1100
1400 x 1400	1200 x 1200
1500 x 1500	1300 x 1300
1600 x 1600	1400 x 1400
1900 x 1900	1700 x 1700
600 x 900	400 x 700
600 x 1200	400 x 1000
700 x 1000	500 x 800
700 x 1300	500 x 1100
700 x 1900	500 x 1700
800 x 1100	600 x 900
800 x 1400	600 x 1200
900 x 1200	700 x 1000
900 x 1500	700 x 1300
900 x 1800	700 x 1600
1000 x 1300	800 x 1100
1000 x 1500	800 x 1300
1000 x 1900	800 x 1700
1100 x 1400	900 x 1200
1100 x 1700	900 x 1500
1200 x 1500	1000 x 1300
1200 x 1700	1000 x 1500
1200 x 1800	1000 x 1600
1200 x 2400	1000 x 2200
1300 x 1900	1100 x 1700
1300 x 2500	1100 x 2300



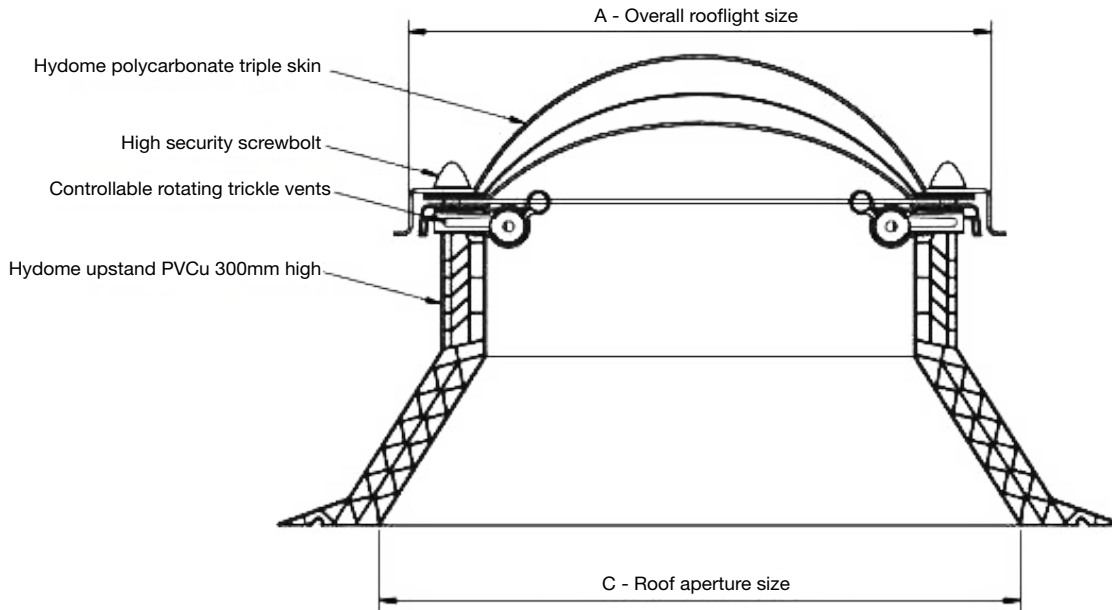
**Hydome to suit builder's upstand**

To suit external kerb size (mm)	To suit external kerb size (mm)
500 x 500	500 x 800
600 x 600	500 x 1100
650 x 650	600 x 900
700 x 700	600 x 1200
800 x 800	600 x 1800
850 x 850	700 x 1000
900 x 900	700 x 1300
1000 x 1000	800 x 1100
1100 x 1100	800 x 1400
1150 x 1150	800 x 1700
1200 x 1200	900 x 1200
1300 x 1300	900 x 1400
1400 x 1400	900 x 1800
1500 x 1500	1000 x 1300
1800 x 1800	1000 x 1600
	1100 x 1400
	1100 x 1600
	1100 x 1700
	1100 x 2300
	1200 x 1800
	1200 x 2400*

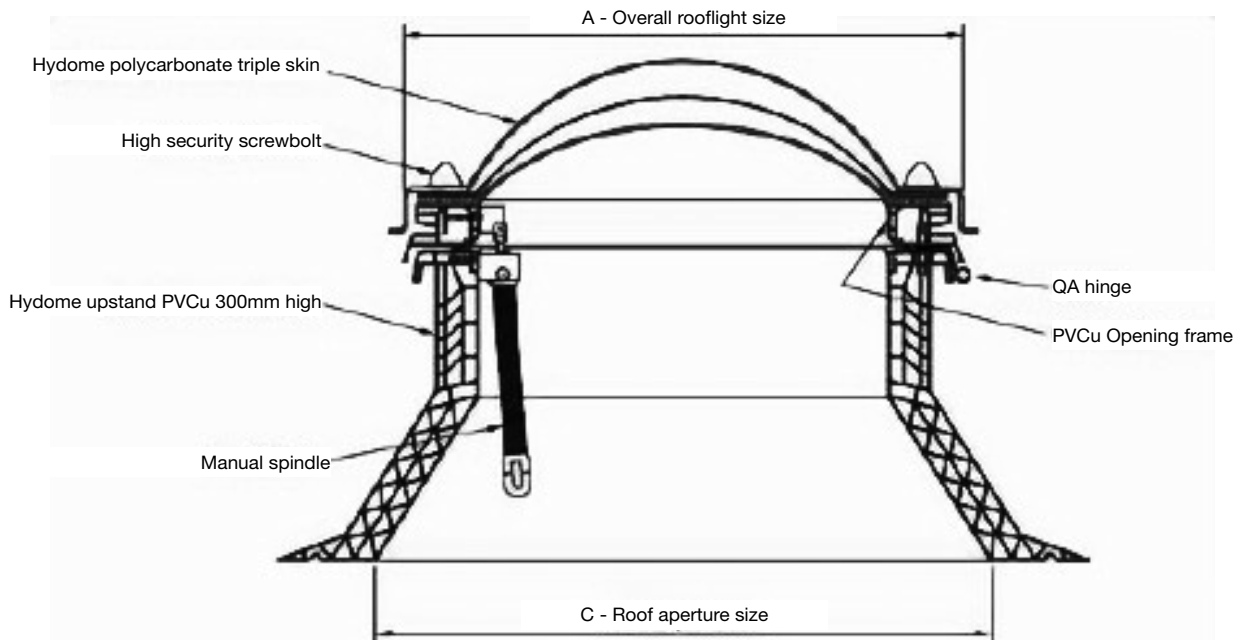
\*Special size order if in single skin

**Hydome rooflights – typical examples**

**Hydome fixed triple skin rooflight with PVC 300mm splayed upstand and rotary trickle vents**



**Hydome fixed triple skin rooflight with PVC 300mm splayed upstand and rotary trickle vents**



**Hydome fixed triple skin rooflight with PVC 300mm splayed upstand, manual opening**

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