# Roof Terminals

## R Series Terminations

Breathing Buildings offer two roof terminations, the penthouse louvre and the mushroom.

The penthouse louvre is most frequently associated with a natural ventilation system. We offer a double bladed system which offers class A weather performance. The terminal comes in RAL 7035 (Light Grey) with corner posts and gabled roof but other options and sizes are available.

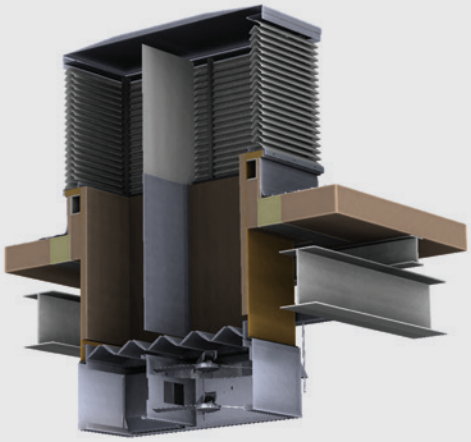
The mushroom terminal is an unobtrusive alternative to the traditional bladed metal louvre and has better standard noise attenuation properties. The terminal is RAL 7035 (Light Grey) as standard but other colours are available on request.

Both terminals offer optional acoustic attenuation.

## Installation

A weathered builders curb around the perimeter of the roof penetration and shaft to the E-Stack supports the roof termination which is usually a minimum height of 150mm above the finish roof surface.

Once in place the roof terminal is fixed to the curb using suitable fixings. Once installed a bead of mastic or similar is laid around the perimeter of the overcurb.



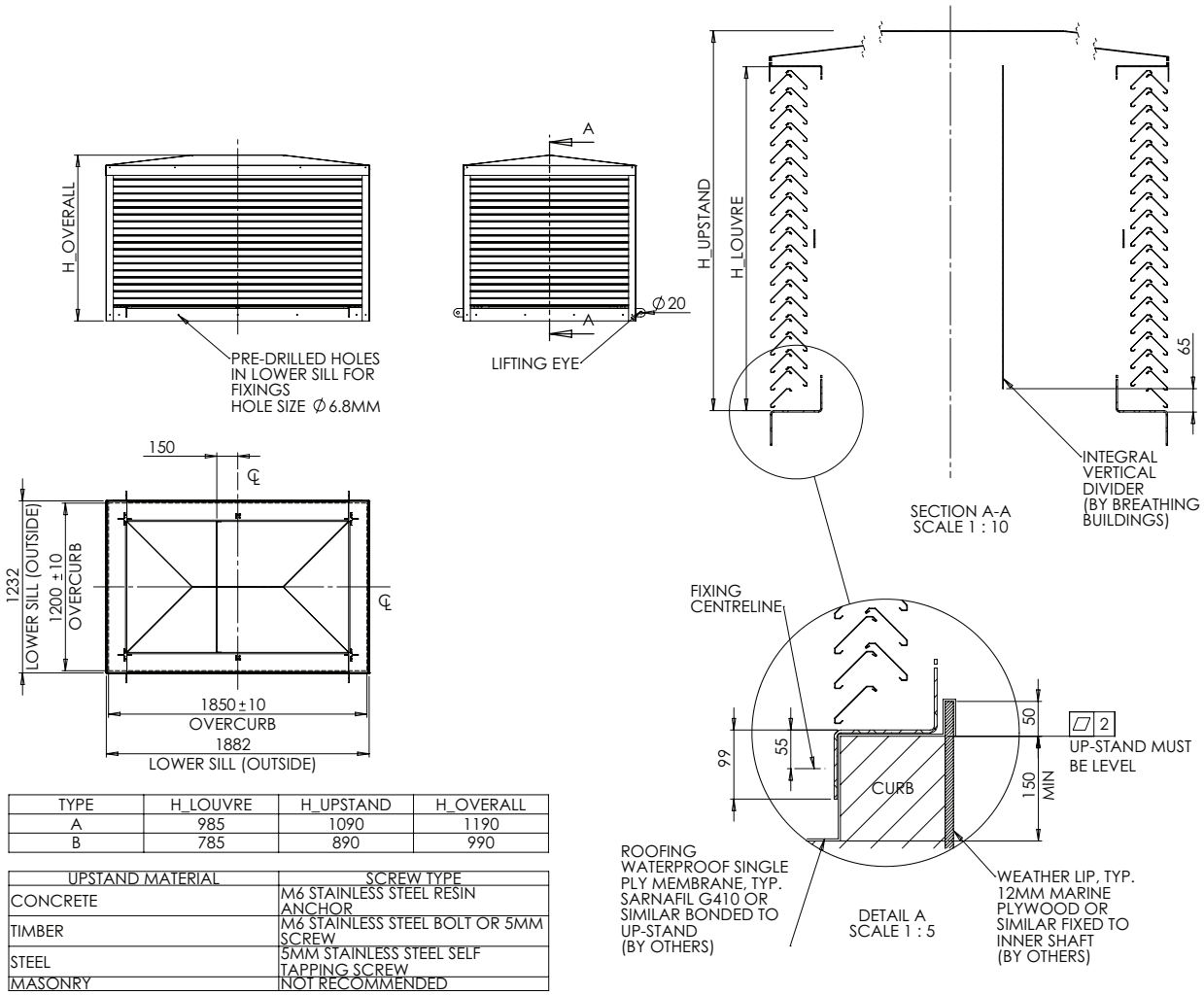
## Shaft

An insulated shaft is required between the bottom of the roof termination and the R Series indoor unit. Breathing Buildings can provide this, or else it can be constructed by others. A rubber seal is provided on the top of the E-Stack indoor unit to ensure air tightness with the bottom edge of the shaft. Breathing Buildings has no preference as to the material of the shaft. Previous examples have utilised the concrete soffit, plywood, plasterboard, and ductwork. This is sized to fit the damper (1550mm x 900mm). The terminal height is pre-fitted with a divider.

The shaft is to be divided into two pathways vertically for separation of inflow and outflow. Usually this is constructed from either plywood, plasterboard or galvanised steel etc. and does not require insulation. Note that the split requirement is not central and is more of a 60/40 split, please see our installation drawings for further information on this.

The vertical divider should extent from the terminal base, all the way down to within 25mm of the top of the E-Stack damper.

## Penthouse Louvre Dimensioned Drawing




| TYPE | H_LOUVRE | H_UPSTAND | H_OVERALL |
|---|---|---|---|
| A | 985 | 1090 | 1190 |
| B | 785 | 890 | 990 |

| UPSTAND MATERIAL | SCREW TYPE |
|---|---|
| CONCRETE | M6 STAINLESS STEEL RESIN ANCHOR |
| TIMBER | M6 STAINLESS STEEL BOLT OR 5MM SCREW |
| STEEL | 5MM STAINLESS STEEL SELF TAPPING SCREW |
| MASONRY | NOT RECOMMENDED |

### Physical Properties

| | |
|---|---|
| Height | 1090 mm |
| Overcurb dimensions | 1850 x 1200 x 150 mm |
| Typical weight | 180 Kg |
| Finish standard | MILL Finish |
| Finish options | Standard RAL / BS (non-metallic) |
| Lifting points | Eyes supplied as standard |
| Standard attenuation | 11 dB $_{Dnew}$ |
| Optional attenuation | 33 dB $_{Dnew}$ |

### Weather Performance

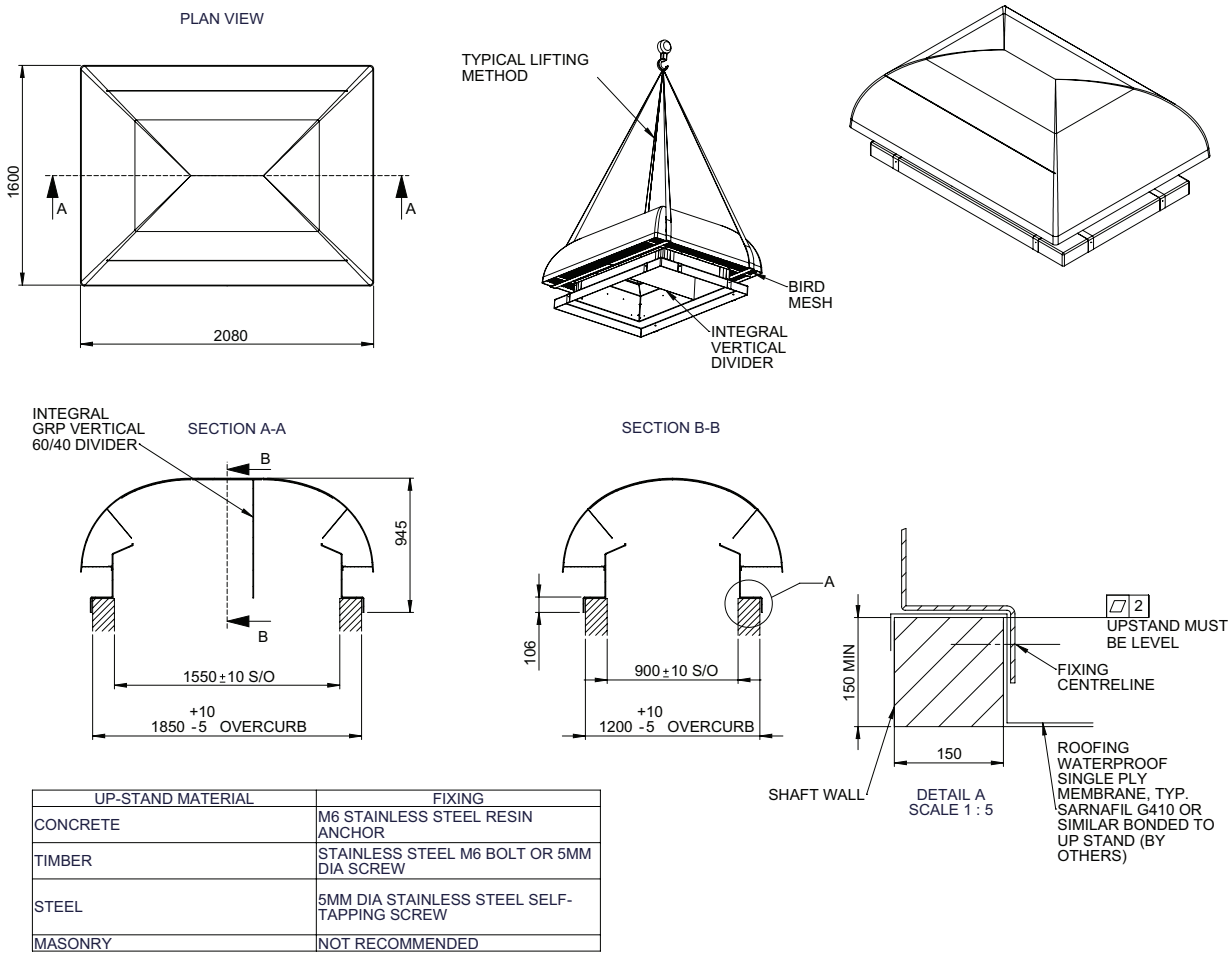
| | |
|---|---|
| | Double blade |
| Performance | Class A up to 1 m/s airflow face velocity |

### Shaft Dimensions

| | |
|---|---|
| W | 1550 mm |
| D | 900 mm |

# Roof Terminals continued

## Mushroom Terminal




| UP-STAND MATERIAL | FIXING |
|---|---|
| CONCRETE | M6 STAINLESS STEEL RESIN ANCHOR |
| TIMBER | STAINLESS STEEL M6 BOLT OR 5MM DIA SCREW |
| STEEL | 5MM DIA STAINLESS STEEL SELF-TAPPING SCREW |
| MASONRY | NOT RECOMMENDED |

### Physical Properties

| | |
|---|---|
| Height (inc. base) | 945 mm |
| Overcurb dimensions | 1850 x 1200 x 150 mm |
| Typical weight | 90 Kg |
| Finish standard | RAL 7035 |
| Finish options | Standard RAL / BS (non-metallic) |
| Standard attenuation | 17 dB $_{Dnew}$ |
| Optional attenuation | 21 - 28 dB $_{Dnew}$ |

### Shaft Dimensions

| | |
|---|---|
| W | 1550 mm |
| D | 900 mm |

### Weather Performance

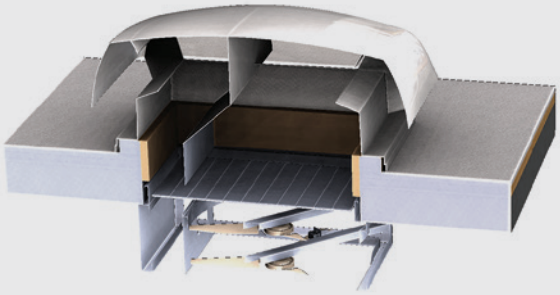
Water testing has been carried out at the BRE using test method *prEN 15601—Hygrothermal performance of buildings—resistance to wind driven rain coverings with discontinuously laid small elements*. The terminal was subject to 75mm/hr/m$^2$ at a wind speed of 30mph (13.4 m/s). Water ingress during the tests was too small to measure in meaningful terms. Terminal has also been tested under storm conditions at BRE with 60 mph wind.

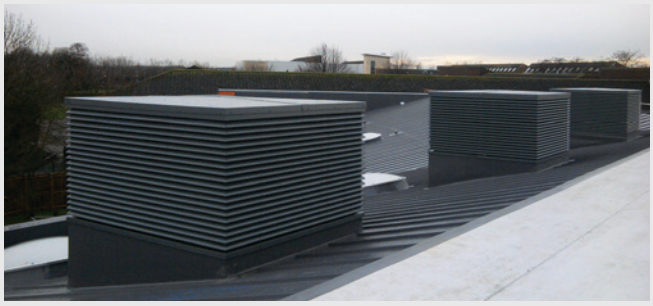
## S Series Terminations

Each S Series fan requires a ventilation system to the external elements. We highly recommend one of Breathing Buildings Terminations. Offering an aesthetically pleasing double bank Penthouse Louvre, designed specifically for rain rejection while allowing ventilation. We now have mushroom terminations available across the product range.

## Installation

A weathered builders curb around the perimeter of the roof penetration and shaft to the E-Stack supports the roof termination which is usually a minimum height of 150mm above the finished roof surface. Once in place the roof terminal is fixed to the curb using suitable fixings. Once installed a bead of mastic or similar is laid around the perimeter of the overcurb.





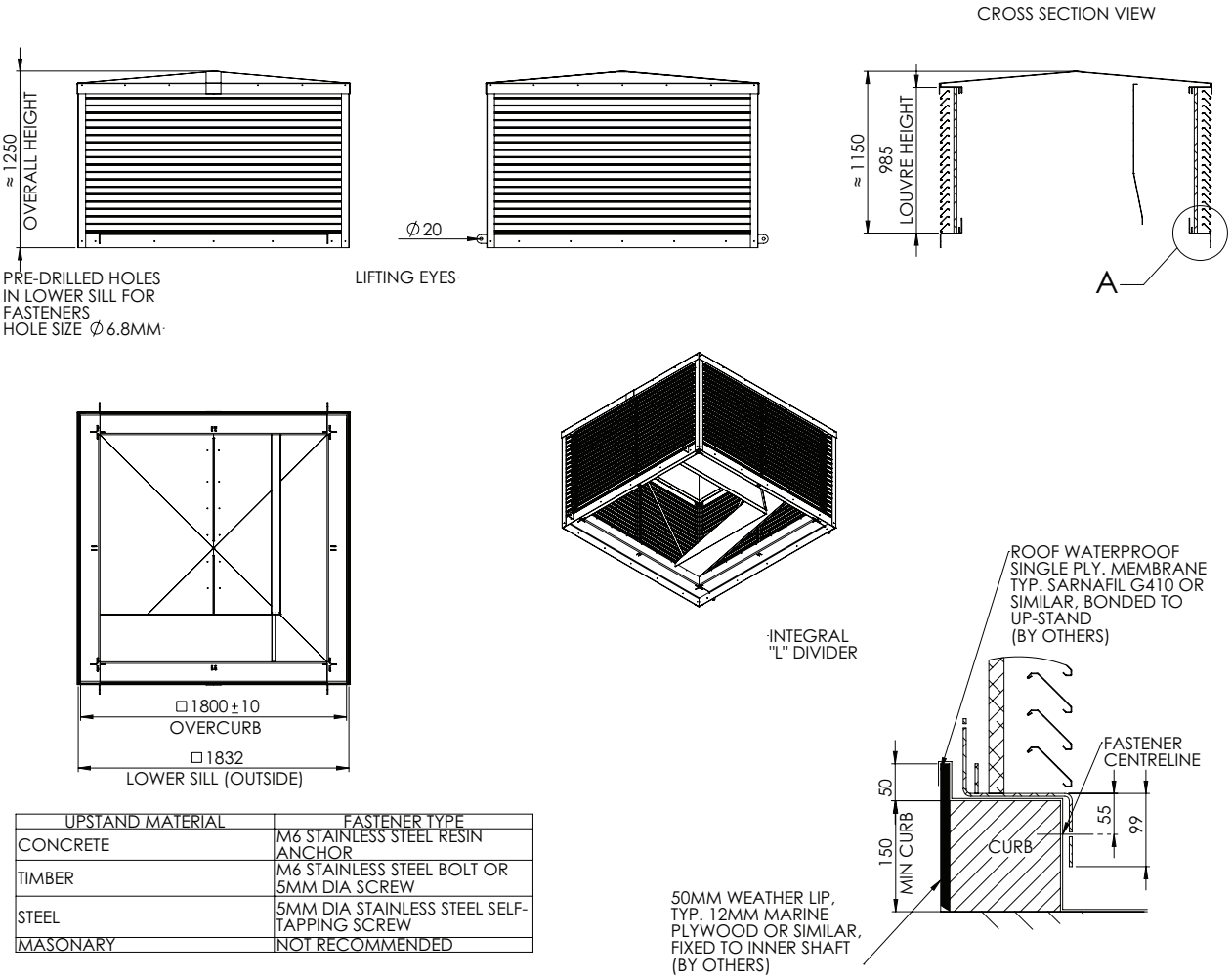
## Shaft

An insulated shaft needs to be constructed by others between the bottom of the roof termination and the S series. A rubber seal is provided on the top of the e-stack to ensure air tightness with the bottom edge of the shaft wall. Breathing Buildings has no preference as to the material of the shaft. Previous examples have utilised the concrete soffit, marine plywood, plasterboard, and ductwork. This is sized to fit the damper (either 1500mm x 1500mm or 1200mm x 1200mm).

An L divider is required in the shaft (by others or by Breathing Buildings). The L divider is located to form a smaller square section in the corner of the square shaft, thereby creating an L shape division. The L divider is orientated so that it matches similar dividers in the mushroom or penthouse termination and the S series unit. The shaft divider commences just above the top of the S series unit (typically 25mm above) and extends up through the shaft to mid-way to the curb level (just underneath the roof terminal).

# Roof Terminals continued

## S1500L Penthouse Louvre Dimensioned Drawing




| UPSTAND MATERIAL | FASTENER TYPE |
|---|---|
| CONCRETE | M6 STAINLESS STEEL RESIN ANCHOR |
| TIMBER | M6 STAINLESS STEEL BOLT OR 5MM DIA SCREW |
| STEEL | 5MM DIA STAINLESS STEEL SELF-TAPPING SCREW |
| MASONARY | NOT RECOMMENDED |

### Physical Properties

| | |
|---|---|
| Height | 1150 mm |
| Overcurb dimensions | 1800 x 1800 x 150 mm |
| Typical weight | 215 Kg |
| Finish standard | MILL Finish |
| Finish options | Standard RAL / BS (non-metallic) |
| Lifting points | Eyes supplied as standard |

### Shaft Dimensions

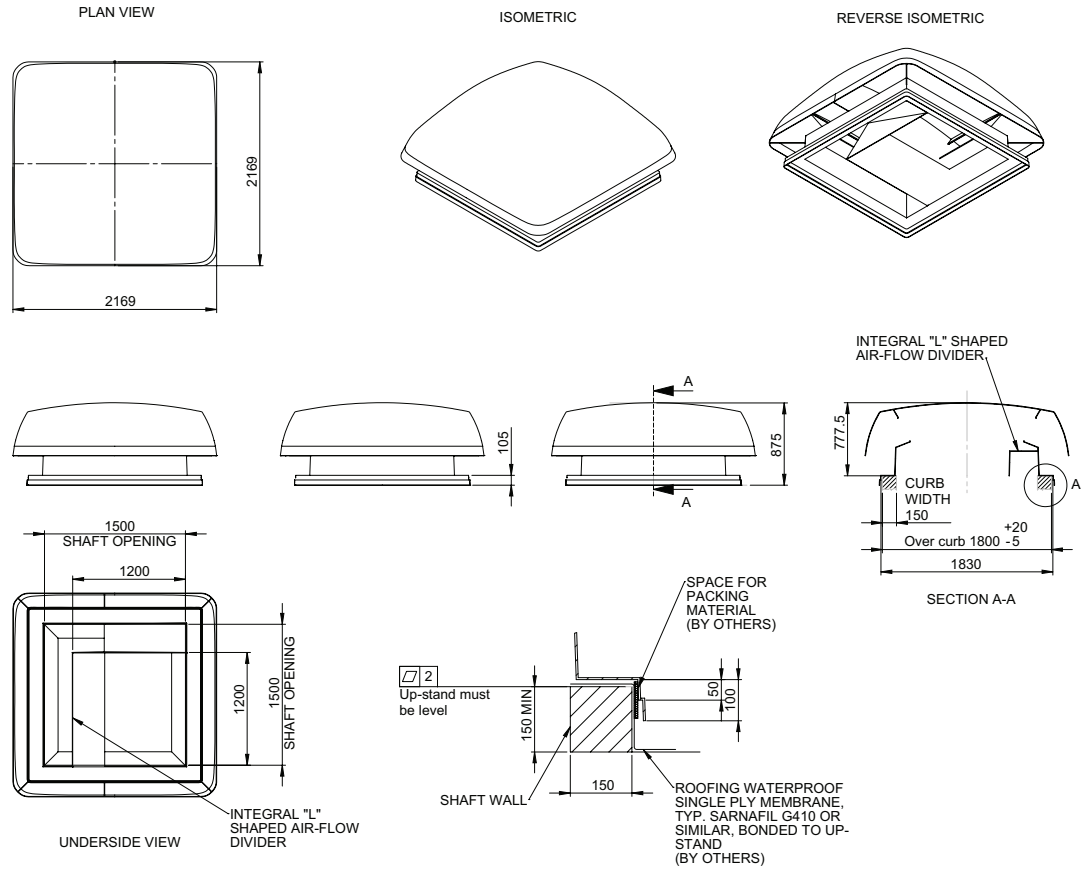
| | |
|---|---|
| W | 1500 mm |
| D | 1500 mm |

### Weather Performance

| | |
|---|---|
| | Double blade |
| Performance | Class A up to 1 m/s airflow face velocity |

Test involves simulated rainfall of 75l/h at a wind speed of 13m/s (29 mph).
Full BSRIA weather performance test data available on request

## S1500L Mushroom Terminal Dimensioned Drawing




### Physical Properties

| | |
|---|---|
| Max height (dome to sill bottom) | 875 mm |
| Max length (across dome) | 2169 mm |
| Max width (across dome) | 2169 mm |
| Height above curb | 780 mm |
| Typical weight | 135 Kg |
| Finish standard | RAL 7035 |
| Finish option | Standard RAL / BS (non-metallic) |
| Overcurb dimensions | 1800 x 1800 x 150 mm |
| Standard attenuation | $14dB_{Dnew}$ |
| Optional attenuation | $18\text{-}35dB_{Dnew}$ |

### Shaft Dimensions

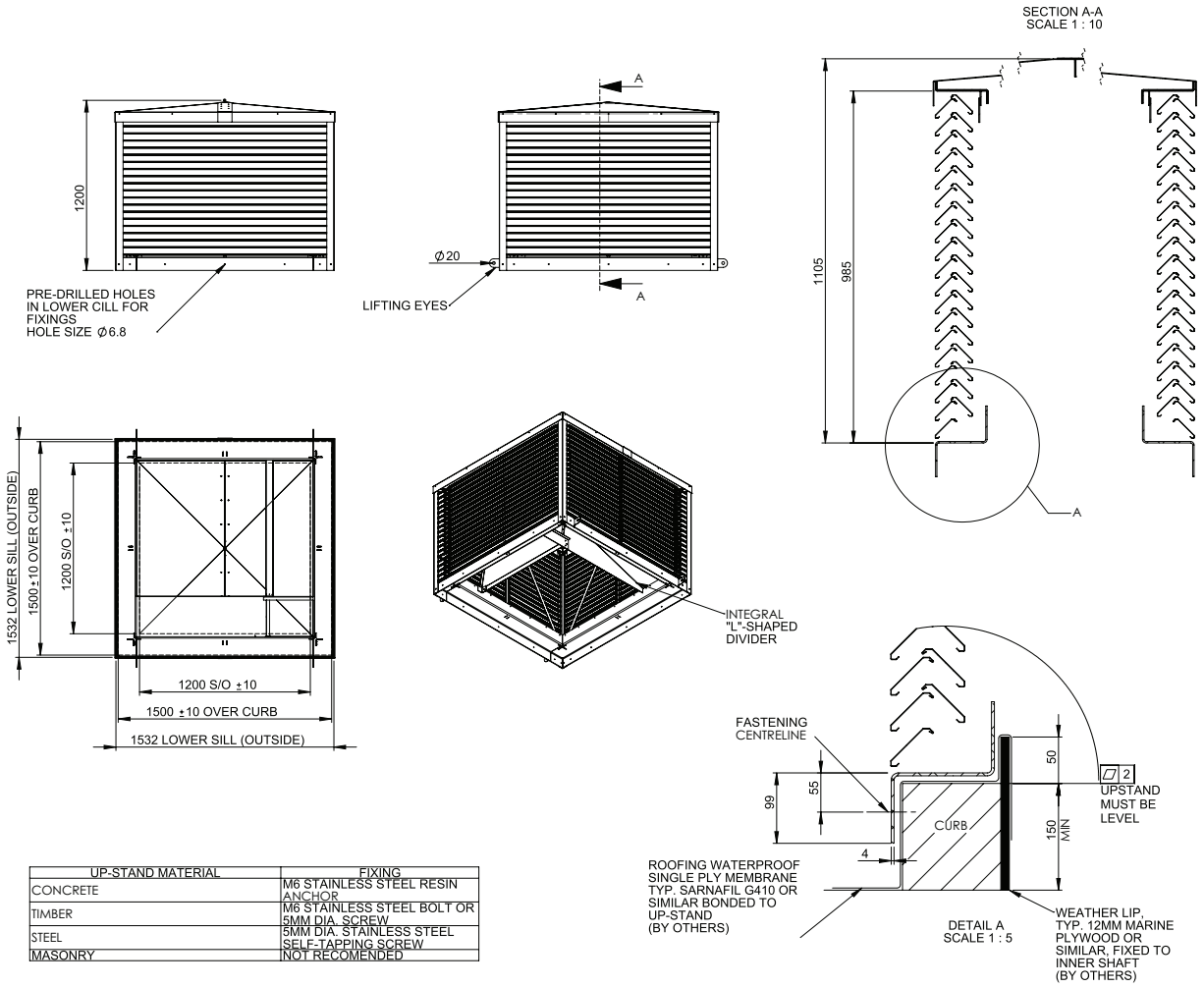
| | |
|---|---|
| W | 1500 mm |
| D | 1500 mm |

### Weather Performance

Water testing has been carried out at the BRE using test method *prEN 15601—Hygrothermal performance of buildings—resistance to wind driven rain coverings with discontinuously laid small elements*.
The mushroom profile terminal was subject to 75mm/hr/$m^2$ at a driving wind speed of 30mph (13.4 m/s). Water ingress during the tests was too small to measure in meaningful terms. Terminal has also been tested under storm conditions at BRE with 60 mph wind.

# Roof Terminals continued

## S1200L Penthouse Louvre Dimensioned Drawing




| UP-STAND MATERIAL | FIXING |
|---|---|
| CONCRETE | M6 STAINLESS STEEL RESIN ANCHOR |
| TIMBER | M6 STAINLESS STEEL BOLT OR 5MM DIA. SCREW |
| STEEL | 5MM DIA. STAINLESS STEEL SELF-TAPPING SCREW |
| MASONRY | NOT RECOMENDED |

### Physical Properties

| | |
|---|---|
| Height | 1105 mm |
| Overcurb dimensions | 1500 x 1500 x 150 mm |
| Typical weight | 180 Kg |
| Finish standard | MILL Finish |
| Finish options | Standard RAL / BS (non-metallic) |
| Lifting points | Eyes supplied as standard |

### Shaft Dimensions

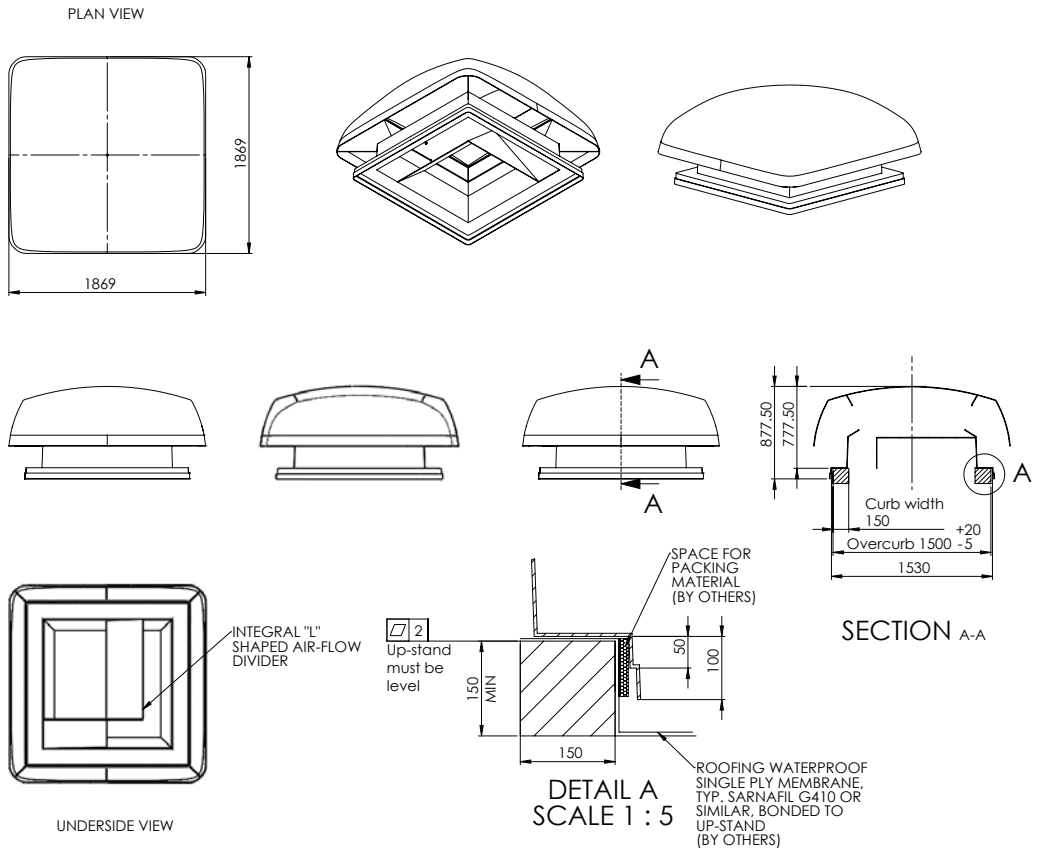
| | |
|---|---|
| W | 1200 mm |
| D | 1200 mm |

### Weather Performance

| | |
|---|---|
| | Double blade |
| Performance | Class A up to 1 m/s airflow face velocity |

Test involves simulated rainfall of 75l/h at a wind speed of 13m/s (29 mph).
Full BSRIA weather performance test data available on request

## S1200L Mushroom Terminal Dimensioned Drawing




### Physical Properties

| | |
|---|---|
| Max height (dome to sill bottom) | 878 mm |
| Max length (across dome) | 1869 mm |
| Max width (across dome) | 1869 mm |
| Height above curb | 780 mm |
| Typical weight | 105 Kg |
| Finish standard | RAL 7035 |
| Finish option | Standard RAL / BS (non-metallic) |
| Overcurb dimensions | 1500 x 1500 x 150 mm |
| Standard attenuation | $14dB_{Dnew}$ |
| Optional attenuation | $18\text{-}35dB_{Dnew}$ |

### Shaft Dimensions

| | |
|---|---|
| W | 1200 mm |
| D | 1200 mm |

### Weather Performance

Water testing has been carried out at the BRE using test method *prEN 15601—Hygrothermal performance of buildings—resistance to wind driven rain coverings with discontinuously laid small elements*.
The mushroom profile terminal was subject to 75mm/hr/m$^2$ at a driving wind speed of 30mph (13.4 m/s). Water ingress during the tests was too small to measure in meaningful terms. Terminal has also been tested under storm conditions at BRE with 60 mph wind.