

ENTER

Smoke Vents

Certified to EN 12101-2 & EN 12101-10

Roof Access Systems



Whitesales®
Rooflights & more...

ICB WATERPROOFING

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Company profile

Whitesales has over 20 years' experience in the manufacture and distribution of speciality flat roofing products. As a company we have the dedication and resource to fulfil the most demanding of requirements throughout the UK. Our experienced and expert personnel have an in-depth knowledge of industry regulations, which ensures we provide up-to-date advice on fully compliant solutions. Also, we invest in ecologically friendly business processes meaning that our products are from sustainable sources.

Rooflights and more...

Whether you are a specifier, contractor or merchant, you will benefit from working with us. The following are just some of the reasons why you should choose Whitesales.

High quality products

Our speciality roofing products and accessories are tested to the highest standards and are suitable for use with most flat roof systems, including single ply, felt, hot-melt, asphalt, liquid, GRP and lead.

Nationwide coverage and next day delivery

With depots strategically located in England and Scotland, Whitesales offers nationwide next day delivery on many products on our own transport or overnight carrier service. Deliveries can be direct to site or to contractor or merchant premises.

Technical advice and support

The Whitesales Customer Service Team is readily available to assist you, from your initial enquiry through to after sales support. This includes help with specification writing, site surveys, condition reports, budget costings and fully detailed quotations.

Guarantees

All products supplied are fully guaranteed including insurance backed guarantee on request.

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“
 Being overcome by gas,
 smoke or toxic fumes was
partly or wholly
the cause of death
 in over half (53%) of all
 fire fatalities.*
 ”

Why natural Smoke and Heat Exhaust Ventilations Systems (SHEVS)?

Smoke control systems create and maintain a smoke-free layer above the floor, or help to reduce smoke and heat build-up, by removing smoke and hot gases released by a fire in the development stage. In doing this, smoke control systems help to:

- ◆ keep escape and access routes free from smoke
- ◆ facilitate firefighting operations
- ◆ delay and/or prevent flashover and thus full development of the fire
- ◆ protect equipment and furnishings
- ◆ reduce thermal effects on structural components during a fire
- ◆ reduce damage caused by thermal decomposition and hot gases.

The use of smoke control systems has become widespread. Their value in assisting in the evacuation of buildings, reducing fire damage and financial loss by preventing smoke build up, facilitating firefighting, reducing roof temperatures and

retarding the lateral spread of fire is firmly established. For these benefits to be realised, however, it is essential that smoke control systems operate fully and reliably whenever called upon to do so during their installed life.



EN 12101-2

From 1st July 2013 it became mandatory for all manufacturers to draw up a Declaration of Performance and apply CE Marking to all construction products covered by a harmonised European Standard (hEN).

Because smoke vents are life-saving devices they classify as Level 1 under EN12101-2, which stringently regulates the manufacture and sale of these products. They must meet criteria in the following six areas: determination of aerodynamic free area; reliability; opening under load; low ambient temperature; wind load; and heat exposure.

*source Fire statistics 2012 DCLG

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Smoke Vent Testing



Em-Vent Heat Resistance Test



Em-Vent Opening Under Load Test

To meet the stringent requirements of EN 12101-2, smoke ventilators must pass several tests. These have to be carried out by an independent test laboratory and meet the required specification. Below is a summary of each test and its requirements.

Annexure B: Determination of the Aerodynamic Free Area
EN 12101-2 specifies that the **Aerodynamic Free Area** value shall be stated for all smoke vents offered for sale.

Aerodynamic Free Area (A_a) is the product of the **Geometric Area** (A_v) multiplied by the **Coefficient of Discharge**.

The **Geometric Area** (A_v) is the area through the smoke vent measured in the plane defined by the surface of the building at the base of the upstand. Ratio of actual flow rate measured under specific conditions, to the theoretical flow rate through the natural SHEVS as defined in annex B of EN 12101-2 not taking account of controls, louvres or obstructions.

The **Coefficient of Discharge** (C_v) is determined by the testing carried out: the results depend on the shape and size being tested.

Annexure C: Reliability test

10,000 cycles for normal ventilation (if applicable) followed by 50-1,000 cycles, after which the smoke vent must be tested through 3 cycles to the fire open position which must occur in under 60 seconds – Re1000, is the top rating.

Annexure D: Opening test under load

Snow loading is classified from 0 to 1000 newtons. To achieve the relevant classification, the smoke vent must be able to reach its fire open position in < 60 seconds under the specified load and under an unfavourable side wind load of 10m/s.

Annexure E: Low ambient temperature test

This involves cycling the smoke vent operation 3 times at very low temperatures – the most stringent is -25°C , which is class T(-25).

Annexure F: Wind load test

This involves loading the smoke vent dome to establish its integrity under suction wind loads, and that it will open to the fire open position within 60 seconds after being subjected to such loading.

Annexure G: Heat resistance test

This destructive test involves installing the smoke vent above a test bunker heated to 300°C , for 30 minutes in total. The vent remains closed for the first 5 minutes after which it must open and **then the vent area must not be reduced by more than 10% due to deformation of upstand as the heat pours through the open smoke vent.**

In addition it is required that the reaction to fire of the materials of the ventilator is tested and classified in accordance with the EN 13501-1 norm.

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Em-Vent with Em-Collar to Builder's Curb

What does EN 12101-2 compliance mean for a manufacturer of smoke vents?

Factory Production Control (FPC)

To comply with the EN 12101-2 norm, the manufacturer must manage all processes to ensure continuity of design and construction of the product. To ensure consistency, there are strict monitoring, recording and reporting criteria that have to be met. These are known collectively as Factory Production Control (FPC). The areas covered by FPC are:

- ◆ Technical data files
- ◆ Technical drawings
- ◆ Test reports
- ◆ Goods receiving
- ◆ Production
- ◆ Testing
- ◆ Complaint management

Labelling

The EN 12101-2 norm requires that each smoke vent is labelled with:

- ◆ Name or trademark of supplier/manufacturer
- ◆ Type and model number
- ◆ Intended use/s of the product
- ◆ Year of manufacture
- ◆ Number of the Notified Body
- ◆ Power supply details (e.g. 24V DC)
- ◆ Aerodynamic Free Area (A_a)
- ◆ Wind load
- ◆ Snow load
- ◆ Low temperature
- ◆ Reliability
- ◆ Heat resistance
- ◆ Number and year of the European Standard e.g. EN 12101-2:2003

Smoke Vent Apartment & Commercial

Em-Vent smoke vents are electrically operated smoke vents that allow the release of smoke and heat from buildings in the case of fire. This ensures key escape routes such as stairwells and corridors stay accessible with minimal smoke build-up.

Features

- Fully certified to EN 12101-2
- Compliant with Building Regulation ADB and ADL
- Opens to 160° within 60 seconds
- Can incorporate roof access facility
- Provides natural comfort ventilation
- Impact resistant to EN 1873 1200 joules and are therefore certified non-fragile
- Available as square, rectangular or circular
- Available with a glazed or solid insulated lid
- Available with PVC upstands or direct to builder's upstand



Em-Vent Smoke Vent with Em-Curb PVC 300mm

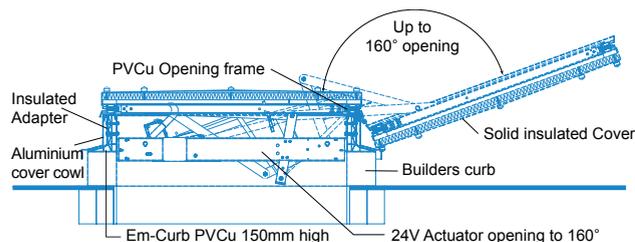


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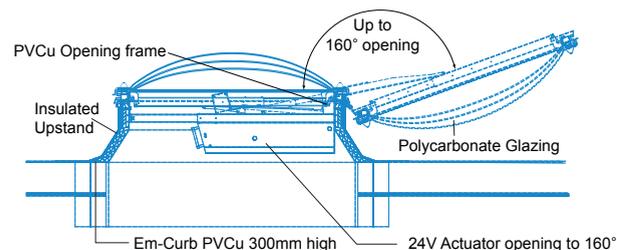
Em-Vent smoke vents are principally designed for smoke and heat extraction in protected stairwells and corridors within residential apartments, hotels, shops and offices.

There is a choice of polycarbonate rooflights in single, double, triple, quad skin or aluminium insulated solid cover. The rooflights are thermoformed from UV protected co-extruded polycarbonate sheet. The aluminium insulated solid covers are available as mill finish or powder coated to any RAL colour. The actuator is 24V DC electric and opens the unit to 160° within 60 seconds. A range of upstands are available to accommodate roof insulation, with a wide range of stock sizes. Em-Vent smoke vents may be used for roof access and provide natural ventilation.

Em-Vent smoke vents are available as square, circular or rectangular.



Smoke Vent - mounted to Em-Collar



Smoke Vent - mounted to Em-Curb

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Key Features

- 1 Choice of polycarbonate rooflight in single, double, triple or quad skin or solid insulated cover
- 2 Em-Vent actuator operating up to 160°
- 3 A range of upstands to accommodate roof insulation
- 4 Fully certified to EN 12101-2 in 57 sizes
- 5 May be used for roof access and natural ventilation
- 6 Aerodynamic wind deflectors optional (not shown)

EM-VENT VIDEO



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Specification & Technical Details

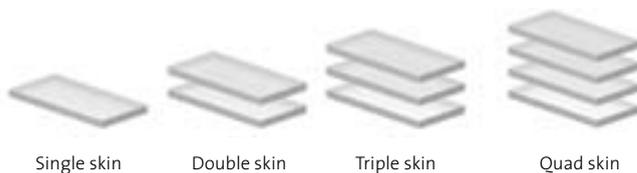
Features

- Fully certified to [EN 12101-2](#)
- Covers available as polycarbonate rooflight or solid insulated cover
- PVC upstands available in heights of 150, 300 or 350mm
- Em-Vent CE 24 volt actuator opens to 160° within 60 seconds
- Optional Wind Deflector to increase aerodynamic value (Cv)
- [Em-Vent Smoke Control Panel and accessories provide fully compliant control](#)

Em-Vent Rooflights

Thermoformed from polycarbonate sheet and available in single, double, triple and quad skin.

Polycarbonate is virtually unbreakable, with an impact strength up to 250 times greater than glass.



Em-Vents can be supplied in clear, opal diffused, bronze or 'HeatReflect' (reflects up to 68% of the heat radiation) glazing.



All polycarbonate Em-Vents have a minimum of 3mm outer thick glazing. Inner skin thickness may vary.

Em-Vent solid insulated cover

The solid insulated cover can be provided as mill finish aluminium or polyester powder coated to any standard RAL colour. It is available insulated with a 32mm panel or a 64mm panel providing exceptional thermal insulation values.

Certification

Em-Vent rooflights are 'out of plane' rooflights and provided they are specified with polycarbonate glazing, they can be deemed to be 'non-fragile'. Em-Vent polycarbonate rooflights have undergone large body impact testing by an independent accredited test organisation. Test certificates are available to demonstrate compliance 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 according to NBN EN 13964:2007.

Polycarbonate rooflights have been awarded BBA Certificate No. 00/4691 and are manufactured to ISO 9001. They are manufactured in accordance with European standards and hold a CE mark according to EN 1873.

Rooflights, upstands and hinged opening frames are certified as providing adequate resistance to precipitation, according to EN 1873 weathertightness.

Thermal transmission

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

Typical values	U-Value (W/m²K)
Single Glazed	5.36
Double Glazed	2.68
Triple Glazed	1.78*
Quad Glazed	1.37
Solid insulated cover 32mm	0.80
Solid insulated cover 64mm	0.48

*Measured in hot box in accordance with BS EN ISO 12567-2: 2005

Please contact us for full technical data, specifications, sizes and aerodynamic values.

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Em-Vent upstands

Em-Vent upstands are designed for use in conjunction with Em-Vent rooflights to provide a thermally broken interface which helps improve the thermal efficiency of the roof.

Em-Vent upstands represent excellent value for money; they enhance the appearance of the rooflight and, because they are prefinished white internally, they require no further decoration.

Splayed upstands give an excellent spread of light through the room; vertical units are available where the dimensions of the roof aperture need to be maintained.

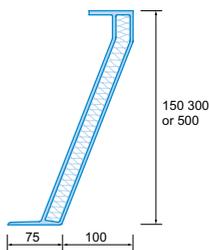
The standard upstand is made from extruded white PVC-u. The multi-chambered construction gives an exceptionally robust and thermally efficient performance. This upstand is suitable for most roof finishes and is available in heights of 150, 300 and 350mm; GRP upstands are also available with integral polyurethane foam insulation in heights of 300 and 500mm.

Thermal transmission

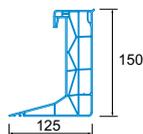
Values shown below are the calculated U-value, unless otherwise shown. Complete unit U-values are available on request.

Typical values	U-Value (W/m ² K)
Em-Curb PVC-u 150/v	1.00*
Em-Curb PVC-u 300/s	1.00*
Em-Curb PVC-u 350/s	0.89
Em-Curb GRP 300 and 500	1.07

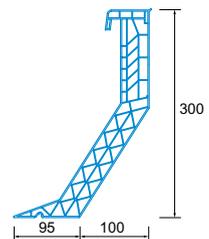
*Measured in hot box in accordance with BS EN ISO 12567-2: 2005



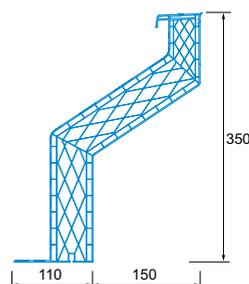
Em-Curb GRP 150, 300 and 500 - Special



Em-Curb PVC -u 150/v



Em-Curb PVC -u 300/s



Em-Curb PVC -u 350/s

Em-Vent opening system

The Em-Vent opening system is an electric actuator with a unique geometric movement and opens and closes the smoke vent by means of 24V DC. It is available as a 700-1000mm and 1000-1600mm unit and opens the Em-Vent to 160° within 60 seconds.

Em-Vent 160° actuator technical data

	LM70100	LM100160
Voltage	24V DC	24V DC
Current (with load)	max 2.5 amp	max 4.0 amp
Opening angle	160°	160°
Ambient operating temperature	-15°C - +70°C	-15°C - +70°C
Operating time	< 60 seconds	< 60 seconds
Protection degree	min IP54	min IP54
Product life comfort cycles	10,000	10,000
Weight	23kg	25kg
Size	700-1000mm	1000-1600mm



Em-Vent 160° Actuator LM70100



Em-Vent 160° Actuator LM100160

Smoke Vent Industrial: Single & Double Leaf

Es-Vent single and double leaf smoke vents are electrically operated for the release of smoke and heat in the case of fire in larger industrial and manufacturing areas.

Features

- Fully certified to EN 12101-2
- Compliant with Building Regulation ADB and ADL
- Available with glazed or solid insulated lid
- Can incorporate roof access facility
- Provides natural comfort ventilation
- Impact resistant to EN 1873 1200 joules and are therefore certified non-fragile
- Supplied to site fully assembled ready to install



Es-Vent Single Leaf Smoke Vent

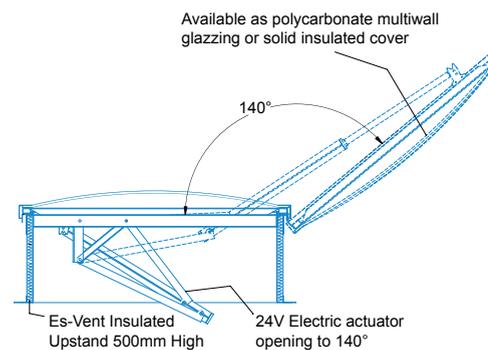


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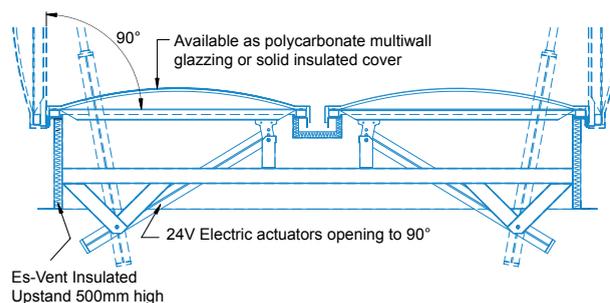
Es-Vent single and double leaf smoke vents are modular units designed for smoke and heat ventilation in industrial buildings such as warehouses and manufacturing facilities. They also provide natural comfort ventilation and, when supplied with polycarbonate glazing, will provide natural daylight. The units may be installed into prepared roof apertures or onto upstand builders' curbs, or within continuous glazing including barrel vault and monopitch daylight systems. They are available with aerodynamic wind deflectors to optimise aerodynamic efficiency.

Es-Vent smoke vents are manufactured with multiwall polycarbonate or solid insulated covers in a wide range of sizes up to 3m x 3m with high performance levels and thermal insulation values.

Accessories include Em-Vent control panels, fall arrest grid and wind detectors, and the unit may be supplied mill finish or polyester powder coated to standard RAL colour.



Es-Vent Single Leaf Smoke Vent 140



Es-Vent Double Leaf Smoke Vent 90

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Key Features

- 1 Fully certified to EN 12101-2 in 80 standard sizes
- 2 Multiwall polycarbonate glazing or solid insulated cover
- 3 Available as single leaf or double leaf
- 4 Insulated upstands manufactured from 300mm to 500mm high
- 5 Es-Vent electric actuator 140° single leaf, 90° double leaf



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Specification & Technical Details

Features

- Fully certified to EN 12101-2
- Covers available as multiwall polycarbonate or solid insulated cover
- Insulated upstands in galvanised steel and insulation 50mm thick with heights from 300mm to 500mm
- Single leaf smoke vent 24 volt DC actuator opens to 140° within 60 seconds
- Double leaf smoke vent 24 volt DC tandem actuator opens to 90° within 60 seconds
- Aerodynamic wind deflectors available to increase the aerodynamic value (C_v)
- Em-Vent control panels and accessories complement the range



Es-Vent Double Leaf Smoke Vent

Es-Vent Glazed cover

Glazed covers are constructed from multiwall polycarbonate from 10mm to 25mm. Polycarbonate is virtually unbreakable with an impact strength up to 250 times greater than glass and is available in clear or opal diffused tint.

Es-Vent Solid insulated cover

Solid insulated cover can be provided as mill finish aluminium or coated to any standard RAL colour. It is available insulated with a 10mm to 25mm panel providing good thermal insulation values.

Thermal transmission

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

Typical Values	U-Value (W/m ² k)
16mm Polycarbonate	1.77
20mm Polycarbonate	1.60
25mm Polycarbonate	1.40
20mm Aluminium	1.40
40mm Aluminium	0.79

Certification

Es-Vent polycarbonate rooflights have undergone large body impact testing by an independent accredited test organisation. Test certificates are available to demonstrate compliance 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 according to NBN EN 13964:2007.

Polycarbonate rooflights are manufactured to ISO 9001 and in accordance with European standards. They hold a CE mark according to EN 1873.

Rooflights, upstands and hinged opening frames are certified as providing adequate resistance to precipitation, according to EN 1873 weathertightness.

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Es-Vent upstands

Are designed for use in conjunction with smoke vents industrial and represent excellent value for money. They enhance the overall appearance of the rooflight and may be finished in mill finished aluminium or polyester powder coated to a standard RAL colour.

The upstand is manufactured from mill finished aluminium and insulated externally with PIR 40mm board giving it an exceptionally robust and thermally efficient performance. This curb is suitable for most roof finishes and is available in heights from 300mm up to 500mm.

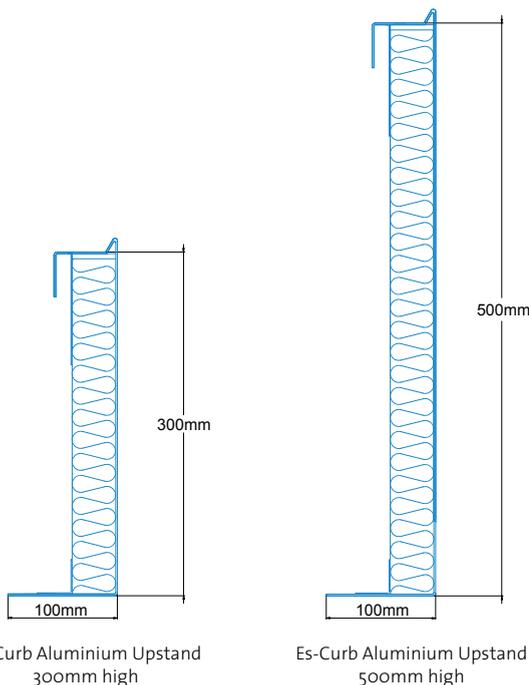
Also available as an adaptor to install directly to the top of the builder's upstand curb. Alternatively it may be installed as part of a continuous rooflight, barrel vault or monopitch, or directly into a profile roof system.

The top flange incorporates a profiled detail for a water removal drainage system. The double leaf units incorporate a central gutter detail with a full water management design.

Thermal transmission

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

Typical Values	U-Value (W/m ² k)
Es-Vent upstand Aluminium 300mm	0.68
Es-Vent upstand Aluminium 500mm	0.68
Es-Adaptor 150-250mm	0.68



Es-Vent Single Leaf Smoke Vent

Es-Vent opening system

Industrial smoke vents are opened and closed by means of 24 volt electric actuators.

Electric actuators can also be used to open ventilators for day-to-day ventilation purposes. It may be necessary to connect the ventilation system to a control panel with wind or rain sensors.

Industrial actuator technical data

Actuator Es-Vent

Voltage	24V DC
Current (with load)	1.6-8.0 amp (dependent on size)
Opening angle	single leaf 140° double leaf 90°
Ambient operating temperature	-15°c - +70°c
Operating time	< 60 seconds
Protection degree	min. IP54
Product life	min. 300 cycles

Please contact us for full technical data, specification sizes and aerodynamic values.

Smoke Vent & Air Supply Opening Louvre

Es-Louvre smoke vents are designed to exhaust heat and smoke during fire. They are particularly suited to locations that are exposed to high wind loads and in areas requiring high security. Louvre air supply vents provide air supply and are installed in external walls or smoke shafts.

Features

- Fully certified to EN 12101-2
- Available in a wide range of sizes
- Available with polycarbonate glazing of solid blades
- Can be used for smoke ventilation and air supply
- High security
- Impact resistant to EN 1873 1200 joules
- Mill finish aluminium or polyester powder coated to a standard RAL colour
- Excellent resistance to wind load



Es-Louvre Smoke Vent



Description

Es-Louvre smoke vents and air supply units are used in natural Smoke and Heat Exhaust Ventilation Systems (SHEVS). Mounted on roofs, louvred smoke vents exhaust smoke and heat from a building, allowing low-level escape routes to be kept clear of smoke thus reducing damage to the building. Louvre air supply vents provide low-level inlet air to replace the smoky air removed by the smoke vents and are generally installed in external walls.

Louvre smoke vents are CE certified to EN 12101-2 and have been independently tested by an accredited third party. They are suited to industrial and commercial buildings and can also provide natural comfort ventilation. They are available in a wide range of sizes, louvre options and control systems. With the addition of polycarbonate glazing, they can also bring natural daylight into the building.

Although louvre smoke vents may be installed at any angle, they are generally installed horizontally and are supplied with

a wind cowl or rain shields as standard. They are available with a wide range of bases, including curb adaptors and insulated upstands. These can be installed with most flat roof membranes or to profiled roofs.

Louvre vents provide good security, are impact resistant and do not create an open aperture when operated.

They consume minimal energy during their opening and closing cycle, and have a high resistance to weather; they are therefore suitable for use on exposed and high wind areas.



Es-Louvre Air Supply

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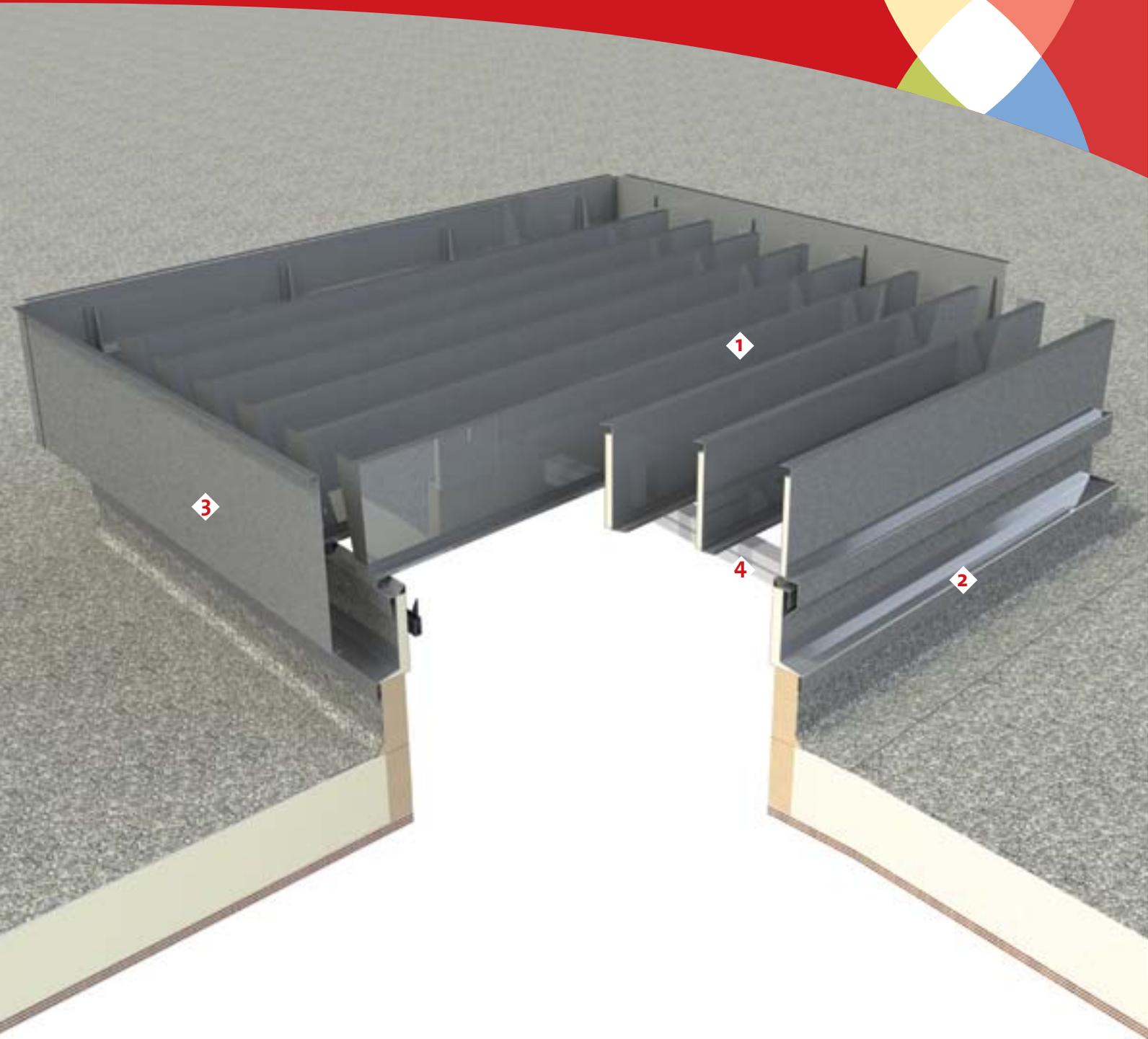


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Key Features

- 1 Louvre blades available as polycarbonate or solid insulated
- 2 Installed to aperture, builder's upstand or incorporated into profile roofs or proprietary glazing
- 3 Aerodynamic wind shields
- 4 Electric actuators linked to louvres



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Specification & Technical Details

Features

- Blades available as multiwall polycarbonate or insulated aluminium
- Installed to roof aperture, builder's upstand or incorporated into profile roofs or proprietary glazing
- Smoke vents are available with wind detectors to increase the aerodynamic value (C_v)
- Air supply vents are supplied with rain shield
- 24V DC electric actuator opens blades to 90° within 60 seconds
- Available up to 2000 x 3000mm as one unit



Polycarbonate Louvre Blades

Blade options

Blades are linked to rotate approximately 90° providing maximum aerodynamic efficiency. The seal between the blade and the base is provided by the EPDM gasket. The design of the blades and the base ensure that the Es-Louvre has a high resistance to weather, and may be installed at any angle.

Polycarbonate louvre blades

These are manufactured from polycarbonate multiwall 16mm thick / 4 wall. Polycarbonate is virtually unbreakable with an impact strength up to 250 times greater than glass and is available in clear or opal diffused.

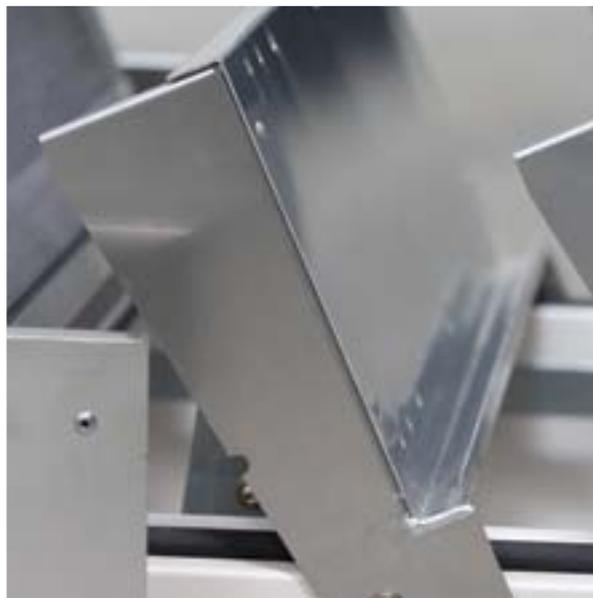
Aluminium louvre blades

These are available as aluminium insulated with a 20mm extruded polystyrene and may be mill finished or powder coated to a standard RAL colour.

Thermal transmission

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

Typical Values	(U-Value W/m ² K)
16mm Polycarbonate	1.77
Aluminium Louvres	1.75



Aluminium Louvre Blades

Es-Louvre opening system

Es-Louvres are opened and closed by means of 24 volt electric actuator. Es-Louvres can also be used to open ventilators for day-to-day ventilation purposes. It may be necessary to connect the ventilation system to the control panel with the wind or rain sensors.

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Louvre upstands

These are manufactured from aluminium and insulated with 40mm rigid polyurethane insulation. They are available as curb adaptors to suit existing or new builder's upstands, or in a range of heights from 300mm to 500mm suitable for most types of flat roofing membrane. Alternatively, they can be manufactured to install directly to profiled roofing or proprietary glazing system. They are available as mill finish or coated to a standard RAL colour.

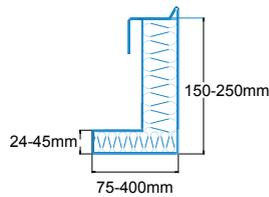
The top flange incorporates a profiled detail for a water removal drainage system.

Thermal transmission

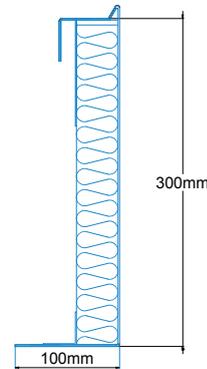
Values shown below are calculated U-Values, unless denoted otherwise. Complete unit U-Values are available on request.

Typical Values	U-Value (W/m²K)
Insulated adaptor 150mm	1.38
Insulated upstand 300 - 500mm	1.38

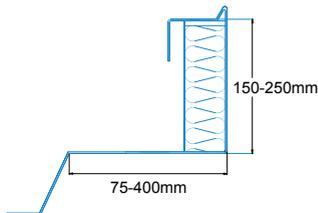
Please contact us for full technical data, specification sizes and aerodynamic values.



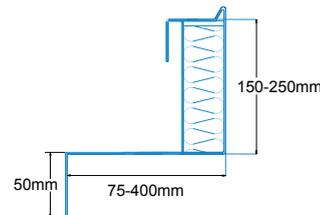
Es-Collar Aluminium Glazing Adaptor



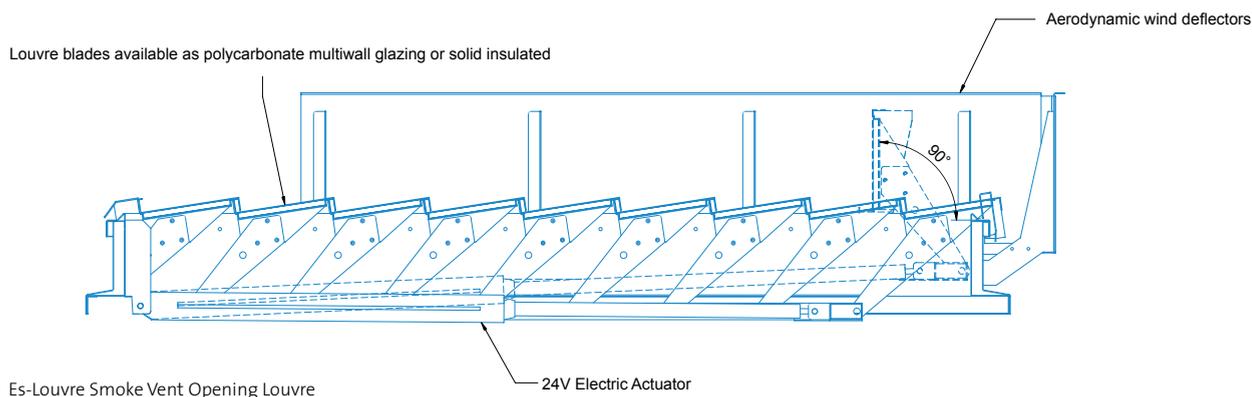
Es-Curb Aluminium Upstand 300mm high



Es-Collar Aluminium Profile Roof Adaptor



Es-Curb Aluminium Adaptor



Es-Louvre Smoke Vent Opening Louvre



Em-Vent Control Panels & Accessories

Features

- Fully CE certified to EN 12101-10 and designed in accordance with EN 12101-9 (draft)
- Control Panels available in single and dual zone
- Capacity 5 amps to 32 amps
- Visual LED indication in front panel

Description

Whitesales Em-Vent smoke control panels (EVSCP) provide natural smoke and heat exhaust ventilation control for electrically operated opening systems. The panels can be activated by heat detectors, smoke detectors, Fireman's priority switch, manual control points and may be integrated with comfort cooling ventilation which may include room thermostats, wind and rain sensors and comfort or key switches.

Combined with Whitesales smoke ventilation smoke vent units, Whitesales are able to offer a complete solution for design and manufacture of your smoke ventilation requirements.

Em-Vent Single Zone (EVSCP 24)

Em-Vent Single Zone control panels designed to control the operation of electric opening systems for fire and comfort ventilation. With visual LED Indicators and open and close commands to front panel, 24 volt DC, 5 or 8 Amp output and 72hr battery back-up. They may be networked as part of a building management system (BMS) or as a complete stand-alone system. Certified in accordance with EN 12101-10 2005 Class A (double supply).

Technical Data

Power supply	230V AC - max. 1.5A
Output supply	24V DC
Max. total loads	5A / 8A
Operating temperature	-15°C - +40°C
Protection	IP54
Battery back-up (72hrs)	Yes
Dimensions WxDxH	238 x 113 x 286mm
Weight incl. batteries	7.5kg



Single Zone Control Panel



Dual Zone Control Panel

Em-Vent Dual Zone (EVSCP 24)

Em-Vent Dual Zone control panel designed to control the operation of larger fire and comfort ventilation electric opening systems. Visual LED indications to front panel, 24 volt DC, 24, 30 or 32 Amp output and 72hr battery back-up. Certified in accordance with EN 12101-10 2005 Class A (double supply).

Technical Data

Power supply	230V AC - max. 1.5A ("ds" = max. 5A)
Output supply	24V DC
Max. total loads	24A / 30A / 32A
Operating temperature	-15°C - +40°C
Protection	IP54
Battery back-up (72hrs)	Yes
Dimensions WxDxH	343 x 178 x 450mm
Weight incl. batteries	max. 22kg

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Key Switch (EVSKS)

Manual control via a key to prevent unauthorised use when smoke vent is also used as a means of access to roof.



Comfort Switch (EVSCS)

Manual control of comfort ventilation. It incorporates an up/down switch and is supplied with housing for wall mounting.



Room Thermostat (EVST)

For automated opening and closing of comfort ventilation. Incorporates a temperature thermostat dial.



Wind and Rain Sensor (EWSWRS)

In case of adverse weather the comfort switch is overridden and units are closed to prevent wind or rain ingress.



Fireman's Priority Switch (EVSFPS)

Developed to provide the highest priority control. Visual LED status symbol and sound indicator and reset button.



Manual Control Point (EVSMCP)

Visual LED indication of status is provided and reset function. The break glass can be opened to allow the smoke vent system to be tested from any control point.



Smoke Detector (EVSSD)

Early fire detection incorporates a visual LED display when activated.



Heat Detector (EVSHD)

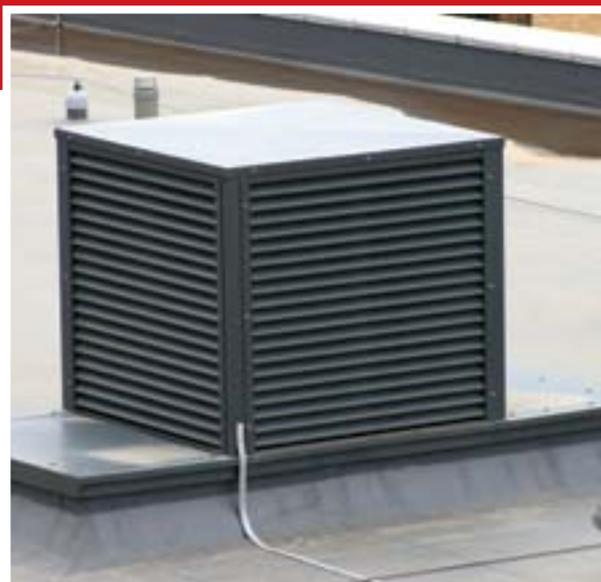
Thermal differential detector indicates early fire detection at max 75°C with a visual LED display.



Smoke Vent & Air Supply Fixed Louvre

Features

- Manufactured from aluminium sections, maintenance-free and durable
- May be polyester powder coated or anodised to any standard RAL colour
- Can be manufactured to virtually any shape
- Subject to HEVAC testing according to EN 13030 with a high resistance to weather
- Wide range of blade designs and sizes
- Highly aerodynamically efficient
- Delivered to site fully assembled with a wide range of base designs
- Available for air inlet or smoke extract



Es-Louvre Fixed Louvre Turret



Description

Es-Louvre turrets and grilles provide air inlet or extract ventilation for smoke ventilation.

They are manufactured to a wide range of sizes and shape configurations to suit the site requirements for design and performance. They are available in mill finish, anodised or polyester powder coating to any RAL colour.

Air inlet is needed to allow fresh air in to replace the smoky air removed by smoke exhaust ventilators. Without air inlet the atmosphere in the building may depressurise and the smoke vent system will be less effective.

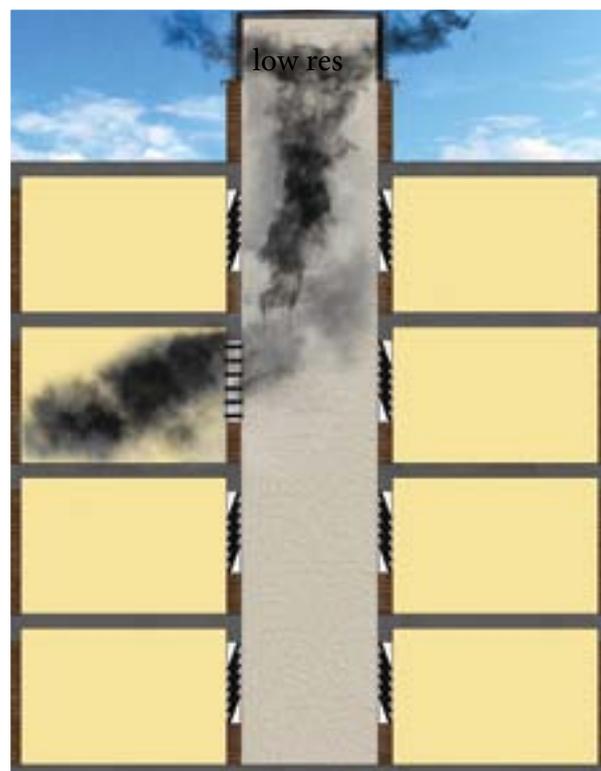
Alternatively extract ventilation can be provided by a turret vent, providing the release of smoke and heat from smoke shafts.

Louvre turrets and grilles are available with dampers which may be controlled in conjunction with the exhaust vents.

Vertical Smoke Shaft

Approved Document B recommends the use of Vertical Smoke Shaft where other means of ventilation are not available.

The diagram demonstrates smoke from one fire floor moving through the open vent, up the smoke shaft and exiting the Fixed Louvre Turret.



Vertical Smoke Shaft

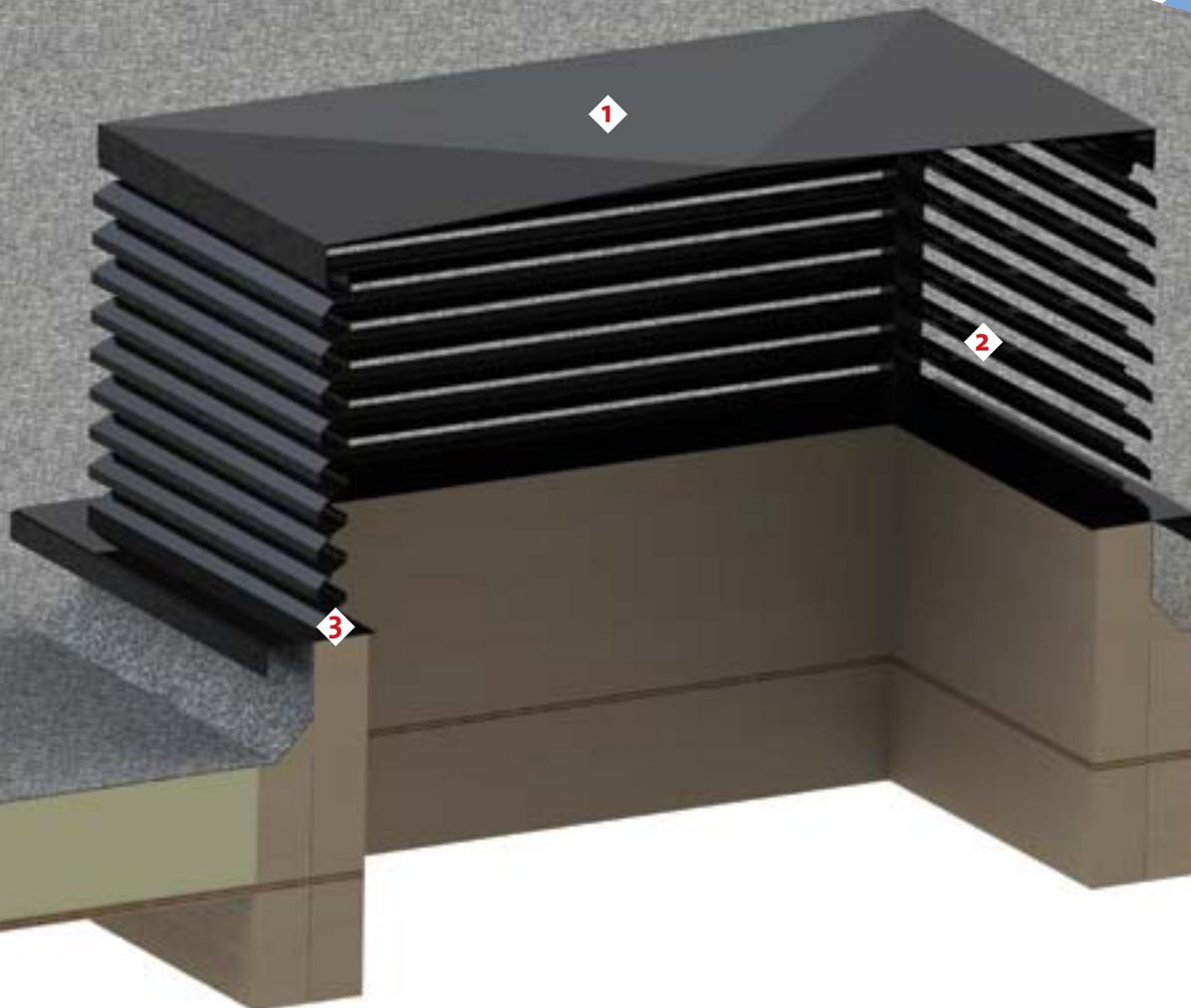
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Key Features

- ❶ Insulated solid cover or glass or polycarbonate glazing
- ❷ Wide range of fixed blade designs with an option of controlled dampers
- ❸ May be installed to builder's curbs or provided with a wide range of upstands



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Access Hatch Apartment & Commercial

Em-Hatch roof access hatches provide safe access to and from roof areas, and can be supplied with a glazed rooflight or solid insulated cover. They are particularly suited to apartments and commercial property.

Features

- Provides a safe access route
- Available with glazed rooflight or solid insulated cover
- May be installed to existing upstand with Em-Collar
- Em-Curb upstands can be incorporated
- Telescopic gas or friction struts
- Remote electric operation units available
- Ventilation can be incorporated



Em-Hatch Solid Insulated Cover and Em-Curb



Description

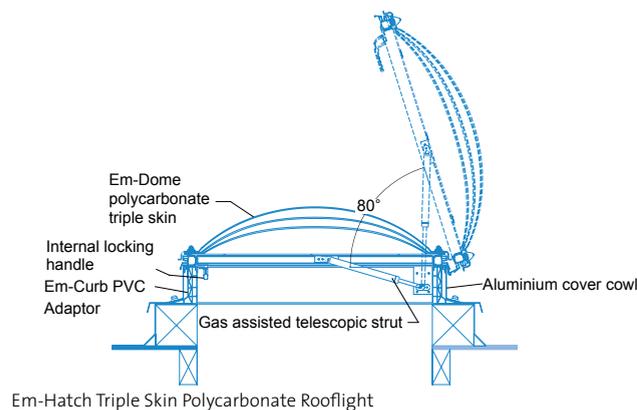
Em-Hatch access hatches allow access to and from roof areas and can form part of a fire escape route, be used for accessing roof mounted plant/equipment, and for other maintenance tasks. They are available with either external or internal locking and can incorporate electric, manual or assisted opening mechanisms. Em-Hatch access hatches can be supplied with a glazed rooflight, bringing the added benefit of natural daylight into the building or a solid insulated cover.

Options

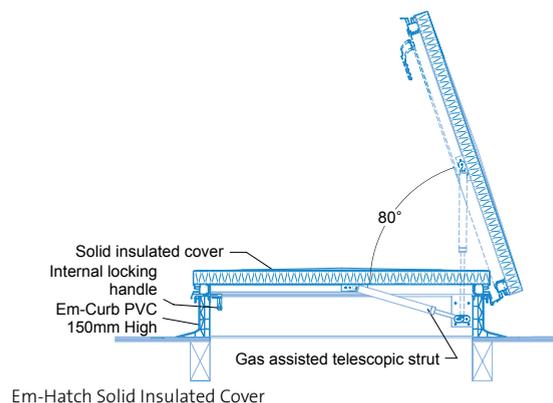
The Em-Hatch range is completely modular and is available with any of Whitesales' Em-Curb range of upstands and ventilation products, making it perfectly suited to both new-build and refurbishment projects.

Application

Roof access hatches are an important part of any roof construction because they facilitate safe access to and from roof areas, normally negating the need for proprietary lifts, stairways or external ladders. Building owners can be assured of giving maintenance personnel a means of access that minimises the risks associated with accessing roofs externally using temporary ladders or hoists.



Em-Hatch Triple Skin Polycarbonate Rooflight



Em-Hatch Solid Insulated Cover

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Key Features

- 1 Available with glazed rooflight or solid insulated cover
- 2 May be supplied with an Em-Curb upstand or installed to builder's upstand
- 3 Telescopic gas or friction struts or electric operation
- 4 Safe access route



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Access Hatch Residential

High-quality, aesthetically pleasing prefabricated flat glass rooflights opening to 70°, or sliding for roof access for use in areas where high wind loadings may occur or a low profile rooflight is required for aesthetic or planning purposes.

Features

- Available in a wide range of sizes
- Can be colour coated to match roof components
- Clean minimalistic finish
- Supplied prefabricated and assembled
- Excellent thermal and sound insulation properties
- Available as manual or electric opening



Em-Glaze Access Hatch to Builders Curb

Hinged roof access hatch

Description

Em-Glaze roof access hatches are available double glazed in a wide range of sizes with fully concealed hydraulic assisted gas struts, or electric actuators opening to 70° for roof access. They may be installed to allow regular access to roof terraces from internal stairways or as a means of access for maintenance personnel.



Em-Glaze Sliding Access Hatch

Sliding access hatch

Description

Em-Glaze sliding access are available double glazed and are perfect for providing ventilation or roof access in areas where high wind loadings may occur, and where hinged rooflights may be unsuitable, or where a low profile rooflight is required for planning purposes. Em-Glaze sliding access rooflights open to provide an unobstructed view. The cantilever design means that no extra supports are required on the roof. They are operated by concealed 24 volt or 230 volt electric actuators.



Description

Em-Glaze modular rooflights are designed to maximise the amount of natural daylight in a building while providing a clean minimalistic finish both inside and outside. They are manufactured with flat sealed glass units and incorporate a fully welded aluminium frame and sill detail. All visible aluminium is polyester powder coated light grey as standard.

The flush design ensures efficient drainage of rainwater and the masked edge ensures that the double glazed unit holds its unrivalled insulation value over the full lifetime without deterioration.

Technical Data

Thermal Transmission	1.24 W/m ² K	EN 673
Sound Insulation	34Rw dB	DS/EN 717-1/A1
Impact Resistance	Class 2	CWCT
Watertightness	Passed	EN 1073
Air Tightness	Class 4	EN 12207/EN 1026

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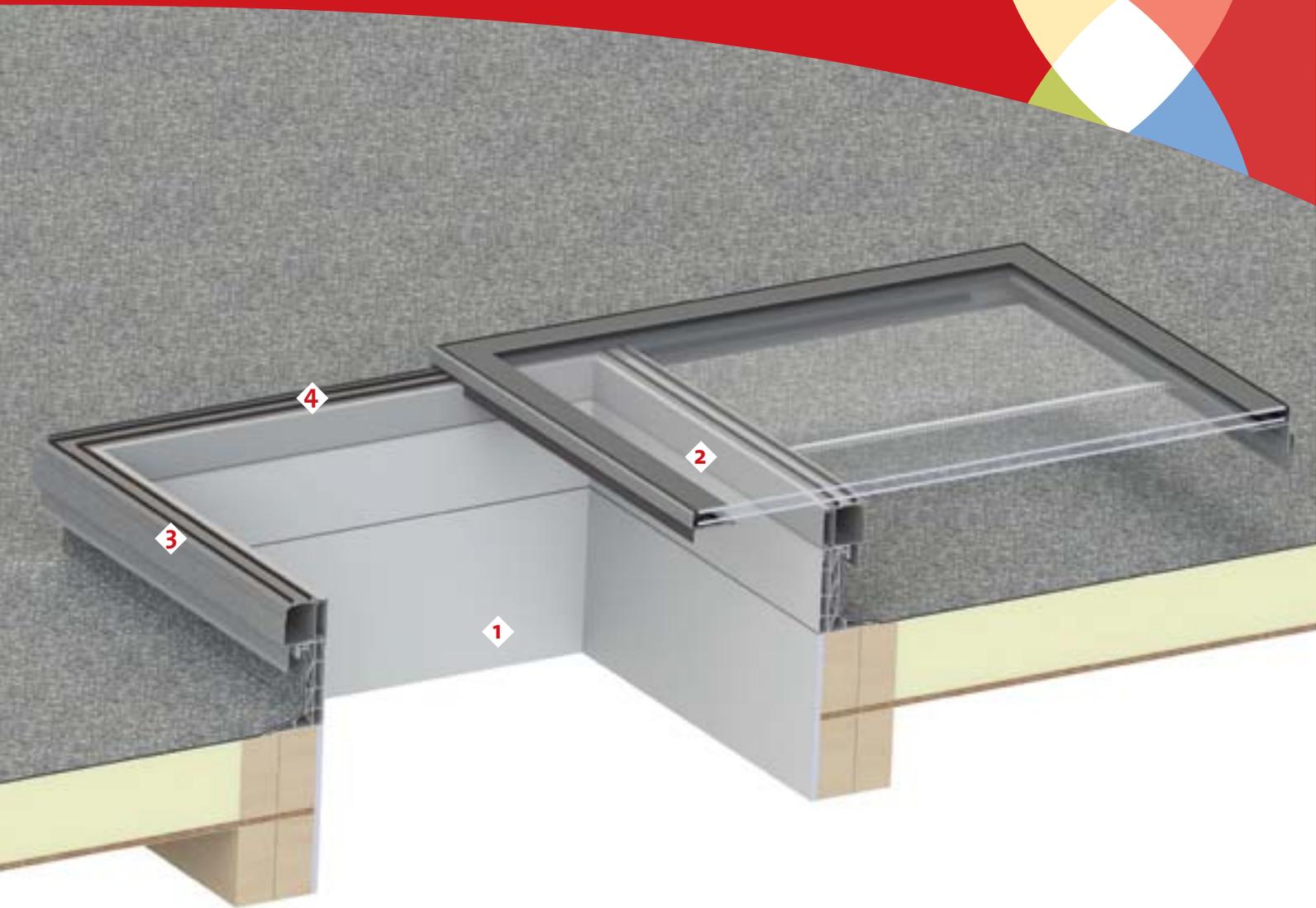


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Key Features

- ❖ 1 Cantilever design – no supports required
- ❖ 2 Opens to unobstructed view
- ❖ 3 Available with upstand or installed to builder's upstand
- ❖ 4 Available as manual or electric opening



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Access Hatch Industrial

Es-Hatch roof access hatches provide access to and from roof areas and are particularly suited to industrial property. Available in larger sizes, and glazed in multiwall polycarbonate or with solid insulated cover.

Features

- Available with glazed multiwall polycarbonate or solid insulated cover
- May be installed to existing upstands
- Telescopic gas struts and stay
- Internal and external locking
- Accessories include ladder post and ladder stay



Description

Es-Hatch roof access hatch industrial allow access to and from roof areas and can form part of a fire escape route, be used for accessing roof mounted plant/equipment, and for other maintenance tasks.

Larger access hatches are available to facilitate the easy movements of equipment to and from a building.

Available with internal and external locking and hydraulic assisted gas struts. They can be supplied with multiwall clear and opal diffused polycarbonate, bringing the added benefit of natural daylight into the building or with solid insulated cover which may be mill finished aluminium or coated to a standard RAL colour.

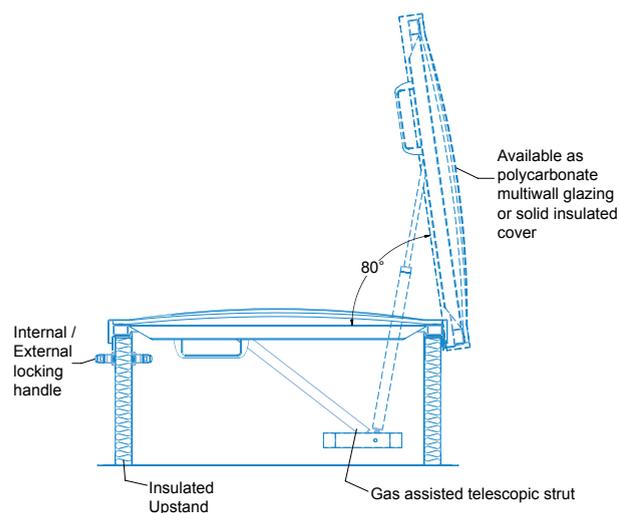
Thermal transmission

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

Typical values	U-Value (W/m ² K)
16mm Polycarbonate Multiwall	1.77
20mm Polycarbonate Multiwall	1.66
25mm Polycarbonate Multiwall	1.44
20mm Solid Insulated Cover	1.40
40mm Solid Insulated Cover	0.73



Es-Hatch Glazed Cover and Upstand



Es-Hatch Multiwall Polycarbonate Glazing

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Key Features

- ❖ 1 Fully insulated aluminium cover, providing a high level of thermal and noise insulation, or glazed multiwall polycarbonate
- ❖ 2 Heavy duty slam latch for secure internal and external locking
- ❖ 3 Fully insulated aluminium upstand with 40mm thick rigid insulation
- ❖ 4 Hydraulic assisted gas struts, balanced for smooth and controlled operation
- ❖ 5 Optional ladder post to provide additional hand-hold above ladder level



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Access Ladders

Em-Hatch access ladders provide safe and regular access to roofs to carry out inspections, maintenance and repairs, and to offer a secondary means of escape to or from a roof area in the event of fire or other emergency. A wide range of accessories complement the range of available ladders and access hatches.

Concertina ladders

Features

- Supplied ready to install with pre-mounted backboard to install to hatch lining
- Constructed from die cast aluminium according to EN 14975
- Counterbalanced adjustable spring ensures raising and lowering with minimal effort
- Heavyweight construction with 500kg/m overall loading
- Available in four standard sizes and special sizes available to order
- Available with optional telescopic hand-rail



Em-Hatch Concertina Ladder

Description

The Em-Hatch concertina ladder is manufactured from die cast aluminium to EN 14975 in four standard sizes with a floor to ceiling height from 2500mm to 3400mm. They are particularly suited where floor areas must be kept clear in normal circumstances and are a perfect complement to the Em-Hatch access hatch range.

The two heavy duty fully adjustable counterbalanced springs ensure minimal effort in raising and lowering the ladder and a telescopic hand-rail is available to give additional support when exiting and entering the access hatch.

The Em-Hatch concertina ladder is supplied ready to install with a laminated wood backboard which may be site trimmed to suit the opening for installation direct to the hatch lining. Special order ladders are available with additional treads for deep roof voids.

Thermal data

Certification	Manufactured to EN 14975
Material	Die cast aluminium alloy
Load	500kg/m ² overall
Standard tread rise	280mm
Floor to ceiling height	2200 – 2500mm 2500 – 2800mm 2800 – 3100mm 3100 – 3400mm

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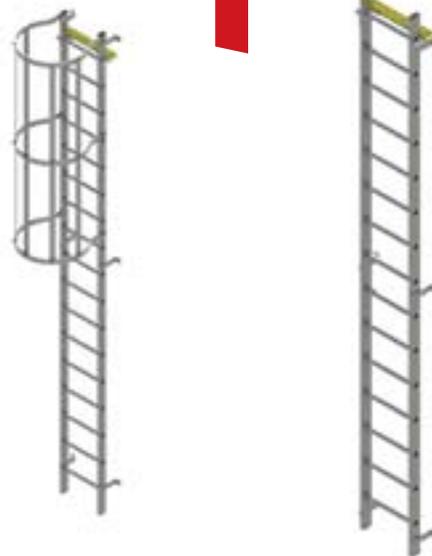
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Fixed ladders

Features

- Fixed vertical or companionway ladders available in either aluminium or galvanised steel
- Compliant with relevant British Standards
- Manufactured to EN 14975
- Telescopic hand-rails and guard-rails available as a special range of optional extras



Vertical ladders to BS 4211 : 2008

Description

Em-Hatch fixed ladders allow safe and regular access to roofs to carry out inspections, maintenance and repairs and to provide a means of escape to or from a roof area.

A range of ladders is available manufactured either in aluminium or galvanised steel, with or without a safety cage, and with a guard-rail if needed to meet relevant British Standards.

Ship stair ladders are also available between 65° and 75° where more regular access is required. Like the vertical ladders, these comply with relevant British Standards BS 5395 Part 3 and are available in aluminium or mild steel. All ladders are made to order in a range of sizes.

Accessories

Extendable hand-rail

Em-Hatch extendable hand-rails provide safer access through roof hatches by extending a firm hand-hold above the ladder in an upright position. The Em-Hatch extendable hand-rail is operated from a closed position within the access hatch reveal and automatically locks in the fully upright position. It is available in galvanised steel or polyester powder coated.

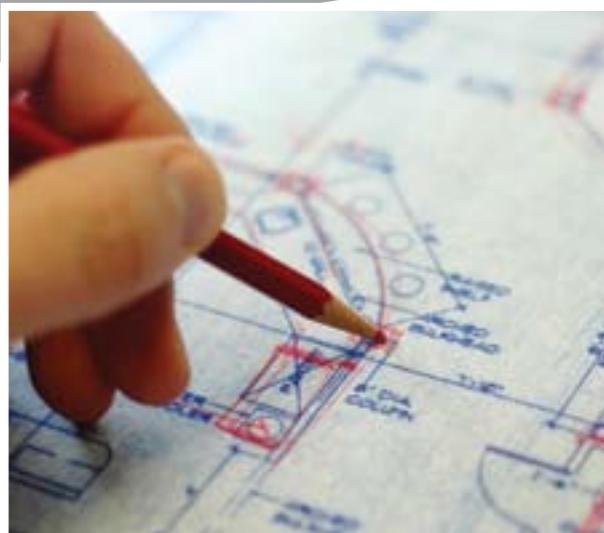
Ladder location point

These are available factory installed to the lining of the access hatch to provide a firm positive location for removable ladders.

Hand-rail

The Em-Hatch hand-rail is a fixed hand-rail system providing a permanent means of fall protection for hatches and smoke ventilation openings. It does not penetrate the roof membrane and is available with a lockable opening gate and can be installed quickly and easily using basic tools.

Design Considerations



EN 12101-2:2003 Smoke and Heat Control Systems – Part 2: Specification for Natural Smoke and Heat Exhaust Ventilators



From July 2013 compliance with the CE Harmonised Norm EN 12101-2 for Smoke Ventilators became compulsory in the UK in terms of the CPR Regulation No. 305/2011.

Because smoke ventilators are life-saving appliances they are subject to very stringent regulations and standards and are classified as Level 1. There are six tests which must be carried out by an independent laboratory: determination of the aerodynamic free area; reliability; opening under load; low ambient temperature; wind load; and heat exposure. These are all carried out in laboratory conditions. The key point is that the smoke ventilator must meet a certain aerodynamic free area value which is related to the geometric area and the coefficient of discharge. This means that the regulation not only requires the rooflight to be a certain size and open to a minimum of 140°, but also that the aerodynamic area of the opening meets the required standard. The smoke vents specified must all have a Declaration of Performance, which is a certificate that confirms the test results.

Smoke ventilators must have a finished height above roof level of 300mm minimum. Whilst Building Regulations state that 150mm is acceptable for standard rooflights, there is an increased height for smoke ventilators which helps assist with the aerodynamic area and performance of the smoke ventilator.

All approved products need to have correct labelling stating the results of the tests, name of manufacturer/supplier, year of manufacture, and the aerodynamic area. This helps to provide traceability for the customer.

There is some conflict between UK Building Regulations and the EN 12101-2; the advice of Whitesales is that in any case of conflict, the overriding document is the EN 12101-2.

Approved Document B 2006 : Fire Safety



For smoke ventilators, Approved Document B states that the free area of a smoke ventilator may be measured by either the aerodynamic area in accordance with the EN 12101-2 or the total unobstructed at cross sectional area measured in the plane with areas at a minimum and at right angles to the direction of air flow. There is nothing in Approved Document B to specify a specific opening angle for smoke ventilators; however if they open to anything less than 90°, this would affect the air flow calculation. Approved Document B only requires the rooflights to finish 150mm above finished roof level, but EN 12101-2 states that it must be a minimum of 300mm.

EN 12101-9:2005 Smoke and Heat Control Systems – Part 9: Control Panels & EN 12101-10:2005 Smoke and Heat Control Systems – Part 10: Power Supplies



These European Standards specify requirements and give test methods for control panels and primary and secondary electrical and pneumatic power supply equipment, designed for use in smoke and heat control systems in buildings. They also provide for the evaluation of conformity of such equipment to the requirements of these European Standards. At the time of printing EN 12101-9 is still in draft form (November 2014).

BS 7346-8:2013 Components for Smoke Control Systems – Part 8: Code of Practice for Planning, Design, Installation, Commissioning and Maintenance



This British Standard gives recommendations for the planning, design, installation, commissioning and maintenance of smoke control systems, including smoke clearance, in and around buildings. The recommendations are applicable to systems intended for the protection of life and/or protection of property, including:

- natural smoke ventilation;
- mechanical smoke ventilation;
- smoke barriers;
- smoke and heat exhaust ducts;
- smoke dampers, and their controls, power supplies and interconnections.

This British Standard is not applicable to non-fire-related functions of smoke control systems.

This British Standard does not give recommendations as to whether or not to install smoke control systems in any given premises.

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BS 9999: 2008 Code of Practice for Fire Safety in the Design, Management and Use of Buildings



This British Standard gives recommendations and guidance on the design, management and use of buildings to achieve reasonable standards of fire safety for all people in and around buildings. It is not applicable to individual dwelling-houses, and might have

only limited applicability to certain specialist buildings and areas of buildings (e.g. areas of lawful detention). This British Standard is applicable to the design of new buildings, and to alterations, extensions and changes of use of an existing building. It also provides guidance on the ongoing management of fire safety in a building throughout the entire life cycle of the building.

Building Bulletin 100 – Design for Fire Safety in Schools



This guidance on fire safety design covers schools in England and Wales. The guidance applies to nursery schools, primary and secondary schools, including sixth form colleges, academies and city technology colleges, special schools and pupil referral

units Sixth form colleges designated as Institutions of Further Education are covered by Approved Document B (AD B) but BB 100 provides useful supplementary guidance on the design of educational buildings for students up to the age of 19.

This guide covers compliance with requirements B1 to B5 of the Building Regulations 2000 (which is concerned with life safety) but also provides guidance on the design of school buildings to reduce arson and property loss through fire.

HEVAC – Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (Flats and Maisonettes)



Through this document The Smoke Control Association provides guidance on the design of smoke control systems in apartment buildings. As there are no other suitable published guidance documents for either designers or approving authorities, this document sets out

the information and parameters that the designer should incorporate into the design when using calculations and/or CFD models. It also provides recommendations to designers on the information to be provided to the approving authority, within their package of supporting information, when submitting the calculations or CFD model for information and/or approval of design intent.

BRE 186 – Design Principles for Smoke Ventilation in Enclosed Shopping Centres



This Report is intended to assist designers of smoke ventilation systems in enclosed shopping complexes. Most of the methods advocated are the outcome of research into smoke control by smoke ventilation at the Fire Research Station, but also take into account the recommendations of the

Working Party on fire precautions in town centre redevelopment.

Condensation

Condensation occurs where warm moist air meets cold surfaces. As warm air rises, the risk of condensation forming at rooflight level is relatively greater than at lower level. The risk can be minimised by specifying triple skin vents and Em-Curb insulated upstands. However, because temperature and humidity levels are clearly beyond our control, no guarantee can be given against the formation of condensation.

Condensation between the skins can also occur when the room below has high humidity levels, for example during construction from new plaster or paintwork. Polycarbonate is hygroscopic and allows water molecules to filter through – the water pressure forces its way through the lower skin and condenses inside the cavity. However, once the humidity level in the room is restored to normal this condensation dissipates through the breathable seals.

Limitations on use

Whitesales Em-Vent smoke vents are designed for use in normal circumstances on flat roofs up to 15° pitch. For applications in excess of 15° or in unusual circumstances (e.g. extreme temperature or climatic conditions) please refer to Whitesales. Please note that all information supplied is based on our best knowledge and general experience. Because of factors outside our control which can affect installation and use of products, no warranty is given or implied in respect of information provided. A policy of continuous product improvement applies and Whitesales therefore reserve the right to alter specifications without prior notice.

Further advice

Full technical advice and assistance on how these various regulation and guidance documents apply to your smoke vent or access hatch project is available from Whitesales on application and specification. A comprehensive library of Product Data Sheets and CAD drawings with NBS specification is also available.

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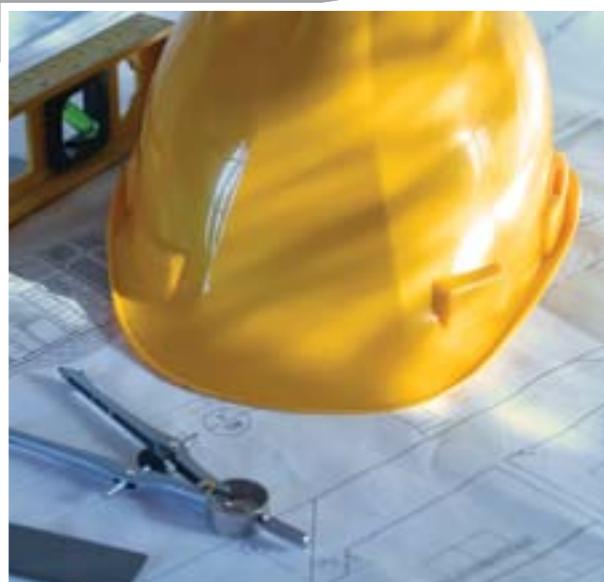
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Health & Safety



Construction (Design & Management) Regulations 2007

According to the Health and Safety Executive, almost 20% of deaths in the construction industry are caused by falls from or through roofs. The majority of these falls are through fragile materials such as asbestos cement roofing or old/fragile rooflights.

The Construction (Design and Management) Regulations 2007 places a duty on designers and specifiers to give proper consideration to eliminating or reducing risks at the design stage. Health and Safety Executive (HSE) Health and Safety in Roof Work draws attention to the responsibilities of those specifying rooflights.

(HSE) Health and Safety in Roof Work states that where rooflights are required, designers should consider:

- ◆ Specifying rooflights that are Non-Fragile.
- ◆ Fitting rooflights designed to project above the plane of the roof and which cannot be walked on (these reduce the risk but they should be capable of withstanding a person falling onto them).
- ◆ Protecting rooflight, e.g. by means of a guard rail fitted around the outside, or mesh or grids fitted below, but these must allow for the smoke vent/access hatch to operate.
- ◆ Specifying rooflights with a design life that matches that of the roof, taking account of the likely deterioration due to ultraviolet exposure, environmental pollution and internal and external building environment.

For specifiers the key message is to eliminate 'fragile' materials from roof design. For contractors, it is to provide effective fall arrest equipment or safety netting.

Non-fragile rooflights

Whitesales Em-Vent smoke ventilators are out-of-plane rooflights, with polycarbonate glazing, and can be deemed to be 'non-fragile'.

- ◆ Polycarbonate Em-Vents have been independently tested according to EN 1873 2005 [E] to an energy of 1200J and to ACR[M] 001: 2005 and can be classified as Class B 'Non-Fragile'.
- ◆ Whitesales offers a 10 year warranty against discolouration of Em-Vent glazing material and, in the case of polycarbonate, loss of impact strength underwritten by the sheet material supplier.
- ◆ Whitesales polycarbonate Em-Vents have been awarded BBA Certification and are manufactured to ISO 9001.
- ◆ Whitesales offers a post-forming warranty backed by the sheet manufacturer.

Man-safe

Man-safe is a term often used within the construction industry to mean that the product can withstand foot traffic. However man-safe has no recognised definition and 'non-fragile' does not qualify a product to be used as a thoroughfare.

Whilst glazing and other accessories may be designed to safely resist the impact of a human body falling against it, the wilful act of walking on any kind of roof glazing must be forbidden at all times.

The act of walking upon a glazed structure can cause microscopic damage that, in time, may have a detrimental effect upon the impact performance of the system.

Walking upon glazing may encourage a practice that could lead to general disregard for the rating of said glazing, with catastrophic consequences.

Safety data sheets are available on request.

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Handling and storage

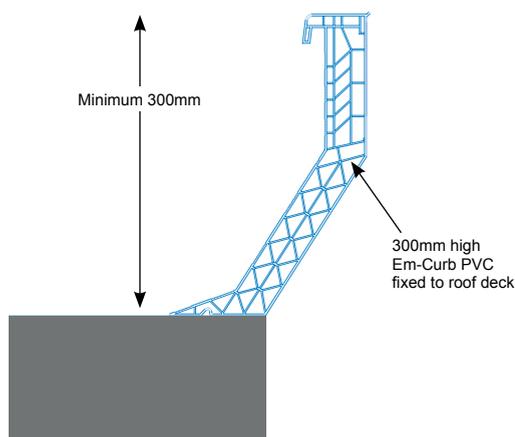
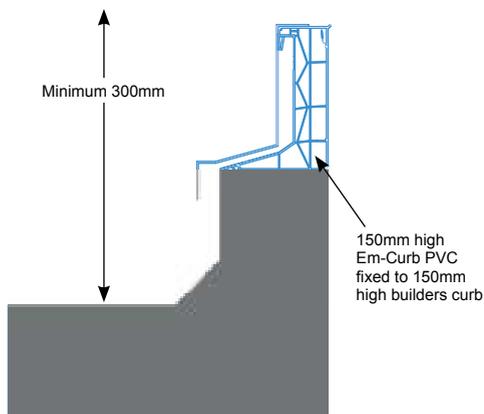
While all Whitesales modular rooflights and associated products are suitably packaged to avoid damage care should be exercised when handling. For moving larger items, two or more people may be needed. All products should be stored on edge in flat dry conditions.

Installation

All Em-Vent smoke ventilators are supplied ready assembled and pre-drilled, complete with security screwbolts and factory applied sealing tape where applicable and are delivered to site in protective packaging. Full instructions and fixings are included with all products, and should be carefully studied prior to installation.

Fixing upstand curbs

For fixing curbs to the roof structure, drill holes in the bottom flange, 100mm from each corner and at maximum 300mm centres and screw to roof structure. Typical installation details are shown below. The PVC-u Em-Curb is suitable for use with most flat roof systems including single ply, felt, hot-melt, asphalt, liquid and lead.



Installing smoke vent as a collar supplied with adaptor collar

If the smoke vent unit has been supplied as a collar, complete with aluminium weathering cowl, then this must be fixed to the top of a builder's upstand of timber, concrete etc with a minimum height of 150mm above the finished roof surface.

The builders upstand should be constructed so that the inside face finishes to the same dimensions as the PVC upstand and the overall thickness of the curb must be at least 125mm to ensure a sufficient fixing.

Position the smoke vent centrally over the internal builders curb opening and secure firmly using correct fixings (not supplied) for the upstand material. It is recommended to use a bead of suitable sealant on the underside of the curb to provide an airtight seating.

Fix through at 300mm centres ensuring the fixings are placed into the upstand. Maximum distance of fixing from corner to corner should be 100mm.

Installing and waterproofing smoke vent with proprietary Em-Curb

Position the smoke vent centrally over the roof opening and securely fix Em-Curb to roof aperture through the bottom flange, 100mm from each corner and at maximum 300mm centres. Use large headed fixings (not supplied), type and size as dictated by site conditions. It is very important to fix through the 3no pre-drilled holes in the metal support plate. Upstand curbs should be fixed to a structural component (i.e. not fixed through insulation).

The overall height of the upstand should remain minimum 300mm above finished roof surface. If insulation is being used PVC upstand will need to be fitted to timber grounds.

Waterproofing

Apply the waterproofing (in accordance with manufacturers recommendations) up to the underside of the top flange.

Bitumen felt and torch-on systems

The Em-Curb should be primed and normal application techniques followed. For Torch-On, the torch should be directed at the waterproofing and not directly at the Em-Curb.

Single ply systems

This may be solvent or heat welded and mechanically fixed to the Em-Curb, dependent on the type of membrane. Refer to supplier for further information.

Asphalt

Whitesales recommend the use of PVC-u upstands with pre-fixed sheathing felt and expanded metal lathe. This must be specified if required.

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Operation & Maintenance



Whitesales Rooflights, smoke vents, access hatches and accessories can generally be regarded as ‘maintenance free’. However, the following guidelines should be followed to optimize their usefulness.

Any maintenance of rooflights must of course be carried out strictly in accordance with the relevant ‘Health and Safety’ regulations.

Checks should be carried out on all products annually.

Project specific data is available on request.

Em-Vent and Es-Vent

Operation: To allow smoke and heat to exhaust from a building when activated by the building management system. Can also be used for comfort ventilation.

Maintenance: Check brackets, actuator and control panel to ensure operation is correct and fixings are secure.

This unit has been constructed and tested in accordance with [EN 12101-2](#). Any dismantling or modification will render the CE certificate invalid.

The actuator is factory fitted with a limit clamp to permit the unit to fully open to 160°. Any adjustments made to this device to restrict the opening angle will render the CE certificate invalid.

The smoke vent actuator is supplied with test leads from the connection/limit override control box. These can be used in conjunction with a 18-24V DC battery to power the unit open if required before the unit is connected to the electrical supply. To close the rooflight reverse the polarity of contacts. Note: Hazard of squashing body parts inserted between moveable and fixed parts of the rooflight. Assume a safe visual control position when operating.

This smoke vent will open to 160° in accordance with EN 12101-2. When siting the units onto the roof consider the orientation of the hinges etc so that the unit does not foul any services or projections on the roof.

Installation must comply with all applicable local building regulations.

Em-Hatch and Es-Hatch

Operation: For means of access onto roof area. Only to be used by authorised personnel. Unit is opened by opening the locking cockspur handle and pushing the unit into the open position. If the unit has frictional struts, they should be adjusted to ensure unit is safely held in the open position. DO NOT use as a means of ventilation. DO NOT USE in windy conditions. ONLY USE in accordance with relevant Health and Safety Regulations.

Maintenance: Check brackets, struts, locking handle, etc to ensure operation is correct and fixings are secure.

Em-Dome and Em-Glaze

Operation: Em-Domes are fixed at installation stage to the relevant upstand, and are a means of allowing natural light into the area below. Polycarbonate rooflights are ‘Non-fragile’, but should not be trafficked.

Maintenance: Wash only with warm soapy water. DO NOT USE strong detergents or abrasives.

Em-Curb

Em-Curbs provide a proprietary upstand detail from Em-vents. Maintenance free. GRP Em-Curbs may be decorated internally if required.

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Case Study Prime Place SE10

Project type Apartments and Community

Products Em-Vents & Em-Hatches

Material Polycarbonate domed

Quantity 5 no. 1200 x 1200mm
1 no. 800 x 1500mm
2 no. 1200 x 2200mm

Other Smoke vents located over atriums, stairwells, corridors and smoke shafts

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Support Services



Technical services

Advice and technical assistance on the application and specification of all smoke vents, access hatches, rooflights and accessories is readily available from Whitesales.

Full technical advice is available, including technical specification writing, site surveys, condition reports and budget costings or fully detailed quotations.

A comprehensive library of product data sheets and CAD drawings is available along with NBS specification clauses.

For projects where we have undertaken a rooflight site survey we offer a CAD roof plan drawing service.

The Whitesales Customer Service Team works to respond immediately to customer requests.

For more information, please contact us on:

Tel 01483 271371

Fax 01483 271771

E-mail sales@whitesales.co.uk

www.whitesales.co.uk



Nationwide coverage and delivery

Whitesales delivers on their own transport or overnight carrier service nationwide, including deliveries to site, to contractors and merchants.

With depots strategically located in England and Scotland, the service driven team is readily available, from your initial enquiry through to after sales support.

Project and larger consignments are delivered on Whitesales' own transport and delivery periods are determined on a per order basis.

Guarantees

All Whitesales smoke vents, access hatches and rooflights, when installed on Em-Curbs or Em-Collars and in accordance with manufacturer's instructions, are guaranteed against the effects of defective design, materials or construction for a period of ten years from date of supply by Whitesales. Furthermore, the glazing element of all Whitesales rooflights is warranted against discolouration for ten years subject to certain conditions. A 20 year 'special projects' guarantee is also available. Further details available on request. Whitesales rooflights have an expected life of at least 25 years which would normally exceed the life of the roof waterproofing materials.

All other products (e.g. T-Collars, Em-Curbs, ventilation systems, electrical components and other accessories) are guaranteed for 12 months from date of supply by Whitesales.

Edge trims, termination bars and flat roof accessories are guaranteed for 10 years from date of supply by Whitesales.

Whitesales holds Professional Indemnity Insurance, covering our designs and recommendations. Full details available on request.

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Our responsibility

The environment and the effect we have upon it is one of the key issues facing the construction industry.

There is a growing demand for construction solutions which minimise the consumption and use of natural resources. Whitesales recognises the impact that we can have on the environment and is managing activities to maximise our contribution towards the protection of the environment and preservation of natural resources. This includes constant reviews of our manufacturing operations and distribution chain.

Sustainability

Sustainable developments ensure a better quality of life for everyone, now and for future generations. To be environmentally sustainable, a product must be manufactured and used in a way that minimises its impact on the environment.

Sustainability covers all aspects of a product's impact on the environment. This includes original source of raw materials, the manufacturing process, transportation, construction, life span of the product and eventual disposal and re-use of the material.

Environmental policy

In maintaining and developing our business, products and services, we will pay careful attention to the following measures:

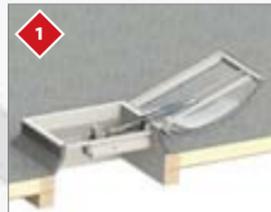
- ◆ Comply immediately with all applicable laws and regulations concerning the environment.
- ◆ Develop manufacturing processes and operational procedures that minimise, as far as practically possible, pollution risks to the environment.
- ◆ Reduce waste generated by our activities and encourage energy conservation, recycling and re-use.
- ◆ Provide training and support to employees to enable them to maximise their contribution towards the protection of the environment.
- ◆ Encourage suppliers, contractors and customers to share in our aims to promote good environmental management.

Product Overview: The 'Whitesales' roof



em-hatch™

Roof access hatches incorporating either glazed or solid covers and electric, manual or assisted opening mechanisms. Em-Hatches allow access to and from roof areas and can form part of a fire escape route.
See pages 22-23.



em-vent™

Smoke ventilators incorporating either glazed or solid covers. Em-Vents are available in sizes designed to meet current regulations and to suit site dimensions. Em-Hatch Access Hatches also available.
See pages 6-9.



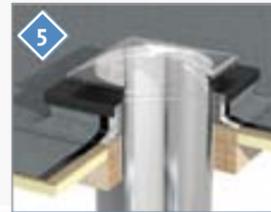
em-dome™

Thermoformed dome and pyramid shape rooflights. Em-Domes are offered in a wide range of sizes and glazing options.
See our dedicated brochure 'Modular Rooflights'.



em-glaze™

Flat glass rooflights with polyester powder coated aluminium frame. Em-Glaze Modular units are available from stock with other bespoke sizes available to order.
See our dedicated brochure 'Modular Rooflights'.



em-tube™

Tubular skylights for flat or pitched roofs with either a rigid or flexible internal tube. Em-Tubes are available from stock in a range of sizes and accessory options.
See our dedicated brochure 'Modular Rooflights'.



em-vault™

Barrel vaulted continuous sectional rooflights in polycarbonate. Em-Vaults are ideally suited to covering large areas and are made to measure. T-Vault GRP barrel vaults are also available as a functional alternative.
See our dedicated brochure 'Continuous rooflights'.



em-glaze™

Continuous monopitch skylights in glass or polycarbonate with aluminium framework and cill sections. The Em-Glaze range also includes Ridgelight, Pyramid and Lantern varieties.
See our dedicated brochure 'Continuous rooflights'.



em-trim™

GRP roof edge trim. Em-Trim is available in a wide range of sizes and colours. T-Trim aluminium roof edge trim is also available along with Em-Bar and T-Bar termination bar.
See our dedicated brochure 'Roof trims and other accessories'.



em-pad™

Adjustable paving slab support pad. Em-Pads are adjustable height to allow accurate levelling of paving systems. T-Pad fixed unit is also available. The Accessories range also includes T-Vent breather vents, T-Sleeve pipe sleeves and T-Pipe drainage outlets.
See our dedicated brochure 'Roof trims and other accessories'.



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March 2015



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