

# ROOFING VENTILATION AND ROOFING ACCESSORIES



## ROOFING VENTILATION AND ROOFING ACCESSORIES

### Glidevale solutions

Pages 3-6 of this brochure summarise the new regulatory ventilation provisions for a range of pitched roof constructions.

Pages 7-30 describe the range of Glidevale products which can help to meet those provisions.

Glidevale have a comprehensive range of products designed to:

- Meet all requirements of regulations and codes of practice throughout the UK.
- Cater for all types of tile and slate roof covering.
- Accommodate almost any roof design and form of construction.
- We can provide full technical advice on all aspects of roof space ventilation using Glidevale products.

### New ventilation requirements

The last six years have seen some heated debate regarding the need for roof space ventilation in both warm (insulation at rafter line) and cold (insulation at joist level) pitched roofs, especially when vapour permeable/breathable (type LR) underlays are used.

For roof design and specification purposes, this debate has now been largely resolved by two developments:

- BS 5250: 2011 'Control of condensation in buildings' has been updated by Amendment No 1: 2005. This is as a result of a Partners in Innovation (PiI) research project 'Thermal and moisture performance of pitched roofs', funded by Dti and industry, which concluded in April 2005.
- BS 5250 is now specifically cited as a means of compliance in England and Wales by Building Regulations Approved Document C2 'Resistance to moisture' 2004, which has replaced Approved Document F2.

BS 5250 has always been a means of compliance in the regulations for Scotland, Northern Ireland and the Republic of Ireland.

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## THE NEED FOR CONDENSATION CONTROL

### Condensation in roof spaces

A number of factors in modern constructions have led to increased risks of condensation within roof spaces:

- Fortuitous natural ventilation within buildings has been reduced by the use of high-performance draught-proof doors and windows and the blockage or elimination of open-flued chimneys.
- Modern lifestyles generate higher amounts of water vapour.
- Average air temperatures within buildings have increased, thereby allowing more water vapour to be carried in the air.
- Increased amounts of insulation at ceiling level have led to colder roof voids.
- The widespread use of roofing underlays has greatly reduced the amount of natural ventilation of the roof space.
- The use of vapour permeable (type LR) underlays, often with sealed laps and with no loft ventilation at all.

Research has shown that about 20% of the air that enters a building, and in particular dwellings, leaves via the roof with an additional moisture load, and that typically 80% of any water vapour transport into the roof is by air motions (convection) through the ceiling via gaps and cracks.

Condensation in the roof, taking place out of sight of the occupier, can cause serious damage, including severe structural weakening by wet or dry rot, loss of effectiveness of insulation, and damage to decoration through staining and mould growth.

### What causes condensation?

Warm air can hold more water vapour than cold air. Condensation begins when air temperature drops to the dew point, or when warm moist air comes into contact with a cold surface. Water vapour can pass through most building materials including brick, concrete, plaster and plasterboard (unlined), wood and insulation. Warm air from within the building, carrying water vapour, can pass through ceilings into roof spaces. Since the roof space is likely to be colder, condensation will occur as soon as the air meets a cold surface; this is termed the 'wetting-out phase'.

### Building regulations

All Building Regulations for the UK and the Republic of Ireland make requirements for the prevention of harmful effects caused by condensation in roofs.

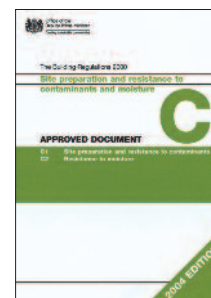
The relevant documents are:

*England and Wales:* Approved Document C2 2004 'Resistance to moisture'. (Approved Document F2 which previously covered roof ventilation has been withdrawn.)

*Scotland:* Technical Handbook Domestic Buildings Section 3.15.3 'Control of condensation in roofs'.

*Northern Ireland:* Technical Booklet C 'Site preparation and resistance to moisture'. Regulation C4 Section 2.8 'Pitched roofs'.

*Republic of Ireland:* Technical Guidance Document F 'Ventilation' 2009. Section 2 'Condensation in roofs'.



## ROOF VENTILATION REQUIREMENTS

### Meeting the requirements

All the regulations supporting documents throughout the UK and Ireland now cite BS 5250: 2011 'Code of practice for control of condensation in buildings' incorporating Amendment 1: 2005 as the main means of compliance.

Section 8.4 refers to roofs and is subdivided into cold roofs with large voids above horizontal insulation and warm roofs with small or no voids above sloping insulation.

The harmful effects of condensation can be controlled by the ventilation provisions shown here.

#### Notes to drawings:

Figures are given in 000s of  $\text{mm}^2$  per metre, eg 5 =  $5000\text{mm}^2/\text{m}$ .

- Impermeable underlays (type HR)
- Vapour permeable underlays (type LR)
- Vapour control layer

### WARM ROOFS

#### With small or no voids above sloping insulation

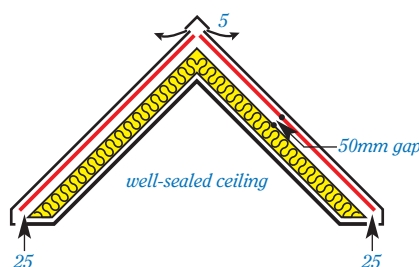
##### Impermeable underlays (type HR)

##### All roof types

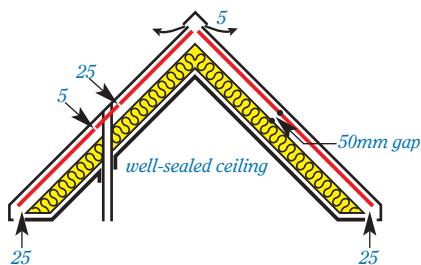
All roof pitches:

Ventilation beneath the underlay and above the insulation of  $25\ 000\text{mm}^2/\text{m}$  at eaves or low level and  $5000\text{mm}^2/\text{m}$  at ridge or high level.

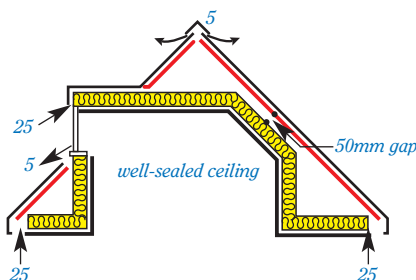
A 'well-sealed ceiling' must be provided as defined by BS 5250 clause H.3.2, and a separate vapour control layer on the warm side of the insulation. The space between the underlay and insulation should be at least 50mm deep with a minimum of 25mm at the centre of underlay drap.



Obstructions such as dormers, valleys, roof windows, compartment walls, fire barriers and changes in pitch create separate voids below the roof slope. Provide ventilation openings to each void at high and low level as shown in the examples.



Ventilation at compartment walls or fire barriers



Room in the roof construction

##### Vapour permeable underlays (type LR)

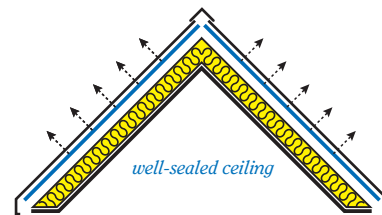
##### All roof types with a vapour control layer

All roof pitches:

No ventilation is required provided that there is -

A vapour permeable underlay, either fully supported on insulation or draped unsupported, a well-sealed ceiling, and a separate continuous and effectively sealed vapour control layer on the warm side of the insulation.

If there is any doubt about the ability to provide and maintain the vapour control layer, provide ventilation as if the underlay were impermeable (as above).



No ventilation required subject to conditions



## COLD ROOFS

### With large voids above horizontal insulation

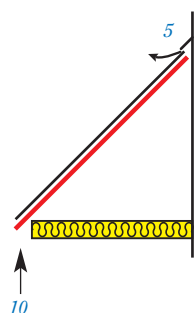
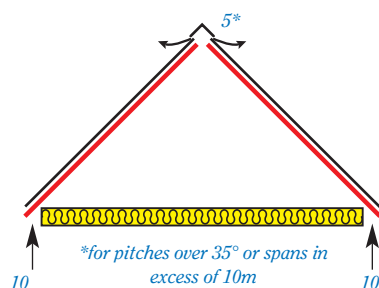
#### Impermeable underlays (type HR)

##### All roof types

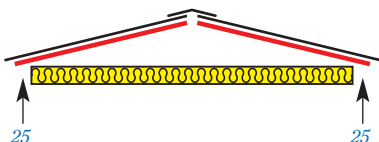
Roof pitch more than 15°

Ventilation beneath the underlay (or beneath timber sarking boards or sheets in Scottish practice) of 10 000mm<sup>2</sup>/m at eaves or low level.

Roof pitch above 35°, or monopitch or lean-to roofs, or where roof span exceeds 10m: Additional ventilation of 5000mm<sup>2</sup>/m at ridge or high level.



Roof pitch 15° or less:  
Ventilation beneath the underlay (or beneath timber sarking boards or sheets in Scottish practice) of 25 000 mm<sup>2</sup>/m at eaves or low level.



Flat roofs: ventilation of 25 000 mm<sup>2</sup>/m at two opposite roof edges.

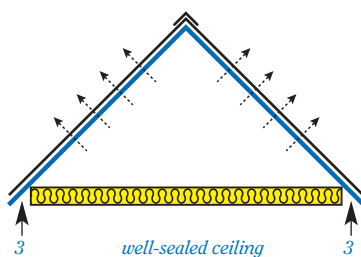
#### Vapour permeable underlays (type LR)

##### Dwelling-sized roofs

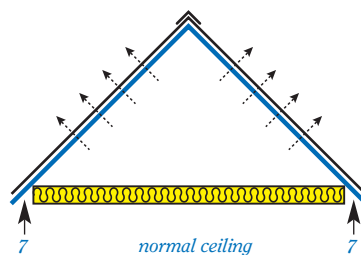
All roof pitches, with “well-sealed ceiling” as defined by BS 5250 clause H.3.2:

Ventilation beneath a vapour permeable underlay (or beneath sarking boards such as 150mm planks in Scottish practice) of 3000mm<sup>2</sup>/m at eaves or low level.

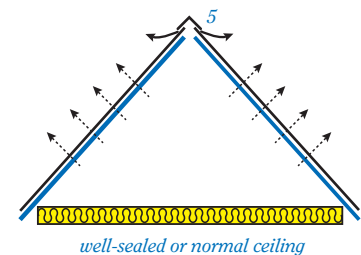
This reduction is possible due to the vapour permeability of the underlay.



All roof pitches, with ceiling not well-sealed (likely in re-roof situations):  
Ventilation of 7000mm<sup>2</sup>/m at eaves or low level.



Alternative solution (all ceilings):  
Ventilation of 5000mm<sup>2</sup>/m at ridge or high level only.

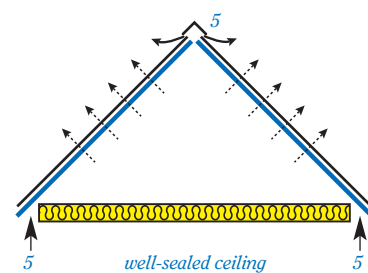


#### Vapour permeable underlays (type LR)

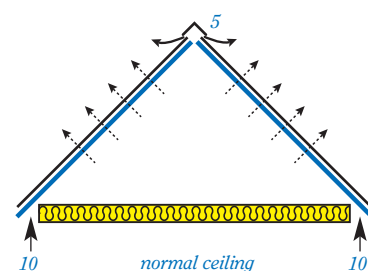
##### Larger than dwelling-sized roofs

All roof pitches, with “well-sealed ceiling” as defined by BS 5250 clause H.3.2:

Ventilation beneath a vapour permeable underlay (or beneath sarking boards such as 150mm planks in Scottish practice) of 5000mm<sup>2</sup>/m at eaves or low level plus ventilation of 5000mm<sup>2</sup>/m at ridge or high level.



All roof pitches, with ceiling not well-sealed (likely in re-roof situations):  
Ventilation of 10 000mm<sup>2</sup>/m at eaves or low level plus ventilation of 5000mm<sup>2</sup>/m at ridge or high level.



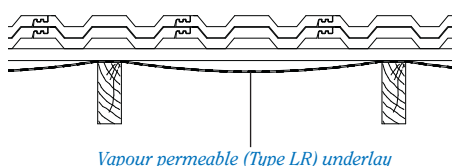
## ROOF VENTILATION REQUIREMENTS

### OTHER CONSIDERATIONS

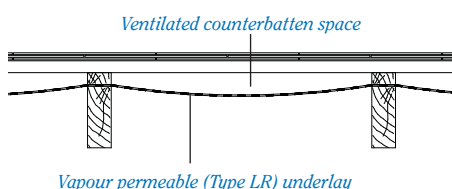
#### Roof coverings and batten space ventilation using vapour permeable underlays (type LR)

Where vapour permeable underlays (type LR) are used in both cold and warm roofs to contribute to the control of condensation, they do so by allowing water vapour to escape through the material by diffusion. It is important that this water vapour can escape through the roof covering to atmosphere from the tiling batten space. BS 5250 defines the level of air openness required of the roof covering and the test method. Traditional concrete and clay tiles should be sufficiently air open, but advice should be sought from the roof covering manufacturer/supplier.

#### Roof covering sufficiently air-open



#### Roof covering insufficiently air-open



For roof coverings that do not meet the required air openness, provide a counterbatten space at least 25mm deep, with ventilation of 25 000mm<sup>2</sup>/m at eaves or low level and 5000mm<sup>2</sup>/m at ridge or high level. This is in addition to the ventilation already specified for cold and warm roofs.

With impermeable underlays (type HR) this ventilation is unnecessary as there will be relatively little moisture transfer from within the building to the batten space.

### Other recommendations

To achieve good air circulation within any ventilated large void in a roof, openings should be placed on the longer sides of a roof; if this is not possible, provide equivalent openings on the shorter sides that will allow good through ventilation, avoiding stagnant air pockets.

The entry of rain, snow, birds and large insects should be prevented. The latter can be achieved by a nominal 4mm mesh/grille, which will also avoid excessive airflow resistance.

Ventilation openings should provide a continuous weatherproof path between the roof space and the outside air without compromising the weatherproof function of the underlay or the roof covering.

Both vapour permeable (type LR) and impermeable (type HR) underlays with a smooth underside can cause problems from condensate run-off. Underlays which can hold or absorb moisture on their underside and re-evaporate it when conditions are more favourable are preferable.

### Sealed ceilings

Sealing the ceiling of any building will reduce both moisture transfer and heat loss, thus minimising the risk of condensation in the roof. However, a totally airtight ceiling is extremely difficult to achieve in practice. A "well-sealed ceiling" is more possible but requires high standards of workmanship by the trades involved installing plasterboard or other ceilings, plumbing and electrical services. It is important to consider at design stage how construction details can be achieved that are robust over the lifetime of the building. For more detailed information on well-sealed ceilings please refer to the Glidevale White Paper on the subject.

When existing buildings are being refurbished or re-roofed, the advantages of improving the existing ceiling should be considered. It may, however, not be possible to achieve a well-sealed ceiling and that should be borne in mind when determining the form of construction and ventilation provision.

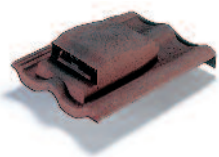
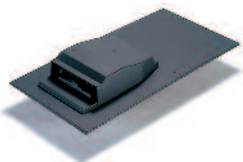
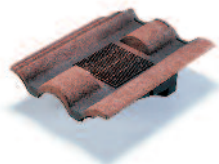
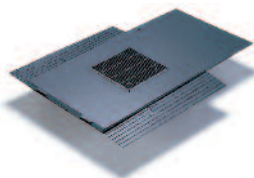


Vapour permeable underlay (type LR) with smooth underside showing condensate run-off and dripping



Impermeable underlay (type HR) with flocked underside showing condensate being held

## TILE AND SLATE VENTILATORS IN-LINE® AND G RANGE



### Description

Designed to ventilate through the roof slope and form an integral part of a tile or slate roof covering.

**IN-LINE® Tile and Slate Ventilators** (pages 7-9) have been designed to provide an aesthetic and unobtrusive solution with a recessed ventilation opening. Provide up to 10 000mm<sup>2</sup>.

**G Range Ventilators** (pages 7, 10-12) are a more economical general-purpose cowl range, offering a wider range of tile and slate matching. Provide up to 20 000mm<sup>2</sup>.

### Applications

At low level or high level where the roof construction does not allow eaves or ridge ventilators to be used.

Where compartment walls or fire break walls obstruct airflow.

In complex roof shapes where effective cross-ventilation is not possible.

As terminals for soil vent pipes or mechanical extract ventilation (with accessories).

Suitable for flat or profiled interlocking tiles, plain tiles, and interlocking and double-lap slates.

### Advantages

- Colour-matched to blend in with adjacent tiles or slates as standard, making the ventilators almost indiscernible once installed.
- Can be installed wherever they are required as part of the normal tiling/slating process.
- Driving rain and deluge rain resistance demonstrated by test data.
- AA fire rating to BS 476: Part 3: 2004.
- Underlay opening protector, integral 4mm insect screen, and ventilator throat or extension sleeve meet design requirements of BS 5250.
- Designed and developed under BS EN ISO 9001.

### IN-LINE®

- Narrow grille section set into the base, giving an unobtrusive profile which does not interrupt the roof slope.
- Concealed baffles catch any wind-driven rain or snow that might penetrate the grille, and return it via positive drainage channels to the roof slope. Free draining design prevents ponding within the ventilator.
- Integral hidden tail clips on interlocking profiles mechanically secure the ventilators to adjacent tiles for maximum wind uplift resistance.

### G Range

- Wide range of profiles matching products of all tile manufacturers in the UK and Ireland, and a wide range of slate sizes (see page 31).
- Colour blending service for unusual tiles and slates, specials, and old weathered tiles and slates.
- The smallest, least obtrusive cowls available for the air capacity.

### Authority

Can be used to comply with the following requirements (see References):

**Roof space ventilation:** Building Regulations Approved Document C2, BS 5250, and BS 5534.

**Soil vent pipes:** Building Regulations Approved Document H.

**Mechanical ventilation:** Building Regulations Approved Document F.

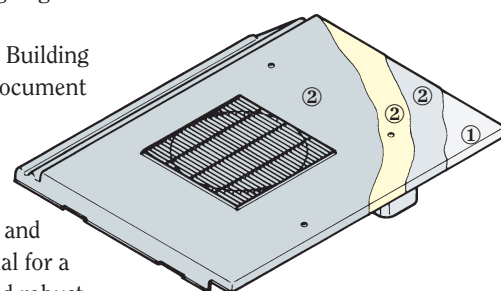
### Composition, manufacture

Manufactured from ABS and VO fire-retardant material for a high quality of finish and robust construction. All exposed surfaces are treated as shown.

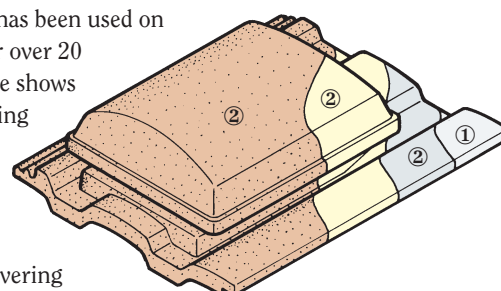
This surface treatment has been used on Glidevale Ventilators for over 20 years, and after this time shows only a marginal lightening of shade which is usually counteracted by the effect of atmospheric pollution on the roof covering itself.

- ① ABS fire-retardant base material
- ② Multi-coats of a water based environmentally friendly uv-resistant coating to provide a colour match to existing, or proposed roof tiles/slates.

### IN-LINE®



### G Range



## IN-LINE® TILE & SLATE VENTILATORS

### Specification clauses

#### Ventilation of roof space

Provide low level/high level roof space ventilation by means of Glidevale IN-LINE Tile/Slate Ventilators with integral 4mm large insect screen, and AA fire rating to BS 476: Part 3: 2004. Size/profile \_\_\_\_, colour \_\_\_\_ (matched to the roof covering), and to be installed complete with Glidevale Underlay Opening Protectors. Install at \_\_\_\_ m centres as shown on drawings to provide ventilation area equivalent to \_\_\_\_mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Fix in accordance with manufacturer's instructions.

#### SVP/mechanical extract terminals

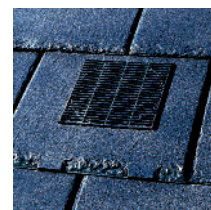
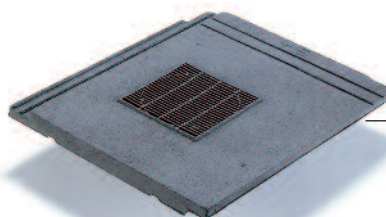
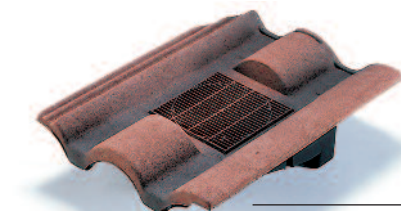
Soil vent pipe stacks/mechanical extract ducts to be terminated at the roof slope by means of Glidevale IN-LINE Tile/Slate Ventilators with integral 4mm large insect screen, and AA fire rating to BS 476: Part 3: 2004. Size/profile \_\_\_\_, colour \_\_\_\_ (matched to the roof covering), and to be installed with Glidevale Underlay Opening Protector, Soil Universal Adaptor and Flexible Pipe. Install where shown on drawings and fix in accordance with manufacturer's instructions. All joints and connections to be airtight in accordance with Building Regulations Approved Document H 2002, and all pipes and ducts in the roof space to be insulated.

### Appearance

IN-LINE® Tile and Slate Ventilators are available for use with the roof tile manufacturers' profiles listed on page 31, colour-matched to any of the standard colours for that tile. Other profiles available on request.

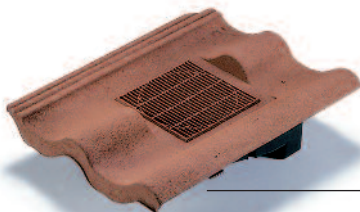
Tile ventilators have silica sand entrained in the polymeric resin surface to help them to weather more closely with the surrounding tiles over time. Slate ventilators have a smooth surface.

### Examples of ventilators, with tiles/slates for which they are designed to be compatible



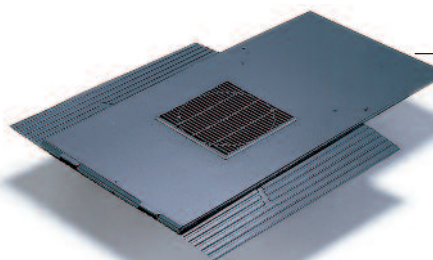
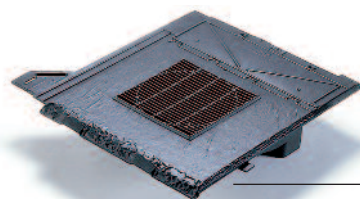
**Redland Mini Stonewold and Stonewold Mk II tiles**

**Redland Regent tiles**



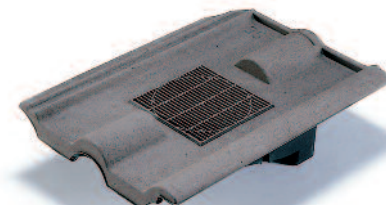
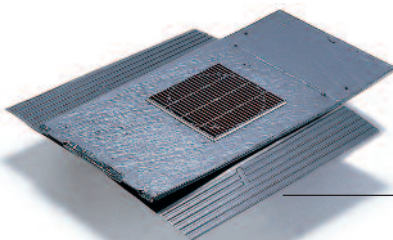
**Plain tiles**

**Marley Mendip Double Pantiles**



**600 x 300mm slate**

**Redland Cambrian slate**



**Redland 50/Double Roman tiles**

**500 x 250mm slate**

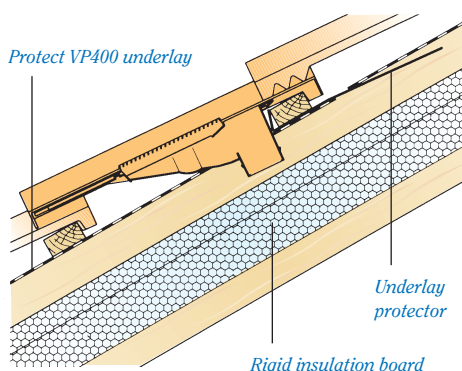


### Interlocking Tile Ventilators

Guaranteed actual nett free ventilation area:  
10 000mm<sup>2</sup>  
Spacing centres to achieve ventilation area of  
5000mm<sup>2</sup>/m: 2.0m  
10 000mm<sup>2</sup>/m: 1.0m  
Minimum pitch: 22.5° unless otherwise  
stated

Airflow resistance when used as SVP/extract  
terminal:  
54m<sup>3</sup>/hr (15 litres/sec) 10Pa  
108m<sup>3</sup>/hr (30 litres/sec) 42Pa  
216m<sup>3</sup>/hr (60 litres/sec) 162Pa

### Roof ventilation: profiled interlocking Tile Ventilator, insulation at rafters

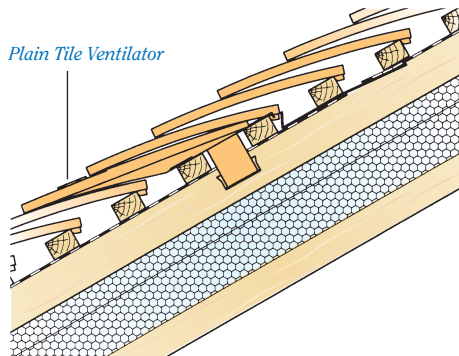


### Plain Tile Ventilators

Guaranteed actual nett free ventilation area:  
7500mm<sup>2</sup>  
Spacing centres to achieve ventilation area of  
5000mm<sup>2</sup>/m: 1.5m  
10 000mm<sup>2</sup>/m: 0.75m  
Minimum pitch: 35°

Airflow resistance when used as SVP/extract  
terminal  
54m<sup>3</sup>/hr (15 litres/sec) 7Pa  
108m<sup>3</sup>/hr (30 litres/sec) 28Pa  
216m<sup>3</sup>/hr (60 litres/sec) 109Pa

### Roof ventilation: plain Tile Ventilator, insulation at rafters

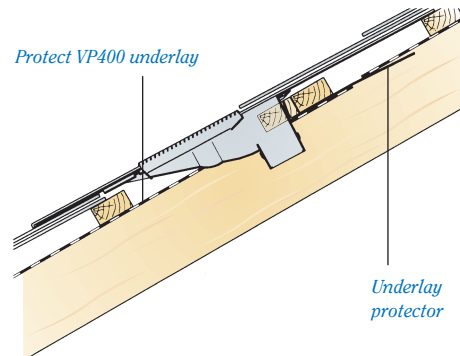


### Slate Ventilators

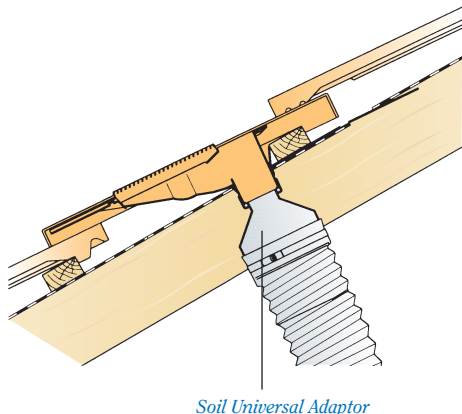
Guaranteed actual nett free ventilation area:  
10 000mm<sup>2</sup>  
Spacing centres to achieve ventilation area of  
5000mm<sup>2</sup>/m: 2.0m  
10 000mm<sup>2</sup>/m: 1.0m  
Minimum pitch: 20° unless otherwise stated

Airflow resistance when used as SVP/extract  
terminal:  
54m<sup>3</sup>/hr (15 litres/sec) 10Pa  
108m<sup>3</sup>/hr (30 litres/sec) 42Pa  
216m<sup>3</sup>/hr (60 litres/sec) 162Pa

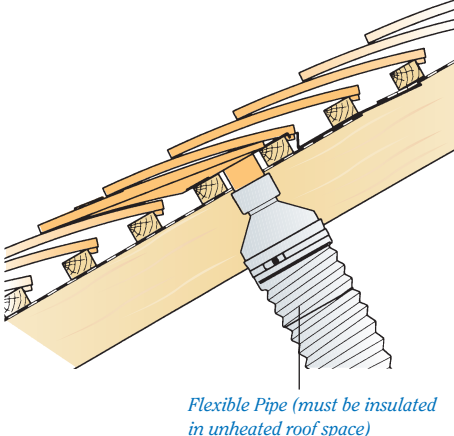
### Roof ventilation: double lap Slate Ventilator, insulation at ceiling level



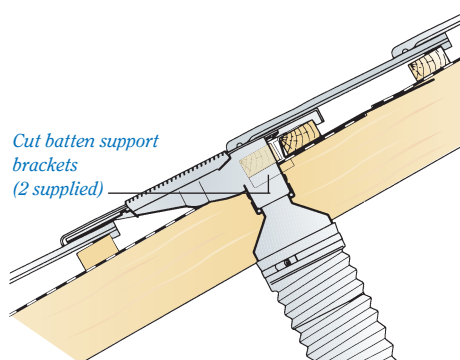
### SVP/extract terminal: flat interlocking Tile Ventilator



### SVP/extract terminal: plain Tile Ventilator



### SVP/extract terminal: Marley Monarch Slate Ventilator



SUA Pipe Adaptor



Flexible Pipe  
(for soil vent or extract  
terminal)

Scale 1:10

## G RANGE TILE AND SLATE VENTILATORS

### Specification clauses

**Ventilation of roof space**  
Provide low level/high level roof space ventilation by means of Glidevale G1/G3/G5 Tile/Slate Ventilators with integral 4mm large insect screen and AA fire rating to BS 476: Part 3: 2004.  
Size/profile \_\_\_\_\_ colour \_\_\_\_\_ (matched to tiles/slates), and to be installed complete with Glidevale Extension Sleeves and Underlay Opening Protectors.  
Install at \_\_\_\_ m centres as shown on drawings to provide ventilation area equivalent to \_\_\_\_\_mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011.  
Fix in accordance with manufacturer's instructions.

### SVP/mechanical extract terminals

Soil vent pipe stacks/Mechanical extract ventilation ducts to be terminated at the roof slope by means of Glidevale G1/G3/G5 Tile/Slate Ventilators, with integral 4mm large insect screen and condensate grooves, and AA fire rating to BS 476: Part 3: 2004.  
Size/profile \_\_\_\_\_ colour \_\_\_\_\_ (matched to tiles/slates), to be installed complete with Glidevale Underlay Opening Protector, Universal Pipe Adaptor and Flexible Pipe.  
Install where shown on drawings and fix in accordance with manufacturer's instructions. All joints and connections to be airtight in accordance with Building Regulations Approved Document H, and all pipes and ducts in the roof space to be insulated.

### Appearance

The ventilators match the roof tiles or slates in size, shape and colour, and all types are available for tiles or slates. See page 31 for full range of profiles.

Tile and ridge ventilators have silica sand entrained in the polymeric resin surface, to help weather more closely with the surrounding tiles over time. Slate ventilators have a smooth finish.

### Roof pitch

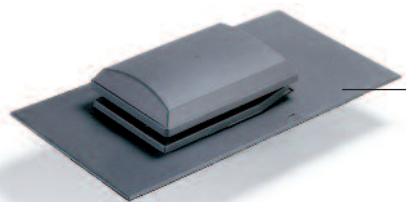
G Range Tile and Slate Ventilators are suitable for roof pitches between 20° and 60°. For other pitches consult our Technical Department.

### Glidevale Underlay Opening Protector

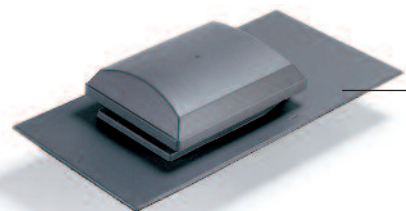
Supplied with every tile and slate ventilator to maintain the function of the underlay where it is cut to allow for the Universal Extension Sleeve. Any moisture that may penetrate the roof covering higher up the slope and run down the underlay is safely diverted round the opening, in compliance with BS 5250.



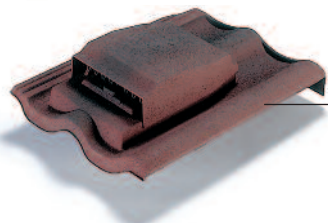
G1 Slate Ventilator



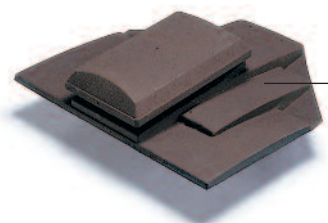
G3 Slate Ventilator



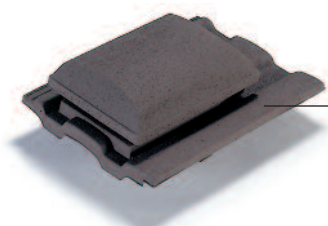
G5 Slate Ventilator



G1 Tile Ventilator



G3 Tile Ventilator



G5 Tile Ventilator

### Glidevale Universal Extension Sleeve

Should always be used with all tile and slate ventilators. It ensures that the roof underlay is cut and that there is a continuous permanent weatherproof path from the roof void to the outside without impairing the weatherproof function of the structure, in accordance with BS 5250.

Supplied separately and snap-fits to the underside of the ventilator on site before the ventilator is installed.



### G1 Tile and Slate Ventilator

The low-profile traditional cowl design projects only 69mm above the roof surface.

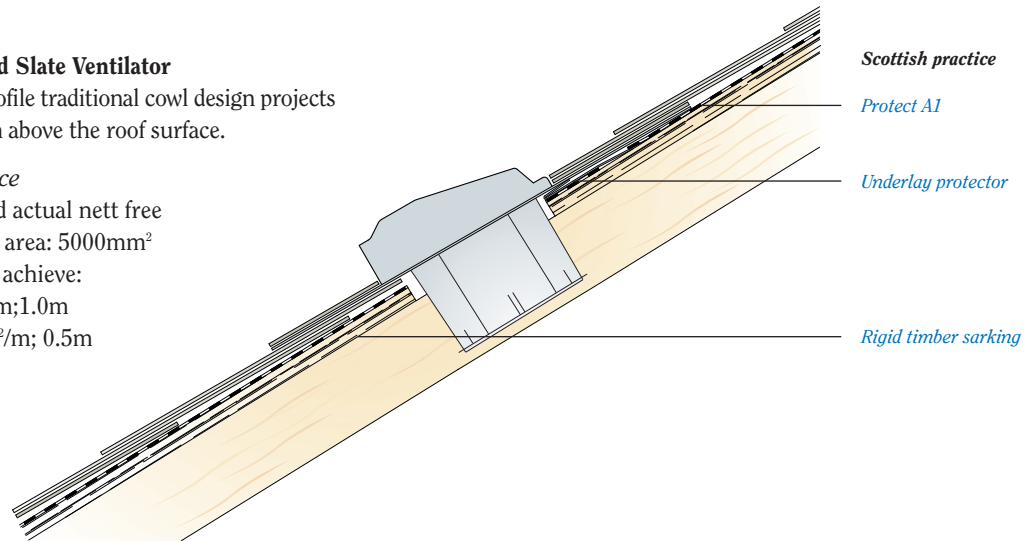
#### Performance

Guaranteed actual nett free ventilation area: 5000mm<sup>2</sup>

Spacing to achieve:

5000mm<sup>2</sup>/m; 1.0m

10 000mm<sup>2</sup>/m; 0.5m



### G3 Tile and Slate Ventilator

The low-profile cowl mirrors the popular G5 on a smaller scale, enabling use at high level in conjunction with G5 Ventilators at low level.

#### Performance

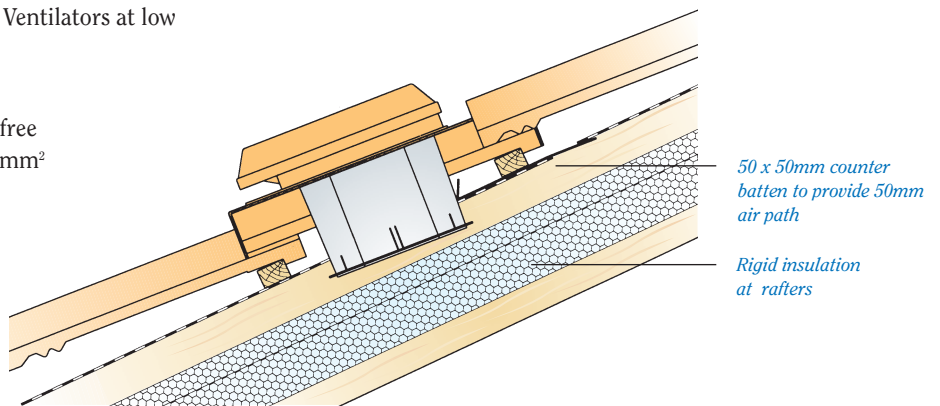
Guaranteed actual nett free ventilation area: 10 000mm<sup>2</sup>

Spacing to achieve:

5000mm<sup>2</sup>/m; 2.0m

10 000mm<sup>2</sup>/m; 1.0m

25 000mm<sup>2</sup>/m; 0.4m



### G5 Tile and Slate Ventilator

The low-profile cowl is geometrically the smallest available in the marketplace for the air capacity, projecting only 85mm above the roof surface.

Not recommended for high-level use as its large air capacity and wide spacing would tend to leave stagnant air pockets between units (warned against in BS 5250).

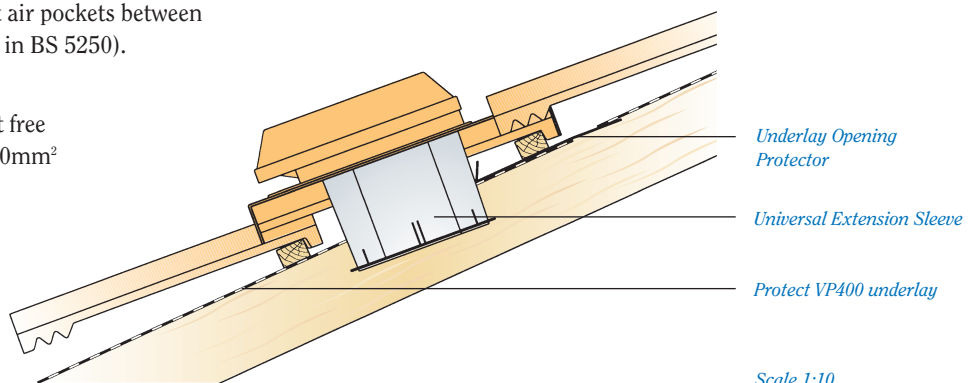
#### Performance

Guaranteed actual nett free ventilation area: 20 000mm<sup>2</sup>

Spacing to achieve:

10 000mm<sup>2</sup>/m; 2.0m

25 000mm<sup>2</sup>/m; 0.8m



## G RANGE TILE AND SLATE VENTILATORS



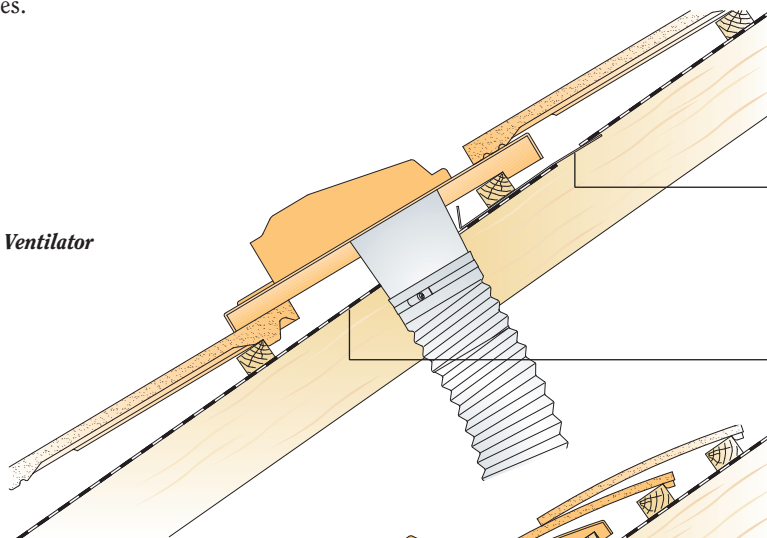
### Soil vent pipe/mechanical extract

G Range ventilators can be used as terminals for soil vent stacks or mechanical extract ventilation ducts. Condensation grooves prevent any condensate running back down the duct. Not suitable for boiler flues.

### Glidevale 110 Pipe Adaptor

Supplied separately, snap-fits to the Ventilator and connects to Glidevale Flexible Pipe to ensure an airtight connection complying with Building Regulations Approved Document H.

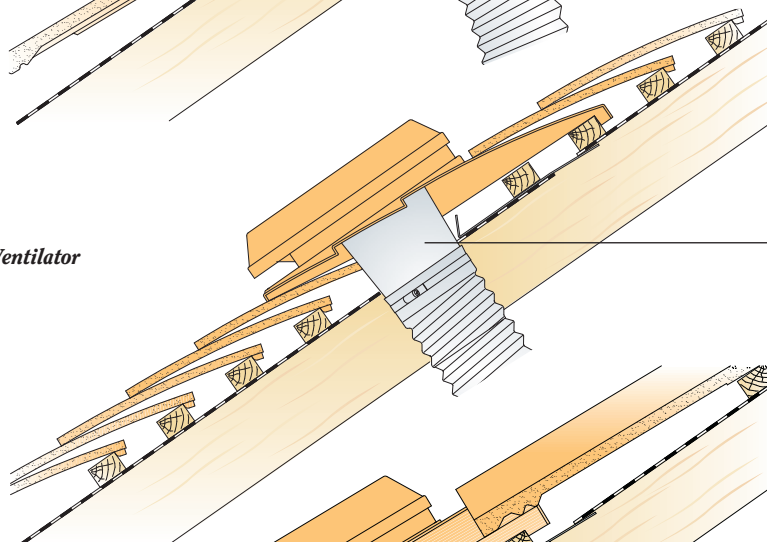
**G1 Ventilator**



*Underlay opening Protector*

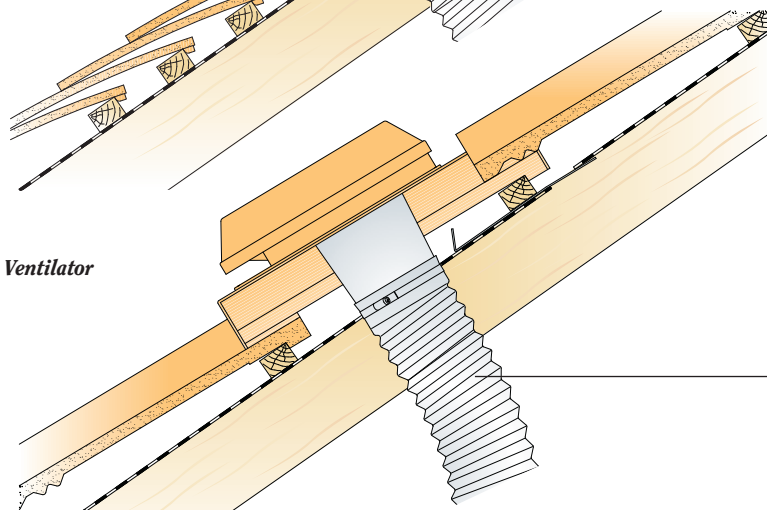
*Protect VP400 Underlay*

**G3 Ventilator**



*110 Pipe Adapter*

**G5 Ventilator**



*Flexible Pipe (must be insulated in unheated roof space)*

*Scale 1:10*

### Performance

Airflow resistance when used as SVP/extract terminals:	<b>G1</b>	<b>G3</b>	<b>G5</b>
54m <sup>3</sup> /hr (15 litres/sec)	18Pa	2.5Pa	0.8Pa
108m <sup>3</sup> /hr (30 litres/sec)	70Pa	11Pa	2.6Pa
216m <sup>3</sup> /hr (60 litres/sec)	262Pa	42.5Pa	11.5Pa



## FULMETAL REDIROLL VENTILATED DRY RIDGE/HIP



### Description

Glidevale Fulmetal Rediroll is an innovative universal dry-fixed ventilated ridge and hip system.

Manufactured from aluminium, the Fulmetal Rediroll overcomes the durability and weathering problems associated with fabric-based systems.

### Applications

A universal solution suitable for all ridge and hip tiles and all roof tiles and slates.

Can be used to provide a ventilation area equivalent to 5000mm<sup>2</sup>/m (except with plain wing angle ridges).

### Authority

Can be used to comply with roof space ventilation requirements of Building Regulations Approved Document C2 and BS 5250.

### Advantages

- Provides ventilation between ridge tiles even on flat roof tiles and slates.
- All-aluminium construction is rot-proof, durable and corrosion-resistant.
- Ventilated, but driving rain resistant.
- Unique weatherproof design avoids the need for ridge unions.
- Unique stainless steel clip system provides mechanical fixing of the ridge tiles and correct spacing to ensure an even appearance.
- Handy 6m pack contains all components needed to install the system.
- Quick and easy to install, no special tools required.

### Size

300mm wide.

### Appearance

Colours: red or grey to suit roof covering.

### Specification clause

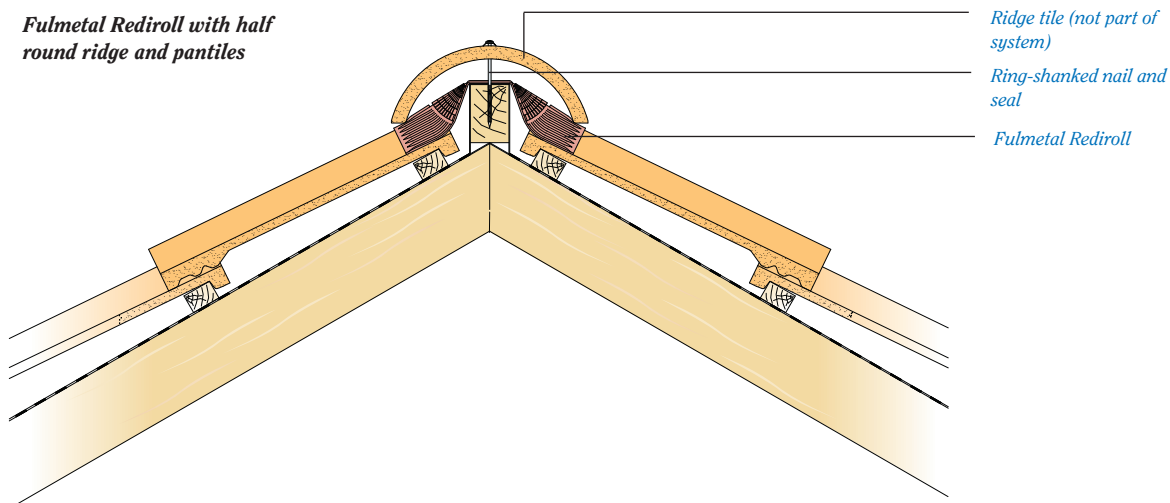
#### *Mechanically-fixed ventilated ridge and hip*

Provide mechanical fixing of ridge and hip tiles to BS 5534 together with high level roof ventilation by means of Glidevale Fulmetal Rediroll.

Fixing system to suit any tile type on both ridges and hips. Install continuously to provide ventilation area equivalent to 5000mm<sup>2</sup>/m\* to comply with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Fix in accordance with manufacturer's instructions.

\*For plain wing angle ridges please consult Glidevale Technical Services.

*Fulmetal Rediroll with half round ridge and pantiles*



## G RANGE RIDGE VENTILATORS

### Specification clauses

#### Ventilation of roof space

Provide high level roof space ventilation by means of Glidevale G51/G52/G53/G54/G64 Ridge Ventilators with integral 4mm large insect screen and AA fire rating to BS 476: Part 3: 2004. Profile \_\_\_\_\_, colour \_\_\_\_\_ (matched to ridge tiles), with detachable Extension Sleeves. Install at 2.4m centres to provide ventilation area equivalent to 5000mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Fix in accordance with manufacturer's instructions.

#### SVP/mechanical extract terminals

Soil vent pipe stacks/ Mechanical extract ducts to be terminated at the ridge by means of Glidevale G51/G52/G53/ G54/G64 Ridge Ventilators with integral 4mm large insect screen and AA fire rating to BS 476: Part 3: 2004. Profile \_\_\_\_\_, colour \_\_\_\_\_ (matched to ridge tiles), and to be installed complete with Ridge Pipe Adaptor and Flexible Pipe. Install where shown on drawings and fix in accordance with manufacturer's instructions. All joints and connections to be airtight in accordance with Building Regulations Approved Document H, and all pipes and ducts in the roof space to be insulated.

### Description

#### Glidevale Ridge Ventilators

have been designed to provide an aesthetic and unobtrusive solution to roof ventilation at ridge level.

### Applications

G Range ridge ventilators are used at intervals with proprietary ridge tiles, on bedded or dry ridges. All provide 5000mm<sup>2</sup>/m when suitably spaced.

They can also be used as soil vent pipe or mechanical extract terminals with separately supplied accessories.

### Advantages

- Provide a continuous, clean, unbroken ridge line.
- Extension sleeves ensure a clear air path from the roof void to the outside to meet the design requirements of BS 5250.
- 4mm large insect screen.
- Integral stainless steel fixing wire loops for added security.
- AA fire rating to BS 476: Part 3: 2004.
- Designed and developed under BS EN ISO 9001.
- High nett free ventilation area and low airflow resistance allow for an optimum spacing to avoid stagnant air pockets.
- Driving rain resistance demonstrated by test data. Baffles concealed below the ridge catch any wind-driven rain or snow that might penetrate the ventilation slots, and discharge it over the roof covering below.
- Integral end sockets restrain the ridge ventilator under adjacent ridge tiles for maximum wind uplift resistance.
- Colour-matched surface with the ventilation slots on each side, making them almost indistinguishable from standard ridge tiles once installed.

- Upper surface incorporates condensation grooves which divert on to the roof slope any condensate which may form on the underside of the vent preventing it from falling back down the duct.

### Authority

Can be used to comply with the following requirements (see References):

*Roof space ventilation:* Building Regulations Approved Document C2, BS 5250, and BS 5534.

*Soil vent pipes:* Building Regulations Approved Document H.

*Mechanical ventilation:* Building Regulations Approved Document F.

### Composition, Manufacture

Manufactured from ABS fire-retardant material, finished as described on page 7.

All Glidevale Ridge Ventilators are supplied with a push-fit extension sleeve.

### Performance

Airflow resistance when used as SVP/extract terminals

	Pipe diameter	
	100mm	125mm
54m <sup>3</sup> /h (15 litres/sec)	2Pa	3Pa
108m <sup>3</sup> /h (30 litres/sec)	8Pa	10Pa
216m <sup>3</sup> /h (60 litres/sec)	29Pa	37Pa

### Appearance

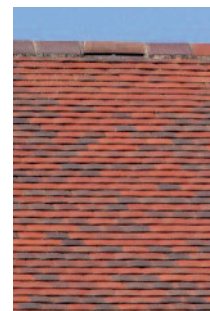
G Range is available for use with tile manufacturers' profiles listed opposite, matched to any available colour.

### Performance

Guaranteed actual nett free ventilation area: 12 000mm<sup>2</sup>

Spacing to achieve 5000mm<sup>2</sup>/m: 2.4m

Maximum pitch when used with dry ridge systems: G51 45°, G53 40°, G54 40°, G64 45°.



Detachable Extension Sleeve



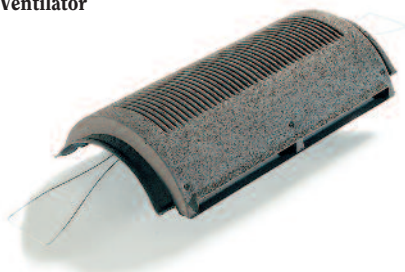
Ridge Pipe Adaptor



Flexible Pipe  
(for soil vent or  
extract terminal)

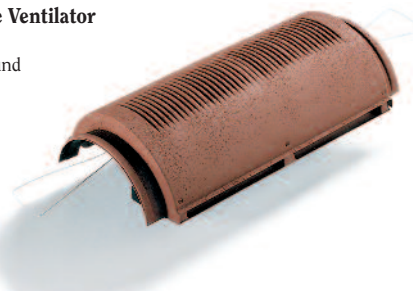
### G51 Half Round Ridge Ventilator

Redland Half Round ●  
 Russell Half Round ●  
 Sandtoft Half Round  
 Weatherwell Half Round  
 Roadstone Half Round ●  
 Scott Half Round ●  
 Scotcem Half Round  
 Quinn Half Round  
 Hawkins Half Round  
 Anchor Half Round  
 Condron Half Round  
 Ballymena Half Round



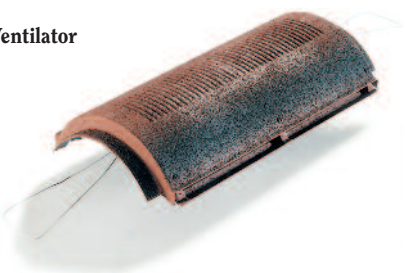
### G52 Half Round Ridge Ventilator

Eternit Clay Half Round  
 Redbank 200mm Half Round  
 Keymer Half Round  
 Goxhill Clay Half Round ●



### G53 Segmental Ridge Ventilator

Marley Segmental ●  
 Sandtoft Segmental  
 Morrissey Segmental



### G64 Angle Ridge Ventilator

Redland Universal Angle ●



### G54 Angle Ridge Ventilator

Marley Modern Angle ●



### G103 Legged Angle Ridge Ventilator

Sandtoft Legged Angle ●  
 Richmond Universal Angle ●



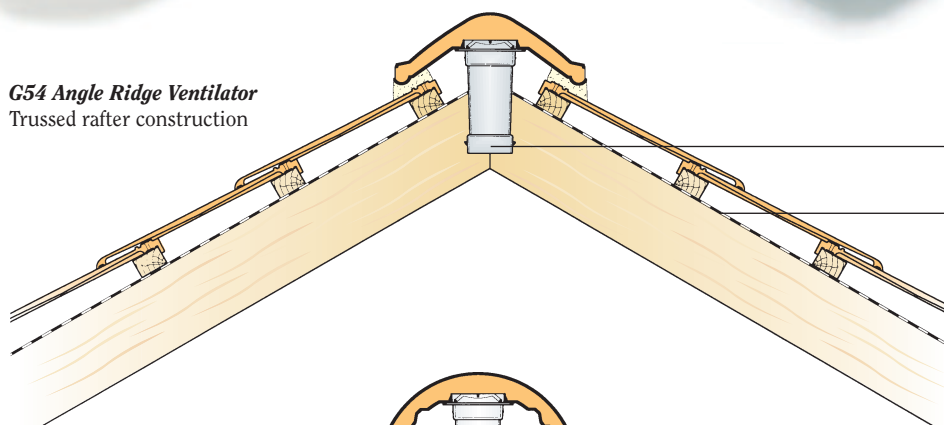
### Compatible with:

- Russell/Scott Dry Ridge System
- Redland Dry Vent Ridge System
- Marley Dry Fix Ridge System.
- Goxhill Ventilated Dry Ridge System
- Sandtoft Ventilated Dry Ridge System

*Company names and product descriptions are the registered trade marks of the relevant manufacturer.*

### G54 Angle Ridge Ventilator

Trussed rafter construction

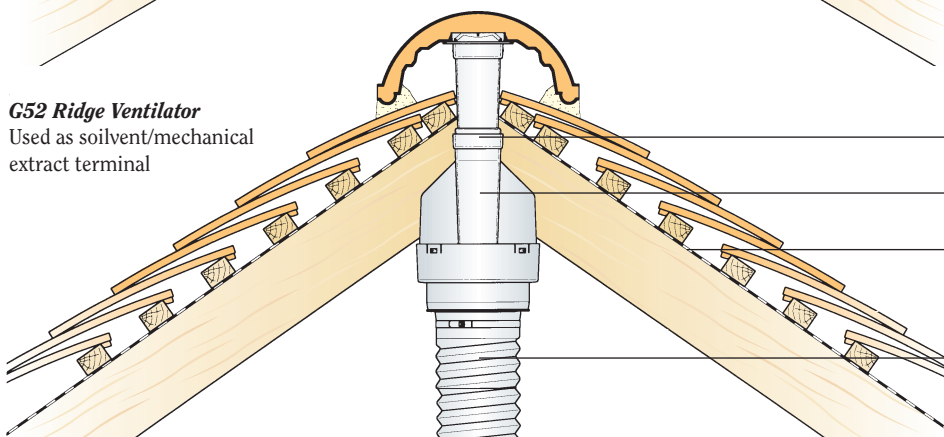


Detachable Extension Sleeve

Protect VP400 Underlay

### G52 Ridge Ventilator

Used as soilent/mechanical extract terminal



Detachable Extension Sleeve

G501 Ridge Pipe Adaptor (supplied separately)

Protect VP400 Underlay

Flexible Pipe (must be insulated in unheated roof space)



## FV FASCIA VENTILATORS

### Description, Applications

FV Fascia Ventilators are an unobtrusive method of providing ventilation in a range of eaves details, including those without a projecting soffit. They must always be used with RV Rafter Ventilators (page 22), to provide a continuous ventilation path from the roof void to the outside without impairing the weatherproof function of the structure, as required by BS 5250. They can also be used in situations where detailing is difficult and tile or slate ventilators are inappropriate, eg parapet walls, secret gutters, corbelled eaves and monopitch ridges. FV250 Ventilator can also be used for flat roofs.

### Advantages

- Internal design provides effective resistance to both driving rain and large insects.
- Unobtrusive when fitted, hidden by gutter and roof covering.
- Can be used to provide ventilation above or below the underlay
- Patented gutter bracket spacers ensure correct airflow behind the gutter.
- Lightweight and durable.
- Quick and easy to install, with no special tools required.
- Compatible with all roof tile clips and eaves comb fillers.
- Modular lengths allow adjustment for fascia board inaccuracies.
- Position on the fascia minimises the risk of fire spread to the roof space.
- Integral dovetail joints ensure positive and continuous interlock between units.
- Do not affect the slating/tiling process.

### Authority

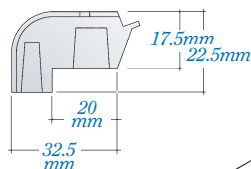
Can be used to comply with roof space ventilation requirements of Building Regulations Approved Document C2 and BS 5250 (see References).

### Composition, Manufacture

Injection moulded black polypropylene. Gutter bracket spacers neutral grey.

#### FV100 Over Fascia Ventilator

Installed continuously, provides guaranteed actual ventilation opening of 10 000mm<sup>2</sup>/m. Fit with gutter bracket spacers (supplied separately) where necessary.

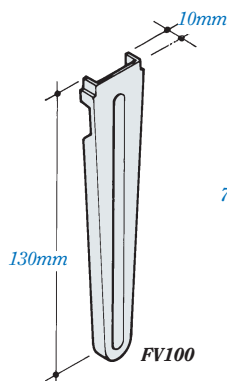
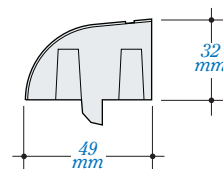


1000mm

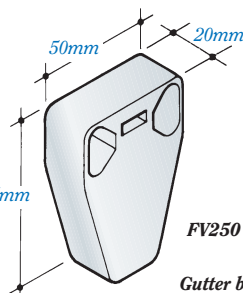
1000mm

#### FV250 Over Fascia Ventilator

Installed continuously, provides guaranteed actual ventilation opening of 25 000mm<sup>2</sup>/m. Fit with gutter bracket spacers supplied.



FV100



FV250

#### Gutter bracket spacers

Fitted behind gutter brackets to ensure an unrestricted air flow behind the gutter into the ventilator, and to ensure correct gutter positioning

### Scottish practice:

**Cold roof without soffit**  
Slate battens and counterbattens

RV601 Rafter Ventilator

Counterbatten

Protect roofing underlay

Slate batten

FV100 Fascia Ventilator

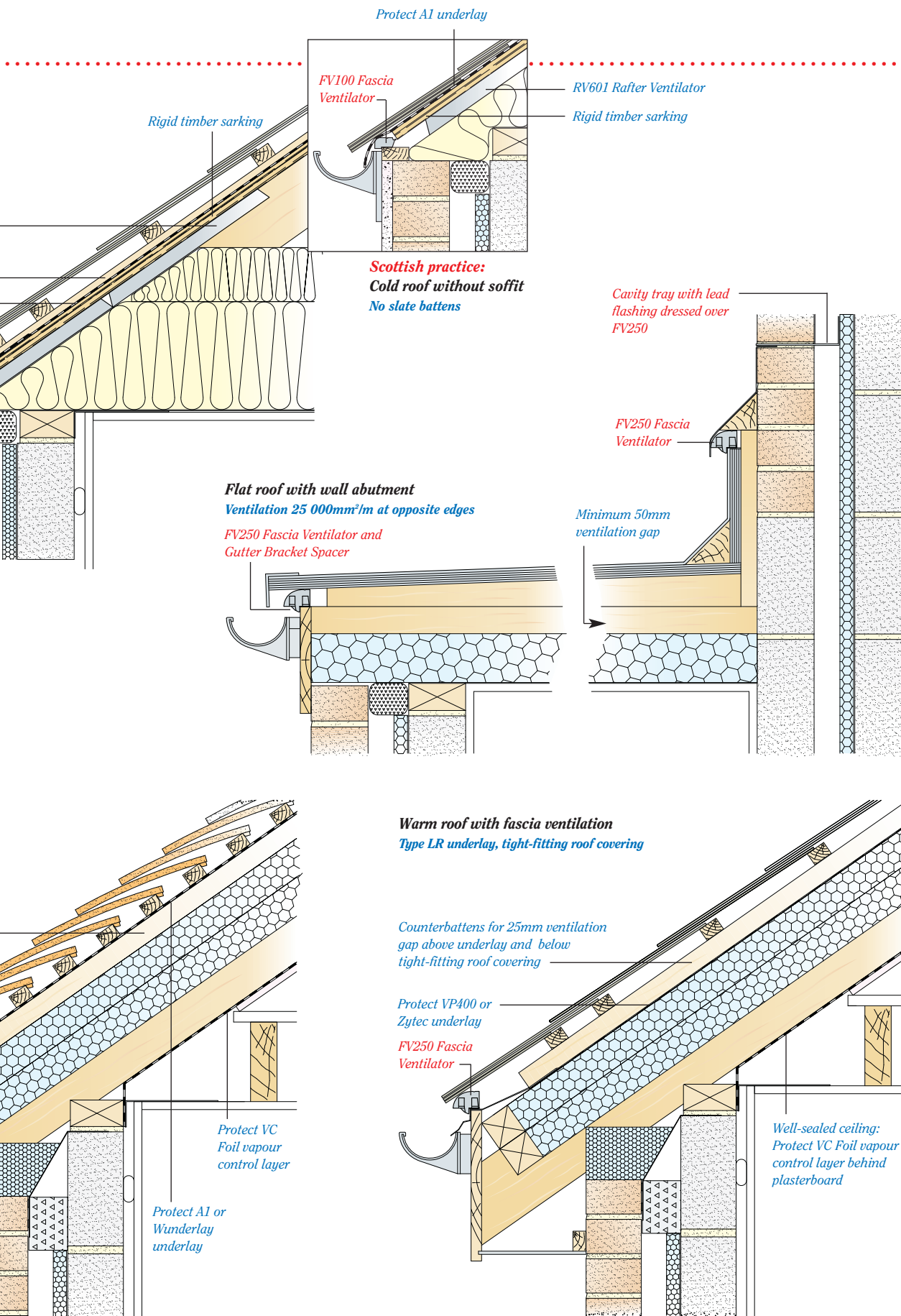
### Warm roof with fascia ventilation

Type HR underlay, ventilation  
25 000mm<sup>2</sup>/m

Counterbattens for 50mm ventilation gap above insulation and below underlay

FV250 Fascia Ventilator and Gutter Bracket Spacer





#### Specification clauses

##### Eaves

Install Glidevale FV100/ FV250 Fascia Ventilators to provide eaves ventilation to the roof space equivalent to \_\_\_\_ mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Ventilators to have internal pin arrangement for resistance to driving rain and large insects. Install continuously on the two long edges of the roof/along the edges of the roof as shown on drawings. Fix in accordance with manufacturer's instructions using gutter bracket spacers where necessary to ensure a clear air flow into the ventilator.

##### Monopitch ridge

Install Glidevale FV100 Ventilators at monopitch ridge to provide ventilation to the roof space equivalent to at least 5000mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Fix in accordance with manufacturer's instructions.

##### Flat roof

Install Glidevale FV250 Ventilators to provide ventilation to the roof space equivalent to 25 000mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Install continuously on the two long edges of the roof / along the edges of the roof / at all abutments to walls / as shown on drawings. Fix in accordance with manufacturer's instructions.

## SV SOFFIT VENTILATORS

### Description, Applications

SV Soffit Ventilators are for installation at eaves with a projecting soffit, and must always be used with RV Rafter Ventilators (page 20) to provide a continuous ventilation path from the roof void to the outside without impairing the weatherproof function of the structure, as required by BS 5250. SV120 and SV200 Soffit Ventilators are designed for easy installation in existing soffits, but can also be used in new work.

### Advantages

- Can be used with all common soffit board materials.
- Lightweight and durable.
- Quick and easy to install; no special tools required.
- Prevent large insect ingress.
- Independent of rafter spacing.
- Suitable for new roofs and refurbishment.
- Colours to match stained or painted soffit boards.

### Authority

Can be used to comply with roof space ventilation requirements of Building Regulations Approved Document C2 and BS 5250.

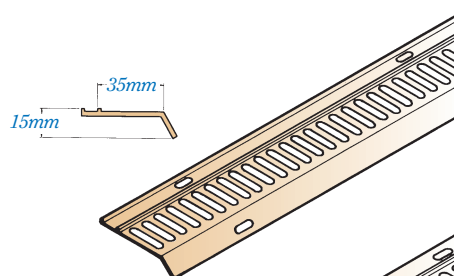
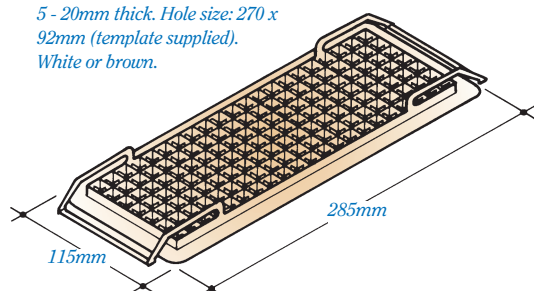
### Composition, Manufacture

All soffit strips are extruded PVC-U in 2.44m lengths.

SV120, SV200 and SV604E Joint Connectors are injection-moulded polypropylene.

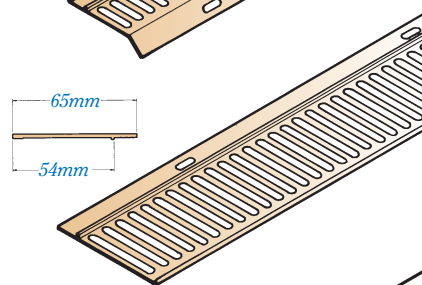
### SV120 Spring Wing

Provides guaranteed actual ventilation opening of 10 000mm<sup>2</sup>/m at 1.2m centres. Spring clip fixing. For soffit boards 5 - 20mm thick. Hole size: 270 x 92mm (template supplied). White or brown.



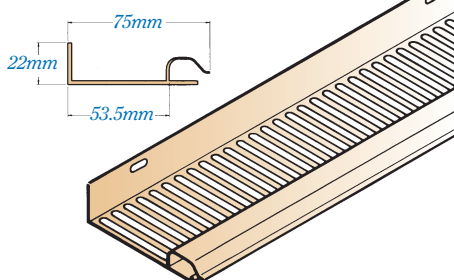
### SV606

Provides guaranteed actual ventilation opening of 10 000mm<sup>2</sup>/m. For sloping soffits; can also be used without a soffit board, butted up to brickwork. White or brown.



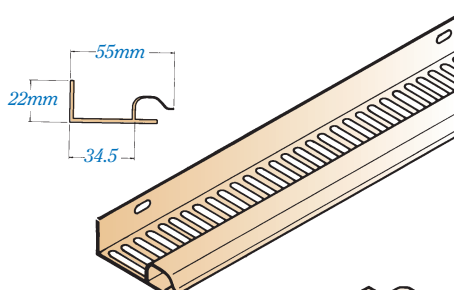
### SV608

Provides guaranteed actual ventilation opening of 25 000mm<sup>2</sup>/m. For thick section and narrow soffit boards and sloping soffit details. White or brown.



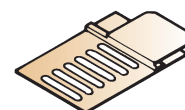
### SV609

Provides guaranteed actual ventilation opening of 25 000mm<sup>2</sup>/m. For soffit boards 6 - 10mm thick. White or brown.



### SV604E

Provides guaranteed actual ventilation opening of 10 000mm<sup>2</sup>/m. For soffit boards 6 - 10mm thick; will support a 6mm soffit board up to 300mm wide without additional noggings. Black, white or brown.

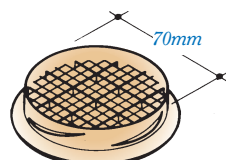


### SV604E Expansion Joint Connector

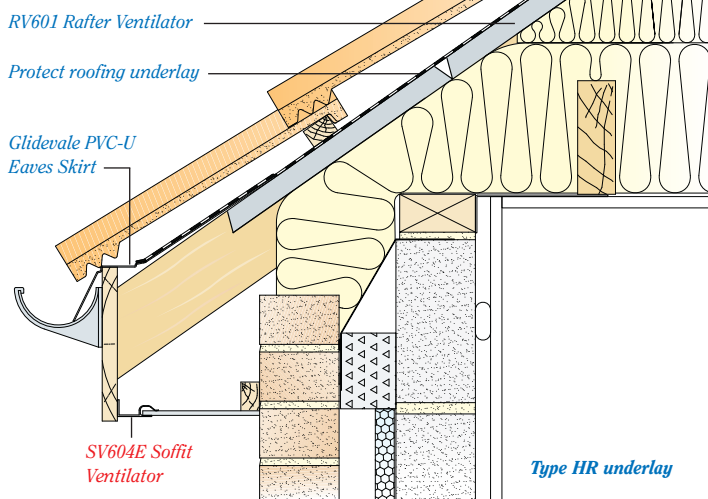
Supplied with SV604E to allow thermal movement at straight joints, internal and external corners. Improves appearance by concealing cut edges, maintains large insect protection, and simply clips into position. Black, white or brown.

### SV200 Twist and Lock

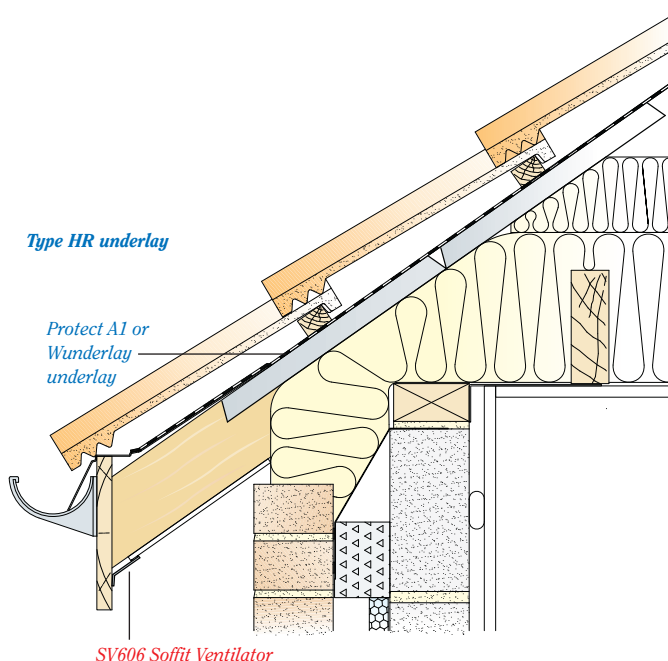
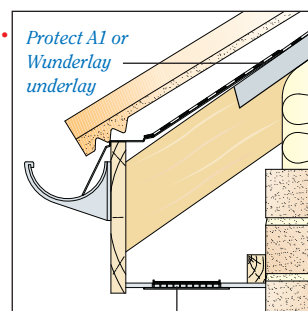
Provides guaranteed actual ventilation opening of 10 000mm<sup>2</sup>/m at 200mm centres. Unique twist action fixing. For soffit boards from 6mm thick. Hole size: 70mm diameter. Hole saw and fixing tool available. Black, white or brown.



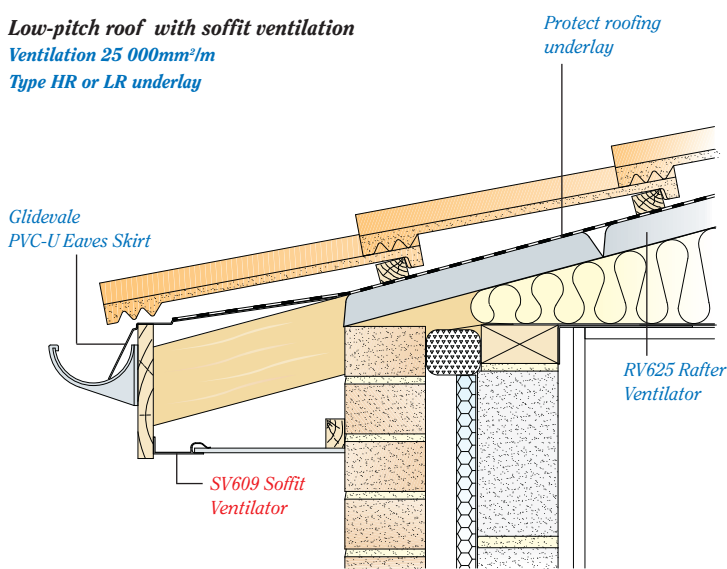
**Cold roof with soffit ventilation**  
Type HR or LR underlay



**Type HR underlay**



**Low-pitch roof with soffit ventilation**  
Ventilation 25 000mm<sup>2</sup>/m  
Type HR or LR underlay



**Specification clauses**

**Soffit strips**

Install Glidevale SV604E/ SV606/ SV608/ SV609 soffit ventilators to provide ventilation to the roof space equivalent to \_\_\_\_\_ mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Ventilators to be extruded PVC-U and designed to exclude large insects. Colour: black/ white/ brown. Install continuously on the two long edges of the roof / along the edges of the roof as shown on drawings. Fix in accordance with manufacturer's instructions. SV604E only: fit Joint Connectors at every straight joint and every corner.

**SV120 and SV200**

Install Glidevale SV120/SV200 soffit ventilators at \_\_\_\_\_ mm centres to provide ventilation to the roof space equivalent to \_\_\_\_\_ mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Ventilators to be moulded polypropylene and designed to exclude large insects. Colour: black/ white/ brown. Install on the two long edges of the roof / along the edges of the roof as shown on drawings. Fix in accordance with manufacturer's instructions.



## RV RAFTER VENTILATORS

### Design, Applications

RV Rafter Ventilators are designed to ensure a clear air path between roof underlay and insulation at all types of eaves, in accordance with Building Regulations Approved Document C2. They should be installed continuously with FV Fascia Ventilators (page 18) or SV Soffit Ventilators (page 20), to provide a continuous ventilation path from the roof void to the outside without impairing the weatherproof function of the structure, as required by BS 5250.

### Advantages

- Do not affect the slating/tiling process.
- Unique cross strengthening ribs on rafter trays prevent the underlay from sagging and blocking the airflow
- Reduce the risk of cold bridging by enabling insulation to be laid right into eaves.
- Lightweight and durable.
- Quick and easy to install, with no special tools required.

- Suit standard rafter spacings.
- Independent of SV and FV ventilators, enabling use with any depth of soffit.

### Authority

Can be used to comply with roof space ventilation requirements of Building Regulations Approved Document C2 and BS 5250.

### Composition, Manufacture

Vacuum-formed black PVC.

### Cold roof with fascia ventilation

Type HR or LR underlay

RV655 Rafter Tray

RV200 Rafter Roll

FV100 Fascia Ventilator

#### RV601F, RV451F, RV401F

Provides guaranteed actual ventilation opening of 10 000mm<sup>2</sup>/m. For eaves with an open soffit, integral 4mm insect screen complies with BS 5250: 2011. Use for rafter centres: 600mm RV601F 450mm RV451F 400mm RV401F

#### RV635, RV655

Universal rafter trays which adjust to the correct roof pitch and can be used in new-build, or in refurbishment without disturbing the roof covering. Provides guaranteed actual ventilation opening of 25 000mm<sup>2</sup>/m at 600mm rafter centres (RV655) or 400mm rafter centres (RV635). RV635 can also be used at 450 - 600mm rafter centres; one per rafter provides not less than 10 000mm<sup>2</sup>/m.

#### RV601, RV451, RV401

Provides guaranteed actual ventilation opening of 10 000mm<sup>2</sup>/m. Use for rafter centres: 600mm RV601 450mm RV451 400mm RV401

#### RV625, RV625F (not shown, depth 40mm)

Provides guaranteed actual ventilation opening of 25 000mm<sup>2</sup>/m at 600/450/400mm rafter centres, and a minimum gap of 25mm in accordance with BS 5250: 2011. Similar to RV601, RV601F RV625F is for eaves with an open soffit; integral 4mm insect screen complies with BS 5250:2011. Designed for standard 600mm rafter centres, or can be easily cut to suit closer rafter spacings

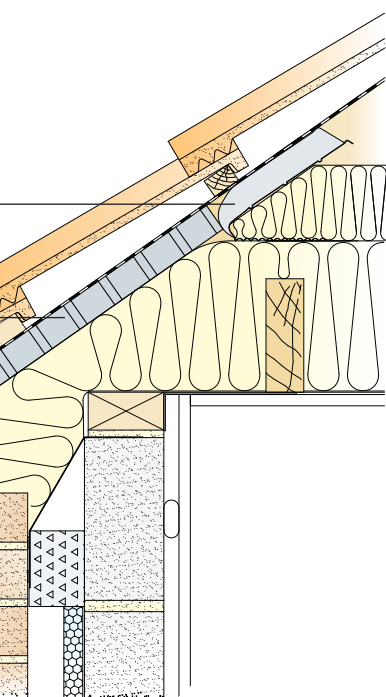
#### RV200 Roll

Laid continuously over the rafters before the underlay is fixed, provides a maximum 25 000mm<sup>2</sup> dependent on eaves ventilation inlet provision. Universal, adjusts for 400 - 600mm rafter centres.

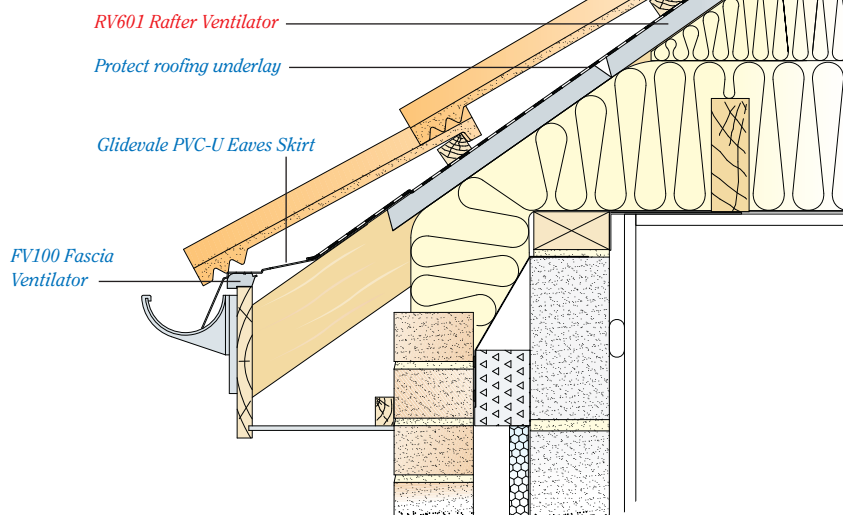
#### Effective coverage per pack for rafter spacing:

600mm 6.0m or 10 rafter voids  
450mm 6.7m or 13 rafter voids  
400mm 6.0m or 15 rafter voids





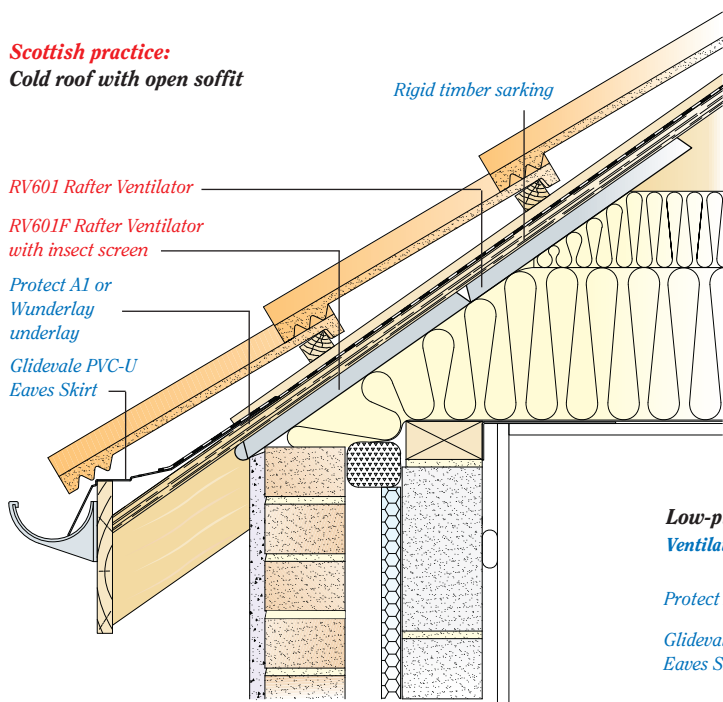
**Cold roof with fascia ventilation**  
*Type HR or LR underlay*



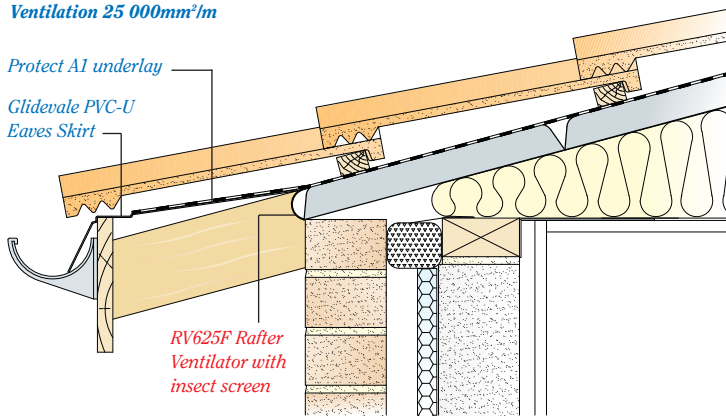
**Specification clause**

Install Glidevale RV\_\_\_\_ rafter ventilators to provide a continuous air path for roof space ventilation between roof insulation and roof underlay at eaves equivalent to \_\_\_\_mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Ventilators to be vacuum-formed PVC [and to have integral 4mm insect screen]. Install continuously on the two long edges of the roof / along the edges of the roof as shown on drawings. Fix in accordance with manufacturer's instructions.

**Scottish practice:**  
**Cold roof with open soffit**



**Low-pitch roof with open soffit**  
**Ventilation 25 000mm<sup>2</sup>/m**



## PREMIER VENTILATED VALLEY

### Description, Applications

The Glidevale Premier Ventilated Valley has been specifically designed as a universal system which will cope with rainwater drainage and provide ventilation along the whole length of the roof valley. It utilises the renowned and proven Glidevale Univalley Trough with its unique design features.

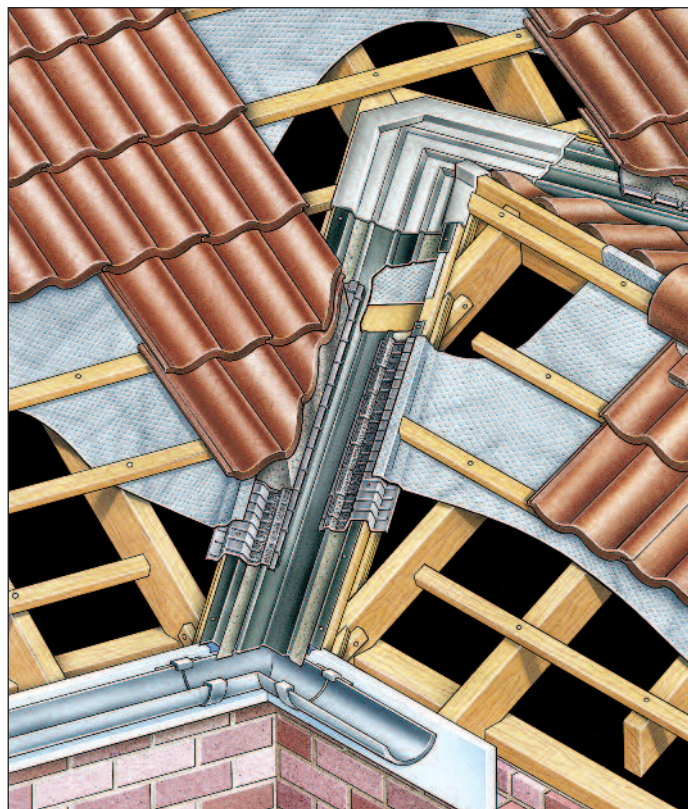
A valley is one of the most vulnerable parts of a roof, because its slope is several degrees lower than that of the adjoining roof areas and it also has to provide a channel for rainwater draining from two adjacent roof slopes. It is also an area which is difficult to ventilate. Normal eaves/ridge ventilation tends to leave stagnant air pockets around the valley, causing an increased condensation risk. This is particularly true when insulation follows the rafters, as the ventilation path is very restricted. Tile or slate ventilators are not an entirely effective solution.

### Advantages

- Designed and developed under BS EN ISO 9001, and patented.
- Provides continuous ventilation either above or below the underlay, of 5000mm<sup>2</sup> per rafter void on each side of the valley, with 4mm large insect screen.
- Suitable for use with all concrete and clay tiles and all types of slate.
- Central water slew prevention bar allows the trough to accommodate up to 15° difference in the two roof pitches.
- Substantial 25mm deep weather checks on each side also provide positive guides for the valley battens to which they are fixed.
- Provides an end support for battens cut to rake into the valley.
- Bonded sand strips enhance mortar adhesion.
- Mortar retention bars remove the risk of slumping, and also provide an integral guide line for cutting tiles or slates to rake.
- AB fire rating to BS 476: Part 3: 2004.

### Authority

Can be used to comply with the roof space ventilation requirements of Building Regulations Approved Document C2, BS 5250, and BS 5534.



*Glidevale Premier Ventilated Valley installation*

### Composition, Manufacture

Univalley Trough is lead-grey GRP.

Valley Ventilator unit is grey ABS in 0.72m lengths.

For every 3m of Univalley Trough used, eight Valley Ventilator units are required, four per side.

### Performance

#### Ventilation

Guaranteed actual nett free ventilation area: 5000mm<sup>2</sup> per rafter void on each side of the valley.

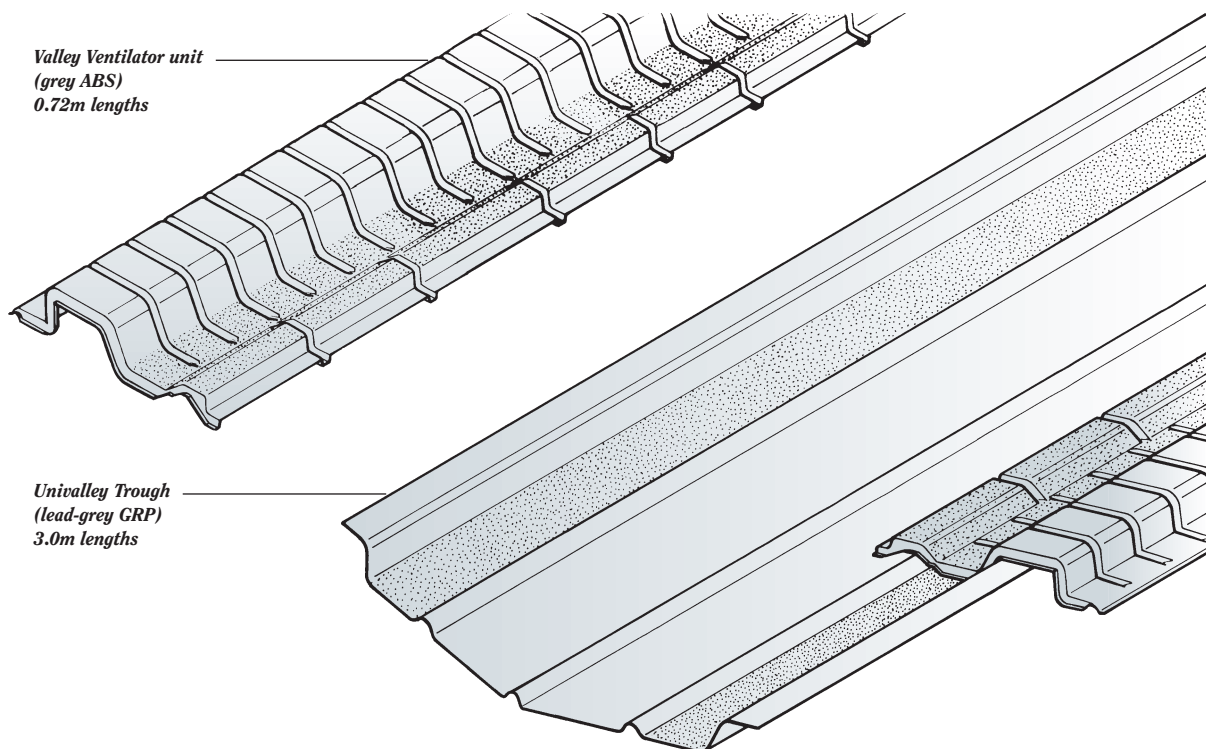
Where insulation is at rafter level, one IN-LINE Tile/Slate Vent is also required per rafter void.

#### Weather/drainage

Minimum pitch 20°, maximum pitch 65°.

Maximum difference between roof slopes: 15°.

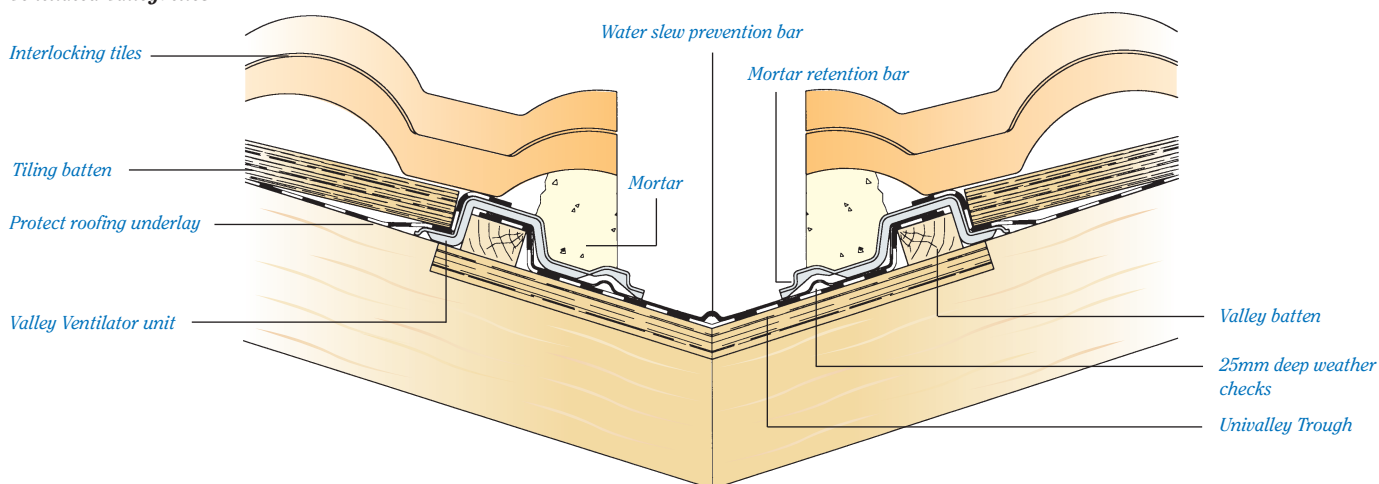
Minimum clear water channel width: 125mm, sufficient for drainage of a roof area up to 100m<sup>2</sup> on plan at a rainfall rate of 75mm per hour, in accordance with Brunel University research.



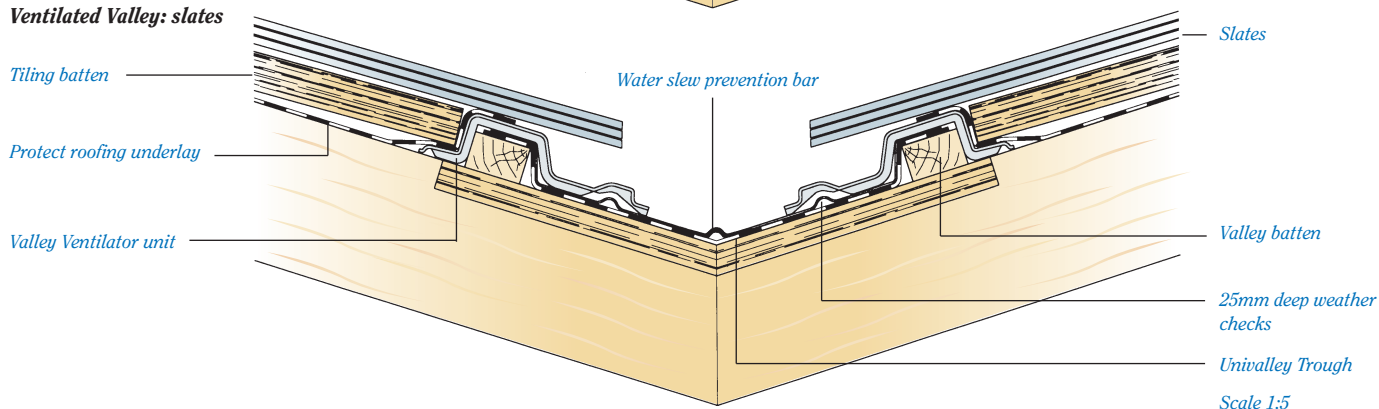
#### Specification clause

All valleys to the roof to be ventilated and to be formed using Glidevale Premier Ventilated Valley, incorporating 125mm clear water channel width, 25mm weather checks, central water slew prevention bar, resin-bonded sanded areas for mortar grip and 4mm insect screen. Valleys to have 5000mm<sup>2</sup> ventilation area per valley side per rafter void in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011 provisions for low level ventilation. Fix in accordance with manufacturer's instructions.

#### Ventilated Valley: tiles



#### Ventilated Valley: slates





## CROSS RAFTER VENTILATOR

### Description, Applications

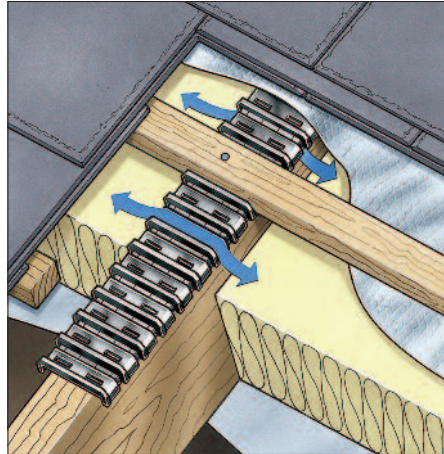
The Glidevale Cross Rafter Ventilator provides a high-level air path between rafter voids in roofs where insulation is at rafter level. It is used on hips to avoid stagnant air pockets, on ridges where a ventilated ridge is not feasible, and below pitched roof windows.

### Advantages

- Designed and developed under BS EN ISO 9001.
- Substantially reduces the number of tile or slate vents needed, thus reducing cost and improving roof appearance.
- Can be used below pitched roof windows up to 1.2m wide without additional tile or slate ventilators.
- Unique design allows air flow over the rafter but is compressible to avoid kicking up of the tile/slate battens.
- Does not affect the normal laying of the roof covering.

### Authority

Can be used to comply with the roof space ventilation requirements of Building Regulations Approved Document C2 and BS 5250 using fewer tile or slate ventilators (see References).



**Cross Rafter Ventilator installation**

**Composition, manufacture**  
PVC.

### Ventilation performance

When insulation is at rafter level, ventilation of 5000mm<sup>2</sup> per metre is required at the ridge and hips. Tile or slate vents are therefore needed at hips, and in some cases at ridges. To ensure complete ventilation and avoid stagnant air pockets, one tile or slate ventilator would be needed for each rafter or counterbatten void. This would greatly exceed the ventilation requirement, be unnecessarily costly and mar the appearance of the roof. Two 600mm Cross Rafter ventilators provide at least 5000mm<sup>2</sup> of cross ventilation with tiling battens at not less than 250mm gauge (suitable for most interlocking tiles). Where batten gauge is less, use three vents per rafter. Spacing of tile or slate ventilators can then be increased to the normal value, eg 2.0m for 10 000mm<sup>2</sup>/m vents.

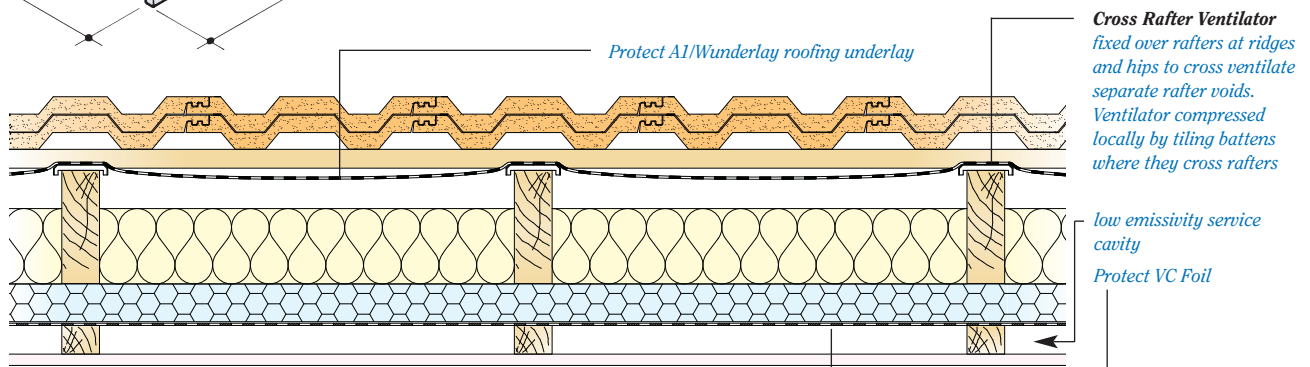
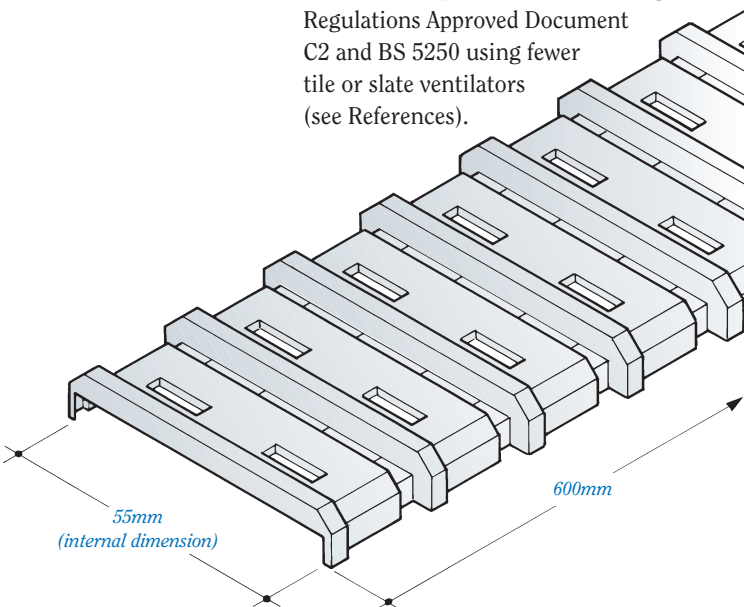
### Specification clauses

#### Ridges/Hips

Install Glidevale Cross Rafter Ventilators to promote roof space ventilation at ridges/hips: two (batten gauges of 250mm or more) or three (batten gauges less than 250mm) x 600mm lengths on each side of roof ridges/hips on top of every rafter/counter batten. Fix direct to rafters before laying tile underlay and battens, in accordance with manufacturer's instructions.

#### Roof windows

Install Glidevale Cross Rafter Ventilators on every rafter below each roof window, to promote roof space ventilation. Fix direct to rafters before laying tile underlay and battens, in accordance with manufacturer's instructions.



**Cross Rafter Ventilator**  
fixed over rafters at ridges and hips to cross ventilate separate rafter voids. Ventilator compressed locally by tiling battens where they cross rafters

low emissivity service cavity  
Protect VC Foil

Scale 1:10



## MR50 MONOVENT: LEAN-TO ROOF

### Description, Application

MR50 Monovent ventilator provides unobtrusive ventilation to top edge abutments of lean-to roofs. The innovative design ensures a continuous ventilation gap of 5000mm<sup>2</sup>/m.

MR50 Monovent must always be used in conjunction with Glidevale eaves ventilation systems (pages 18 - 23) to ensure through ventilation of the roof space.

### Advantages

- Provides effective resistance to driving rain and large insect ingress.
- Suitable for installation under dormer window sills when insulation is at rafter level.
- Unobtrusive when installed.
- Quick and easy to install.

### Authority

Can be used to comply with the roof space ventilation requirements of Building Regulations Approved Document C2 and BS 5250.

### Composition, Manufacture

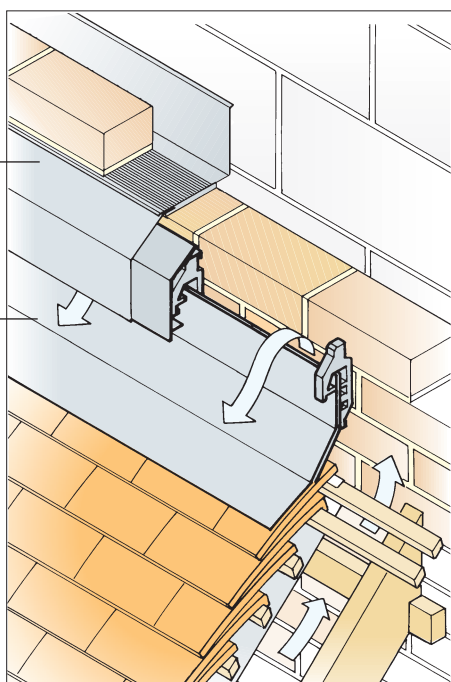
The unit comprises two PVC-U extruded sections supplied in 1.22m lengths complete with spacers, screws, washers and lead clips. Code 4 lead or AluFlash apron flashing for dressing over the tiles is supplied: long flashing for roof pitches below 30° or deeply profiled tiles, short flashing for roof pitches of 30° and above. A lead or AluFlash cover flashing (not supplied) must be installed with Monovent (as shown), in accordance with the recommendations of the Lead Sheet Association. Horizontal cavity trays with short lead or AluFlash cover flashing provide a complete solution.

### Specification clause

Install Glidevale MR50 Monovent at roof/wall abutment to provide ventilation to the roof space equivalent to 5000mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2 2004 and BS 5250: 2011. Install continuously as shown on drawings, and fix in accordance with manufacturer's instructions.

Lead cover flashing (not supplied with Monovent)

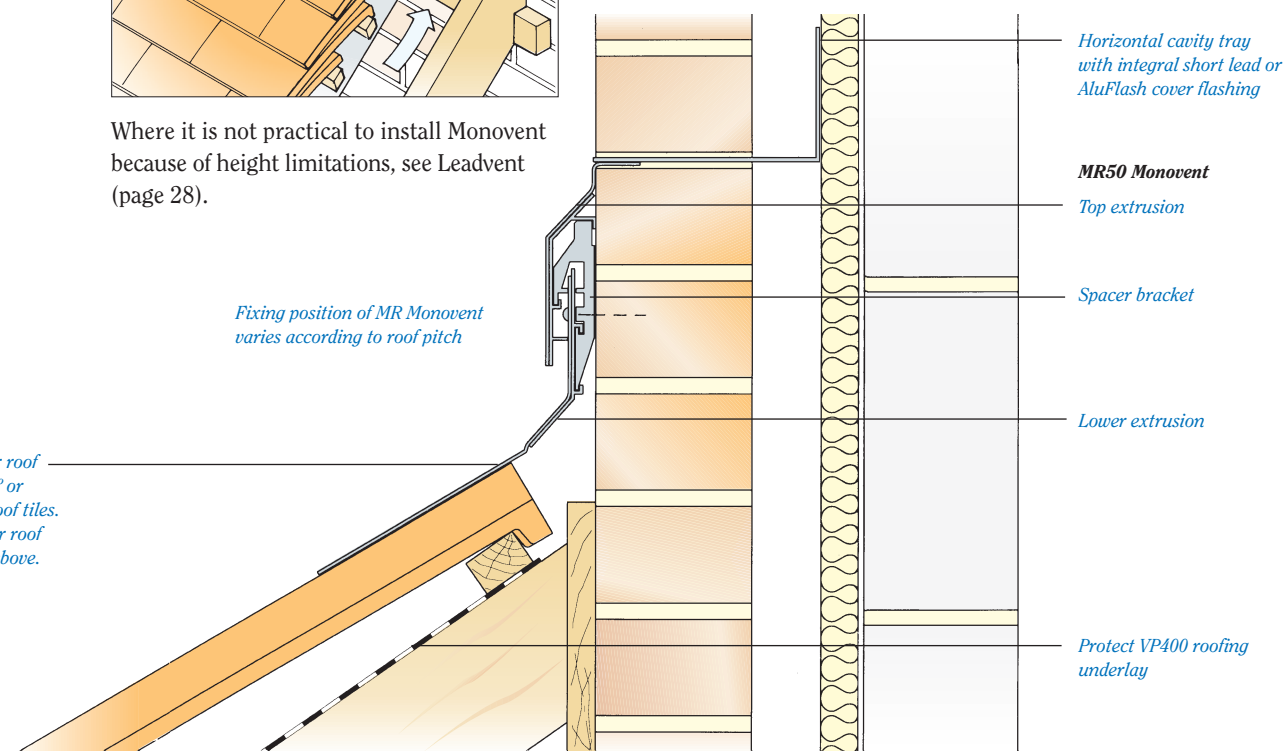
AluFlash apron flashing (supplied) dressed over tiles



Where it is not practical to install Monovent because of height limitations, see Leadvent (page 28).

Fixing position of MR Monovent varies according to roof pitch

Long flashing for roof pitches below 30° or deeply profiled roof tiles. Short flashing for roof pitches 30° and above.



Horizontal cavity tray with integral short lead or AluFlash cover flashing

MR50 Monovent

Top extrusion

Spacer bracket

Lower extrusion

Protect VP400 roofing underlay

## PREMIER LEADVENT VENTILATOR

### Specification clause

Install Glidevale Premier Leadvent under lead roll\*/top edge abutment\*/with integral lead flashing\* to provide ventilation to the roofspace equivalent to 5000mm<sup>2</sup>/m in accordance with Building Regulations Approved Document C2: 2004 and/or BS 5250: 2011. Install continuously as shown on drawing reference ..... and fix in accordance with manufacturer's instructions

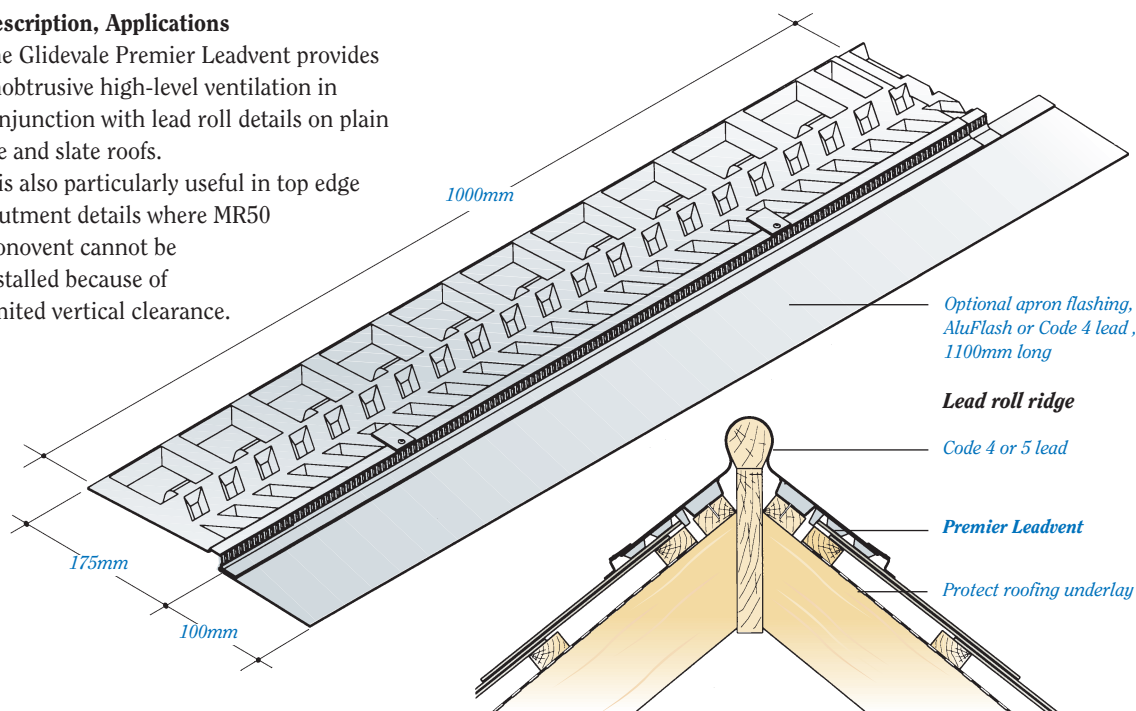
\*Delete as appropriate

### Description, Applications

The Glidevale Premier Leadvent provides unobtrusive high-level ventilation in conjunction with lead roll details on plain tile and slate roofs.

It is also particularly useful in top edge abutment details where MR50

Monovent cannot be installed because of limited vertical clearance.



### Advantages

- Designed and developed under BS EN ISO 9001.
- Provides effective resistance to driving and deluge rain combined with large insect screen.
- Unobtrusive when installed.
- Does not affect the normal laying of the roof covering.
- Optional factory-fitted apron flashing enables the Leadvent to be used with profiled tiles.
- Minimum pitch 20°. For pitches below this consult our Technical Department.

### Authority

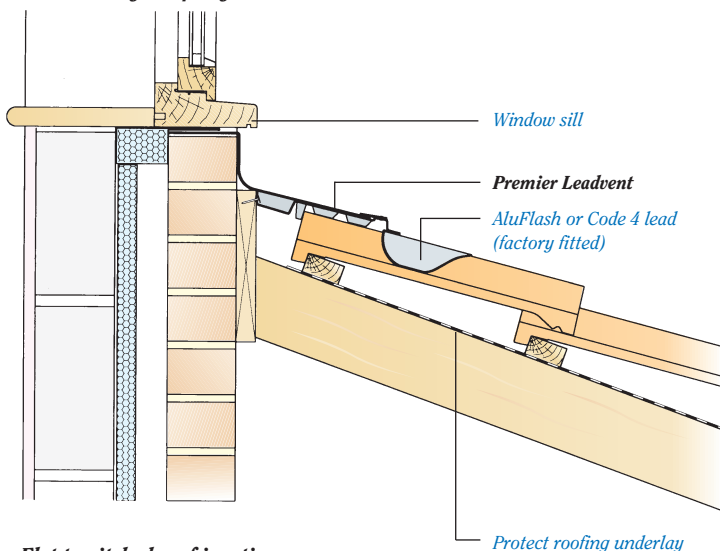
Can be used to comply with the roof space ventilation requirements of Building Regulations Approved Document C2 and BS 5250.

### Composition, Manufacture

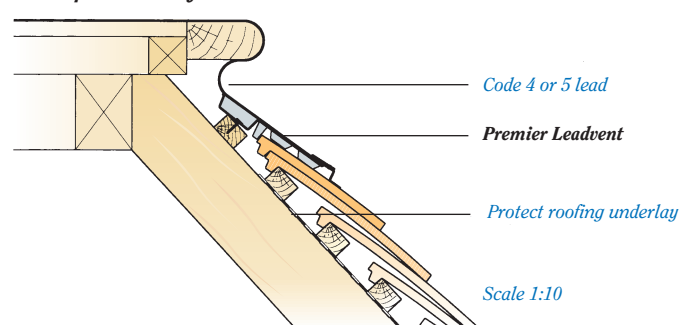
Manufactured from ABS. All exposed ABS surfaces are treated with a uv-resistant polymeric resin.

Optional apron flashing is code 4 lead or AluFlash.

### Limited height top edge abutment



### Flat to pitched roof junction



## FLAT ROOF VENTILATION TERMINALS

### Specification clause

*Delete items not required*  
Soil vent pipe/ Passive ventilation stack/  
Mechanical extraction ducts to be terminated with Glidevale Metro Flat Roof Terminals MT9U/ MT13U/ MT9K/ MT13K, designed and manufactured under BS EN ISO 9001, and having integral 4mm large insect grille and condensate grooves. Colour: slate grey/ to match roof covering.  
Install on roof deck with integral upstand/ on suitable builder's kerb as shown on drawings, fixed in accordance with manufacturer's instructions. All joints to ductwork to be sealed and mechanically secured.

Glidevale Metro Flat Roof Terminals act as outlets for soil vent pipes, passive ventilation stacks or mechanical extract ventilation ducts. There are options for installation directly on the roof deck with integral prefabricated upstand or for installation on a builder's kerb. They can be used for warm or cold deck roofs with built-up roofing (single or multi-ply); with builder's kerb they can be used with fully-supported metal roofing. The prefabricated upstand provides minimum 150mm clear upstand. Terminals have a 4mm large insect grille, and condensate grooves which prevent condensate running back down the duct.

### Authority

Terminals are designed and manufactured to BS EN ISO 9001 and can be used to comply with the requirements of Approved Document C2, BS 5250, BS 5720 and BS 6229.

### Material, Colour

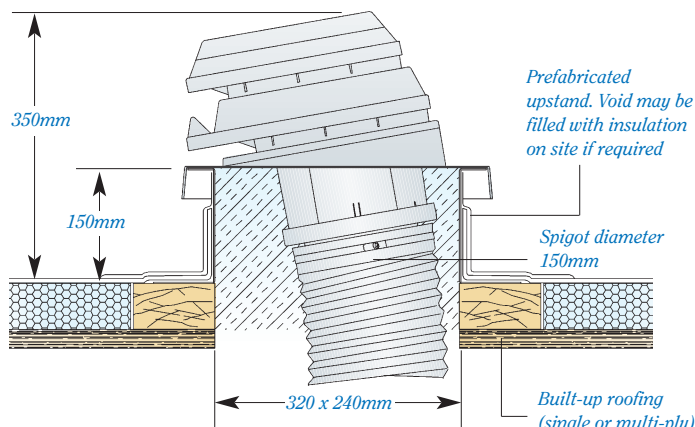
Cowl: ABS, upstand aluminium.  
Slate grey as standard, or colour matched to roof covering.

### Performance

Low resistance to airflow, see table.  
Also available as a ventilation unit without spigot, MT5U or MT5K, nett free ventilation area 20,000mm<sup>2</sup>. Deluge and driving rain resistant as demonstrated by test.  
Upstand U-value 1.64W/m<sup>2</sup>K.

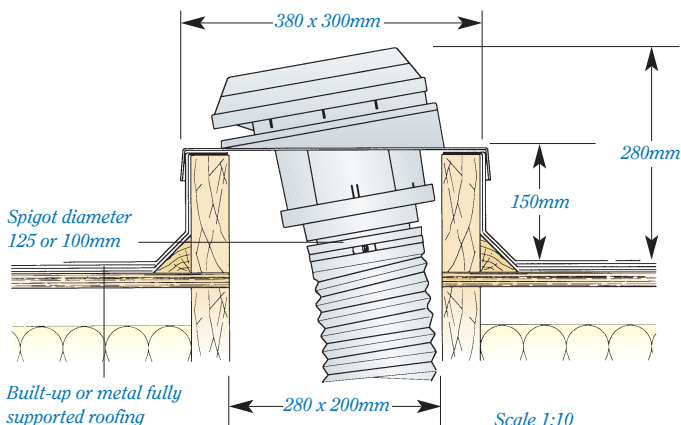
### MT13U Terminal with integral upstand

(MT9U dimensions are the same; only cowl profile differs)  
(MT5U dimensions are the same; supplied without spigot)



### MT9K Terminal on builder's kerb

(MT13K dimensions are the same; only cowl profile differs)  
(MT5K dimensions are the same; supplied without spigot)



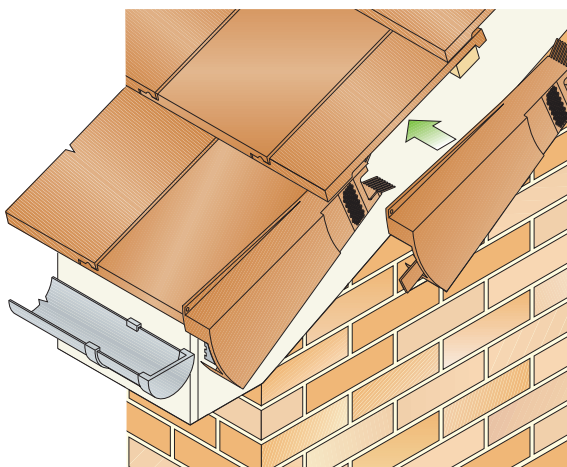
### Airflow performance

Type	Spigot diameter mm	Airflow		Resistance
		m <sup>3</sup> /h	(litres/sec)	Pa
MT9U/100 or MT9K/100	100	54	(15)	0.80
		108	(30)	2.60
		216	(60)	11.50
MT9U/125 or MT9K/125	125	54	(15)	1.05
		108	(30)	4.68
		216	(60)	19.78
MT13U/150 or MT13K/150	150	54	(15)	0.32
		108	(30)	1.22
		216	(60)	4.86
		300	(84)	9.50
		500	(139)	27.37

Suffix U = integral upstand, K = for builder's kerb



## UNIVERSAL DRY VERGE SYSTEM



### Description, Application

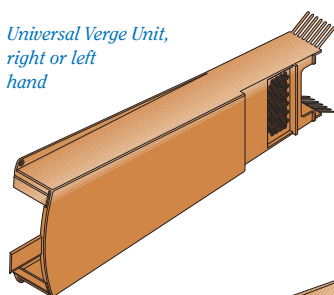
The Glidevale universal dry verge system is compatible with all interlocking metric sized roof tiles and designed to overcome the problems of traditional mortar bedding, such as cracking and long term maintenance.

Its unique ambidextrous patented fixing mechanism locks the units in place whilst allowing lateral and vertical adjustment to accommodate differing tile profiles.

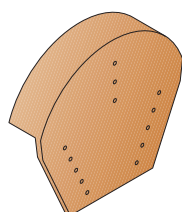
Truly universal, the units are ambidextrous for either left or right verges offering significant advantages for ordering and stockholding purposes.

### Components

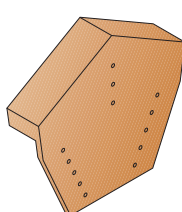
*Universal Verge Unit,  
right or left  
hand*



*Half Round Ridge Cap*



*Angled Ridge Cap*



### Advantages

- Provides full wind uplift and weather protection
- Mechanically fixed, no maintenance required
- Quick and easy to fix, no special skills or tools required
- All weather fixing, no adhesive or sealants required
- Compatible with all interlocking metric sized roof tiles at batten gauges from 315mm to 343mm
- Compatible with all mortar or dry fixed ridge systems
- Available in three standard colours, Terracotta, Brown and Grey
- Retains the traditional stepped appearance of the roof tiles
- Meets the requirements of BS5534 for mechanical fixing
- Complies with NHBC standards for pitched roofs
- Designed and developed under ISO 9001 Quality Management Systems
- UV and heat resistant
- Prevents entry of birds and large insects
- Unaffected by differential movement or settlement

### Authority

Can be used to comply with Building Regulations.

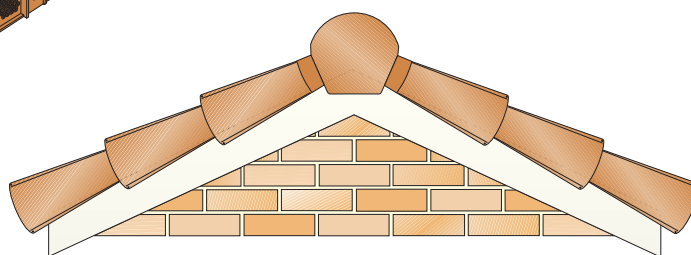
### Composition, Manufacture

Units and ridge end caps injection moulded UV stabilised polypropylene.

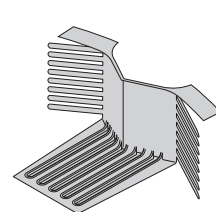
Eaves Closure injection moulded polypropylene.

### Specification clause

Install Glidevale Universal Dry Verge System at roof verges to provide continuous cover over batten ends and tiles to protect against wind uplift and driving rain. System to include ambidextrous right or left hand units and ridge end caps in injection moulded UV stabilised polypropylene and Eaves Closure in injection moulded polypropylene to exclude birds and large insects. Fix mechanically in accordance with manufacturer's instructions.



*Eaves Closure*





## DV SLATE DRY VERGE SYSTEM



### Description, Application

The Glidevale DV Slate Dry Verge system is mechanically fixed, and once installed provides complete and continuous cover over batten ends and slates, protecting the verge from wind uplift and driving rain. For use with natural and artificial double-lap slates not exceeding 5mm thickness, including Redland Cambrian and Marley Monarch. The system is designed to overcome the problems of traditional mortar bedded verges, which may crack due to differential movement. Mortar will also crack and erode due to weathering and eventually fall away, leaving vulnerable slate edges exposed. Roof verges are subject to high level wind uplift and this will lead to loosening of slates and eventual failure.

### Authority

Can be used to comply with Building Regulations Approved Document C and BS 5534.

### Composition, Manufacture

Extruded PVC-U in 2.4m long sections. Ridge and end caps are vacuum-formed ABS. Connectors and stop ends are injection-moulded polypropylene. All components are matt slate grey.

#### DV204 Ridge end caps

Incorporating a gasket seal, and supplied with fixing bracket. For fibre cement ridge tiles only.

Half-round, for roof pitches from 22½° to 45°

Plain angle, for dedicated roof pitches of 22½°, 25°, 30°, 35°, 37½°, 45°

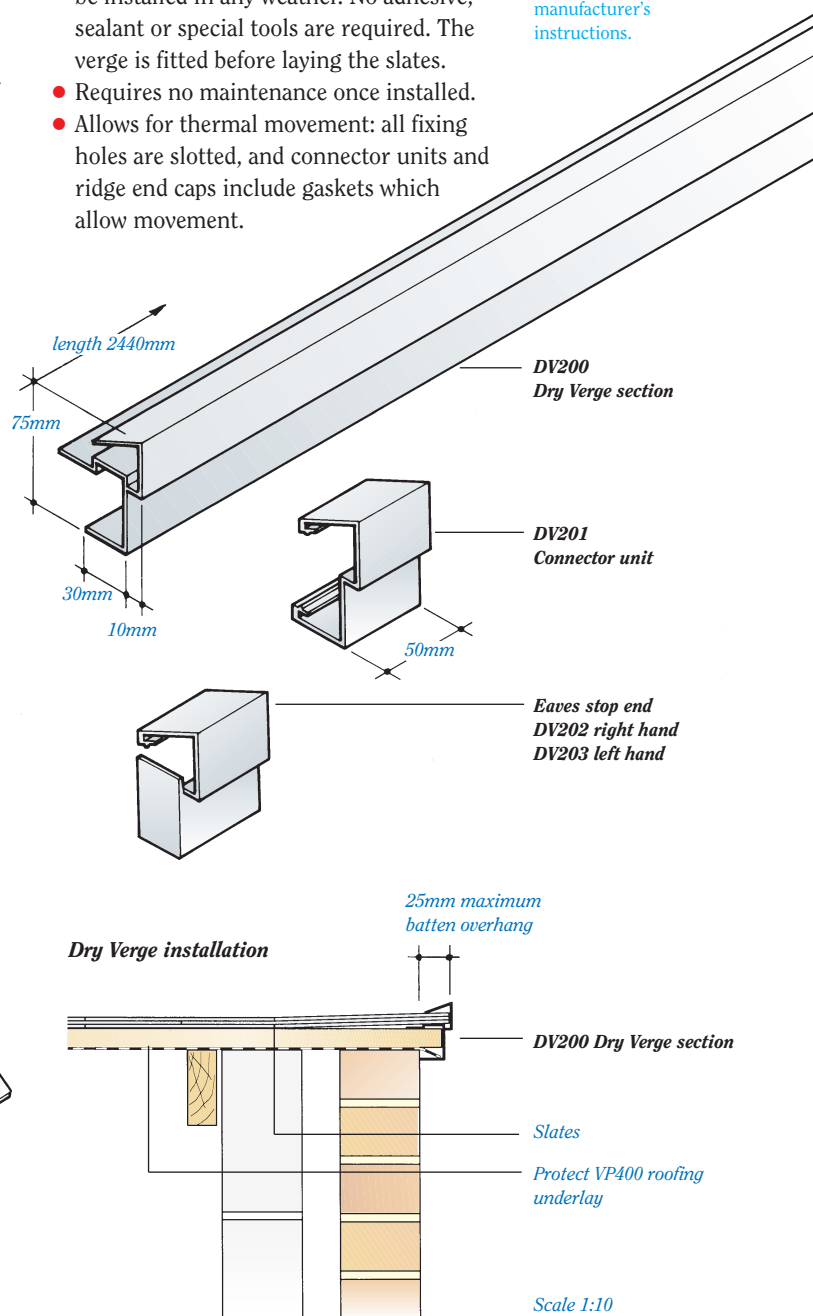
Concrete or clay block end ridges available from most tile manufacturers can also be used to finish the gable end.

### Advantages

- Provides full wind uplift and water protection.
- Self draining: any rainwater which enters the system is carried away from the roof covering and directly into the gutter.
- Modular construction: a single verge extrusion, plus unobtrusive connector units and handed eaves stop ends, which prevent ingress of birds.
- Quick fixing: completely dry-fixed and can be installed in any weather. No adhesive, sealant or special tools are required. The verge is fitted before laying the slates.
- Requires no maintenance once installed.
- Allows for thermal movement: all fixing holes are slotted, and connector units and ridge end caps include gaskets which allow movement.

### Specification clause

Install Glidevale DV Slate Dry Verge system at roof verges to provide continuous cover over batten ends and slates to protect against wind uplift and driving rain. System to include extruded PVC-U edge sections, preformed gasket-sealed ridge end caps, and eaves stop ends to exclude birds. Fix mechanically in accordance with manufacturer's instructions.



## OFV EAVES SKIRT

### Description, Application

The Glidevale OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. It is designed to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter.

### Advantages

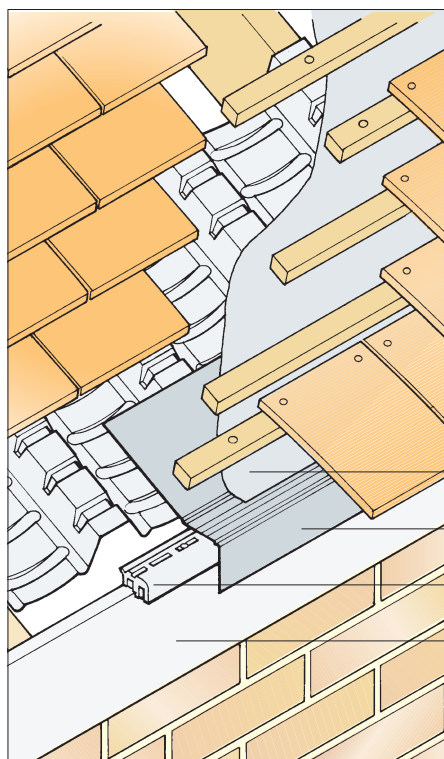
- Avoids sagging and ponding and will not rot in the gutter unlike bitumen derivatives
- Robust 1.5mm PVC-U construction resists impact and UV degradation over time
- Prevents wind noise under load
- For use with Glidevale 10mm or 25mm over fascia ventilators or directly onto fascia board
- Flexible design allows access to the fascia board for fitting gutter brackets
- Supplied in 1.5m lengths, 10 lengths per pack
- Suitable for new build or refurbishment applications

### Authority

Can be used to comply with Building Regulations Approved Document C and BS 5534

### Specification Clause

Install Glidevale eaves skirt to avoid sagging and ponding of underlay behind fascia and ensure correct water discharge into the gutter. Eaves skirt to be extruded in UV-stabilised PVC-U to provide a long term durable solution

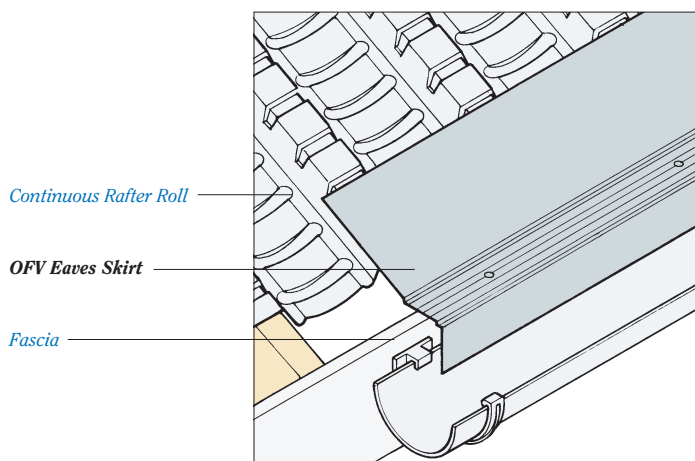


Roofing underlay

OFV Eaves Skirt

FV100 Over Fascia Ventilator

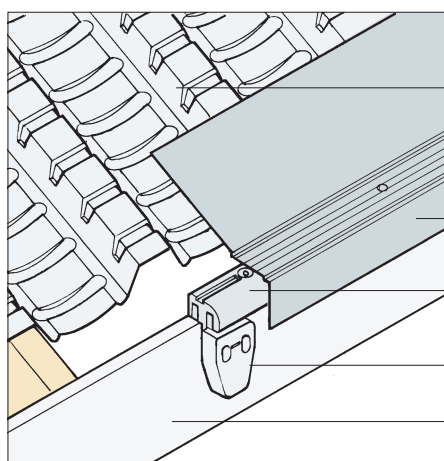
Fascia



Continuous Rafter Roll

OFV Eaves Skirt

Fascia



Continuous Rafter Roll

OFV Eaves Skirt

FV250 Over Fascia Ventilator

Gutter bracket

Fascia

## TILE AND SLATE VENTILATORS: STANDARD PROFILES

	IN-LINE	G1	G3	G5
<b>Aggregate Industries</b>				
Cotswold Slate 500 x 300	✗	✓	✓	✓
<b>Anchor (Forticrete Roofing Products)</b>				
Anchorlite Slate*	✓	✓	✓	✓
Bold Roll	✗	✓	✓	✓
Centurion/Senator*	✗	✓	✓	✓
Gemini	✓	✓	✓	✓
Plain*	✓	✓	✓	✓
Stone Slate	✓	✓	✓	✓
Vanguard 83	✗	✓	✓	✓
Viscount	✓	✓	✓	✓
Mini slate	✓	✓	✓	✓
Gemini Mk II	✓	✓	✓	✓
<b>Ballymena</b>				
Montague Plain*	✗	✓	✓	✓
Penrose Mk I	✗	✓	✓	✓
Penrose Mk II	✓	✓	✓	✓
Pollock Double Roman	✗	✓	✓	✓
<b>Condrion</b>				
Double Pantile	✓	✓	✓	✓
Flat	✓	✓	✓	✓
'M' Profile	✗	✓	✓	✓
Mini slate	✓	✗	✗	✗
<b>Dreadnought</b>				
Plain*	✓	✓	✓	✓
<b>Eternit Clay Tiles</b>				
Plain*	✓	✓	✓	✓
<b>Hardrow (Forticrete Roofing Products)</b>				
686 x 457	✗	✓	✓	✓
457 x 457	✗	✓	✓	✓
457 x 305	✓	✓	✓	✓
<b>Hawkins (Eternit Clay Tiles)</b>				
Plain*	✓	✓	✓	✓
<b>Koramic</b>				
Flemish 401	✓	✗	✗	✗
<b>Lagan Tile</b>				
Double Roman	✗	✓	✓	✓
Flat	✓	✓	✓	✓
<b>Langley of London</b>				
Coutrai*	✗	✓	✓	✓
Plain*	✓	✓	✓	✓
Sterreberg*	✗	✓	✓	✓
<b>Marley Building Materials</b>				
Anglia*	✓	✓	✓	✓
Ashmore	✓	✓	✓	✓
Barnstable	✗	✓	✓	✓
Bold Roll	✓	✓	✓	✓
Domino	✓	✗	✗	✗
Double Roman	✓	✓	✓	✓
Edgemere	✓	✓	✓	✓
Ludlow Major	✓	✓	✓	✓
Ludlow Plus	✓	✓	✓	✓
Malvern	✗	✓	✓	✓
Marlden*	✓	✓	✓	✓
Marquess*	✓	✓	✓	✓
Melbourne	✗	✗	✗	✗
Mendip	✓	✓	✓	✓
Modern	✓	✓	✓	✓
Monarch*	✓	✓	✓	✓
Plain*	✓	✓	✓	✓
Symphony	✓	✗	✗	✗
Wessex	✓	✓	✓	✓
Westwold*	✓	✓	✓	✓
<b>McLoughlin</b>				
Foyletile	✓	✓	✓	✓
Moyslate	✗	✓	✓	✓

	IN-LINE	G1	G3	G5
<b>Morrissey</b>				
Milford	✓	✓	✓	✓
Rockford	✓	✓	✓	✓
<b>Sean Quinn</b>				
Carnmore	✓	✓	✓	✓
Devenish	✗	✓	✓	✓
Locherne	✓	✓	✓	✓
Western Slate	✓	✓	✓	✓
<b>Redland</b>				
Caledonian	✓	✓	✓	✓
Cambrian*	✓	✓	✓	✓
Delta	✗	✓	✓	✓
Double Roman	✓	✓	✓	✓
Downland*	✓	✓	✓	✓
Duo Plain	✓	✓	✓	✓
Essex	✗	✓	✓	✓
Grovebury	✓	✓	✓	✓
Heathland*	✓	✓	✓	✓
Mini Stoneland	✓	✓	✓	✓
Norfolk Pantile*	✓	✓	✓	✓
Plain*	✓	✓	✓	✓
Redland 49	✓	✓	✓	✓
Redland 50/Bridgewater	✓	✓	✓	✓
Redland 51	✗	✓	✓	✓
Redland 52	✗	✓	✓	✓
Regent	✓	✓	✓	✓
Renown	✓	✓	✓	✓
Richmond	✓	✓	✓	✓
Saxon	✓	✓	✓	✓
Statesman	✗	✓	✓	✓
Stonewold Mk II	✓	✓	✓	✓
Landmark Double Pantile	✓	✓	✓	✓
<b>Roadstone</b>				
Cambrian	✓	✓	✓	✓
Double Roman	✓	✓	✓	✓
Flat (Old Stonewold)	✓	✓	✓	✓
Gemini	✓	✗	✗	✗
Mini Slate	✓	✓	✓	✓
Plain*	✓	✓	✓	✓
SL8	✓	✓	✓	✓
Spanish Roll	✓	✓	✓	✓
Slate Tile (Cork Stonewold)	✓	✓	✓	✓
<b>Rosemary (Redland)</b>				
Plain*	✓	✓	✓	✓
<b>Russell</b>				
Argyll	✓	✓	✓	✓
Cheviot	✓	✓	✓	✓
Derwent	✓	✓	✓	✓
Double Roman	✓	✓	✓	✓
Galloway	✓	✓	✓	✓
Grampian	✓	✓	✓	✓
Pennine	✓	✓	✓	✓
Plain*	✓	✓	✓	✓
<b>Sandtoft/Goxhill</b>				
20/20	✓	✓	✓	✓
Barrow Bold Roman*	✗	✓	✓	✓
Bold Roll	✓	✓	✓	✓
Bridgewater	✗	✓	✓	✓
Britlock*	✓	✓	✓	✓
Britslate	✓	✗	✗	✗
Calderdale	✓	✓	✓	✓
Cassius	✓	✗	✗	✗
County Pantile*	✓	✓	✓	✓
Danum	✓	✓	✓	✓
Double Pantile	✓	✓	✓	✓

	IN-LINE	G1	G3	G5
<b>Sandtoft/Goxhill cont.</b>				
Double Roman	✓	✓	✓	✓
Europa	✓	✓	✓	✓
Flemish	✓	✓	✓	✓
Gaelic*	✗	✓	✓	✓
Greenwood Pantile*	✗	✓	✓	✓
Humber Plain*	✓	✓	✓	✓
Lincswold	✗	✓	✓	✓
Lindum	✓	✓	✓	✓
Mercian	✗	✓	✓	✓
Neo Pantile	✓	✓	✓	✓
Old English Pantile*	✗	✓	✓	✓
Pennine 480 x 280	✓	✓	✓	✓
Pennine 480 x 420	✓	✗	✗	✗
Plain*	✓	✓	✓	✓
Shire Pantile	✓	✓	✓	✓
Standard Pattern	✗	✓	✓	✓
Olympus	✓	✓	✓	✓
Rivus	✓	✓	✓	✓
<b>Scotcem</b>				
Forth	✓	✓	✓	✓
Pentland	✓	✓	✓	✓
Cairngorm	✓	✗	✗	✗
<b>Northstone (Scott Toomebridge)</b>				
Derrie Mk 1 and Mk 2	✓	✓	✓	✓
Galloway	✓	✓	✓	✓
Plain*	✓	✓	✓	✓
Seville	✓	✓	✓	✓
Slemish Mk 2	✓	✓	✓	✓
Villa Mk 1 and Mk 2	✗	✓	✓	✓
Donard Mk 2	✓	✓	✓	✓
<b>Tudor</b>				
Plain*	✓	✓	✓	✓
<b>Redbank (Weatherwell)</b>				
Aston	✗	✓	✓	✓
Bold Roll	✗	✓	✓	✓
Bretton	✓	✓	✓	✓
Conway	✗	✓	✓	✓
Daniel Platt Plain	✓	✓	✓	✓
Regal	✗	✓	✓	✓
<b>Slates</b>				
600 x 300	✓	✓	✓	✓
500 x 250	✓	✓	✓	✓
400 x 200*	✓	✓	✓	✓
600 x 335 soaker styles	✗	✓	✓	✓
600 x 450 soaker styles	✗	✓	✓	✓
Premier soaker style	✓	✗	✗	✗

\*These tiles require multiple baseplates to ensure a weatherproof installation.

Ventilators designed to suit the tile manufacturers profiles listed here are available in each manufacturer's range of colours.

For other profiles and colours please contact our Technical Department.

Company names and product descriptions are the registered trade marks of the relevant manufacturer.

## GENERAL

### References

#### *England and Wales*

Building Regulations 2000

Approved Document C2 2004 'Resistance to moisture'

Approved Document F 2000 'Ventilation' (interim edition 2005)

Approved Document H 2002 'Drainage and waste disposal'

Approved Document J 2002

#### *Scotland*

The Building (Scotland) Regulations 2004  
Technical Handbook Domestic Buildings  
Section 3.15.2 'Control of condensation in roofs'

#### *Northern Ireland*

Building Regulations (Northern Ireland) 1994  
Technical Booklet C 'Site preparation and resistance to moisture'. Regulation C4  
Section 2.8 'Pitched roofs'

#### *Republic of Ireland*

Building Regulations 2002

Technical Guidance Document F 'Ventilation' 2005. Section 2 'Condensation in roofs'

#### *Code of practice*

BS 5250: 2011 'Code of practice for control of condensation in buildings' Incorporating Amendment 1: 2005

#### *Glidevale White Papers*

'The new roof ventilation provisions explained' 2006

'Well sealed ceilings explained' 2006

### *Other documents*

BS 5534: 2003 'Code of practice for slating and tiling'

BS 8000-6: 1990 'Workmanship on building sites. Code of practice for slating and tiling of roofs and cladding'

BRE Report BR 262: 2002 'Thermal insulation - avoiding risks'

BRE Digest 415 1996 'Reducing the risk of pest infestation in buildings'

BRE IP 4/06 Airtightness of ceilings - energy loss and condensation risk

BRE IP 5/06 Modelling condensation and airflows in roofs

Robust Details: 'Limiting thermal bridging and air leakage: Robust construction details for dwellings and similar buildings' 2001, DEFRA and DTLR, The Stationery Office.

'Thermal and moisture performance of pitched roofs' PiI project report 2005

### Specification clauses

Specimen clauses are given on product pages. Most clauses require choices to be made.

For Glidevale products, add the following to every specification:

"All roof ventilation products to be obtained from Glidevale Limited, 2 Brooklands Road, Sale, Cheshire M33 3SS.

Tel: 0161 905 5700, Fax: 0161 905 2085,

Email: [info@glidevale.com](mailto:info@glidevale.com)"

For performance specifications, product names and references may be omitted.

### Technical advice

Advice is available from our Technical Department on all aspects of roof ventilation and design with Glidevale products.

### Other products

Glidevale underfloor and cavity wall vents

Glidevale loft access trap/ladder

Glidevale Suncoop tubular and Metro modular rooflights

Glidevale Buildtight™ Airtightness range

Protect roofing underlays and membranes

Protect construction membranes, including reflective technology

Protect VC Foil vapour control layer

### Supply

Glidevale products are available through stockists nationally.

### GLIDEVALE LIMITED

2 Brooklands Road, Sale, Cheshire M33 3SS Tel: 0161-905 5700 Fax: 0161-905 2085

Email: [info@glidevale.com](mailto:info@glidevale.com) Web: [www.glidevale.com](http://www.glidevale.com)

Glidevale Limited maintains a policy of continuous development and reserves the right to amend product specifications without notice.

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