

# Slating & Tiling

TIPS 30

## Installing ventilation tiles

Like it or not there are occasions when the best solution to venting a soil pipe, bathroom or kitchen is to duct it out through the roof.

To achieve this, ventilation tile or slate provides the neatest and simplest interface with the roof covering to ensure the roof remains watertight. But what about the fixings?

### History

When vents first needed to pass through a pitched roof, a pipe was extended well above the roof and bedded in mortar as it passed through the tiles or slates.

It was soon found that this was not a long-term solution, so a lead collar, called a lead slate, was installed around the pipe and integrated into the surrounding roof tiles. This arrangement worked well, especially before the installation of roof underlay. With no underlay, soil pipes needed to terminate approximately 900mm above the roof to prevent smells drifting back into the building through the tiles.

With the introduction of underlay it was possible to vent soil pipes closer to the roof covering, allowing more discreet terminals to be installed.

### Eyebrow

The first types of vent tiles were called eyebrow vents. They were mostly made of clay or concrete in the shape of an eyebrow. Being made of clay or concrete they were as heavy, or heavier, than the tiles that surrounded them. Therefore they were less affected by wind uplift than the adjacent tiles, and provided they were nailed or clipped in the same way as the adjacent tiles they were adequately fixed.

### Mushroom

The next generation of vents were the mushroom vents. These were the first of the plastic units that could be installed in a standard roof tile or slate, or as part of an all-

plastic unit.

Many were lightweight – made of vacuum-formed pvc sheet material. The all-plastic vents, being lighter than the surrounding tiles or slates, needed more fixings than the surrounding tiles. Some interlocking vent tiles had tabs that rotated under the right hand interlock to locate it firmly to the adjacent tile, which helped to hold them in place, but the majority did not have any form of additional ‘holding down’ device.

### In-line

The most recent generation of vent tiles are the in-line vents, where the surface of the tile or slate is a grill, with baffles to prevent wind-driven rain from entering the pipe located within the depth of the tile and the batten cavity.

Like the mushroom vents these are very light and need to be nail and clip-fixed more securely than the adjacent concrete and clay tiles.

### Slate

The majority of the slate vents are manufactured in plastic to lap into the slate array with the minimum number of slates above and below the slates needing to be cut. Being laid in among other slates helps to hold the slate vent down.

But where the main body of the slate vent is exposed, the wind suction force can lift the vent, as the plastic is not as rigid as a natural slate, and therefore needs an additional fixing such as a tail rivet.

### Wind suction

Wind suction forces on roofs are resisted in three ways. Firstly by the dead weight of the tile or slate, secondly by the nail and clip fixings, and thirdly by the gaps in the vent (through which air can be sucked).

With plastic vent tiles and slates the dead weight is low, placing more load on the nail and clip fixings. This is slightly offset by air being sucked up



~ This looks nothing like the illustration in the fixing instructions. The slates above are held in with plastic remedial clips, the slates on the side are held in with mastic and the lower ones are too narrow. While at the bottom the vent is laid straight bond and out of alignment, so a tail rivet fixing is impossible. Altogether a bit of a disaster.

through the vent tile grill, especially with the in-line variety. It is rare to lose a vent tile as many are joined to a vent pipe or duct by a flexible pipe, but this should not be relied upon as the main fixing.

### Fixings

In most instances all-plastic vent tiles and slates will need a higher level of fixing than the surrounding tiles and slates. Therefore, it would be wise to always nail and clip interlocking vent tiles, fully nail plain tile vents, and nail and tail rivet all plastic slate vents, regardless of the tile or slate fixing specification for the roof.

### Integrity

The majority of vent tiles are often installed not by the slater or tiler, but by the plumber or ventilation engineer, after the roof has been finished.

This often results in: the vent tile, and the surrounding tiles and slates, not being reinstated correctly; no underlay seal to prevent water on the underlay draining into the roof; tiles and slates kicking up; and generally leaving a weakness in the roof covering.

Provided the appropriate vent tile or slate is used, there should be no reason for a vent to compromise the integrity and security of the roof.

It is worth noting that slate, clay and concrete roof tiles and slates will always last longer

than a plastic vent tile or slate, and will therefore need replacing during the life span of the roof.

### Tips

- Use the right vent tile or slate appropriate for the tiles or slates being used on the roof
- Choose a plastic vent tile with an integral interlock device on the right hand interlock, for interlocking tiles, where possible
- Always follow the fixing instructions supplied by the manufacturer
- Hold down the leading edge of a plastic slate vent with a copper disc rivet
- Plan to install all vent tiles when the tiles and slates are laid, not after the roof is finished

Compiled by Chris Thomas

The Tiled Roofing Consultancy

2 Ridlands Grove

Limpfield Chart

Oxted

Surrey RH8 0ST

tel 01883 724774

Email:

[chris.thomas@thetiledroofingconsultancy.com](mailto:chris.thomas@thetiledroofingconsultancy.com)

To view previous Slating & Tiling Tips, go to

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