

Technical information and installation advice

The range of roofline and above products manufactured by Timloc are all designed to fit within the eaves of the roof. They fall into two product groups which Timloc choose to refer to as 'primary' and 'secondary' roof ventilators. Products from these two groups work together to form a range of reliable roof eaves ventilation systems.

Primary roof ventilators fit externally within the eaves, usually within either the soffit board or fascia board, and provide an appropriately sized opening for air to flow into and out of the roof space. They incorporate rows of slots or holes which are large enough to allow the required volume of air to flow freely without danger of blockage by dirt, dust, cobwebs, etc but are small enough to prevent the entry of vermin or large nestbuilding insects such as bees and wasps. All Timloc ventilators have 3.5 - 4mm wide slots or holes in accordance with the recommendations of BS. 5250 : 2011.

Secondary roof ventilators fit higher up within the eaves, usually between the rafters above the wallplate position. They hold down the quilt of roof insulation material and prevent it from restricting the flow of air to and from the primary roof ventilator.

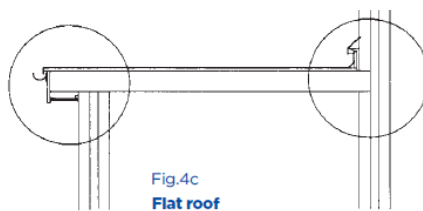
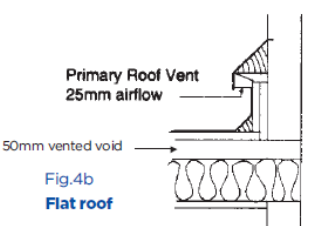
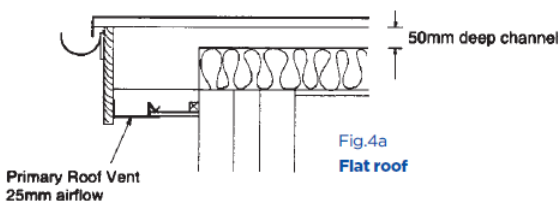
In most cases it is essential that both primary and secondary roof ventilators are used in conjunction with each other in order to provide a reliable ventilation system.

Free airflow requirements

The Building Regulations require differing levels of roof ventilation depending on the design of the roof. It is very important to identify the type of roof which is to be constructed and ensure that the correct volume of free airflow is provided by the roof ventilators. Please refer to the four accompanying illustrations which detail the main variations in roof type.

Primary roof ventilators

- With a standard pitched roof where the pitch of the roof is 15 degrees or greater and the roof space is an attic or loft a free airflow is required which is equivalent to a continuous 10mm opening (10,000 mm² per metre run). See fig.1
- With a pitched roof where the pitch of the roof is less than 15 degrees and the roof space is an attic or loft a free airflow is required which is equivalent to a continuous 25mm opening (25,000 mm² per metre run). See fig. 2
- With a pitched roof where the roof space contains living accommodation and part of the ceiling and insulation follow the same line as the rafters a free airflow is required which is equivalent to a continuous 25mm opening (25,000 mm² per metre run). See fig. 3
- With a flat roof a free airflow is required which is equivalent to a continuous 25mm opening (25,000 mm² per metre). See figs. 4a,4b and 4c
- In all cases the ventilators must run continuously along the eaves and along opposite sides of the building so as to create a cross flow ventilation action



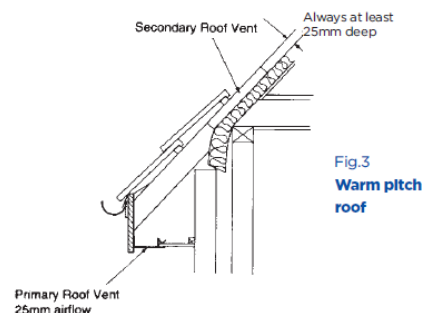
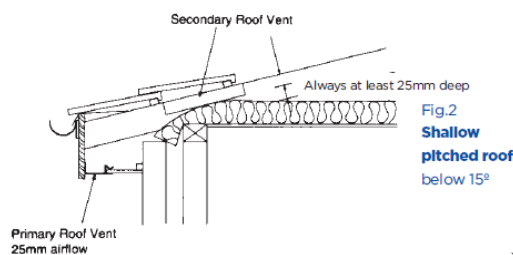
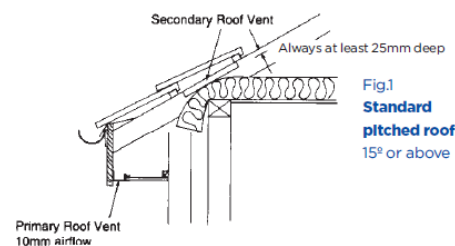
Secondary roof ventilators

- With a standard pitched roof where the pitch of the roof is 15 degrees or greater and the roof space is an attic or loft a ventilation channel at least 25mm deep must be maintained between the roof insulation and the underside of the roof covering. See fig.1
- With a pitched roof where the pitch of the roof is less than 15 degrees and the roof space is an attic or loft a ventilation channel at least 25mm deep must be maintained between the roof insulation and the underside of the roof covering. See fig. 2
- With a pitched roof where the roof space contains living accommodation and part of the ceiling and insulation follow the same line as the rafters a ventilation channel at least 25mm deep must be maintained between the roof insulation and the underside of the roof covering. See fig. 3
- With a flat roof a ventilation channel at least 50mm deep must be maintained between the roof insulation and the underside of the roof deck. See fig. 4
- In all cases the ventilation channel must run continuously along the eaves and along opposite sides of the building so as to create a cross flow ventilation action

Vapour permeable underlay

All vapour permeable underlays require a full convection tight ceiling, if condensation problems within the loft space are to be avoided. Timloc's judgement is that this 100% sealing of all apertures including pipes, wiring and fittings, in addition to its basic structure is not achievable in practice, and consequently there will be a risk of condensation occurring

Timloc recommend exploring the practicality and feasibility of achieving a full convection tight ceiling i.e. to all apertures (pipes, wiring and light fittings)



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Product selection

Once the required level of free airflow necessary to suit the roof design has been established the choice of ventilation components is dictated by the eaves design, method of construction or the preference of the specifier or end user. Timloc recommend that customers take advantage of the technical advisory service which is freely available to all users and specifiers of Timloc products. The Technical Services Department will be pleased to advise on the most suitable products to suit the application and will prepare a fully itemised schedule of quantities if required. Please provide as much information as possible regarding the roof design and eaves construction detail including a dimensioned drawing if available.

Installation advice

Due to the wide range of products in the roofline and above range the installation methods are equally varied. It is recommended that the specific installation instructions supplied with the goods are closely followed at the time of installation. Anything which is unclear should be checked with Timloc Technical Services Department.

General advice relevant to key products in the range are detailed below:

Soffit vent type C

The mouth along the edge of the soffit ventilator is ideally suited to accommodate a 6mm thick soffit board. Soffit boards of up to 9mm thick can be accommodated with care but it may sometimes be necessary to chamfer the edge of the board slightly to make insertion easier. Soffit boards over 9mm in thickness cannot be accommodated unless the edge of the board is rebated down to a thickness of 6 - 9mm.

Over fascia ventilators (all types)

Over fascia ventilators fit on the upper edge of the fascia board. It is important to note the height of the over fascia ventilator to be used and make allowance for this when fitting the fascia board. If the height of the ventilator is not taken into account and the fascia board lowered accordingly the tiles may be caused to 'kick up' at the eaves.

Over fascia ventilators - Products 3011 and 3011-25 only

It is strongly recommended that a plywood felt support is fitted directly above the over fascia ventilator in order to prevent sagging roofing felt from restricting airflow through the ventilator. This should project at least 10mm beyond the front of the ventilator.

Corbel ventilator

The corbel ventilator is designed to be fitted at the same time that the corbelled brickwork is completed. The fixing clips have protruding tabs which are built in to the perp. mortar joints on the top row of brickwork. If the ventilator is not fitted at this time the fixing clips cannot be used as intended and it will be necessary to drill and plug the brickwork or fit a timber batten on which to fix the ventilator.

The corbel ventilator is only available in the standard 10mm continuous opening version. If ventilation is required which is equivalent to a continuous 25mm opening then an alternative product must be used, a 25mm airflow over fascia ventilator is recommended. It will be necessary to fit this by drilling and plugging the brickwork or fitting a timber batten on which to fix the ventilator.

It is strongly recommended that a plywood felt support is fitted directly above the corbel ventilator in order to prevent sagging roofing felt from restricting airflow through the ventilator. This should project at least 15mm beyond the front of the ventilator.

Push in soffit ventilators

The push in soffit ventilators are fitted into 70mm diameter circular holes cut into the soffit board with a hole saw. These holes should be drilled at 160mm centres in order to provide airflow equivalent to a continuous 10mm opening. The push in ventilators are not suited in situations where an airflow equivalent to a continuous 25mm opening is required. It is very important that the holes are cut accurately and are not oversized otherwise the ventilators will not grip firmly in the fixing holes.

Secondary roof ventilators (all types)

All secondary roof ventilators are 300mm in width to allow multiple rows, one above the other, to work up the roof to accommodate thick and multi layers of insulation occurring at the eaves to the roof junction. Please consult the Timloc Technical department for further advice.

Valley troughs and joining strips

Timloc produce three products in this range. A general purpose valley trough which can be used with any kind of tile or slate, a slate valley trough specifically for use with slates and a general purpose joining strip for use with any kind of tile or slate.

Valley troughs

Valley boards must be installed to support the valley trough in accordance with the NHBC Standards. 19mm thick exterior grade plywood is the recommended material and each valley board should extend at least 200mm from the centre line of the valley. The valley boards should be cut so as to fit flush in between the rafters and be supported on noggins fixed to the sides of each rafter

Line the valley intersection with a strip of roofing felt running up the length of the valley and then lap the normal roofing felt over this into the valley area

Counter battens must be used to support the edges of the valley trough and the ends of the cut tile battens. Fit the first counter batten running up the full length of the valley and laying parallel with the line of the valley bottom

Lay the valley trough in position with the angle of the valley trough in the angle of the valley bottom and the outer flange of the valley trough located on the counter batten. Push the valley bottom down firmly into the valley bottom and mark the position of the second counter batten

Fit the second counter batten in the position marked running up the full length of the valley and laying parallel with the line of the valley bottom. Position the valley trough between the counter battens and press the valley down firmly into the valley bottom. Maintain the downward pressure on the valley trough and nail the valley through the outer flanges into the counter battens. Use galvanised clout nails at not more than 1m centres

If the length of the valley requires more than one valley trough ensure that the upper valley trough laps over the lower valley trough. The amount of overlap should be a minimum of 150mm at roof pitches of 30 degrees or over and a minimum of 250mm at roof pitches of less than 30 degrees. The lapped area should be secured with two nails in each flange

Using tin snips or shears cut the valley trough to suit at the eaves and ridge. Make sure that the valley can run off into the gutter, it must not be cut back short otherwise water may be discharged behind the fascia board. N.B. Where two valleys meet at a ridge it is advisable to form a lead saddle to cover the ridge intersection. For advice on lead working Timloc recommend that reference is made to the Lead Sheet Manual published by the Lead Sheet Association

Once the valley is complete proceed with the tiling or slating as normal. Cut the tiles or slates to suit the rake of the valley leaving an open valley area approximately 125mm wide up the centre of the valley. Tiles should be bedded onto fresh mortar laid on the sand impregnated strips which are incorporated into each valley. Slates should be secured with clips or rivets in the normal way

Joining strips

Strip back the roof covering over the party wall to provide room to work. Make good the felt and battens over the party wall. Position the joining strip on top of the battens directly over the centre of the party wall and nail through the outer flanges of the joining strip into the battens. Use galvanised clout nails spaced at not more than 1m centres. If the length of the roof slope requires more than one joining strip ensure that the upper joining strip laps over the lower joining strip. The amount of overlap should be a minimum of 150mm at roof pitches of 30 degrees or over and a minimum of 250mm at roof pitches of less than 30 degrees. The lapped area should be secured with two nails in each flange. Ensure that the joining strip extends fully from eaves to ridge, do not leave any gaps.

Make good the tiles or slates. The tiles/slates should be positioned so as to meet half way across the joining strip and should be bedded onto fresh mortar laid on the sand impregnated strip which is incorporated into each joining strip. The tiles/slates should be nailed or clipped in the normal way.