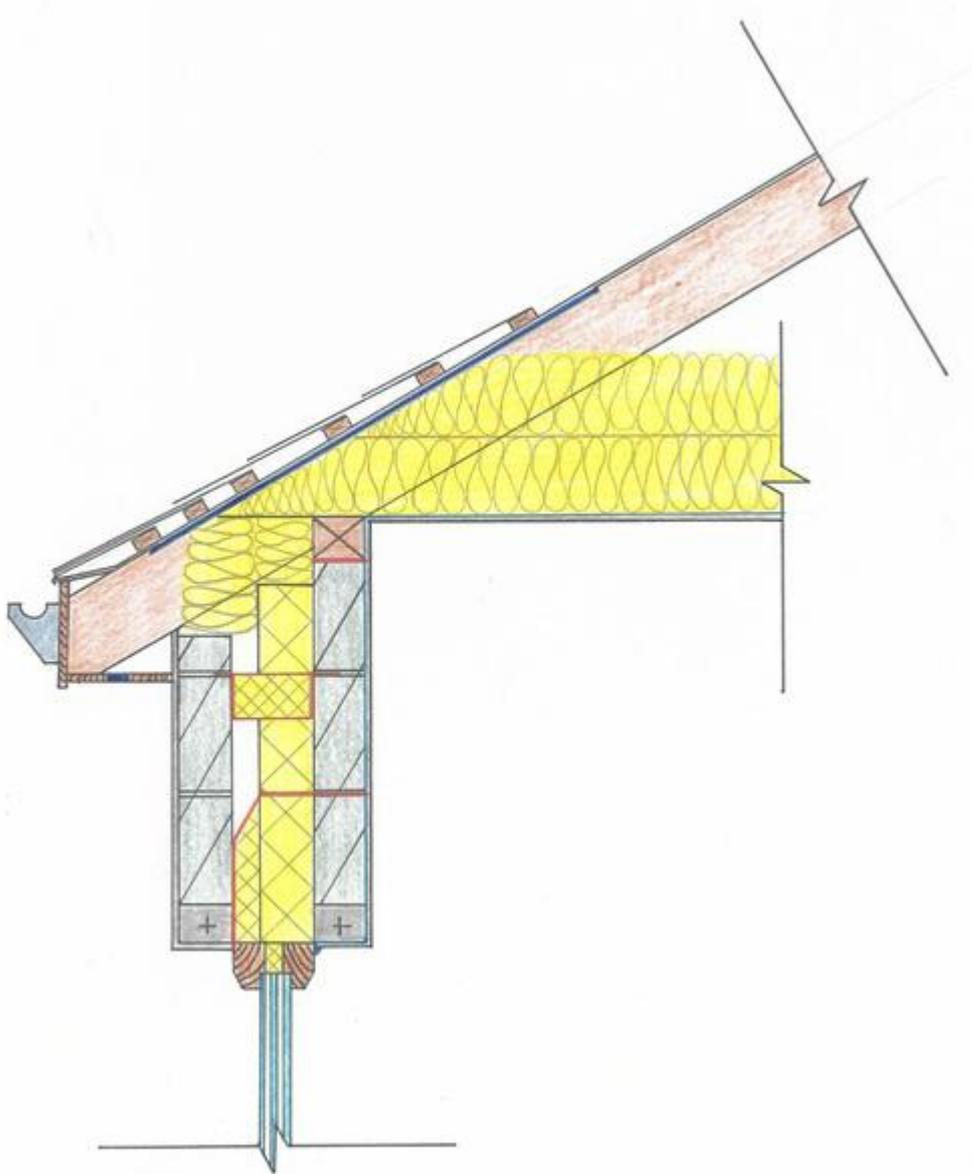


# Eaves Detail



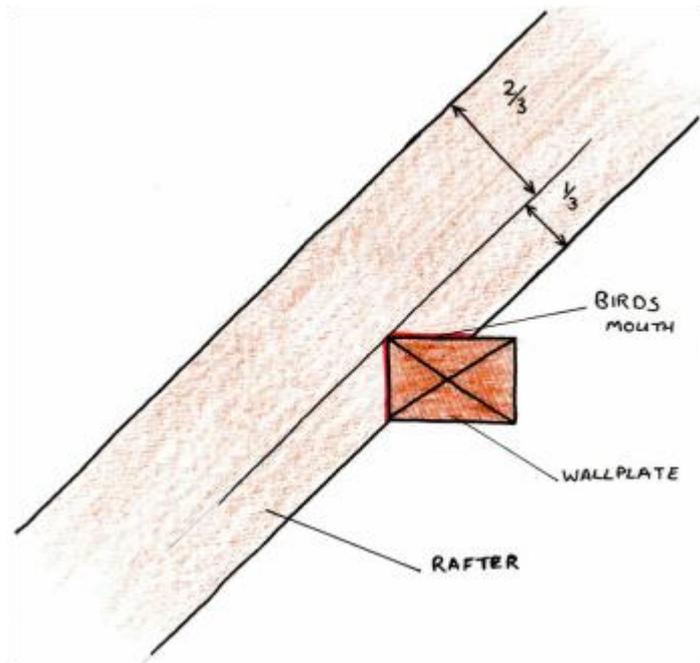
*The eaves detail shows where the roof members, and coverings, meet the wall of the dwelling.*

*The cavity is closed with a proprietary cavity closer.*

*The wallplate is secured to the internal wall, separated by DPC. The wallplate is then used to secure the rafter to.*

*A notch is taken out of the rafter, known as the birds mouth, ensuring a strong fixing which can then be secured to the wallplate.*

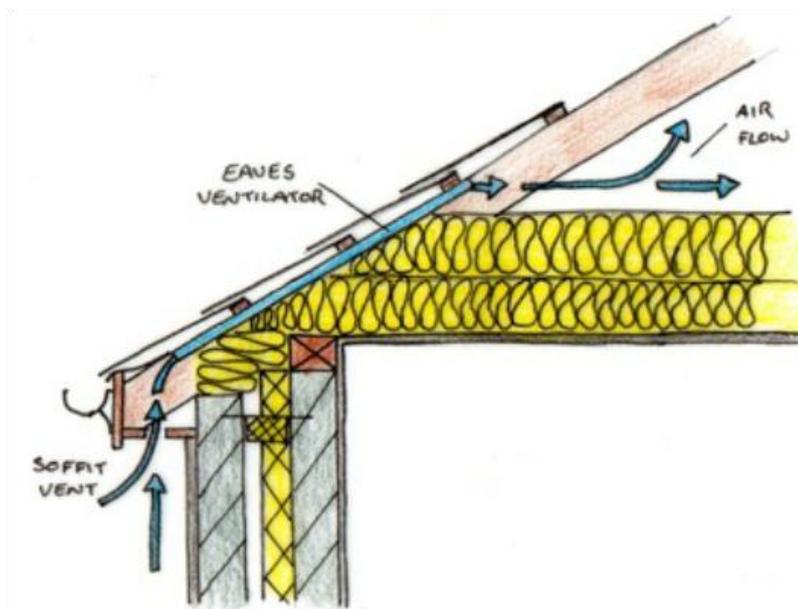
The birds mouth must not exceed  $\frac{1}{3}$  the width of the rafter to ensure it does not weaken the rafter.



The fascia board is attached to the end of the rafter, with the soffit board attached to the underside of the rafter.

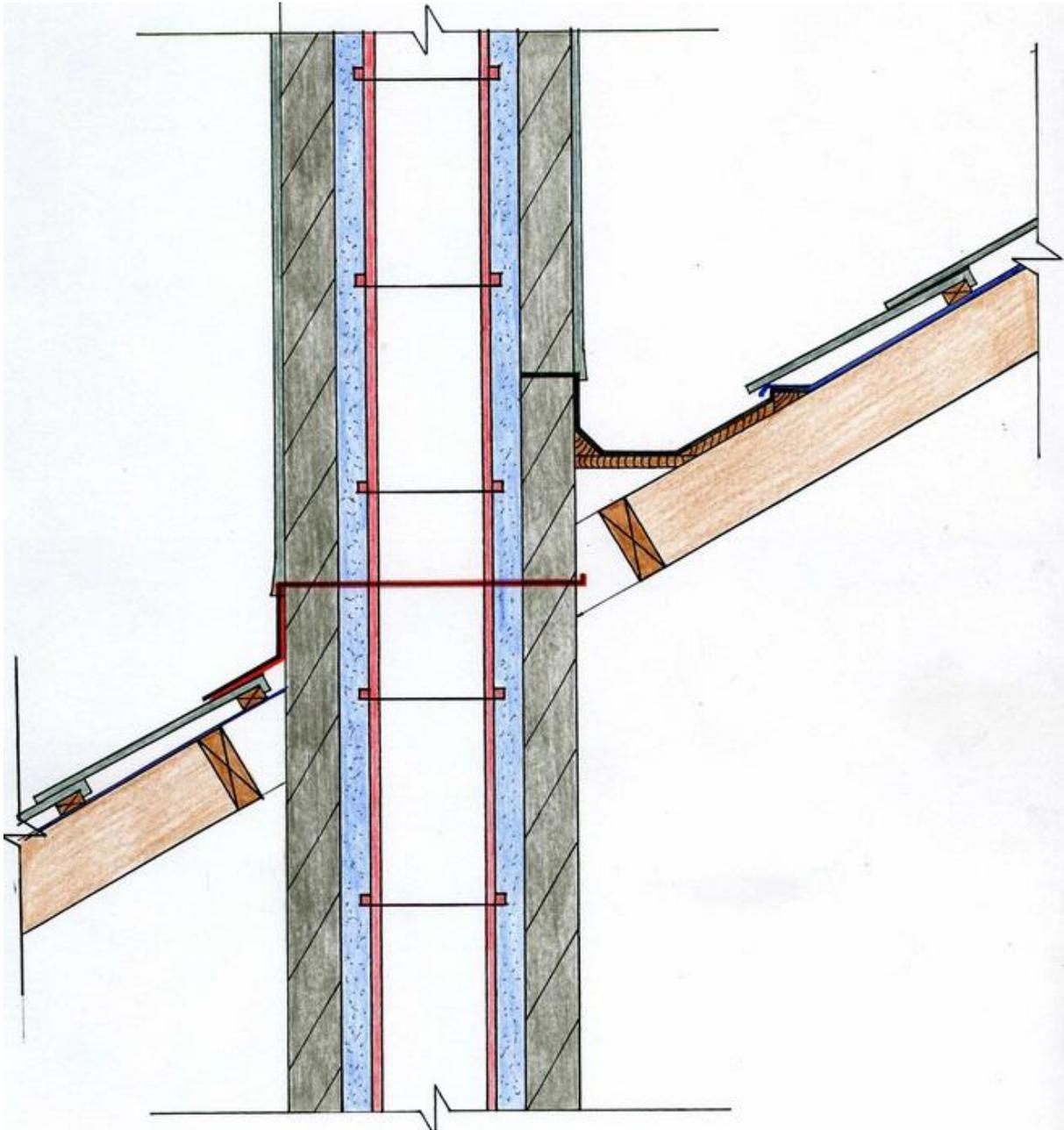
The ceiling joist also rests on the wallplate, with the required insulation between each joist.

A tilting fillet ensures that the underlay does not sag behind the soffit board.



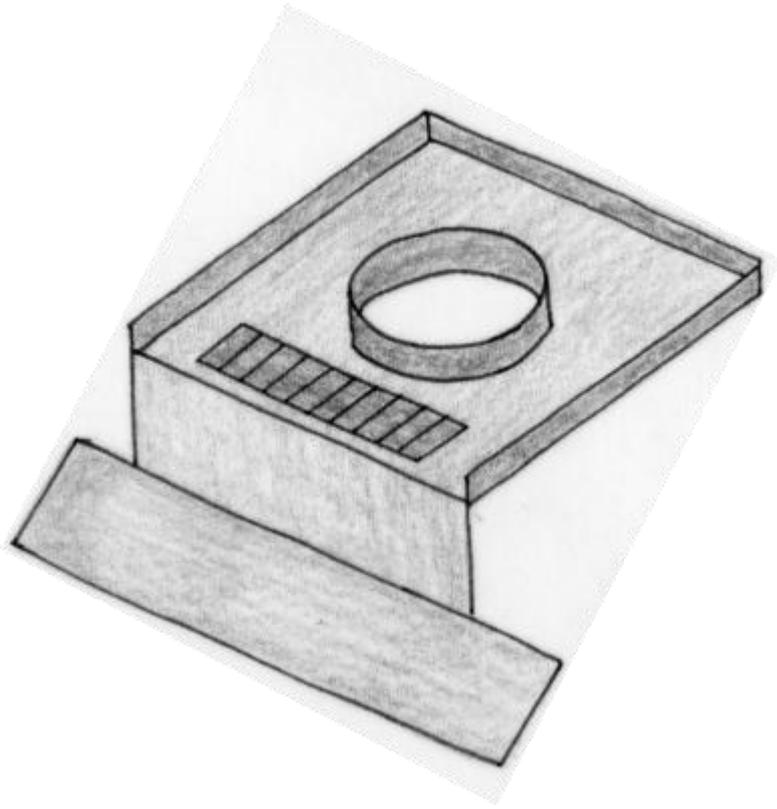
Note the continuous ventilation strip in the soffit and the ventilator installed to ensure the air can flow past the insulation.

## Chimney Detail



*When the chimney stack meets roof level, it is essential junction between the chimney stack and the roof is properly sealed to exclude moisture penetration.*

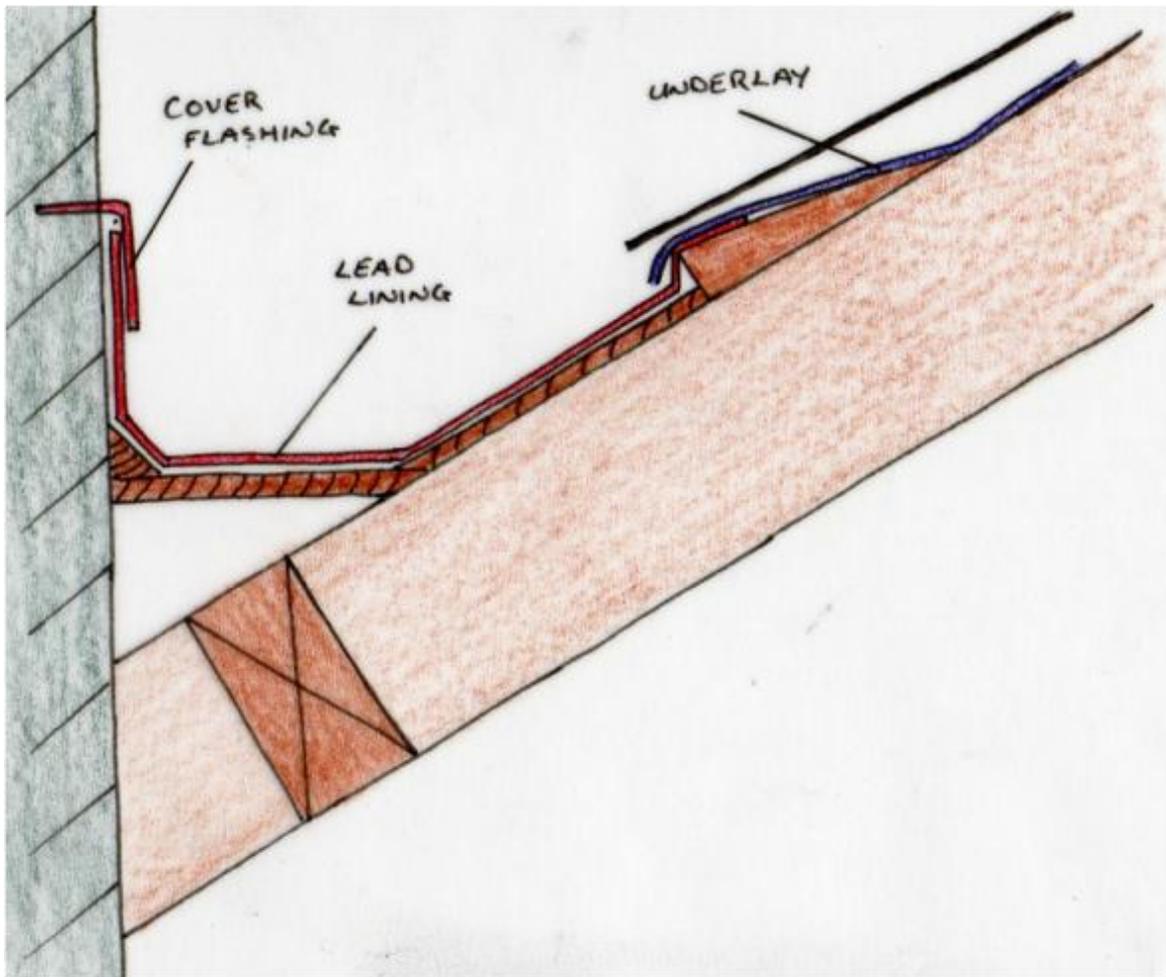
*A DPC tray is built into the block work of the chimney to prevent moisture from soaking down through the block work.*



*The back gutter is fitted to carry water from behind the chimney.*

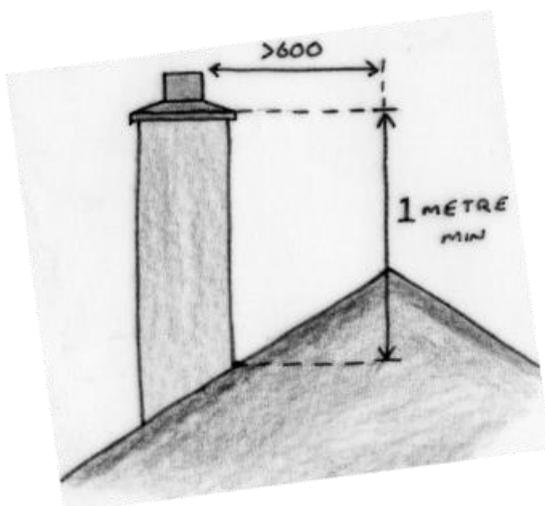
*It is installed to ensure that the lead flashing wraps around the tilting fillet and is overlapped by the roofing underlay.*

*The lead gutter lining is then overlapped by the cover flashing of the chimney stack.*

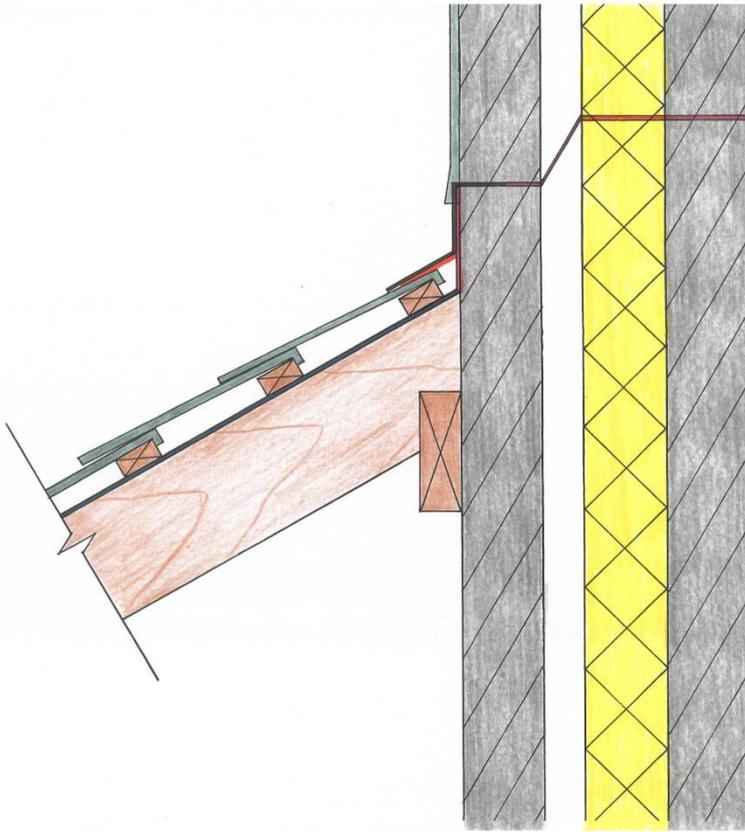


*The positioning and height requirements for a chimney ensure that a sufficient draw of air (or 'pull') can be achieved.*

*This will occur if the chimney is at least one meter higher than the highest point of contact with the roof.*



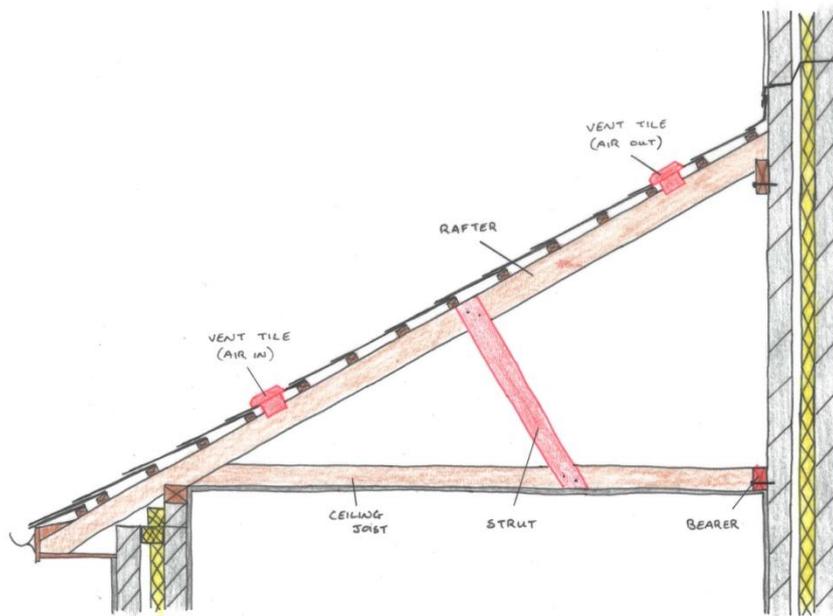
# Abutment Detail



*It is essential that the abutment of the roof to the house is properly sealed to prevent moisture penetration.*

*Lead flashing is chased into the external block, allowing it to overlap the lead upstand coming from the tiles.*

*Stepped DPC across the cavity ensures that any moisture that penetrates the external block will not travel down the cavity.*



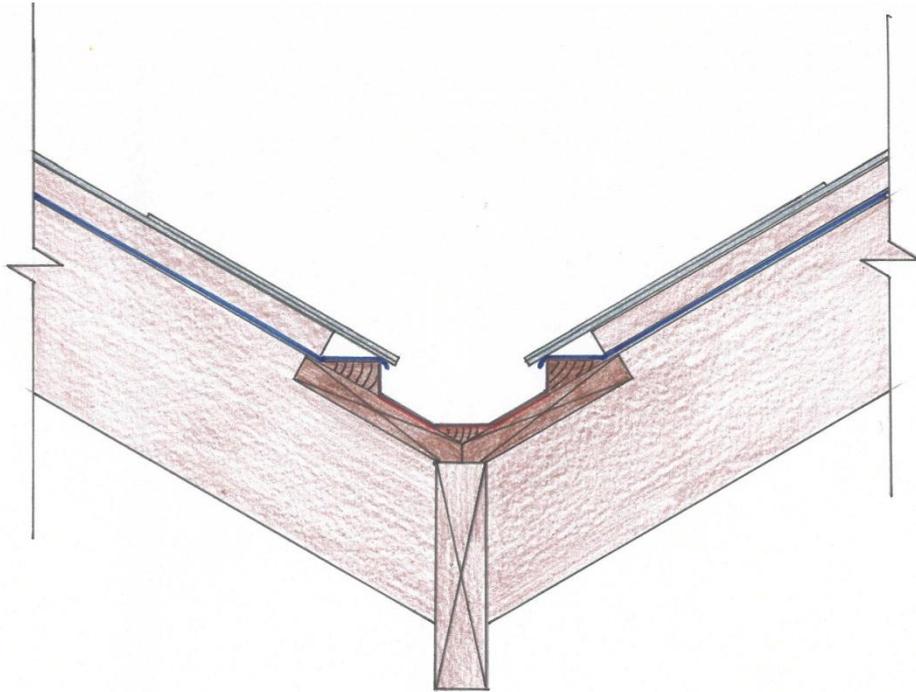
*If asked to draw both the eaves and abutment details of a lean-to-roof, joists and struts must be included.*

*The ceiling joists are extended to the inner cavity wall, where they are attached to a beamer which is bolted to the wall, acting as a wallplate.*

*In order to provide support to the lean-to-roof, a strut is attached to the ceiling joists and rafters, providing support for the loads of the roof.*

*Adequate ventilation must also be provided to prevent the decay of the timbers.*

## Valley Detail



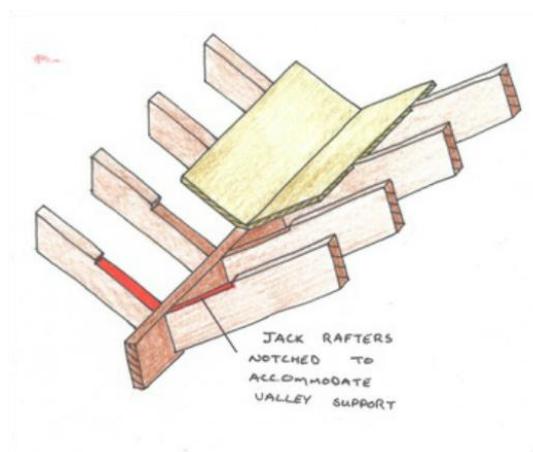
*If the shape of a roof includes a valley, it is vital that moisture does not penetrate at any point in the valley.*

*To ensure this, DPC is installed along the length of the valley.*

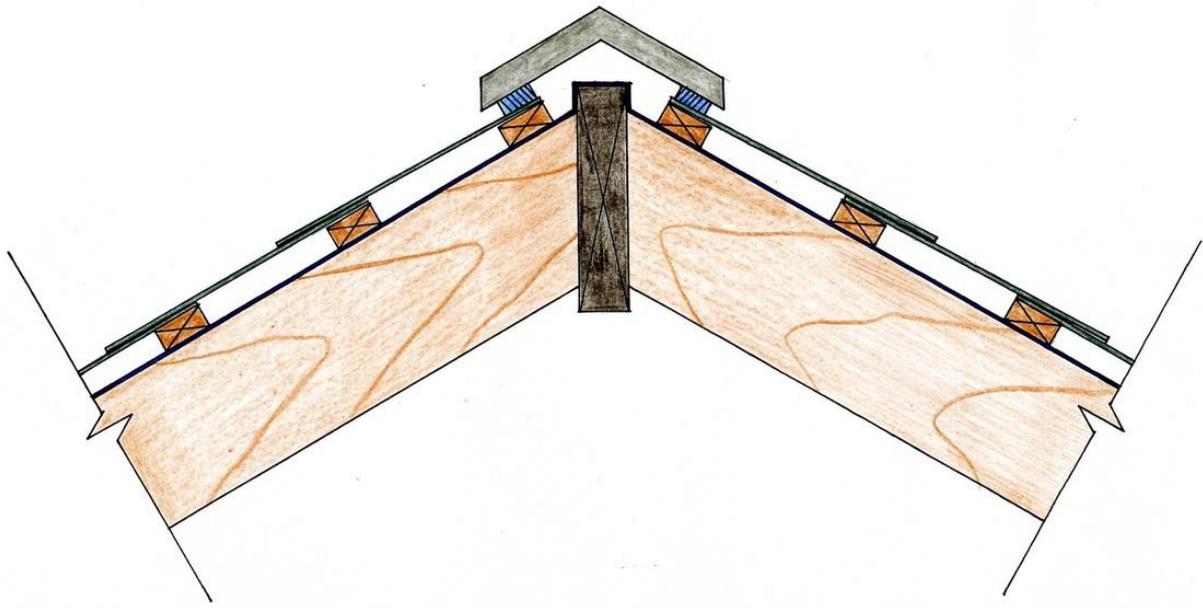
*This is then covered with the lead lining, which is then overlapped by the felt and the tiles.*

*Valley boards are installed in order to ensure adequate support for the DPC and lead.*

*The rafters are notched in order to accommodate the valley boards.*



## Ridge Detail

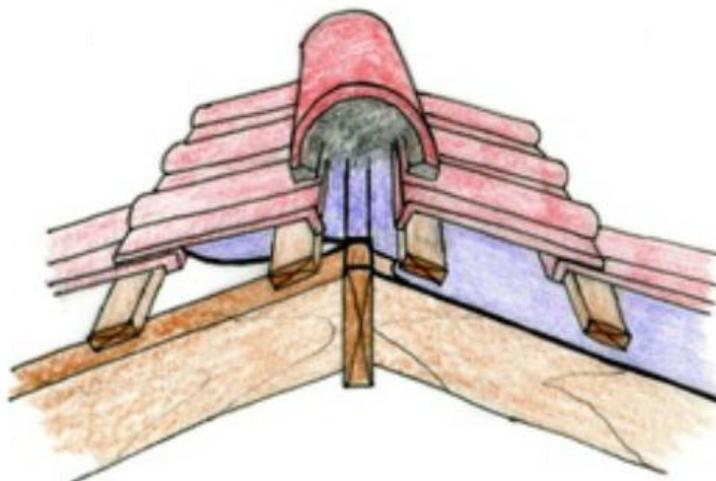


The Ridge Detail shows the highest point of the roof, where the tiles are stopped and a ridge tile is used to finish the meeting of the two roof surfaces.

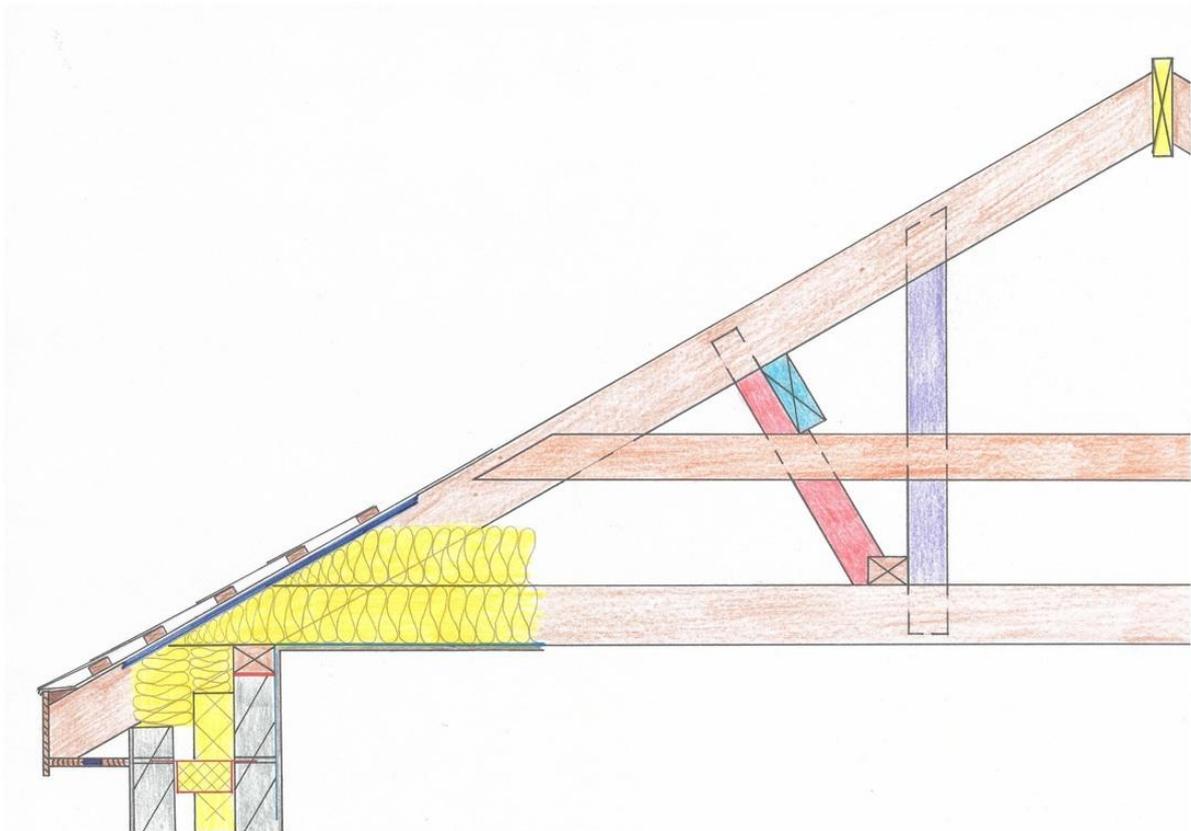
A 175 mm x 32 mm Ridge Board is installed in order to attach the rafters.

It is very important to show the underlay of the roof (felt) wrapping up and around the top of the ridge board. This ensures that any moisture that may penetrate the ridge tiles will not decay the timber of the roof.

The ridge tile is generally bedded in mortar to ensure a secure fixing, preventing the ridge tiles from being removed in windy weather.



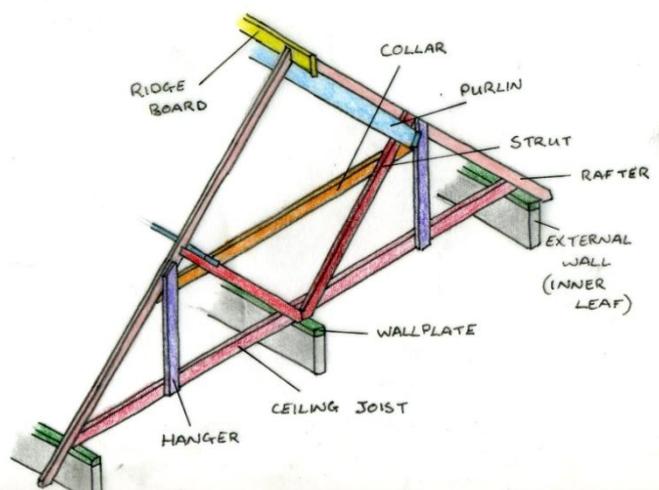
# Traditional Cut Roof



*Every member of a Traditional Cut Roof is individually cut and assembled on site.*

*The overall construction of a traditional cut roof is to ensure that the load of the roof is evenly transmitted to the walls below.*

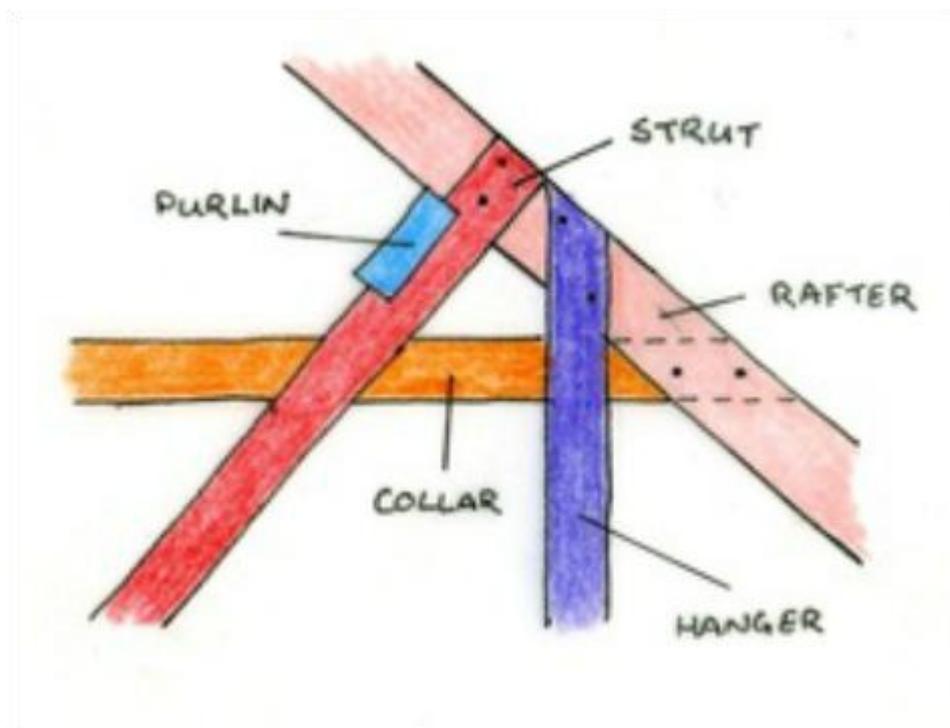
*The rafters are the main load bearing elements of the roof. They span from the wallplate to the ridge board, providing a platform for the underlay, battens and tiles.*



The rafters are supported by purlins, which act as beams providing support to the rafters.

The purlins are supported by struts, which in turn are supported on an internal load bearing wall.

The collar ties are used to connect the rafters, preventing them from spreading outwards. The collar ties and hangers are used to improve the overall strength and stability of the roof.



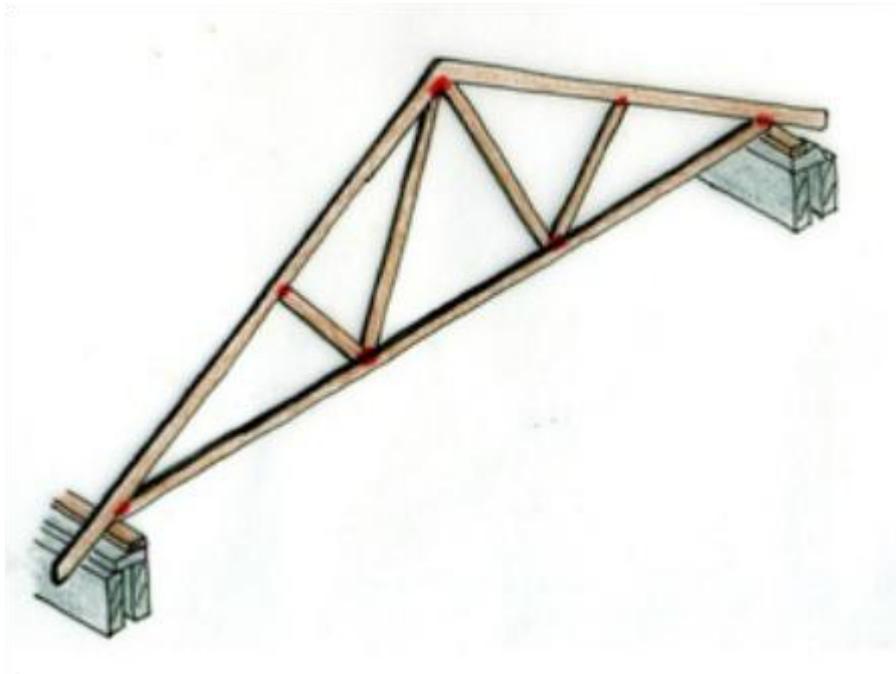
# Prefabricated Truss Roof

Truss Roofs are used very commonly in construction today. They are suitable for large spans, often in excess of 7 metres.

Trusses are designed and made specifically for the structure they will roof.

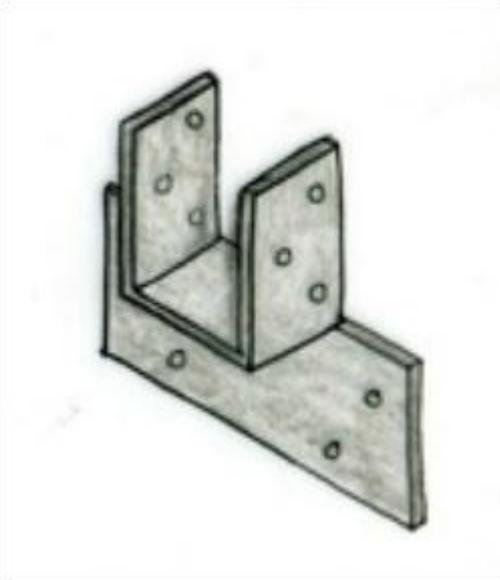
The size of the timber used in a truss will depend on the slope and the span of the roof it is being made for. The roof shown above has a 30 degree slope and spans 6 metres so the members used are 75mm x 32mm.

The members of the trusses are butt jointed and secured using Gang Nail Plates.



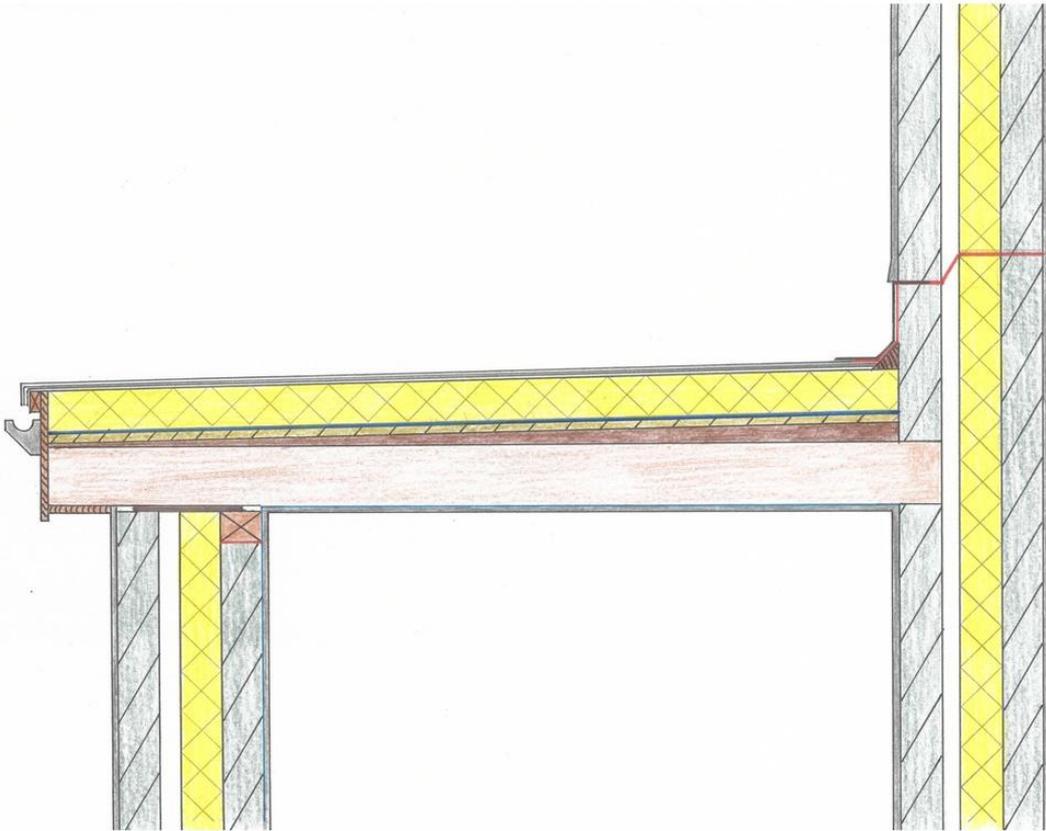
Each truss is delivered to site and they are then attached to the wallplate and placed at 400mm centres.

The trusses are secured to the wall plate using galvanised steel truss clips.



*The trusses are then adequately braced to ensure they stay in an upright position. The bracing is placed length ways and also diagonally across the trusses.*

# Flat Roof



*Roof surfaces which are pitched at 10 degrees or less are classified as flat roofs.*

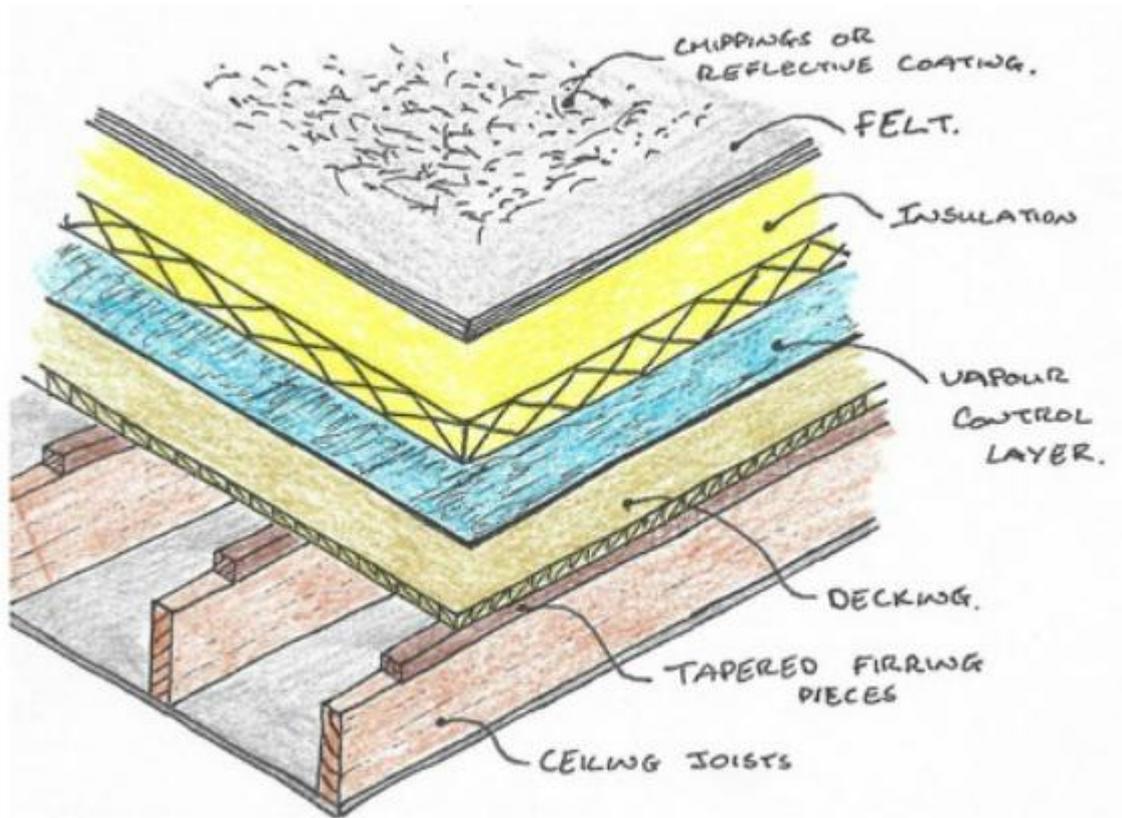
*Flat roofs are often avoided as they are prone to leakage and also require a high level of specialist skill to install.*

*The ceiling joists are used as the platform for the roof coverings. The fall of the roof is achieved by using furring pieces, with a fall of 1 in 40.*

*The flat roof shown above shows Warm Deck Roof Construction.*

*In this type of construction the insulation is placed below the waterproof covering and on top of the roof deck and vapour barrier.*

*This ensures that the deck holds a warm temperature during the winter.*



*The abutment detail of a flat roof is vital in order to prevent moisture penetration.*

*Similar to the abutment of a lean-to-roof, Lead flashing is chased into the external block, allowing it to overlap the lead upstand coming from the tiles.*

*Stepped DPC across the cavity ensures that any moisture that penetrates the external block will not travel down the cavity.*

