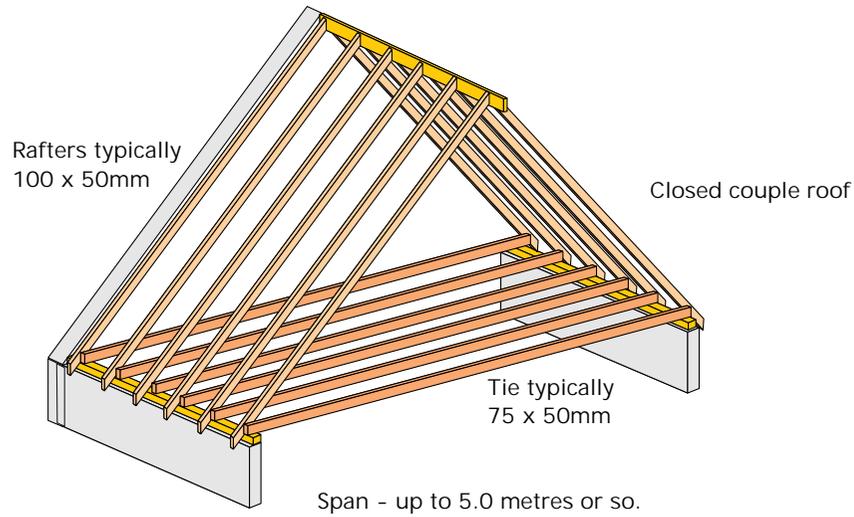


A Very Brief History of Roofs

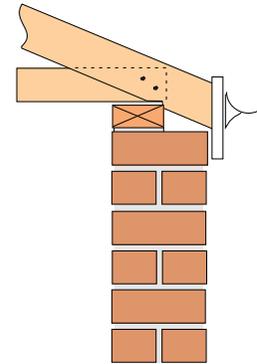


The tie provides support for the ceiling and prevents the feet of the rafter from spreading. In order to function properly the connection between the tie and the rafter must be sound.

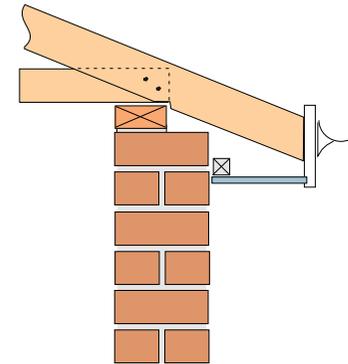
If the tie is raised slightly there are minor savings in walling as part of the room is formed within the roof space. In this situation the tie is known as a collar.



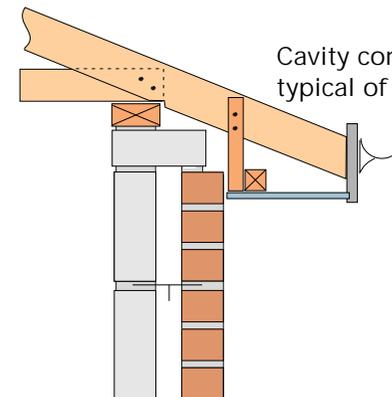
Solid wall construction - up to 1920 or so.



Flush eaves are relatively cheap but there is little protection for the wall.



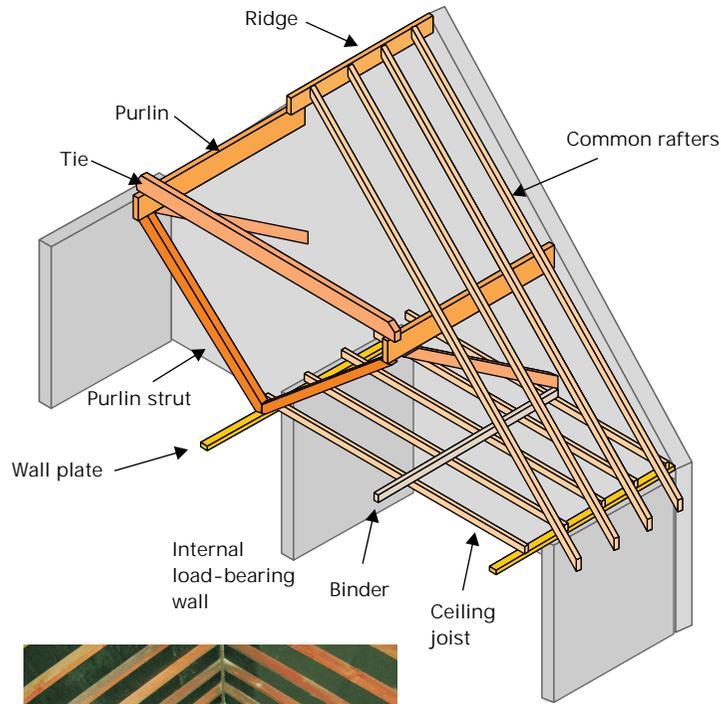
Where there is a large overhang it is common practice to provide a soffit board.



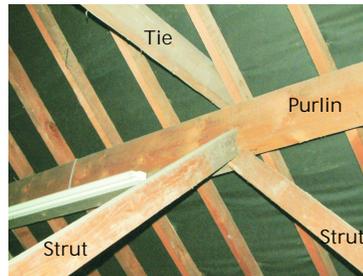
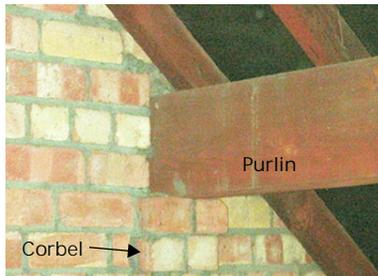
Cavity construction - typical of 1950s and 1960s.



The soffit board can be fixed to the wall or to the rafters. In some houses the soffit will include a ventilation strip.

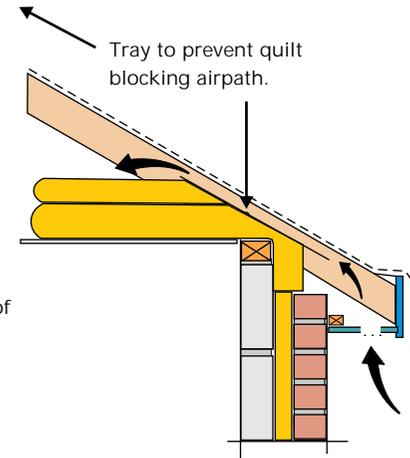


The purlin is built into the party wall and given additional support by the small corbel in the brickwork. Intermediate support is provided by inclined struts.

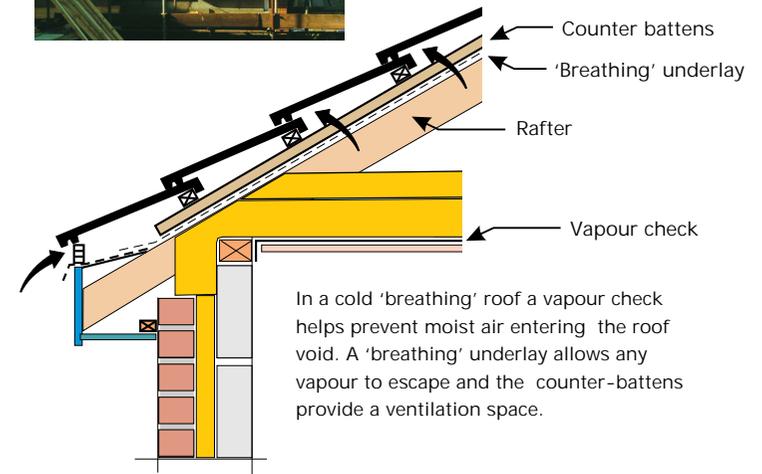


Ventilation can be provided through the soffit board or above the fascia board. In this example the roof includes vents in the soffit board and a plastic tray to ensure that ventilation is not blocked by the roof insulation.

Ventilation is normally provided eaves-to-eaves. Eaves-to-ridge ventilation is more effective.



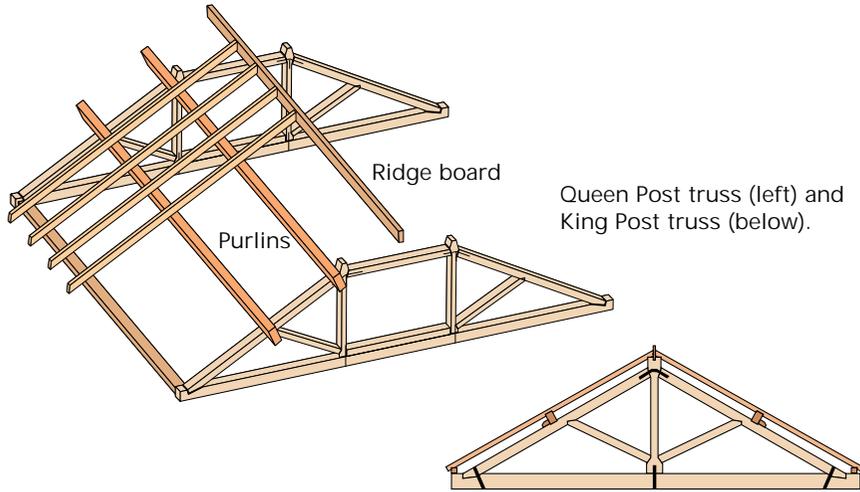
A 'breathing' roof in the process of battening and counter-battening.



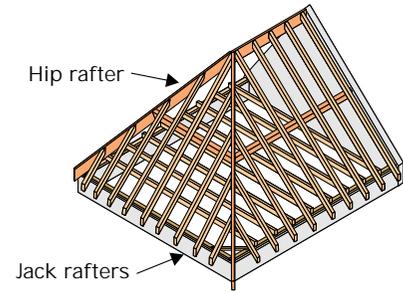
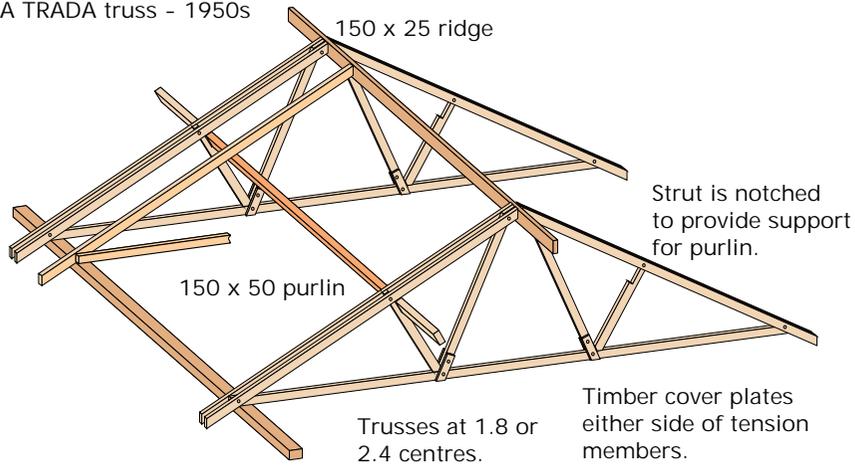
In a cold 'breathing' roof a vapour check helps prevent moist air entering the roof void. A 'breathing' underlay allows any vapour to escape and the counter-battens provide a ventilation space.



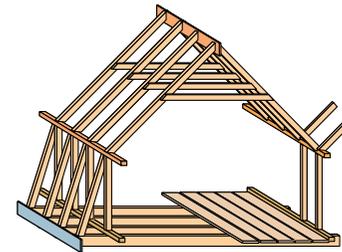
Trusses provide intermediate support for purlins without the need for internal load bearing walls. They were only required in very large houses.



A TRADA truss - 1950s



Hipped roofs are an alternative to gable roofs. Larger examples include purlins on all slopes, sometimes supported by struts and trusses.



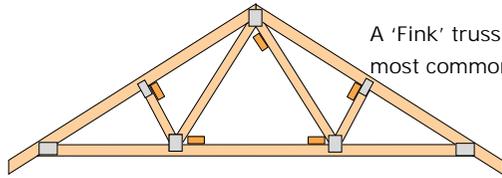
Single and double mansard roofs.

Mansard roofs have two pitches on each slope. A purlin normally supports the rafters where the two pitches meet. These roofs often include living accommodation in the roof void.



Some roofs slope inwards rather than outwards. These inevitably create potential problems. Centre valleys, covered in lead or zinc, need careful detailing if they are to be trouble free.





A 'Fink' truss - the most common pattern.

Gable walls need restraint and are strapped to the roof structure. The straps are usually positioned so that they can be nailed to the horizontal braces



Truss clips

