

## CHIMNEY AND HATCH OPENINGS IN TRUSSED RAFTER ROOFS

Unless subject to special design, hatches and chimneys should be accommodated within the standard spacing between trussed rafters.

It cannot be overstressed that the strength and lightness of trussed rafters derives from the combination of members and joints brought together in a triangulated framework. Unless subject to special design arrangements with the trussed rafter designer, truss members must never be cut or trimmed.

In order to accommodate normally occurring features in a dwelling, however, this Product Data Sheet shows ways of re-positioning trussed rafters so that chimneys, hatches etc can be incorporated into the roof without the need for cutting.

Figures 1 and 2 show the principles of trimming around chimneys by closing up the spacing of adjacent trussed rafters to ensure that no individual trussed rafter carries significantly more load than it would have done had it been spaced normally. The opening for the chimney must obviously then include additional loose timbers in order to provide support for tiling battens and ceilings.

Figures 3 and 4 show the suggested layout of trusses for openings up to 2 x standard truss spacing (normally 600 mm) and up to 3 x normal spacing respectively.

Fig. 1 Framing around chimney

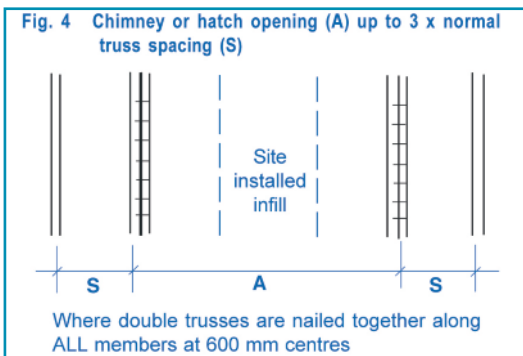
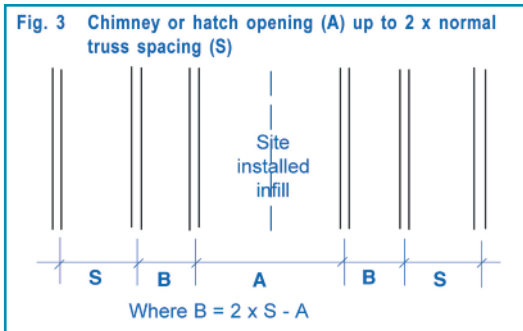
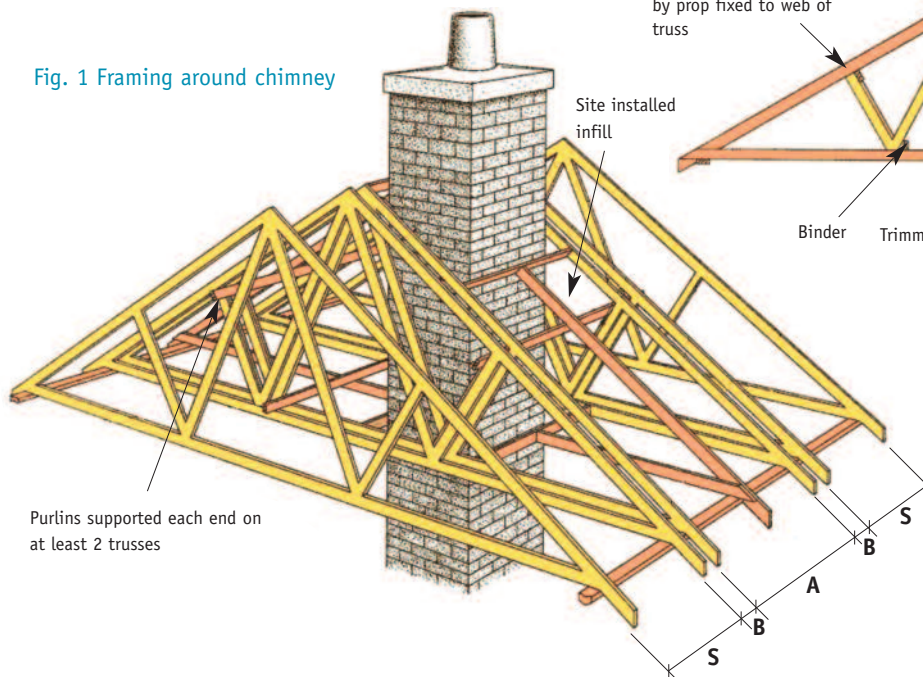
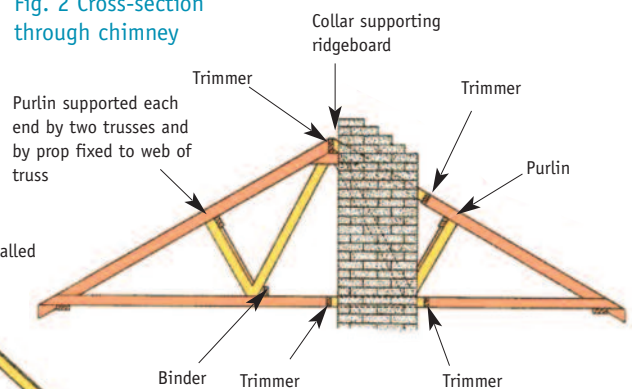


Fig. 2 Cross-section through chimney



Depending upon type of chimney flue adequate gap should be left between trimmers and chimney

For clarity roof bracing has been omitted from sketches in this Data Sheet. Bracing should be installed and be continuous even in areas of site installed infill.



In the case of 2 x normal spacing purlins, binders and ridgeboards should typically be at least 47 x 125mm (nom size), trimmers should be min 47 x 100mm. For the 3 x normal spacing solution purlins, ridgeboards and binders should typically be increased to 47 x 175mm and trimmers to 47 x 125mm. In both cases loose rafters should be 25mm deeper than the rafter members of trussed rafters in order to facilitate birdsmouthing over purlins and binders.

**NOTE:** TRA recommends the use of kiln-dried, strength graded timber of Strength Class C16 or better for site installed infill members.

Figures 5 & 6 show the similar solution when trimming around loft hatches at ceiling level.

Although the sketches and data contained in this Product Data Sheet show primarily how to deal with standard 'fink' trussed rafters the principles explained are equally relevant to roofs constructed with other types of trussed rafter. Consult your trussed rafter supplier for more details.

These details should not, however, be applied to raised tie or extended joist trusses since their construction may prevent the use of multi-ply trusses. Contact your trussed rafter supplier for further information.

### Special detail for low-pitched roofs

Figures 2 and 6 show the normal method of supporting purlins at supporting trussed rafters when allowing for openings in the roof. This method involves placing the purlins parallel to the internal web members of the trussed rafter supported by a prop nailed to the web member.

This works well except in cases of low-pitched roofs where the purlin can approach the horizontal position. In these cases it is necessary to construct a support framework for the purlin, nailed to the side of the truss as shown in Fig. 7

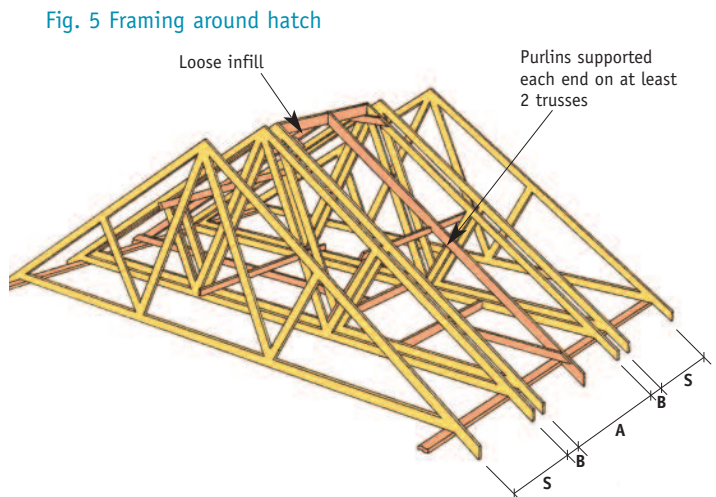


Fig. 6 Cross section through hatch

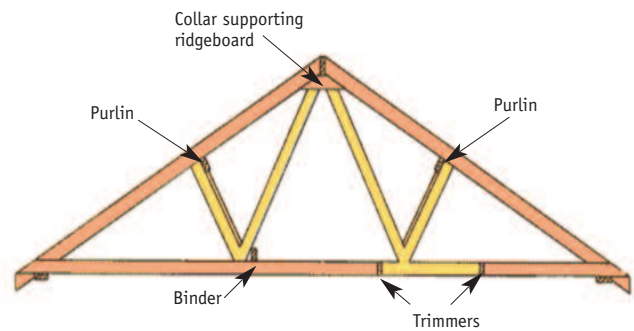
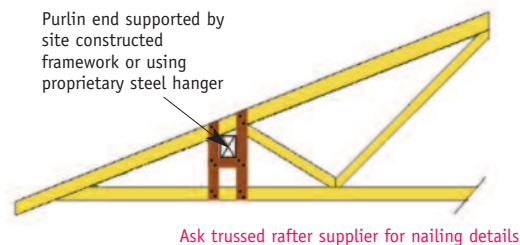


Fig. 7 Supporting purlins in low-pitched roofs



This Product Data Sheet is intended to give some ideas on how to frame around openings in trussed rafter roofs. It must be stressed that these are typical solutions to framing openings since each roof will have its own characteristics. Readers are strongly recommended to contact their truss supplier/designer as early as possible in the contract in order to ascertain whether these details are relevant to their particular set of circumstances.

Under NO circumstances should trussed rafter members ever be cut or trimmed unless this has been specifically approved by the trussed rafter designer. Further detailed reading on site installation methods can also be found in the 'Technical Handbook' which is a priced publication available from the Trussed Rafter Association.

