

Technical Guidance

Fixing valley trussed rafters (diminishing trussed rafters)

Question

How should valley trussed rafters be supported on and fixed to the main trussed rafters?

Considerations

- Correct support is required to safely distribute/transfer loads onto the main trussed rafters and prevent the valley trussed rafters slipping down the roof slope.
- The trussed rafter manufacturer's fixing guidance should be followed.
- The Trussed Rafter Association technical handbook provides guidance on fixing valley trussed rafters to main trussed rafters.
- Trussed rafter manufacturers supply valley trussed rafters with either a square or a splayed edge to the bottom chord.

Answer

Unless designed otherwise:

Where valley trussed rafters have splayed bottom chords (generally for roof slopes up to 30° pitch) the splayed edge should match the pitch of the main trussed rafters so that the valley trussed rafters sit upright on the main trussed rafters (see figure 1). The valley trussed rafters should be skew nailed to each rafter crossed with two 3.35mm dia. x 75mm long galvanised wire nails (see figure 2).

Valley trussed rafters with square bottom chords should be skew nailed to each rafter crossed and be supported on a continuous binder fixed across the main trussed rafters. The top edge of the binder should be splayed to suit the square bottom chord of the valley trussed rafter (see figure 3). The binder should be nailed to each rafter crossed with two 3.35mm dia. x 75mm long galvanised wire nails.

As an alternative to a continuous binder a 25 x 38 x 300mm batten can be fixed (with two 3.35mm dia. x 75mm long galvanised wire nails) up each rafter (see figure 4). The top end of each batten should be splayed to match the bottom chord of the valley trussed rafter.

Where the ends of the valley trussed rafter do not finish over a main trussed rafter a nogging should be fixed between the main trussed rafters to support the end of the valley trussed rafter, (see figure 5 overleaf).

Figure 1 – Valley trussed rafters

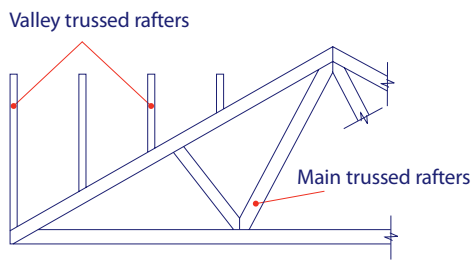


Figure 2 – Splayed bottom chord

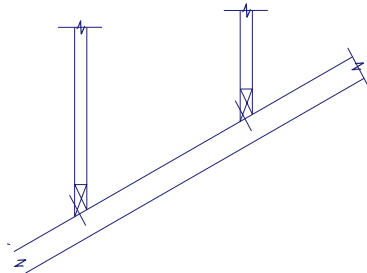


Figure 3 – Square bottom chord
(Supported on a continuous binder)

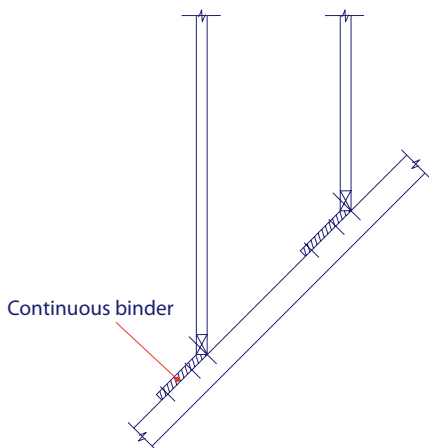


Figure 4 – Square bottom chord
(Supported on battens)

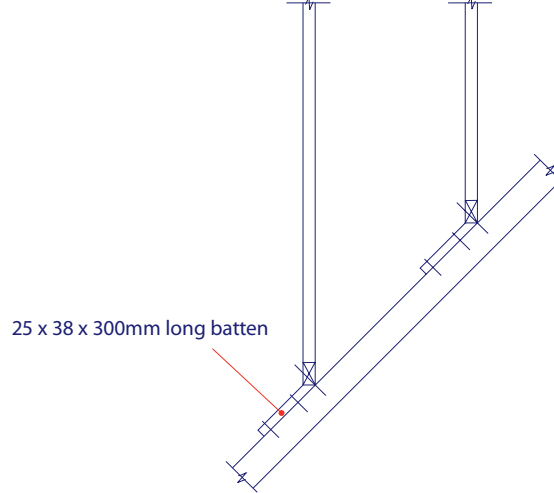


Figure 5 – Nogging supporting end of valley trussed rafter between main trussed rafters

