

Attic Frames - Bracing

Permanent bracing is required in all roofs for four reasons:

- a. to maintain rafter stability
- b. to prevent dominoeing
- c. to form diaphragms to transmit wind loads to shear walls
- d. to maintain the stability of internal compression members

By far the most serious matter which arises in roof surgeries is rafter (roof) instability, arising from lack of suitable bracing.

Permanent bracing is the responsibility of the Building Designer. The advice and recommendations given here are given in the interests of good building practice and are not to imply responsibility accepted by MiTek. They should be considered as the necessary minimum.

Figure 99a

2 No 3.35 x 65mm galvanised nails at all cross overs

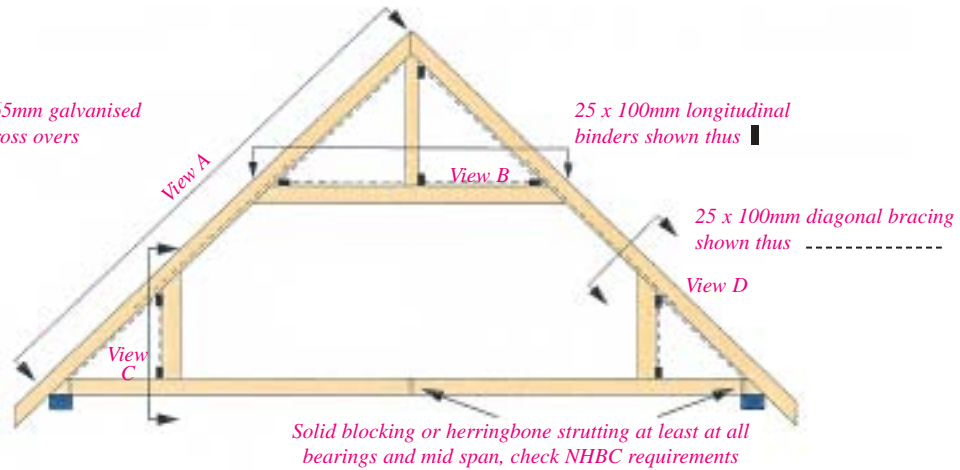
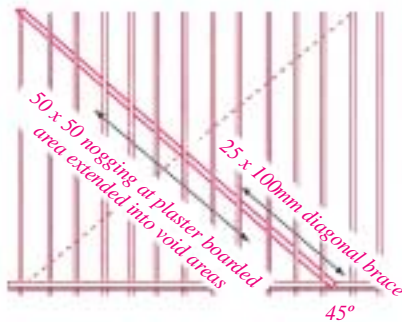
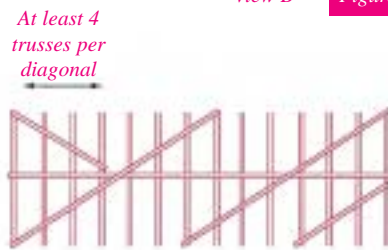


Figure 99b View A



Note: Bracing shown must be installed both sides of ridge and repeat at intervals (with a minimum of two) along roof. Alternate rising to left and to right. Where the roof is short the second line of bracing may cross as shown by the broken line.

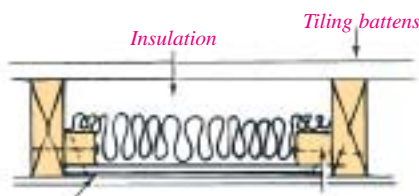
View B Figure 99c



Two diagonals each end. One diagonal alternately each side of centre line elsewhere

Figure 99e View D

Alternative to one line of diagonal rafter bracing



Tight fitting 12mm plywood fixed with 60mm nails at 250mm centres

50 x 50 ledgers fixed with 100mm nails at 250mm centres

View C Figure 99d



Diagonals repeat continuously along building, they may rise to left or right or vary

The structural action of diagonal bracing is the completion of triangulation in various planes, in order to form rigid diaphragms. For example, in the plane of the rafters this is provided by rafters, tiling battens and the bracing members.

The effectiveness of the noggined parts of the diagonals in figure 99b might be open to question, as it is very dependent on the quality of installation. Suitable alternatives are plywood diaphragms (figure 99e).