GANG-NAIL GUIDELINES No.82

ANOTHER MITEK ADVANTAGE

COMPLETE BRACING SYSTEMS - FLOORS

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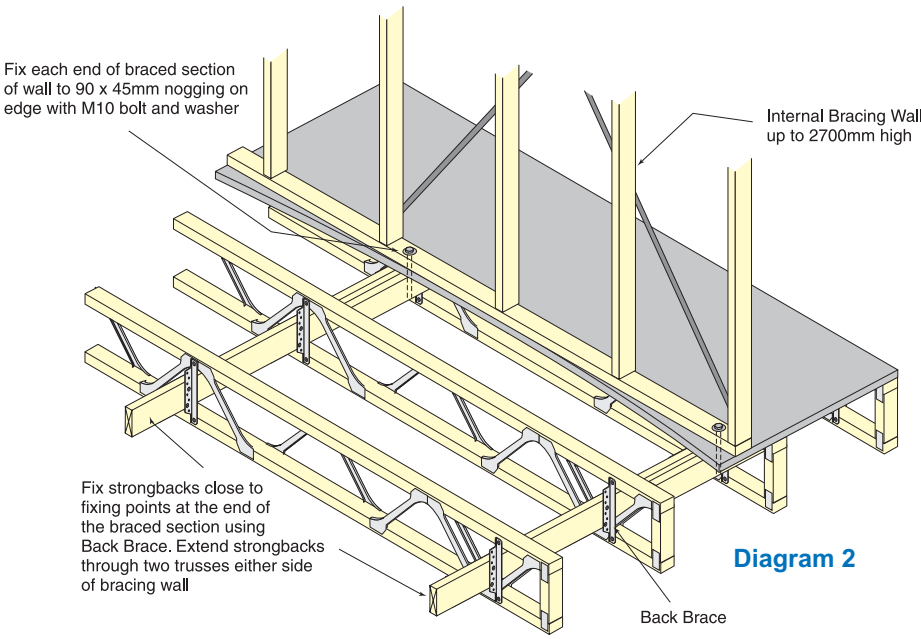

Diagram 2

Calculating the number and type of braced walls to be used on a job is important, but unless those braced walls are fixed correctly the wind bracing forces may still exceed the capacity of the bracing system.

In GN Guidelines 81, I spoke about designing complete bracing systems and the importance of fixing the top of bracing walls to the ceiling diaphragm.

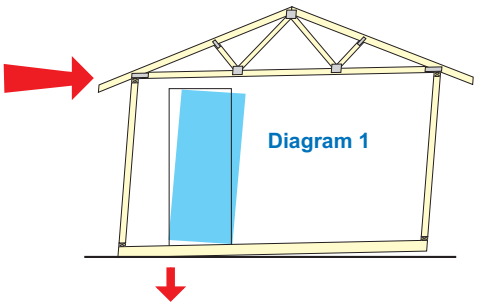

Diagram 1

Fixing the ends of braced wall panels to the floor system is equally important and typical fixing details are included in AS1684 – Residential Timber Framed Construction.

There are two cases to consider:

1) Braced wall parallel to floor trusses or joists (Diagram 2)

2) Braced wall at right angles to floor trusses or joists (Diagram 3)

Hold down in both cases is achieved by bolting the bottom plate to a timber nogging fixed between trusses as shown in Diagram 4

Any bracing system is only as strong as its weakest link and the total bracing system and load paths right down to the footings must be considered.

References:

AS1684 "Residential Timber Framed Construction"

AS1684 User Guide 10 "Distribution of Raking Forces via Diaphragms and Bracing Walls"

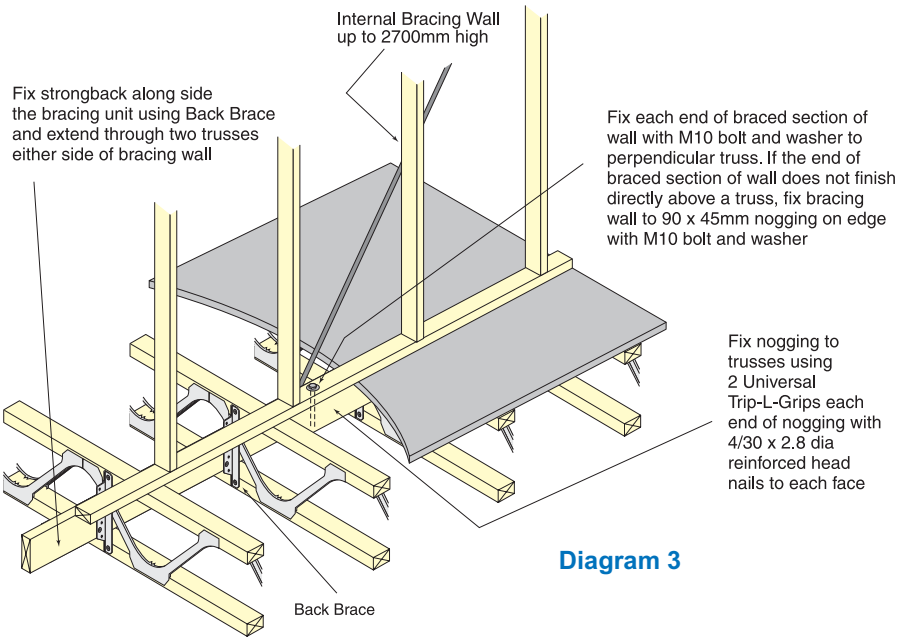

Diagram 3

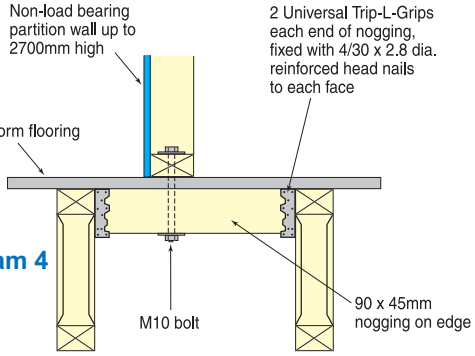

Diagram 4