GANG-NAIL GUIDELINES No.76

ANOTHER MITEK ADVANTAGE

PREVENTION IS BETTER THAN CURE

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Occupational Health & Safety (OH&S) on construction sites has become a major concern for both builders and truss manufacturers alike.

Changes in legislation, the increase in the number of claims, and the compensation being handed down by the courts means that OH&S issues on site must be given due consideration by all stakeholders.

In Gang-Nail Guideline No. 46 Tim Rossiter discussed the importance of temporary bracing to prevent the collapse of trusses during construction.

Temporary bracing is also equally important to keep trusses plumb and straight until permanent bracing is fixed and to ensure trusses are serviceable.

Inadequate top chord ties will cause the top chord to buckle and may result in a distorted roof or even structural failure.

There are clear guidelines set out in Australian Standards AS4440 and in the Installation Guidelines published by your nail plate supplier covering the requirements for temporary bracing.

In brief, temporary ties are required at a **maximum spacing** of: -

- 3000mm to top chords and
- 4000mm to bottom chords.

It is important to understand that temporary braces are required to hold the trusses until permanent bracing is fixed.

Permanent bracing includes all roof and ceiling battens (or the ceiling material itself in the case of direct ceiling fixing), as well as the diagonal bracing.

Some installers have adopted the practice of using nogs between trusses as ties.

This practice in NOT an acceptable practice as it does not provide adequate restraint to the critical end truss.

What can happen if not enough temporary bracing is used?

The most common occurrence is for the truss top chords to buckle under their own self-weight, or the weight of the tile battens and/or workers moving around the roof installing permanent bracing.

Installing sufficient temporary ties at the time of installation will hold trusses in position and reduce call-backs as trusses installed outside the recommended tolerances for “bow” and “plumb” may exhibit excessive deflections resulting in unsatisfactory roof or ceiling lines.

Top and bottom chord ties are essential for the stability of trusses during installation.

It is good practice to highlight on your delivery documents the temporary bracing you are (or are not) supplying.

One area often overlooked is that temporary bracing is also vital to provide a stable platform for the truss installers to work on.

Working on a truss (even of a relatively small span) that is not sufficiently braced to the truss top and bottom chords may result in the truss moving excessively or even collapse.

This can be enough for the worker to fall from the roof and can result in serious injuries.

Lack of temporary ties can cause trusses to collapse during installation.

There are a number of types of failures of trussed roofs from serviceability failure through to catastrophic collapse.

The correct installation and fixing of temporary bracing will help avoid these failures and provide a straighter and safer roof structure.

To overcome recurring site problems, or to prevent yourself from one day defending your actions in court, ensure you include temporary bracing along with instructions for fixing by the builder with each job lot of trusses supplied to site.

Use a check list to record that both of these items have been supplied and keep this a part of your job file as evidence of having done so.

Reference: Australian Standard AS4440 “Installation of Nailplated Timber Trusses”