GANG-NAIL GUIDELINES No.154

ANOTHER MITEK ADVANTAGE

BRACE NOT WITH NOGS

There are many articles on roof bracing and in particular temporary bracing during truss installation.

However, news of the occasional collapse of trusses during installation and a quick tour of new housing estates indicate this is an area that is still largely misunderstood or underrated.

Roof trusses must be firmly kept plumb and straight during installation for obvious reasons. For one, trusses which are allowed to flex sideways or lean over will not perform as intended and this will result in uneven roof and ceiling lines.

The other and more important, reason is that a truss system that does not have sufficient temporary bracing will be unsafe to work on during installation and can lead to collapse resulting in serious injury or death

The Australian truss installation standard, AS4440 contains clear instructions for temporary bracing.

Similar guidelines are also provided in Installation Instruction booklets sent out with every lot of trusses by the supplier.

The first installed truss must be plumb and straight and be securely braced at several points to a rigid element such as the supporting structure or ground.

Successive trusses must then be braced to that truss or a previously secured truss.

No workers should be allowed on the roof trusses until they have been fully and securely braced.

AS4440 clearly stipulates that temporary ties (or engineered metal truss spacers) must to be installed at a maximum of 3000mm centres to the top chord and 4000mm to the bottom chord.

A draft "National Code of Practice for the Prevention of Falls in Housing Construction" produced by Safe Work Australia goes even further and limits the restraint spacing on bottom chords to 3000mm if it is expected to support a person erecting the trusses.

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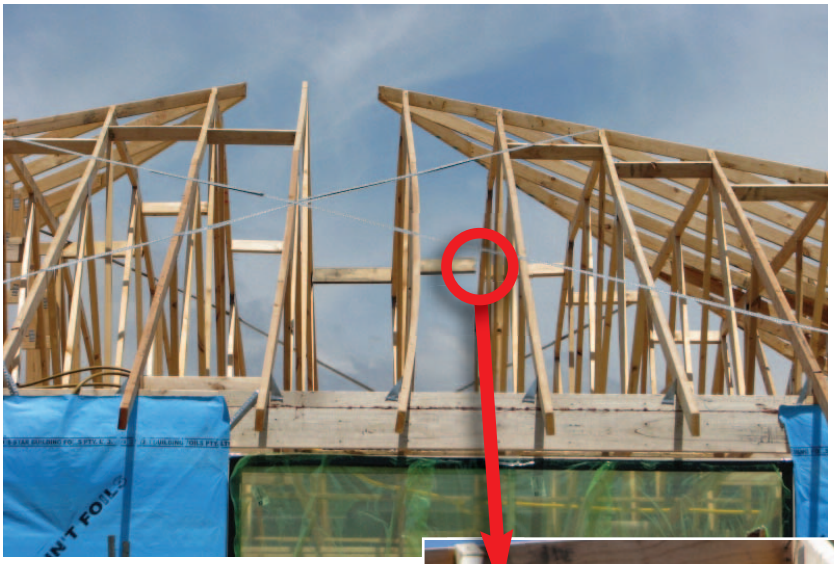
A copy of this code of practice may be obtained from: www.safeworkaustralia.gov.au.

In addition to making sure restraints are not spaced too far apart, the other important aspect about temporary ties is the manner in which they are applied.

Solid nogging or trimmers between trusses are not an uncommon sight on building sites.



■ *Buckled trusses due to inadequate temporary bracing.*

■ *In a reverse image this shows that nogging is not temporary bracing.*

These may be fine for spacing the trusses apart but they are not adequate for bracing them.

This is because nogging involves nails being skew-nailed or driven into the end grain.

As a restraint, nogging will not behave well since the nails can easily withdraw or pull out of the timber.

To make matters even worse, there is often only row of nogging on large span trusses.

It is doubtful if anyone would feel safe working on trusses with only a couple of nails into the end grain holding the structure together.

This is the very reason why the Safe Work Australia document clearly states that nogging or trimmers are not permitted to be used as temporary bracing.

Temporary bracing that complies with both AS4440 and the Safe Work document should be achieved by using timber ties or propriety metal truss spacers fixed to the top side or underside of the truss chords.

The ties or truss spacers should also be closely spaced as specified to provide a safe working platform for installers and following tradesmen.

To ensure that roof trusses perform as intended and that truss installers have a safe work place, it is important to understand the documentation on acceptable methods of temporary bracing.

Educating builders on the correct installation requirements could save endless call backs for badly performing trusses or time consuming and costly legal expenses if a collapse occurs. TTN