GANG-NAIL GUIDELINES No.109

ANOTHER MITEK ADVANTAGE

# DO NOT FOLD, SPINDLE OR MUTILATE

This was once a warning on data cards that were used to store data and input data into computers back in the 70's.

Basically you fed a whole bunch of punched cards into a feeder that read the data on the cards and then conveyed that data to the computer. If the cards were in any way damaged with extra holes or folds or tears the computer would at best stop and at worst crash completely.

For those that are a bit younger - "spindle" refers to the practice of storing things on a metal spike, like they often do with receipts at cafés. For a computer that relies on holes in the punch card to know what to do, an extra unintended hole can make for some interesting program results!

Trussed roofs, or more particularly trusses, should come with a similar warning. In fact if you read AS4440 carefully you will find the following at Clause 3.9 Truss Modification *"Under no circumstances shall a truss be modified by cutting, drilling or by any other method that may interfere with its structural integrity, without being approved."*

By TIM ROSSITER
*Chief Engineer,*
*MiTek Australia Limited*

This approval must be given by a suitably qualified engineer. It may come via the truss fabricator, but should be signed by the engineer. A suitably qualified engineer is one that knows about timber roof trusses.

There are lots of different areas of specialisation that engineers get involved in so it is important that you get the go ahead from an engineer who has the appropriate knowledge and experience. In the same way that an engineer experienced with timber roof trusses shouldn't give rectifications for high tension power poles or waste treatment plants, the reverse is also true.

Unfortunately a good percentage of the rectification details that we prepare are related to blatant contraventions of Clause 3.9.

Sometimes the damage is minor and the repair is simple, but not times where the damage is critical and the repair requires some engineering to be done.

So when should you seek engineering certification? The answer to this question is: - in every case. Even if the verification work has been carried out in a satisfactory manner you still need to ensure that you are covered under warranty - any truss that has been modified without approval has no guarantee from the fabricator or their engineering support.

Hence if a problem occurs down the track or a sale is attempted and an assessor examines the roof the ramifications can be quite expensive. The list of situations where modifications are not approved is extensive - some of the more common situations are: -

- Air conditioning installation
- Sky-lights
- Electrical works
- Plumbing works

In one example a roof was being inspected for certification and it was noticed that the electrical wiring had been passed through 20mm holes drilled in the sides of the bottom chords of the trusses.

The engineer looked under the air conditioning fan coil unit to see the extent of the holes only to find that two webs had been cut off under the unit.

Looking back on top it was found that a section of the webs had been cut away and the remaining "tails" were nailed to a waling plate that extended from one top chord across to the other. Further inspection revealed that the A/C unit was in fact suspended from the truss that had been modified!

So it is important that we all convey the message that timber trusses are engineered components and should be treated with the respect that they deserve. Only modifications based on rectification details certified by an appropriately qualified engineer should be contemplated. TTN