GANG-NAIL GUIDELINES No.166

ANOTHER MITEK ADVANTAGE

BRACKETS BEFITTING A LEVEL CEILING

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Achieving a level ceiling is the responsibility of several parties in the building process, e.g. the timber supplier who must grade his product to perform to standard, the detailer who must design the trusses properly, the worker who must manufacture them carefully and so on.

But one important step in the process also rests with the installer.

From my regular inspections, recurring deficiencies in truss installation led me to fear that building practice is not improving as it should.

Perhaps I'm getting old and cynical!

Let's visit the issue of girder bracket fitting. I highlight three essential procedures that must be carefully performed, the failure of which will not only affect the ceiling level, but may also compromise truss performance.

They are:

- Positioning brackets at the correct level with the girder;
- Straightening brackets before installing all fixings prior to roof loading; and
- Notching trusses over the seat of thick steel brackets.

Recently I came up against several badly executed bracket fittings that failed all three points in two separate jobs hundreds of kilometres apart - hence not by the same crew.

These brackets were not factory-fitted but were site-fitted, a practice common in certain parts of this country.

Figure 1 shows a bracket that was located and fitted below the bottom of the girder. The dip was made even worse by fixing it to the truss whilst the bracket was badly rotated, probably caused by the big gap between truss and girder.

Figure 2 shows a badly rotated bracket where the bolts were not correctly fitted in the anti-rotation flange early enough. Rotation of girder bottom chords and hence brackets can be instigated simply by the self weight of the carried trusses.

Figure 3 shows an excessive notch, well over 10mm deep into the truss. The cut might have been even deeper had the nailplate not been there to deter the saw blade!

As a result, one builder belatedly installed ceiling battens as a fix up solution to compensate for a badly uneven ceiling.

Can a truss fabricator do anything about this? Surely it's all up to the carpenter? Here are some ways a truss fabricator can actually assist:

1. Educating the builder - when badly fitted brackets are seen on site, inform the carpenter and the supervisor. If they claim it was "all straight before we loaded it", explain why this is simply not possible unless the fixing has torn through the timber for the flange to rotate!

Figure 1

2. Distributing this GN Guideline (and others on installation) - put them on the front counter, post them out with invoices to smaller builders and give them to local TAFE's for building apprentices.

3. Pre-fitting brackets in the plant - for some of you this is an everyday occurrence, but for others the practice is to send the brackets out loose to reduce production time and avoid transportation hassles. Some also feel that it is safer to handle girder trusses without the brackets in place. I expect to be challenged by a number of truss manufacturers on my personal view but I would encourage them to think differently - there are at least a couple of benefits for fitting brackets in the plant:

a. They'll be in the right place, at the right level and with the right fixings; no more M10 bolts in M16 holes!

b. The carpenter's job will actually be easier; score one for customer satisfaction?

4. Hosting education sessions - on truss installation for your "select" clients and their crews. You get to meet and greet your customers face-to-face, perhaps shout them a BBQ, show them you care about their business, and as an added bonus hopefully reduce call outs on site.

Figure 2

Figure 3

The cost of doing some or all of these pales into insignificance when compared with the cost of site visits; there aren't many fabricators who successfully back-charge a builder for time spent on site on a problem that isn't their fault!

Of course there's also the potential cost of repairs - having to batten out the ceiling is just one case in point. TTN