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SAFETY CONCERNS

With the current emphasis on harmonisation of WHS standards between the states, some jurisdictions are re-assessing their requirements for one of the high risk activities – “Working at Heights”.

By its very nature, installing roof trusses involves working at heights and it has already been the subject of some industry safety standards.

These have been considered and included in part in the National Code of Practice for the Prevention of Falls in Housing Construction.

It is important for all involved parties to be consulted for a safety system to succeed.

A defective safety system that results in an unsafe work place is worse than no safety system at all because our human nature is to relax and be less vigilant when there is an impression that we are working in a safe environment.

The enemy of safety is assumption. Safety systems should take into account **all** parts of the structure that prevent/limit the fall of a worker.

Unfortunately a number of systems test and rate the load capacity of the safety device but there the checking stops.

The incorrect assumption is that the device will be adequately supported by whatever it is attached to. This applies to temporary brace, edge rails and anchor points alike.

Since Dean Ashton covered temporary bracing very well in Guidelines No 154, I will focus on anchor points here.

Anchor points are sometimes considered the ultimate safety link, with the belief that “no other systems are required if anchor points are installed”.

This is not necessarily the case – the timing of use of these points is very important and where the load path goes must also be considered.

In the first instance, anchor point specifications must be conveyed as early as possible to the truss and frame designer to incorporate into the supporting structure.

To be blunt, trusses and their

supporting structures **are not** adequate by default to accommodate fixed anchor points.

They must be specifically designed by taking into account a number of issues/points:

- An anchor point has to be able to withstand 15kN - that’s 1.5 tonnes or a medium sized sedan! To design every truss for an anchor point at any location along the top chord would make roof construction extremely expensive - truss or rafter, timber or steel. It is far more practical to design individual trusses upon request to support specific anchor point locations.
- An anchor point is not usually ready for use until the roof covering and all bracing mechanisms are installed. First of all, without a roof covering, a worker could fall vertically between trusses which creates a direction of force that the anchor points are not usually designed to resist. In that instance, the anchor relies on the roof bracing system (which may include additional bracing bays or the roof lining material) to take the load which can be applied in any direction along the roof plane. Once the covering is in place a fall will “take-up” pretty much in line with the truss top chord, which is how many anchor systems are tested and then rated.
- The selection of an anchor point position should consider the suitability of the roof framing below. An “over rafter” or a small valley truss are examples of inadequate components on which to attach anchor points; a more sturdy truss would be a wiser choice.
- The magnitude of the load onto the underlying structure can be ameliorated by using anchor points that are not rigid but act as shock absorbers to lessen the load on the structure below. Some devices on the market certify the load transfer to be less than half the impact load.
- Beyond the immediate supporting truss, the overall structure also needs careful consideration. What about the verandah beam that supports the truss? How about the temporary props in place awaiting final bricking up of columns?
The bottom line is – never assume!
Given sufficient information, trusses and the supporting structure **can** be designed to accommodate anchor points. Installing anchor points on roof systems without the express approval of the truss supplier would void any warranty on the trusses.

Communication between all parties is essential for a safe safety system! **TTN**

