

ROOF SAFETY



by **ADAM DENNAOUI**
State Engineer,
MiTek Australia Limited

No doubt you are aware of the new Occupational Health and Safety Act (OH&S) that is now in force in most States. This Act requires special safety devices to be installed on all two-storey construction.

These devices can be categorised into two distinct groups:

1. Guard rail systems which are fixed to the perimeter of the roof to prevent workers sliding off the roof.
2. Fall arrest systems, which are usually attached to the highest point of the roof and are designed to break the fall a worker should he accidentally fall during construction.

Guard Rail Systems

There are many different types of Guardrail systems. Some are attached to the wall studs and cantilevered out beyond the eaves line, some are scaffold type systems independent of the construction and there are others, which are attached to the roof trusses in various ways.

It is these latter systems that require special attention by roof designers and installers.

Currently none of the truss design programs design for this load condition. In many cases where guardrails are attached to top chord

overhangs, additional overhang stiffeners will be required.

This creates a very difficult situation for truss fabricators as the type of Guardrail system that will be used is not generally known by the fabricator or probably even by the builder at the time of quoting.

However this does not mean that a fabricator would not be involved in litigation should an overhang fail due to impact on a Guardrail.

As a matter of course I would strongly recommend that all fabricators provide documentation at the time of quoting that makes it clear that if a Guardrail system is to be attached to trusses that trusses may require additional stiffening.

It is important that records of the transmission of this documentation be kept so that, at a later date it can be proved beyond doubt this



information was made available to your client.

If you do not have information on the degree of truss strengthening required for installation of Guardrails you should contact your plate supplier immediately.

Fall Arrest Systems

Fall arrest systems are usually used on larger commercial buildings and like the top chord fixed Guardrail system, truss design programs do not automatically design for the additional load that these devices may impart on the roof structure.

Fall arrest systems offer a significant challenge to truss designers as loads required to break the fall of even an 80 kg man can be very large and may be applied before installation of the bracing is completed.



At this point of time there is no general strengthening information available for timber trusses.

However both designers and truss fabricators should ensure that builders are made aware that full arrest systems should not be attached to roof trusses without special engineering details being supplied.

Once again I strongly suggest that your Quotation and Order acceptance documentation includes a note to this effect.

If you do have a request to design a structure for fall arrest devices you should consult your connector plate supplier for specific recommendations for that project.

With these new regulations in force,



and an ever-increasing vigilance by building authorities to inspect building sites, it is in your own best interest to make sure your documentation is in order and that all staff appreciates the importance of these changes. The penalties for non-compliance are severe.