WORKSAFE
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HSWA

SAFETY ALERT

June 2019

Installing frames and trusses

This safety alert highlights the serious health and safety risks of manually erecting a heavy truss or frame – with the potential for life-altering injuries.

What happened?

WorkSafe is aware of several instances of life-changing injuries while installing frames or trusses.

Incident 1

Three workers attempted to raise a frame by hand, with no mechanical or other devices. Two of them could not support the weight, they let go and the frame fell onto the third worker – who is now paralysed.

Incident 2

In a near-identical case involving three workers walking up a frame, two let go and the frame fell on the third. He now has a permanent back injury.

Incident 3

After having a roof truss lifted onto the frame by a crane (which then left), two workers attempted to move a roof truss along the frame by hand. The truss toppled and knocked the worker to the ground. He is paralysed.

These incidents highlight the risks when tasks are poorly planned – resulting in absent or ineffective risk controls.

What we know

Installing or adjusting frames or trusses has several risks including:

- the heavy weight involved
- the high centre of gravity and inherent instability, and (in some cases)
- working at heights.

There are several points where something can go wrong, and a chance the frame or truss could fall before it is secured.

WorkSafe advice

Risk can be reduced by PCBUs:

- planning how the work will be carried out safely – as required in consultation with other PCBUs
- involving their workers in the discussion or task analysis of how the trusses will be installed safely
- taking advantage of readily available mechanical equipment such as cranes to assist in installing trusses.

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Before starting the task, PCBUs **must** complete a risk assessment and review their controls.

It is **strongly advised** PCBUs eliminate the risk of manual work through engineering controls.

Whenever reasonably practicable a crane should be used to assist with the installation of frames and trusses. Most PCBUs already use cranes to transport materials to construction sites and the cost of further hire is minimal next to the safety and productivity benefits.

Further minimisation controls include ensuring:

- the team responsible for the erection of trusses have the experience and training
- that the work is supervised by a competent person.

If the use of a crane is not reasonably practicable then risk of harm can be minimised by:

- using an adequate number workers to install the trusses, so the heavy trusses aren't left to be handled by an inadequate number of people
- have adequate scaffolding and safety netting properly installed to enable trusses to be placed and secured safely. Planning how the trusses will be erected and braced.

Guidance

Search for 'Working on roofs' or 'Working at height' at: worksafe.govt.nz

Standards

The following standards are relevant:

- AS/NZ 4389 Roof safety mesh
- AS/NZ 1576 Scaffolding
- AS 4440-2004
- BS EN 1263 Safety nets

Further Information

International guidelines of relevance:

Benefits of Planning and Scheduling in house construction Search: trusses

Roof Truss Manual Handling