



WorkCover

# Safety in the wood products industry

## Frame and truss manufacturing



# Safety guide for wall frames and roof trusses manufacturing

Whether you're running a business or working in one, you'll know that an injured worker can't get the job done. Because of this, it's important to make sure you build wall frames and roof trusses safely.

To help you with this, WorkCover NSW has created this Safety in the wood products industry guide. Each guide sheet focuses on one of the stages in your work process, from receiving materials and cutting and assembling them, to delivering the finished pieces. The guide sheets also explain the key hazards in each work area, and some solutions that can help you manage these hazards.

## Important safety tips

While many of the solutions in this guide include mechanical aids and equipment, there are some simple things you can do now to make your workplace safer:

- Remove the cause of the problem eg order timber in smaller sizes and weights, outsource noisy work.
- Reduce the problem by changing the way the work is done:
  - store materials at the right height and close to where they will be used
  - place tools, controls and equipment so that work can be done at a comfortable height (ie between shoulder and knee height)
  - make sure workers know how to safely lift and carry materials correctly
  - have two workers carry material between work areas, rather than one worker
  - use a second person to help guide the wood through the machines
  - have workers do a variety of work tasks during the day or take regular breaks.

It is important to talk your workers and contractors about these hazards and to make sure they are adequately trained and supervised, and hold relevant licences to use any new equipment. Remember to keep all equipment serviced and in good working order.

By avoiding some common hazards and following the suggested solutions in this guide, you'll not only be making your business safer but also be saving some time and money.

Claims information shows that if your worker gets injured it will cost you more than you think.

Hazard	Resulting Injuries	Average days off work per claim
Moving wood by hand	Back	90
	Shoulder	125
	Hernia	85
Using unsafe hand tools	Muscle stress injuries to nerves, joints, hands	30
Using unsafe nail guns	Nail gun injuries	15
Inadequate machine guarding	Serious cuts to hands and fingers	70
Wood dust	Asthma and lung disease	105

To find out more about work health and safety, visit [workcover.nsw.gov.au](http://workcover.nsw.gov.au) or call WorkCover on 13 10 50.



# Receiving goods

Raw timber is delivered to your workshop for unloading and moving to storage or work areas.

## Problems



### Poorly designed delivery area

Delivery areas that are difficult for workers to access and are located a long way from storage and work areas put workers at greater risk of injury from extra lifting and carrying.



### Poor traffic control

Poor traffic control in delivery areas can cause workers to be injured by forklifts and mobile plant.



### Moving timber sheets by hand

Reaching and lifting long or heavy timber sheets by hand from packs or pallets involves more lifting, pulling, dragging and bending over to pick up the sheets. This can cause serious back, shoulder and hernia/stomach injuries.

## STOP

Reduce unloading by hand to stop workers getting injured



## Solutions

### Improve your delivery area

- Locate unloading areas close to assembly or storage areas to reduce the distance workers have to travel.

### Improve traffic control

- Have a traffic management plan to guide workers/vehicles safely in the workplace.
- Clearly mark unloading areas with lines and/or barriers to prevent people colliding with forklifts and other mobile plant.
- Install fixed or mobile platforms and docking bays so that workers have easy access to vehicle trailers.

### Improve your handling of timber sheets

- Use a forklift truck or electric walkie stacker to unload timber from trucks.
- Make sure forklifts are fitted with warning systems, and are regularly maintained and serviced. Ensure drivers are trained and licensed.
- Unload pallet truck directly onto the feeding side of the cutting table to eliminate unnecessary double handling.
- Make sure workers are aware of the correct way to unload the material.
- Use pallet jacks or A-frame trolleys fitted with straps to move wood to storage area.
- Store wood materials between waist and shoulder height.

## DO

Install barriers in delivery docks to reduce the risk of hitting workers.



Use a vacuum lifter or trolley for moving lengths of timber to production line.



## Equipment that can help

Hydraulic pallet truck fork lifter to unload wood from trucks.



Racking systems for easy storing and access to wood materials.

# Cutting

Timber sheets are moved to the cutting area for sawing into specific pieces.

## Problems



### Moving timber sheets by hand

Constantly moving long or heavy timber sheets by hand can cause serious back, shoulder and hernia/stomach injuries.



### Inadequate machine guarding

Inadequate machine guarding, and blunt and unprotected saws can cause serious cuts and amputation.



### Noise and wood dust

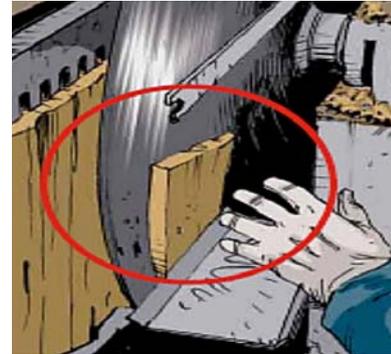
Inadequate protection from high noise levels can cause hearing loss.



Inadequate and poorly maintained dust extraction systems increases risks from breathing in wood dust. Inadequate protection from wood dust can cause lung disease.

## STOP

Blunt and exposed blades can slice and trap workers' hands and body.



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## Solutions

### Improve your handling of timber sheets

- Use mechanical aids such as A-frame and flat-bed trolleys, scissor lifts, roller conveyors and air tables to move raw timber to the cutting area.
- Set mechanical aids and table/jig at waist height to prevent bending and to maintain the height of the timber sheets at the cutting table.
- Have a second person help with unloading the beams onto the table/jig.
- Make sure all walkways are clear and power cords do not run across the floor.

### Install machine guarding

- Protect workers' hands and body from saws and cutting blades.
- Ensure guards can be adjusted correctly, and cannot be bypassed or disabled.
- Make sure workers know how to check and adjust the guard each time they use the machine.
- Make sure a riving knife is included on panel saws to prevent kickbacks.
- Ensure workers use a push stick to guide timber through the machinery.

### Check and reduce noise and wood dust

- Test the noise levels in the work area and ensure workers have correct hearing protection to prevent hearing loss.
- Where workers are required to wear hearing protection carry out audiometric testing of new workers within three months of commencing work and all workers once every two years.
- Regularly check and maintain your equipment, noise dampening material and prevent loose bearings etc.
- Install and regularly maintain a dust exhaust system to reduce workers' exposure to dust.
- Regularly vacuum and empty waste collection bags.
- Keep the floor surface free from dust to stop workers from slipping on wood dust.
- Keep waste bins close by to dispose of off-cuts and keep floor area clean.

## DO

Install machine guarding to protect workers' from serious cuts or amputation.



## Equipment that can help



Scissor lifts and air tables to move wood to cutting area.



Floor surface treatments or floor mats near machines to prevent workers slipping on wood dust.



Noise monitors, signage and hearing protection – eg ear muffs to assess and reduce exposure to noise.



Local exhaust ventilation system attached to the saw, and respirators to protect workers' lungs from wood dust.

# Assembly

Cut timber is moved to the assembly area to build wall frames and roof trusses.

## Problems



### Working at wrong height

Constantly moving or working with heavy timber sheets and frames at incorrect heights can cause serious back, shoulder and hernia/stomach injuries.



### Unsafe hand tools

Cheap, noisy, heavy tools can be awkward to use, have high vibration, and require excessive force. This can result in painful disorders of the blood vessels, nerves, hands and finger joints.



### Noise

Inadequate protection from high noise levels can cause hearing loss.

## STOP

Working at incorrect heights and awkward positions causes workers to get injured.



## Solutions

### Work at the right height

- Use mechanical aids, – eg roller/conveyors or height-adjustable trolleys, to move cut timber to the assembly area and finished frames to the despatch area.
- Provide adjustable work benches and tilt tables so that workers can access internal joints and perform tasks at the right height (between shoulder and knee height).
- Use an automated press system – eg portal gantry or chord press.
- Store studs and noggins close to workers on the framing machine to reduce twisting and lifting.
- Use rollers and stillages to allow the finished frames to be pushed away to the packing area without lifting

### Use safe hand tools

- Clamp and join beams with a hand-held nail gun or gang nail-press.
- Use an overhead support system for nail guns.
- Use light weight, low vibration, air power tools and nail guns that can be operated in confined spaces at a comfortable height by workers.
- Ensure the power tools are double insulated, have restart and overload protection, a safety clutch, and are fitted with silencers to reduce noise levels.

### Reduce noise levels

- Relocate air compressors outside to reduce noise, and ensure they are regularly serviced and maintained.
- Test the noise levels in the work area and ensure workers have correct hearing protection to prevent hearing loss.

## DO

Provide a working environment where workers can perform tasks at the right height to reduce bending and twisting.



Use mechanical aids, eg a tilt bench, to transfer timber frame from work bench to trolley to reduce heavy lifting.



## Equipment that can help



A-frame trolley to transport window frames.



Roller conveyor to move timber to assembly area.



Noise monitors, signage and hearing protection, eg ear muffs, to assess and reduce exposure to noise.



Low vibration air tools with silencer to reduce noise.

# Despatch

Assembled frames and trusses are moved to storage area and delivery vehicles ready for despatch.

## Problems



### Poorly designed despatch area

Despatch areas that are difficult for workers to access and are located a long way from work areas put workers at greater risk of injury from extra lifting and carrying.



### Poor traffic control

Poor traffic control in delivery areas can cause workers to be injured by forklifts and mobile plant.



### Moving frames and trusses by hand

Constantly moving finished frames and trusses to despatch area and loading them on to delivery trucks by hand can cause serious back, shoulder and hernia/stomach injuries.

## STOP

Reduce lifting by hand to stop workers getting injured.



## Solutions

### Improve your despatch area

- Look at workflow and workshop layout to reduce the distance workers travel between assembly and despatch areas.

### Improve traffic control

- Have a traffic management plan to guide workers/vehicles safely in the workplace.
- Clearly mark loading areas with lines and/or barriers to prevent people colliding with forklifts and other mobile plant.

### Improve your handling of finished frames and trusses

- Use powered conveyors, stillages, and automated stackers to move and load the frames and trusses to the yard.
- Use a forklift, and trucks fitted with a hiab crane, to load frames and trusses on to delivery trucks.
- Make sure forklifts are fitted with warning systems, and are regularly maintained and serviced. Ensure drivers are trained and licensed.
- Place slings around the bundles of frames/trusses and tie them down inside the truck to ensure correct placement.

## DO

Powered conveyor and stillage is used to move and load frames and trusses with minimum effort.



## Equipment that can help



Line marking and movable barriers to prevent people and vehicles from entering loading area.



Movable conveyors and forklifts to move finished goods to despatch area.



Hoists and hiab cranes to load finished frames and trusses on to trucks

# If an injured worker is off work

## Problems

### It's bad for your business

You lose the worker's experience and skills as well as their productivity. You then need to increase the load on other workers, or spend time and money finding and training a replacement. It can also affect morale in the workplace and your reputation in the market.

### It's bad for the worker

Evidence shows that staying at work or returning to work as soon as safely possible is good for the worker's health – whether in their normal job or on suitable duties. The longer they are off work, the more it affects their health, relationships and financial situation.

## Solutions

Stay connected with the worker

- Contact them early and regularly, and get their workmates to do so as well.
- Talk to your worker about them staying and recovering at work.
- Discuss with them what activities they can do.
- Include the worker in things like team meetings.

Find duties the worker can do

- Think what work duties you can offer that match the workers capacity.
- Get the insurer or workplace rehabilitation provider to help you explore options.
- If you can't offer any duties, talk with your work contacts to see if they can help.

## Where to go for help

For assistance with helping an injured worker return to work, contact your insurer.

## More information

Phone: 13 10 50

Fax: 02 4325 4145

Web: [workcover.nsw.gov.au](http://workcover.nsw.gov.au)

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