香港建造學院 HONG KONG INSTITUTE OF CONSTRUCTION

Safety Training Course of Construction Workers of Specified Trade

Carpenter (AS02)

Key Points Review

Version: 2023-04

1. Introduction - Causes of Accidents

1.1 Use of Circular Saw – without a top guard

It may cause cuts, especially hand injuries, to workers when operating the machine. The lack of a safety guard at the bottom of the saw may also cause injury to the carpenter when trying to remove the debris.

Source : OSHC

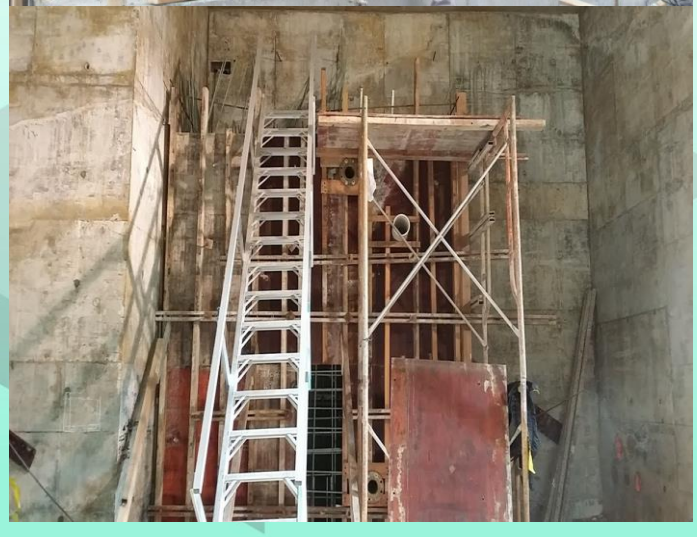
1. Introduction - Causes of Accidents

1.2 Falls of persons

Formworking usually involves working at height. Accident may occur when the scaffold is unstable or no guard rails are installed on the working platform.

1.3 Working inside a confined space

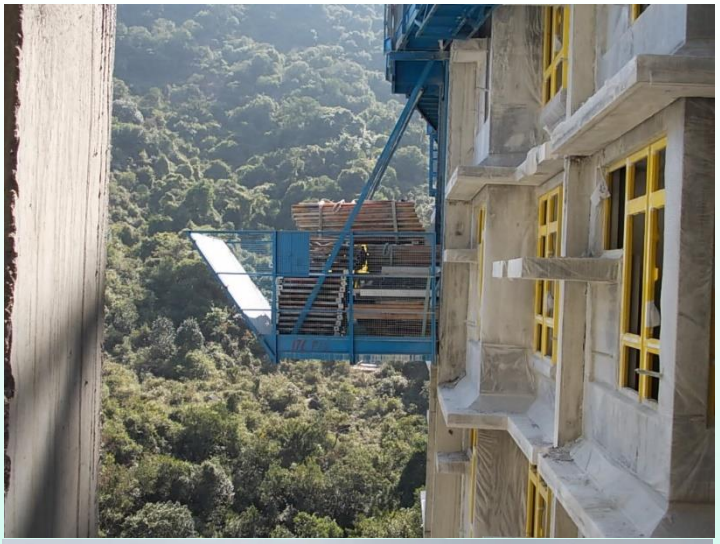
Formworking may involves working inside manholes, tunnels, underground box culverts, water tank, etc where are identified as a confined space. Carpenters may be exposed to some hazardous gases or other potential hazards inside.



1. Introduction - Causes of Accidents

1.4 Stacking of Materials

The major materials in formworking are wooden planks, plywood and joists, etc. These timbers are quite heavy in general. (The weight is more than 320kg per cu.m for soft wood and 675kg per cu.m for hard wood). Improper stacking of such material will not only cause the sudden collapse but also result in serious injury to personnel nearby.



1. Introduction - Causes of Accidents

1.5 Use of Electrical Equipment

Carpenters often need to use electrical hand tools during working, e.g. using electric drills to make holes in the wall for tightening bolts. Other electrical tools like circular saws and portable chainsaws are also often used. Hazards like electric shock may happen if the equipment is not properly maintained.

1. Introduction - Causes of Accidents

1.6 Manual handling or lifting

Formworking always involves manual handling / lifting which the rate of injuries in connection to this is always high. Improper or excessive materials handling can result in sprains, strains and overexertion in shoulders, arms, and back as well as bruises, abrasions and crushed fingers.

1. Introduction - Causes of Accidents

1.7 Use hand tools

Formworking always requires the use of nails, screws, hand saws, hammers, and other hand tools. Lack of maintenance to these tools, environmental restrictions or personal exhaustion during use will cause accidents.

1.8 Fire Accident

The major materials used in formwork, including plywood, wooden beams and other materials, are likely to cause fire.

Source : on.cc

1. Introduction - Causes of Accidents

1.9 Other related hazard

- Noise

Noise generated from the machinery can cause hearing loss to workers.

- Insufficient ventilation

Uncontained wood dust can cause respiratory impairment to workers.

- Uneven working ground

Uneven, sloped or slippery ground can cause accidents.

2. Safe operation of woodworking machineries and others hand tools

2.1 General safety practice

A research indicates that more than 80% of accidents are caused by unsafe personal behavior or non-compliance with safety regulations. Therefore, in addition to the machine itself which a proper fence in place is a must, the following safety rules must also be observed:

1. Worker who does not receive proper training should be strictly forbidden to use woodworking machine.
2. When saw cutting a very long wooden plank, another worker should be assigned to stand at the other end of the bench to receive the cut-off plank.

Source : CIC & HKLD

2. Safe operation of woodworking machineries and others hand tools

2.1 General safety practice

3. Materials with excessive length need to be supported when sawing or require another worker to assist in pulling the wood on the opposite side;
4. Keep cutters sharp and carry out periodical inspection as well as maintenance to the woodworking machine including the crown guard and riving knife. With a blunt cutter, the operator tends to give a harder push on the work piece, causing it difficult to control and may cause accidents;
5. The part of the circular saw below the workbench shall be surrounded and protected by 2 plates of metal or other suitable materials. There shall be a saw blade behind and in line with the circular saw;

2. Safe operation of woodworking machineries and others hand tools

2.1 General safety practice

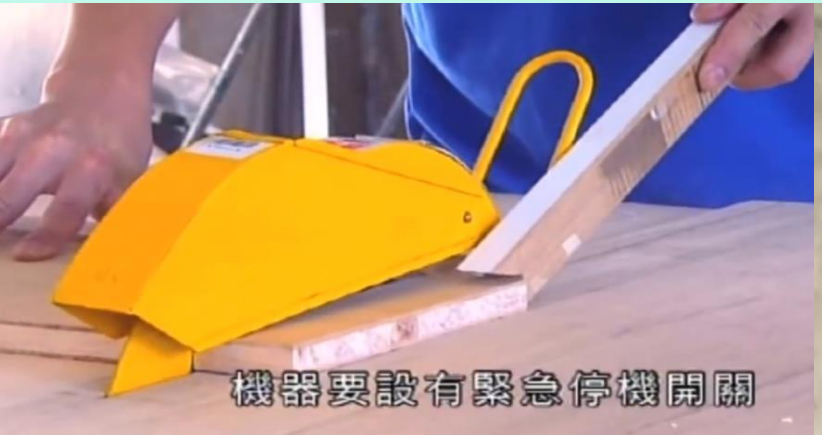
6. Switch off the machine and display a warning notice "Not allowed to use" when leaving it unattended or when removing saw dust and adjusting guards.
7. Maintain workplace floor in good condition, free from wood chips or other loose materials.

2. Safe operation of woodworking machineries and others hand tools

2.1 General safety practice

8. Operators should always use the machine which is well-protected with safety measures. Not only does it endanger the safety of users and other workers, it would also be against the law if the operator does not use it even there is one already in place;
9. Bench Saw can generate noise up to 110 dB during operation, according to the Factories and Industrial Undertakings (Noise at Work) Regulations; employers must implement engineering controls and provide personal ear protectors - earmuffs or earplugs to prevent workers from hearing loss;

Source : OSHC



2. Safe operation of woodworking machineries and others hand tools

2.1 General safety practice

10. Safety glasses should be worn when operating woodworking machinery such as windmill saws. Cotton gloves should not be worn to avoid being caught by the rotating parts of the machine;
11. Must concentrate on work and not play around;
12. Smoking is not allowed in the workshop, and appropriate fire extinguishing equipment should be placed in the workshop.

Source : OSHC

2. Safe operation of woodworking machineries and others hand tools

2.2 Operational Rule of Bench Saw

1. It is necessary to check carefully whether the screws of the saw blade are tightened before use;
2. The saw teeth of the saw blade should be sharp and consistent in size and angle;
3. When sliding the wood over, the force should be uniform. It should not be either fast or slow and should be in a consistent pace. The bed surface should be even and clean.

Source: OSHC & Internet

2. Safe operation of woodworking machineries and others hand tools

2.2 Operational Rule of Bench Saw

4. When saw-cutting a short wood and when the wood is approaching at a distance of 300mm from the saw disc, use a push stick to assist. The tip of the push stick should be recessed to prevent the wood from slipping out. The length of the push stick should be about 400mm in length;
5. When there is abnormal sound when the windmill saw is running, stop immediately and check;
6. Adjust the distance of the top cover according to the thickness of the wood before operation;
7. Check the magnetic switch system and emergency stop system to ensure normal operation.

Source : SAFE BC

2. Safe operation of woodworking machineries and others hand tools

2.3 Operational Rule of Portable Circular Saws

1. The protective cover of the portable circular saws must be able to turn back automatically when it is not in use;
2. When using a portable circular saws, the worker's hands must not support the bottom of the chainsaw to avoid accidents;
3. The wires and plugs used in the portable circular saws must meet the safety requirements;
4. When saw-cutting the wood with a portable circular saws, the board must be kept at a safe distance from the ground.

Source : SAFE BC

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