



INFORMATION SHEET

Known hazards when using hand-held quick cut saws

Background

When hand-held or quick cut concrete or masonry saws are used, potentially violent kickback, push-back or pull-in forces can occur suddenly and be difficult to control. The use of these saws without proper care has the potential to cause serious or fatal injury, especially when cutting or chasing.

WorkSafe has been notified of three separate incidents, which occurred within one month, where kickback from quick cut saws occurred. The operators sustained lacerations to the neck or facial region while cutting into masonry and concrete.

A person conducting a business or undertaking (PCBU) must ensure concrete and masonry cutting by use of quick cut saw is carried out in a safe manner, and provide workers with a safe working environment, as far as reasonably practicable.

Information to consider when quick cut saws are to be used

PCBUs must eliminate risks where reasonably practicable, and use the hierarchy of control measures to minimise remaining risks. It may be reasonably practicable to reduce the risk of injury from masonry or concrete cutting by considering other options or methods before selecting a quick cut saw.

This information is guidance only and a risk assessment may determine that further control measures are required.

Human Factors

PCBUs must have arrangements for monitoring and evaluating compliance with control measures, and must ensure workers using quick cut saws have:

- been given instruction, training and/or had their competency in the use of quick cut saws verified
- read, understand and follow the manufacturer's instructions.

Dust and fumes

PCBUs and workers should be aware that:

- use of quick cut saws on masonry and concrete will generate respirable crystalline silica, even if wet methods are used
- petrol powered saws produce hazardous fumes containing carbon monoxide, which will quickly reach harmful levels if used in an enclosed or partially enclosed structure. Use in this environment should be prevented unless the fumes can be safely exhausted outside the structure, such as by a vacuum system attached to the muffler. Carbon monoxide can affect the muscles and concentration which increases the risk of kickback or similar events.

Safety equipment

PCBUs must ensure workers:

- use suitable personal protective equipment (PPE) including eye protection (e.g. safety glasses, goggles or face shield), hearing protection, safety footwear and gloves
- use suitable respiratory protection equipment (RPE) unless the PCBU's air monitoring and advice from a competent person such as an occupational hygienist indicates RPE is not required
- avoid wearing loose clothing or aprons that may get caught in moving parts.

Selection and maintenance of tools

To minimise risks, ensure:

- the correct saw size, type, and blade are chosen for the work
- where practicable, select a saw designed for the specific task and fitted with both wet and vacuum dust and fume controls
- saws are maintained, regularly serviced and in good operating condition
- saws and blades are in good operating condition with no worn, clogged or missing cutting tips or teeth
- blades are secured properly and installed in the correct direction, with no bends, twists or deflection
- the guard is installed and in the correct position for the cut being performed.

Technique

To reduce the risk of kickback injuries, workers should:

- stand out of the line of the cut to avoid injury if kickback occurs
- have sufficient and unobstructed space in their work area, and use a firm grip with both hands and secure footing while performing cuts
- use a sufficient flow of water to minimise dust and maintain lubrication of the blade
- not use the upper quarter of the blade, and instead use the lower section of the blade
- introduce the blade slowly into the cut
- use a score line to assist controlling the direction of the cut
- guide the blade in straight and not at an angle or wedged in
- be provided with supervision and/or a spotter
- never use the blade to wedge or pry a cut open
- never cut above shoulder height.

If cuts need to be performed above shoulder height, a suitable working platform should be used that does not expose the operator to a fall from height and provides a stable and secure work platform.

When cutting a freestanding object, such as a concrete pipe, ensure the object is fully supported in a way that it does not jam on the blade as it cuts or rolls away during the cut. The same principle applies when making a cut in a wall if the wall requires propping or supporting to prevent either the wall collapsing or the cut section of the wall jamming the saw blade.

Cleanup

Ensure no silica slurry or dust is left in the work area, so that workers using the site in future are not exposed. Choose a saw with slurry extraction or clean up with an industrial vacuum rated for use with silica.

Hierarchy of control measures

Some control measures are more effective than others. Control measures can be measured from the highest level of effectiveness and reliability to the lowest. This ranking is known as the hierarchy of control. Higher order controls must always be considered first.

LEVEL 1	<p>Eliminate the hazards</p> <p>The PCBU must eliminate the use of a quick cut saw if it is reasonably practicable to do so.</p>
LEVEL 2	<p>Substitute the hazard with something safer</p> <p>The PCBU must choose the correct type of saw for the task being carried out. Is it reasonably practicable to use a smaller or less powerful saw that has been designed to reduce the risk of kickback or a different type of saw?</p> <ul style="list-style-type: none"> • Track-mounted hydraulic/pneumatic wall saw: uses a track system/guide rail which bolts to the wall to secure the saw and produce more accurate cuts and better control of the saw to reduce the risk of kickback. • Quick cut saw that includes a smart detection system: this type of saw uses a smart detection braking system that is able to stop the cutting wheel in the event of detecting a kickback within fractions of a second. • Ring saw: creates little to no vibration, is light weight and accurate which reduces the likelihood of kickback. This type of saw also creates less dust and fumes. • Battery or electric powered wet saws: smaller size and less power makes managing the tool easier and less likely to result in kickback. • Floor cutting: consider a road saw or a cradle to secure the quick cut saw. <p>Reduce the risks through engineering controls</p> <p>Make it safer, consider using a concrete pipe cutting cradle, for increased stability and control if cutting pipe. This also prevents the blade from pinching or jamming.</p>
LEVEL 3	<p>Use administrative controls</p> <p>Change the way people work by using controls, such as policies and training.</p> <p>PPE</p> <p>Protect workers by providing safety equipment, such as gloves, goggles and respiratory protective equipment. This is the least effective level of control and should not replace more effective and reliable ways of controlling risks.</p>

Further information

[Code of practice: Concrete and masonry cutting and drilling](#)