

May 2020

Bandsaws

A bandsaw is a toothed steel blade passed over two band wheels. It cuts material held between the wheels. The material may be wood, plastic, metal or meat. Bandsaws are set up in different ways for different materials. Larger bandsaws used in sawmills are outside this quick guide's coverage.

Risk management

When you are deciding how to manage health and safety risks when working with bandsaws, it is important to remember that PPE (personal protective equipment) such as gloves and masks is the least effective and lowest form of protection for workers.

You must always try to eliminate risk first, but if the risk can't be eliminated, you must minimise it, so far as is reasonably practicable. You must provide the highest level of protection against harm (from hazards and risks) to workers, so far as is reasonably practicable. We recommend you follow the hierarchy of controls to minimise risk to workers' health and safety before you turn to PPE as a control measure.

Control measures for working with bandsaws that could be considered may include (but not be limited to):

- **substitution** control measures such as automated machines that don't require workers to work with dangerous parts
- **engineering** control measures such as bandsaws that have automatic stop functions when human skin is detected
- **administrative** control measures such as rotating workers between jobs to reduce the risk of fatigue-related injury, and consistent reporting systems to ensure that incidents are followed up
- **personal protective equipment (PPE)** such as gloves, respirators, masks and hearing protection.

For more information on managing risk, see our website: [worksafe.govt.nz](https://www.worksafe.govt.nz)

A note about protective gloves

ALWAYS carry out a risk assessment for any gloves to be worn around mechanical equipment. Follow appropriate guidance, such as that given in *AS/NZS 2161.1, Occupational protective gloves, part 1: selection, use and maintenance*.

Where a risk assessment highlights the need, consider wearing cut-resistant gloves when bandsaw blades are not moving (that is, for maintenance, cleaning etc).

Risks when using bandsaws

Working with bandsaws can introduce many risks to your health and safety. Table 1 below illustrates some of the risks you may encounter (although this list is not exhaustive), and some ways these risks could be managed.

RISK	SUGGESTED POSSIBLE WAYS TO MANAGE THIS RISK
<p>Contact with blades at any time</p> <p>May cause cuts and amputation</p>	<ul style="list-style-type: none"> - Isolate bandsaws to minimise visual distraction. - Allow space near the operator to avoid accidental bumping. - Fix guarding, with interlocks on the guards over the band wheels to avoid entanglement. - Adjust the blade guide and guard as close as possible to the material being cut, to prevent fingers reaching above the workpiece. - Use a push stick, jig, or other aid to push small pieces of material to the blade. - Keep fingers off the line of the cut at all times. - Only cut one piece of material at a time. - Do not force a wide blade on a curve of small radius – make relief cuts on tight curves. - Avoid stacking pieces of material to ensure that each piece moves smoothly along the blade. - Consider using braking devices (or systems), to reduce blade run-down times to a minimum, except where that braking system may be detrimental to the integrity of the machine or dangerous to the operator or those nearby. The overriding consideration should be to bring the machine to a safe stop. - Lock-out and tag out all power supplies before maintenance and cleaning, or adjusting blades and guard.
<p>Exposure to dust</p> <p>Can cause eye irritation or damage, breathing problems, lung damage, cancer and worsening of existing health conditions</p>	<ul style="list-style-type: none"> - Install exhaust ventilation systems. - Wear the right class of respiratory protection. - Wear the right class of eye protection. - Carry out regular health monitoring for your workers, with their consent. <p>For more information about choosing the right PPE and respiratory protection, as well as information about health monitoring, see our website: worksafe.govt.nz</p>
<p>Repetitive or physically demanding tasks</p> <p>Can cause muscular pain and discomfort, and physical and mental fatigue</p>	<ul style="list-style-type: none"> - Take regular rest breaks to avoid fatigue and loss of concentration. - Support the workpieces on extension tables or roller trestles. - Seek help to lift large, heavy or awkward workpieces. <p>For more information about managing the risk of physical and mental fatigue at work, see our website: worksafe.govt.nz</p>
<p>Contact with soluble metal cutting oil</p> <p>Can cause contact dermatitis, breathing problems, illness and can worsen existing health problems</p>	<ul style="list-style-type: none"> - Clean or filter fluids and ensure timely replacement. - Wear the right class of respiratory protection, eye protection and gloves when handling cutting fluid. - Carry out regular health monitoring for your workers, with their consent.
<p>Noise</p> <p>Can contribute to noise-induced hearing loss</p>	<ul style="list-style-type: none"> - Choose quieter machines. - Isolate or enclose noisy machines. - Assess and monitor noise levels to check that they are safe. - Carry out (consensual) hearing screening on your workers. - Wear the correct class of hearing protection. <p>For more information on protecting yourself and workers from noise-induced hearing loss, see our website: worksafe.govt.nz</p>
<p>Slips, trips and falls</p> <p>Can cause musculoskeletal injuries, cuts, bruises and other trauma</p>	<ul style="list-style-type: none"> - Keep the area around bandsaws clean, dry and clear of slip, trip and fall hazards, such as waste material. - Keep up-to-date housekeeping procedures. <p>For more information on how to manage the risk of slips, trips and falls, see our website: worksafe.govt.nz</p>

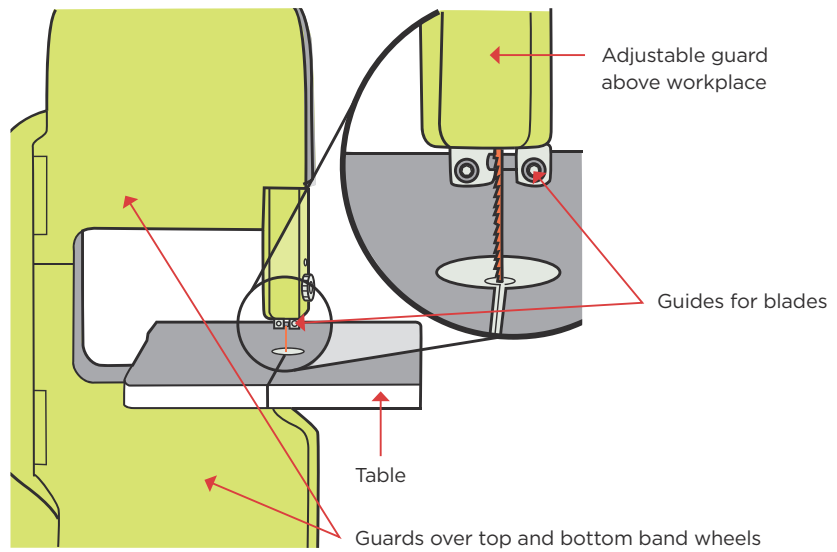
Maintenance

Change bandsaw blades regularly to enable cutting without force. Bandsaws may develop a regular 'click' if the blade cracks and is likely to break. If a click is heard, saws should be turned off and not used until inspected and repaired.

Types of bandsaws

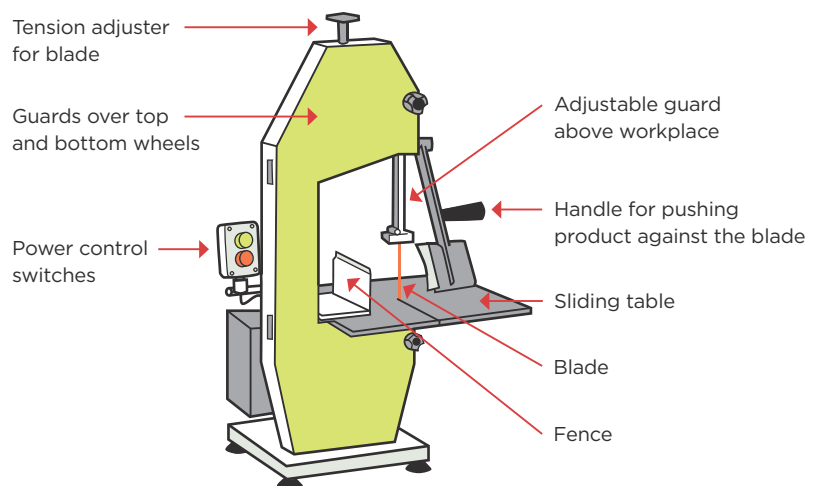
Woodworking bandsaw

When using a woodworking bandsaw, timber is pushed by hand into the blade of the saw. Make sure material moves smoothly against the blade as it is cut, to avoid twisting the blade, stalling or going off the line of cut.



Meat cutting bandsaw

When using a meat cutting bandsaw, a cutting table is/is may be used to present meat to the blade.



Metal cutting bandsaw

When using a metal cutting bandsaw, a clamp is used to secure the metal while the blade saws through it.

