

January 2023

Wood dust: controlling the risks

This quick guide provides advice for ‘persons conducting a business or undertaking’ (PCBUs) that do woodworking activities. It explains the health risks from wood dust and some reasonably practicable control measures to protect workers.

Risks to health from wood dust

Wood processing causes small particles of wood dust to become airborne. Workers can inhale these particles. A person’s upper respiratory system can filter out the larger particles, but smaller particles can go deep into the lungs causing damage and scarring to the lung tissue. Each time this happens a small amount of irreversible damage occurs. This damage reduces the lungs’ ability to take in oxygen and over time makes it increasingly difficult to breathe.

The presence of glues, resins, formaldehyde and other wood treatment chemicals in some wood products increase the health risks from wood dust.



FIGURE 1: Wood dust from using an electric sander

Why is it necessary to control wood dust?

Wood dust poses the following risks to worker health:

- **Inhaling dust into the lungs** can cause breathing problems and lead to lung diseases such as occupational asthma and lung cancer. Breathing in dust is the most common type of exposure to wood dust.
- **Getting dust in the eyes** can cause irritation and damage.
- **Skin contact with wood dust** can cause ulceration of the skin, irritation and dermatitis.

What causes high wood dust exposures?

The following activities are likely to cause high dust exposures:

- sawing and cutting
- routing and turning
- sanding
- dry sweeping of dust
- use of compressed air
- bagging dust from dust extraction systems.

What are the PCBU’s responsibilities?

PCBUs have a duty to ensure, so far as is reasonably practicable, the health and safety of their workers and other workers whose activities they influence or direct.

PCBUs must eliminate risks so far as is reasonably practicable and where this is not possible they must minimise them. PCBUs have a duty to monitor the health of workers and the conditions at the workplace to ensure that workers are not injured or made ill by their work.

How to control wood dust exposure

When selecting controls WorkSafe expects so far as is reasonably practicable, preference to be given to controls that protect multiple at-risk workers at a time. For example local exhaust ventilation (LEV) will protect everyone in the workplace but respiratory protective equipment (RPE) only protects the person wearing it.

You should apply the most effective control measures reasonably practicable. In most cases personal protective equipment (PPE) such as RPE should not be the first or only control considered. Listed below are some controls that can be used to manage wood dust. Elimination and engineering controls such as LEV are more effective than administrative controls and PPE.

- Eliminate the risk by buying pre-cut or processed wood materials.
- Local exhaust ventilation (LEV) is one of the most effective ways to control dust at the source. Use LEV systems to capture dust from cutting, shaping and sanding wood either by hand or machine.
- Use on-tool extraction on saws and grinders to control wood dust at source.
- Refer to the manufacturer's operating instructions for equipment use and maintenance. For example, use the correct saw blade or planer for the task.
- Use water damping methods where practical.
- Do not use blowers, fans or compressed air to move wood dust.
- Provide a suitable industrial vacuum to remove dust from work areas.
- Minimise worker exposure by limiting the time each person spends doing dusty work.
- Advise workers to wear respiratory protection equipment (RPE) when emptying vacuum cleaner bags or collection bags - there is a potential for high wood dust exposure.
- Ensure workers wear RPE and other personal protection equipment (PPE) suitable for the task. Advise workers to remove work clothing such as overalls carefully at the end of the task or shift to avoid generating dust clouds.
- Provide washing facilities at work so dust is not taken home.
- Advise workers to wash their face and hands immediately after finishing the task and before eating, drinking or smoking.

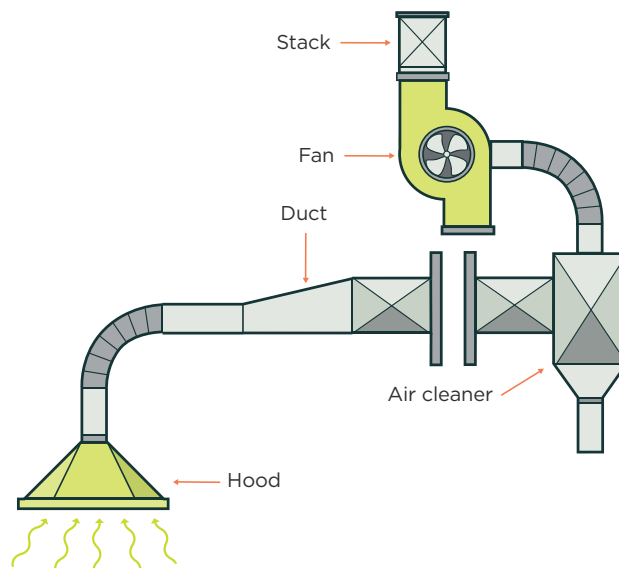


FIGURE 2: A basic LEV system

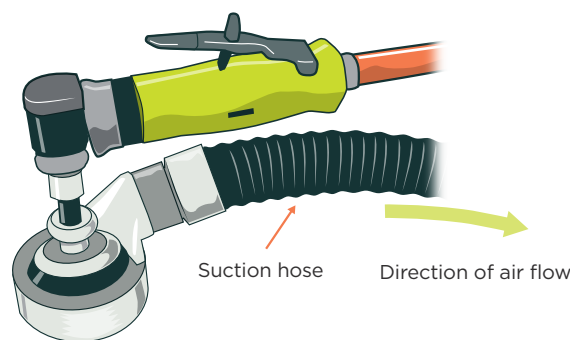


FIGURE 3: On-tool LEV

When should exposure monitoring be carried out?

If you are not certain if the levels of dust could be harmful, exposure monitoring should be undertaken.

Exposure monitoring should be completed by occupational hygienists or other suitably trained personnel.

This monitoring will help determine the most appropriate wood dust control methods and respiratory protection for workers. Exposure monitoring should be undertaken regularly to check the effectiveness of controls. If the controls are not working seek advice from an occupational health specialist or LEV engineer.

When should health monitoring be carried out?

Health monitoring is a way to check if workers are getting sick from being exposed to hazards while carrying out their work, it aims to detect early signs of ill-health or disease. Health monitoring can also show if control measures are working effectively.

Where workers are routinely exposed to wood dust you should arrange health monitoring for them. Monitoring should include a baseline and then annual lung function test and a respiratory questionnaire.

Follow the recommendations of an occupational health practitioner with experience in health monitoring when determining what type of health monitoring is required.

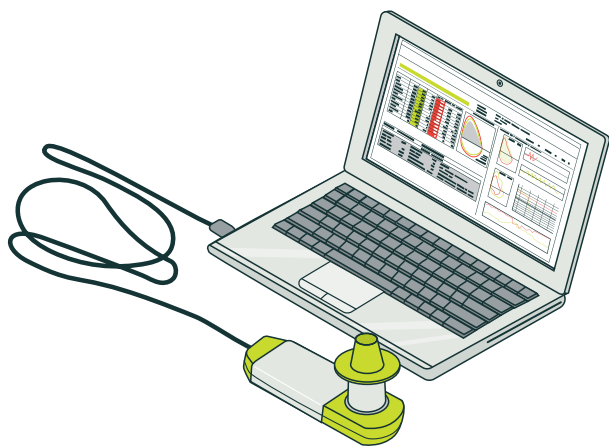


FIGURE 4: A spirometer is used to measure lung function

Respiratory Protective Equipment (RPE)

It is important to ensure that you provide your workers with a respirator that will provide protection against airborne wood dust (different respirators protect against different types of contaminants). Some respirators need a tight seal between the mask and the worker's face to provide protection. If you provide this type of RPE you need to arrange for your workers to have an annual fit test to check their respirator fits properly. Workers also need to be clean-shaven to ensure a tight seal. You can get information on RPE selection, fit testing and training from occupational health specialists and suppliers of RPE.



FIGURE 5: Reusable half-face respirator

Worker training

Educate your workers about risks from wood dust and the control measures. Regular training is important to ensure worker awareness remains high.

Training should include information on:

- the health risks from exposure to wood dust
- safe work practices to follow when wood dust is created
- how to use and maintain LEV systems
- the appropriate use and care of PPE (including protective clothing and RPE).

More Information

Quick guides

[Respiratory Protective Equipment – Advice for workers](#)

[Respiratory Protective Equipment – Advice for businesses](#)