

Local exhaust ventilation – Preventative maintenance

What is the problem?

Local exhaust ventilation (LEV) systems being inadequately maintained, resulting in ineffective capture of airborne contaminants such as wood dust, welding fumes and spray mists.

What are the risks?

An LEV system typically includes a capture hood, ducting, an air cleaner/dust collector (such as a filter) and an air mover or fan.

If an LEV system is poorly maintained, it increases the potential health risks associated with exposure to excessive levels of airborne contaminants. These health risks include respiratory irritation, central nervous system depression, asthma, lung diseases and cancer.

Note: refer to the material safety data sheet (MSDS) for specific health effects from airborne contaminants.

What is a solution to the problem?

The level of exposure can be reduced by using an effective and properly maintained LEV system. Proper maintenance includes regularly:

- checking for signs of damage or deterioration to capture hoods, ducting, air cleaners/dust collectors, fans and connections
- inspecting for and cleaning up contaminant build up (eg dust and overspray) regularly
- testing the unit's effectiveness using smoke tubes or an anemometer
- checking the effectiveness of the LEV through observation (eg capture of visible dust)
- checking the pressure drop across the filter (bags) where appropriate. Where it is practicable, a direct reading device to measure the pressure drop across the filters should be installed
- removing waste from any collection units
- changing filters as required.

The frequency of such a preventative maintenance program will depend on the level of work activity and manufacturer's recommendations/instructions.

Annual LEV maintenance/checks

Annual maintenance of the LEV should be carried out by a competent person and include:

- checking the operation of the system
- airflow testing
- inspecting the fan and motor for noise or vibration, integrity and security of fixings, cleanliness, and lubricate or grease
- inspecting belts, bearings and pulleys for tension, alignment, safety guards, and wear and tear
- checking duct work for cleanliness, damage or holes and secure connections
- checking electricals (there may also be an automatic sensor operation and time delay system)
- checking other plant associated with the LEV system.

Preventative maintenance and inspection records should be kept for the life of the LEV unit. They should be signed and dated by the person performing the inspection/maintenance and identify actions required to be done.

Further Information

WorkSafe Advisory Service

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worksafe.vic.gov.au

Australian Standard

AS/NZS 4114, *Spray painting booths, designated spray painting areas and paint mixing rooms*