

Local Exhaust Ventilation: Management Briefing

What is LEV?

An engineering control system to reduce exposure to airborne contaminants such as dust, mist, fume and vapour or gas in a workplace.

LEV systems usually consist of:

Hood: where the contaminant enters the LEV.

Ducting: this conducts the air and contaminant air cleaner or arrestor and to the discharge point.

Air cleaner or arrestor: this filters or cleans the extracted air where necessary.

Air mover: this powers the system and is usually a fan.

Discharge: this releases the extracted air to a safe place or in some cases, after the air is cleaned, back into the workplace.

Control methods

The legally required hierarchy of control requires that exposure to hazardous substances is either eliminated, by substitution or, where this is not reasonably practicable, adequately controlled through engineering means.

The introduction of LEV into a workplace is not as simple as many historically have perceived.

It is not acceptable to use "tin bashers" to fashion a hood, attach a fan on the end of it with flexible ducting and claim you are adequately controlling exposure. This will normally result in ineffective control and a waste of energy, as unnecessary heat is exhausted from the premises.

Having a good understanding of the hazard is the first and crucial step. The input of many different stakeholders is required to ensure that adequate control is achieved.

Legislation

There is much legislation requiring employers to provide a safe working environment. However, the most significant of the legislation is the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended). The COSHH Regulations require employers to ensure that his employees' exposure to substances hazardous to health is either prevented, or where this is not reasonably practicable, adequately controlled. The legal duty also extends to maintaining the control measures and providing information instruction and training to employees. The same duty applies to protecting those, others than employees, who could be affected. Ways of demonstrating Adequate Control include:

1. Workplace exposure Limit (WEL) is not exceeded.
2. Principles of good practice in Schedule 2A of COSHH have been applied.
3. For substances assigned R45, 46, 49, 42, 42/43 appear in schedule 1, or COSHH Regulations or in Section C of the HSE's Asthmagens publication, that exposure is reduced as far as is reasonably practicable.

The consequences of failure to comply

Failure to adequately control exposure can lead to:

- incidence of occupational ill health (acute or chronic)
- expensive waste of energy by exhausting heat from the premises
- breach of the Control of Substances Hazardous to Health Regulations 2002
- failure to comply with Health & Safety at Work etc. Act
- increased insurance premiums
- absenteeism
- occupational ill health claims
- consequential loss
- prosecution.

A summary of the steps required when specifying LEV

1. Identify the hazard.
2. Understand the hazard and how it behaves.
3. Identify a competent system designer.
4. Provide a clear design specification including the level of control required.
5. Review the design specification.
6. Identify competent system builders/installers.
7. Obtain all necessary paperwork related to system (e.g. handbook).
8. Ensure system is fully commissioned and meets design specification.
9. Ensure system is maintained.
10. Ensure system is thoroughly examined and tested in line with the requirements of the COSHH Regulations at least every 14 months.

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