



## Control approach 2



This guidance sheet is for employers to help them comply with the requirements of the Control of Substances Hazardous to Health Regulations 2002 (COSHH) by controlling exposure to chemicals and protecting workers' health.

The sheet is part of HSE guidance *COSHH essentials: easy steps to control chemicals*. It describes the key points you need to follow to help reduce exposure to an adequate level. It is important to follow all the points, or use equally effective measures.

Where COSHH essentials recommends control approach 2 (engineering control) you need the control system to be properly designed, installed and commissioned.

This sheet covers the points you need to have clear in any contract to install new control equipment.

# Design points for new LEV systems

## Engineering control

FD14

### Introduction

- This sheet provides general advice on the points to cover in contracts to design, install and commission new local exhaust ventilation (LEV) equipment, to control airborne contaminants.
- ✓ Use this advice whenever you need to install new engineering controls (LEV equipment).
- ✓ When possible, use a reputable supplier of off-the-shelf LEV. Never rely on a local 'tin basher'.
- ✓ Contact only qualified engineers to quote for the work.

### Design and equipment

- The designer needs to know what the contaminant is, and how it is produced. Is it dust, fume, smoke, mist, vapour or gas?
- The design must have the following elements:
  - A hood, enclosure or other inlet to collect and contain the contaminant as close as possible to its source.
  - Ducts to remove the contaminant away from the source.
  - A filter or other air cleaning device, normally placed between the hood and the fan.
  - A fan or other air mover, to provide the airflow.
  - More ducting, to discharge the cleaned air to a safe place outside. Sometimes, cleaned air can be returned to the workroom.

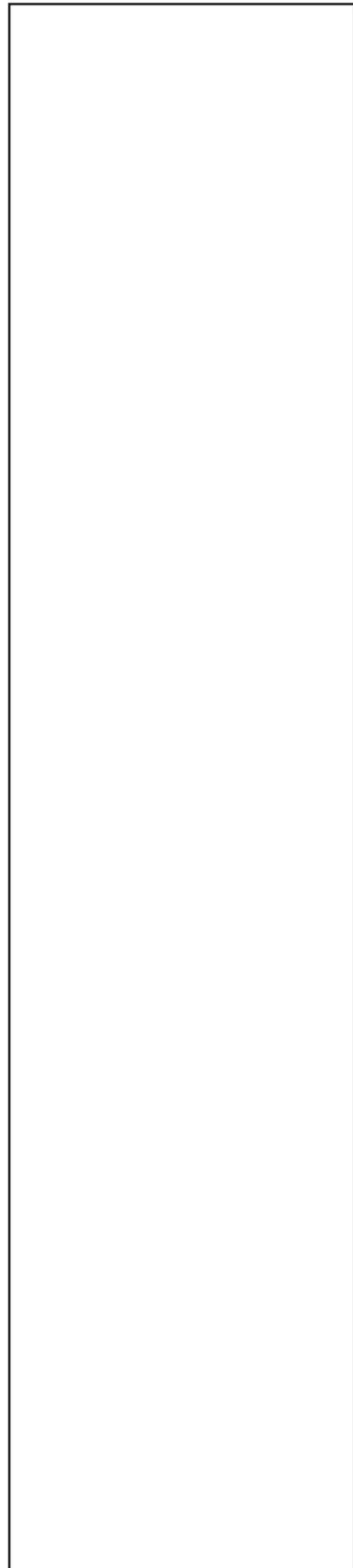
### Installation and commissioning

- ✓ It is vital to know that the system can perform to the manufacturer's design specification.
- ✓ You may need to have air sampling done, to show that the new controls work well enough.
- ✓ You must receive 'instructions for use' and a diagram of the new system.
- ✓ You must receive a commissioning report that shows:
  - the air flows at all inlets;
  - air speeds in the ducts;
  - the pressure drop across the air cleaners or filters; and
  - a maintenance guide.
- ✓ Make sure a pressure gauge, manometer or telltale is fitted near each extraction point, to show that it is working correctly.
- ✓ Make sure you can get consumable parts (eg replacement filter bags) without difficulty.

---

## Using the new system

- ✓ Follow instructions in the manufacturer's manual.
- ✓ Look daily for signs of damage to the ducting, fan and air filter. Noisy or vibrating fans can indicate a problem. Repair damage immediately.
- ✓ At least once a week, check that the extraction system and gauges work properly.
- ✓ Review records to see if there are failure patterns that make planning the maintenance easier.
- ✗ Never modify any part of the LEV system. If you do so, you must have the whole system recommissioned.



*COSHH essentials:  
easy steps to control chemicals*  
October 2003

Printed and published by  
the Health and Safety Executive