



Controlling exposures to prevent occupational lung disease in
MANUFACTURING

Welding Selector Tool  **Control Sheet**

Fume Extraction: Local Exhaust Ventilation (LEV) Extracted Booth



Extracted Booth at a glance



Effectiveness rating




Appropriate workpiece size

- ✓ Small (up to 1.0m x 0.5m) ✓ Medium (up to 2.0m x 1.0m)
- ✗ Large (up to 2.0m x 4.0m) ✗ Extra large (> 2.0m x 4.0m)

Purchase price and other costs

Supply and installation	£4000 ex VAT per bench
Other costs	Thorough examination and test every 14 months – cost will depend on number of systems to be tested
Filters	£200 - £300 per year

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Extracted booth

Working on an extracted booth (with extraction towards the back of the enclosure) will often be the most effective way of controlling the fume created when welding small and medium sized flat components.

With these systems the extraction does not need to be moved.

A booth which encloses the task and draws the fume towards the back will be more effective than a downdraught bench.

The fume is drawn away from the welder, through holes or a series of slots at the back of the booth.

To ensure control of the fume, the average velocity at the face of the booth should be between 0.5 and 1 m/s.

Ideally the extracted air should be vented outdoors.

Some extraction benches can also be set up to control dust created during grinding operations. Benches used for this purpose will need a higher velocity to ensure the dust is captured by the extraction system.

The specification on a bench used for grinding may be different to one solely used for welding. It is important that the workpiece can be positioned to direct the sparks into the ventilation.

An airflow indicator should be fitted in order to let the welder check there is sufficient airflow through the bench.

Top tips

How to use the LEV effectively

Welding must be undertaken within the booth to maximise efficiency.

Welders should check the airflow indicator before use to ensure the system is working.


The bench area should be kept free of clutter.


Limitations


These booths are mainly suitable for the welding of relatively small, flat, work pieces.


Other considerations

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The bench needs to be used correctly. The extraction needs to be maintained and tested. [See LEV, Installation, Commissioning, Maintenance and Testing management sheet](#) 

Supplementary respiratory protection may be required if the fume is particularly hazardous, e.g. steels with high chromium or nickel content. [See RPE control sheet](#) 

Fume exposure measurements might be needed to confirm effectiveness of the bench extraction in controlling the fume. [See Air Monitoring management sheet](#) 

Health surveillance may also be needed for workers who regularly carry out welding and may be at risk of lung disease. [See Health Surveillance management sheet](#) 

Welders should be trained on the correct use of the equipment.

Alternative control solutions

With MIG Welding, on-torch extraction can be used.

For occasional short duration tasks, it may be acceptable to solely use respiratory protection, e.g. non-routine maintenance tasks. However, respiratory protection should be your last resort and all alternative options should be explored. Good general ventilation will also be needed. If other workers are in close proximity ensure they are protected from the fume.