

# WLG6

## COSHH essentials for welding, hot work and allied processes



This information will help employers (including the self-employed) comply with the Control of Substances Hazardous to Health

Regulations 2002 (COSHH), as amended, to control exposure and protect workers' health. It is also useful for trade union safety representatives.

**Welding fume can cause lung disease, with an increased risk of asthma and cancer.**

**Cutting fume is associated with an increased risk of lung disease and asthma.**

**Gouging fume and dust is associated with an increased risk of lung disease and cancer.**

**This sheet describes good practice using RPE and engineering controls.**

**It covers the points you need to follow to reduce exposure to an adequate level.**

**It is important to follow all the points, or use equally effective measures.**

**Confined space work requires permit-to-work procedures.**

### Main points

- **Dust and fume can cause serious lung diseases.**
- **Keep exposure as low as possible using all the controls in this sheet.**
- **Design, install, commission and maintain engineering controls. See sheet G406.**
- **Health monitoring is usually needed. See sheet G401.**
- **See manufacturers' safety data sheets - select safer consumables.**

# RPE used with forced ventilation

## Control approach R

### Respiratory protective equipment (RPE)

#### Access and premises

- ✓ Only allow access to authorised staff.

#### Equipment

- ✓ Provide RPE.
- ✓ Provide personal gas alarms for work in confined spaces.
- ✓ Provide dilution ventilation. Use an air mover to disperse fume.
- ✓ Use an air blower to get fresh air into restricted working places.
- ✓ Induced draughts must not interfere with shielding gas.

#### Procedures

- ✓ Make sure that workers check their RPE works properly every time they put it on.
- ✓ Visually check compressed gas and air lines for signs of damage before use.
- ✓ Remove grease and all surface coatings first, unless they are meant to be welded or cut through.
- ✓ Arrange work so that the worker's head is out of the fume.
- ✓ Confirm that any ventilation fans are turned on and working.
- ✓ Check for gas leaks.

#### Maintenance, examination and testing

- ✓ It is vitally important to maintain RPE in effective and efficient working order.
- ✓ Follow the instructions in the manual.
- ✓ If any equipment is faulty, stop work until it is repaired.
- ✓ Daily, look for signs of damage. Noisy or vibrating fans can indicate a problem.
- ✓ Make sure that users examine their RPE and test it works properly before each use.
- ✓ Examine and test RPE thoroughly at least once every three months.
- ✓ Check the air flow and air quality to air-fed RPE at least once every three months or before use. Ensure that compressors take in only clean air.
- ✓ Keep records of all examinations and tests for at least five years.
- ✓ Review records - failure patterns show where preventive maintenance is needed.
- ✓ If hot work involves cadmium, seek advice on biological monitoring - see 'Useful links'.

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### Personal protective equipment (PPE)

- ✓ Ask your safety equipment supplier to help you get the right PPE.
- ✓ Provide storage for clean and contaminated PPE.

### Respiratory protective equipment (RPE)

- ✓ RPE is always needed.
- ✓ Provide a powered or air-fed welding helmet that suits the wearer, the job and the work environment.
- ✓ For more heavy duty work, use a compressed air-line helmet to BS EN 270 standard. See sheet R5.
- ✓ For normal work, use a type LDH2 air-line helmet to BS EN 1835 standard or type TH2 powered filtering helmet to BS EN146/EN12942. See sheet R3.
- ✓ For short-term tasks, type P3 high-efficiency disposable RPE is acceptable.
- ✓ Could there be a confined space? If so select air-line RPE.
- ✓ Make sure all RPE is properly fit-tested - get advice from your supplier.
- ✓ Make sure that workers check their RPE works properly before use.
- ✓ Replace RPE filters as recommended by your supplier. Throw away disposable masks after one use.
- ✓ Keep RPE clean and store it away from dust.

### Other protective equipment

- ✓ Provide and ensure that workers use flame-resistant overalls and protective gloves.
- ✓ Use a properly equipped contract laundry or a suitable equivalent to wash work clothing.
- ✓ Skin creams help in washing contamination from the skin. After-work creams help to replace skin oils.

**Caution: Never allow use of compressed air for removing dust from clothing.**

### Health monitoring

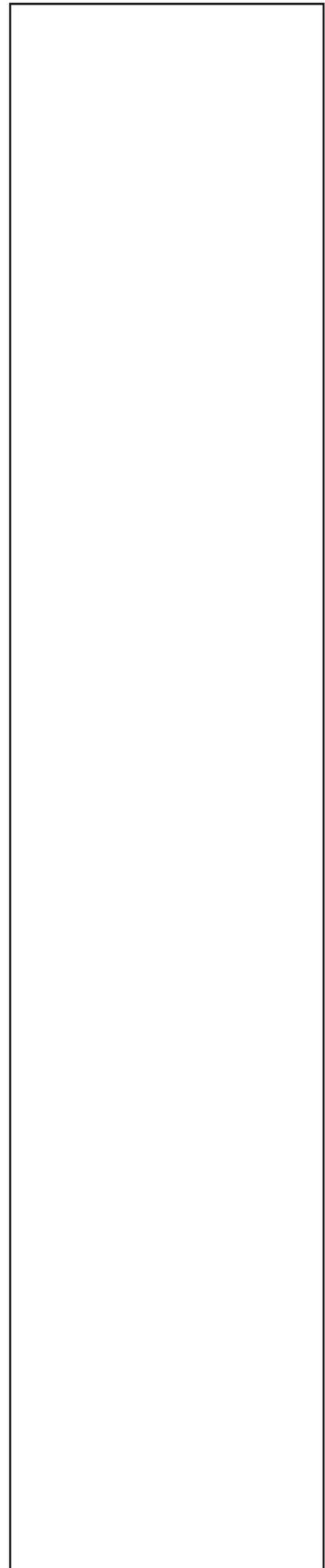
- ✓ You should consider health monitoring. See sheet G401.
- ✓ Consult an occupational health professional - see 'Useful links'.

### Cleaning and housekeeping

- ✓ Keep the work area clean and free of combustible materials.

### Training and supervision

- ✓ Tell workers that fume from welding and cutting can cause serious lung diseases.
- ✓ Working in the right way and using the controls correctly is important for exposure control. Train and supervise workers. See sheet WL0.
- ✓ Provide training for any work in confined spaces.



### Further information

- *Respiratory protective equipment at work: A practical guide* HSG53 (Third edition) HSE Books 2005 ISBN 0 7176 2904 X
- *The safe use of compressed gases in welding, flame cutting and allied processes* HSG139 HSE Books 1997 ISBN 0 7176 0680 5
- *Health and safety in arc welding* HSG204 HSE Books 2000 ISBN 0 7176 1813 7
- *Thoriated tungsten electrodes* Information document OC 564/6(rev) HSE 1995 Web only version available at [www.hse.gov.uk/foi/internalops/fod/oc/500-599/564\\_6r.pdf](http://www.hse.gov.uk/foi/internalops/fod/oc/500-599/564_6r.pdf)
- *Permit-to-work systems* Leaflet INDG98(rev3) HSE Books 1997 (single copy free or priced packs of 15 ISBN 0 7176 1331 3)
- *Safe work in confined spaces* Leaflet INDG258 HSE Books 1997 (single copy free or priced packs of 20 ISBN 0 7176 1442 5)
- For environmental guidelines see sheet WLO

### Useful links

- Your trade association may advise on health and safety consultants and training providers.
- For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit [www.hse.gov.uk/](http://www.hse.gov.uk/). You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.
- Contact the British Occupational Hygiene Society (BOHS) on 01332 298101 or at [www.bohs.org](http://www.bohs.org) for lists of qualified hygienists who can help you.
- Look in the Yellow Pages under 'Health and safety consultants' and 'Health authorities and services' for 'occupational health'.
- Also see [www.nhsplus.nhs.uk](http://www.nhsplus.nhs.uk).
- Biological monitoring - contact the Health and Safety Laboratory (HSL) e-mail [hslinfo@hsl.gov.uk](mailto:hslinfo@hsl.gov.uk), or other service laboratories.

This document is available at: [www.hse.gov.uk/pubns/guidance/](http://www.hse.gov.uk/pubns/guidance/) and [www.hse.gov.uk/coshh/essentials/](http://www.hse.gov.uk/coshh/essentials/)

**This document contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.**

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### Employee checklist

- Do you know how to use the controls properly?
- Is your RPE working properly?
- Check the RPE clean air supply.
- Is the air mover/blower in the right position and working?
- Use, maintain and store your protective equipment in accordance with instructions.
- Look for signs of leaks, wear and damage.
- If you find any problems, tell your supervisor. Don't just carry on working.
- Co-operate with health monitoring.
- Wash your hands before eating, drinking, or using the lavatory.
- Never clean your hands with solvents or concentrated cleaning products.
- Use skin creams provided as instructed.