



Metal Processing Quick Guide

Top occupational health hazards facing welders.

Four of the leading occupational health hazards in Welding are respiratory diseases, hand-arm vibration, noise-induced hearing loss and musculoskeletal disorders (MSD). Let's take a look at all these in a little more detail and also consider how to best manage the risks involved:

Respiratory illnesses¹

Welders can be particularly prone to a lung infection that can lead to severe and sometimes fatal pneumonia. While modern antibiotics usually cure the infection, severe cases lead to 40-50 welders being hospitalised every year. Of these cases, around 2 will be fatal. Occupational asthma, cancers, metal fume fever, irritation of throat and lungs and temporary reduced lung function are other respiratory illnesses that are an issue.

For detailed information on how to manage all of these issues, take a look at the COSHH Guidelines here: www.hse.gov.uk/welding/guidance/index.htm

Respiratory Protective Equipment (RPE) can help you address the problem of fume if other preventative measures do not reduce it below the Workplace Exposure Limit (WEL). Reusable respirators should be inspected monthly and records must be kept. Tight-fitting disposable and reusable respirators should be fit tested on the individual as one mask does not fit all. Battery powered filtering welding helmets can last well if properly looked after, and may be a cost effective option in the long term.² These have the additional benefit of not requiring face fit testing.

Hand-arm vibration³

Tasks like grinding and needle scaling present particular risks. The Control of Vibration at Work Regulations 2005 require you to control all risks and provide appropriate training to employees.

These regulations include an Exposure Action Value (EAV) and an Exposure Limit Value (ELV) based on a combination of the vibration at the grip points on the equipment and the time spent gripping it. To better understand these values, check out the HSE calculator at <http://www.hse.gov.uk/vibration/hav/vibrationcalc.htm>

By complying with the regulations you will help to prevent Hand-Arm Vibration Syndrome (HAVS) and vibration-related Carpal Tunnel Syndrome (CTS). Certain cases of HAVS and all cases of vibration-related CTS must be reported to HSE in accordance with the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).

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Noise⁴

Electric arc welding, cutting and grinding metal can generate harmful levels of noise. The best way to manage the problem is to eliminate the noisy process altogether, for example by buying in material cut to size by the supplier. Following the hierarchy of control, the next best options are substitution, engineering controls, administrative controls such as training and work scheduling and finally personal protective equipment (PPE).

Ear plugs or ear muffs should be compatible with other PPE, such as welding helmets (useful options include slim-line ear muffs with a neck band rather than a head band). If PPE is provided, your workers must be given appropriate training to ensure they wear their protection in the correct way and at all required times.

¹ <http://www.hse.gov.uk/welding/illness.htm>

² <http://www.hse.gov.uk/welding/fume-extraction-rpe.htm>

³ <http://www.hse.gov.uk/pubns/indg175.pdf>

Musculoskeletal Disorder (MSD)

Manual Handling that is repeated regularly or involves twisting and turning into awkward postures can be particularly hazardous⁵. The Provision and Use of Work Equipment Regulations 1998 require you to consider the risks to workers when selecting equipment. Amongst other measures, choosing the right tool will reduce the chances of musculoskeletal disorders and the financial burden of sickness absence and increased insurance premiums⁶.

To find out more about the health and safety issues in metal processing and how best to deal with them, call the 3M helpline on 0870 60 800 60 for an expert opinion.

⁴ <http://www.hse.gov.uk/welding/noise-vibration.htm>

⁵ <http://www.hse.gov.uk/welding/handling.htm>

⁶ <http://www.hse.gov.uk/msd/toolkit.htm>

Ready to talk?

If you have any questions about skin hazards and choosing the right coveralls, get in touch with us in one of the following ways:

Website

www.3M.co.uk/safety

Helpline

Open Monday to Friday 9-5pm

0870 60 800 60 (UK)

1800 320 500 (Ireland)

Contact us on Twitter

 **@3M_UK_Safety**

