

Healthy Workplaces Good Practice Awards 2018-2019

CASE STUDY



Free web-based tool for selecting the best measures to protect workers from hazardous welding fumes



ORGANISATION/COMPANY

British Occupational Hygiene Society

COUNTRY

United Kingdom

SECTOR

Manufacturing

TASKS

Welding

Background

The United Kingdom's Breathe Freely in Manufacturing campaign was launched in May 2017 to raise awareness of occupational lung diseases caused by welding fumes in the manufacturing industry. Although welding is one of the most commonly carried out activities in manufacturing, there is a lack of awareness about the need to control worker exposure to harmful fumes and how to go about this. As a result, welders are at particularly high risk of developing lung problems.

Along with the British Occupational Hygiene Society (BOHS), several other key organisations and manufacturing companies are involved in the campaign, including the Trades Union Congress (TUC), Unite the Union (a British and Irish trade union), Make UK (the Manufacturers' Organisation, formerly EEF (the Engineering Employers Federation)) and the Health and Safety Executive, and the private companies Toyota, BAE Systems, TWI and JCB. To encourage the active participation of employers and workers in controlling risks from welding fumes, these organisations consult with members to identify issues and concerns. This reveals that many in the industry perceive controlling welding fumes to be difficult and are unsure of whether or not the controls in place in their organisations are adequate or appropriate.

To address this lack of awareness, a website was developed with a wealth of information and awareness-raising materials about welding and welding fumes, including guidance documents and fact sheets. However, because there is no one-size-fits-all measure to control exposure to welding fumes, as solutions are highly dependent on the nature of the task, there is a clear need to offer workers and employers an easy way

of selecting the most appropriate control measures on a case-by-case basis.



Source: British Occupational Hygiene Society.

Aims

To develop a simple, easy-to-use online tool to help workers and their supervisors or managers select the most effective measures for controlling welding fumes and protecting health

What was done and how?

A panel of experts — from industry, consultancies, academia and the Health and Safety Executive — with vast experience in preventing ill health in manufacturing developed the web-based Welding Fume Control Selector Tool and supplementary guidance.

Users of the tool are asked four simple questions that cover:

1. the type of welding
2. the material being welded
3. the duration of the welding task
4. the size of the piece of material being welded.



Source: British Occupational Hygiene Society.

Based on the answers to these questions, the tool produces a guidance sheet detailing the most appropriate control measures to use and including information on effectiveness, costs and limitations, and top tips. This guidance sheet is accompanied by a series of management documents that cover:

- the design of the control method
- the commissioning, installation, maintenance and testing of the control method
- the training and supervision of welders
- how to monitor the respiratory health of welders.

Because the optimal control solution is not always possible or affordable, the tool also suggests alternative measures. As part of the tool development process, the team explored the various options for controlling welding fumes and rated them — from one to five stars — based on their effectiveness at

preventing exposure to fumes and their reliability. Control measures whose effectiveness is highly dependent on workers consistently adhering to good practice, for instance, have a low star rating, as such measures are deemed unreliable. This star-rating system makes it easy for workers and their supervisors to quickly establish how effective and reliable each of the control measures suggested by the tool is.

The tool was extensively tested by the development team and other campaign partners, and improvements were implemented on the basis of feedback received. It was launched and actively promoted by BOHS, Make UK, TUC, Unite and industry representatives at a series of roadshows supported by EU-OSHA.

What was achieved?

The Welding Fume Control Selector Tool is free and publicly available on the Breathe Freely in Manufacturing website. Although designed with the manufacturing sector in mind, it is an invaluable resource for any workplace, in any sector, in which welding is carried out. The tool:

- raises awareness of the health risks associated with exposure to welding fumes and the importance of controlling risks
- promotes various ways of preventing exposure to welding fumes, appropriate for specific welding tasks
- provides key information on risk assessment
- targets welders who are at particularly high risk of exposure to hazardous fumes
- overcomes barriers to protecting workers by making it easy for managers and supervisors to identify and implement appropriate control measures.

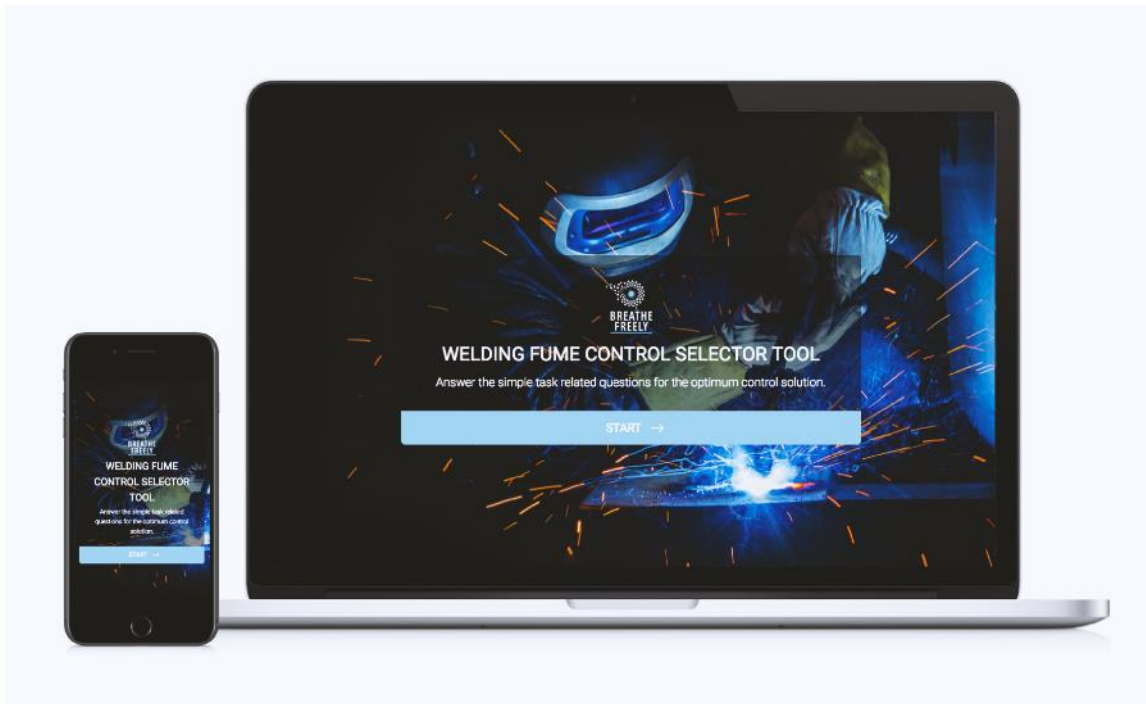
The tool has been well received by the manufacturing industry and within the first 3 months of its launch in November 2018 was used more than 1,700 times, with guidance sheets being downloaded almost 200 times.

Success factors

The tool was developed as a result of commitment and support from several influential manufacturing companies and organisations — including trade unions and safety and health authorities — in response to concerns raised by workers and employers. Consequently, it addresses a real need in the manufacturing sector.

The tool enables workers themselves to be involved in selecting the most appropriate control measures for welding fumes; such worker participation is key to successful prevention.

Although launched only recently, the tool has already received considerable interest and is being actively promoted and endorsed by, for instance, the United



Source: British Occupational Hygiene Society

Kingdom's Health and Safety Executive and the Institute for Occupational Safety and Health. Key industry magazines also covered the launch of the tool and are promoting its use. Such efforts to publicise the tool and raise awareness of its benefits for businesses and workers are likely to lead to further significant uptake.

Transferability

The tool is free to use and publicly available, so it is a useful resource for any business or organisation in any sector in which welding is carried out. Moreover, if translated into the relevant language, the tool has the potential to be used in any country.

Costs and benefits

Occupational lung diseases, including cancer, bronchitis, emphysema and asthma, can be highly debilitating, affecting an individual's ability to work. This has financial implications for workers and their families, employers, health services and society. The tool itself is free and, by protecting workers from welding fumes, has the potential to greatly reduce the costs associated with occupational lung diseases. Not only that, by using the tool companies may avoid wasting money and other resources on inappropriate control measures.

'This free tool contributes to protecting workers from hazardous welding fumes, not only in the manufacturing sector but in any workplace where welding is carried out.'

Key features of good practice example

- The tool is free to use and makes a relevant contribution to protecting workers from hazardous welding fumes, not only in the manufacturing sector but in any workplace where welding is carried out, and, potentially, in any country.
- The tool was developed in consultation with leading safety and health and trade union organisations and manufacturing companies, and in response to worker and employer concerns.
- Its implementation adds value to existing practices for controlling welding fumes and encourages worker participation in prevention.

Further information

Further information can be found at
<http://www.breathefreely.org.uk/wst/>

References and resources

<http://www.bohs.org/>

<http://www.breathefreely.org.uk>

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

<https://www.iosh.com/more/news-listing/employers-urged-to-protect-workers-from-cancer-causing-welding-fumes/>