



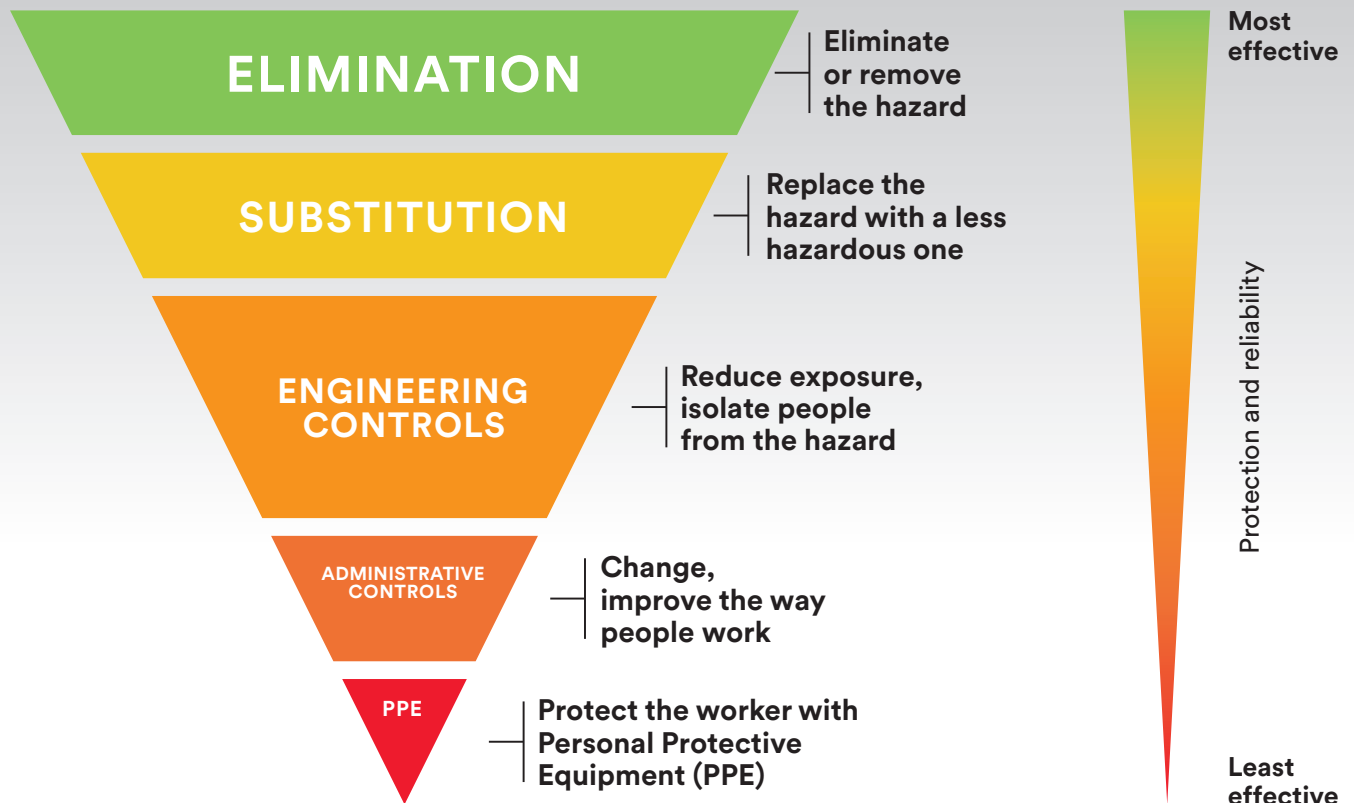
 **Speedglas™**
Welding Safety



Welding Respiratory Protection Selection Overview

Hierarchy of Controls

The role of PPE



Effective risk management in all environments where welding takes place requires a systematic approach. While the use of appropriate personal protective equipment (PPE) is the most immediately visible part of a workplace safety strategy, it should be considered an organisation's last line of defence, not its first.

Where hazards and risks that need to be reduced have been identified, the next step is the design and implementation of appropriate controls to eliminate, or minimise those risks.

The measures in the Hierarchy of Controls should be applied in a hierarchical manner; those at the top of the graphic are potentially more effective and protective than those at the bottom.

One of the most effective methods to control welding fume is to capture it at source. The use of local exhaust ventilation (LEV) can protect the welder and prevent fumes spreading to exposure others.

Unfortunately, engineering controls may not adequately control exposures or may not be reasonably practical for all tasks. In such circumstances, appropriate respiratory protective equipment (RPE) will be required.

Working down through the hierarchy normally leads to the implementation of inherently safer systems, where the risk of illness or injury has been substantially reduced.



A quick look at three types of respirators

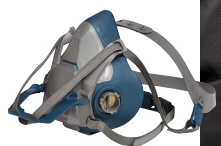
3M™ Adflo™
Powered Air
Purifying
Respirator



3M™ Versaflo™
Supplied Air
Regulators



3M™ Reusable
Respirators



3M™ Adflo™ Powered Air Purifying Respirator

Your own filtered atmosphere... ...mobile and adaptable



Is there a way to both provide respiratory protection against harmful welding fumes while increasing the comfort around your face and head? Tackle workplace hazards with a respiratory protection solution workers will want to wear.

As one of the most popular respirators of its kind in the world, the 3M™ Adflo™ Powered Air Purifying Respirator is designed to provide welders a constant nominal airflow rate of 170 litres per minute*, regardless of the battery's charge or the particle loading of the filter.

Green for go

As soon as you turn on your Adflo powered air purifying respirator, a display indicates the status of the filter. Green light means that the unit is working normally. Red light indicates that the filter is clogging up.

1. One green indicator: new particle filter. **Two green indicators:** if also a new gas filter is installed.



2. As the filter is clogging more indicators will lit up.



3. Three green and one red light: expect a shorter battery runtime. Particle filter replacement is recommended.



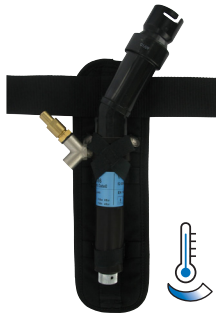
4. Three green and two red lights: the particle filter is clogged and must be replaced.



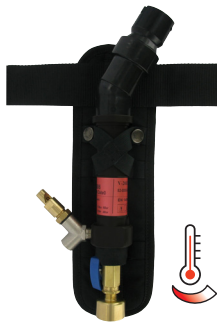
* 205 litres per minute for the version with the larger battery

3M™ Versaflo™ Supplied Air Regulators

Light on your belt and soft on your ears



3M™ Versaflo™
V-100E Air Cooling



3M™ Versaflo™
V-200E Air Heating



3M™ Versaflo™ V-500E
Flow Controlled

The balanced, belt-worn, 3M™ Versaflo™ V-500E regulator consistently delivers the airflow level you set (170-305 l/min). An integrated silencer keeps the noise level equivalent to a typical conversation.

There are two alternative regulators to either cool (V-100E) or heat (V-200E) the airflow by as much as 28°C. These regulators are excellent choices for workers exposed to uncomfortable temperature ranges.

Choose your headtop

3M™ Speedglas™ team has developed a wide range of Personal Protection Equipment (PPE), so welders can select the right equipment for each job. That means meeting several of the welder's protection needs – plus empowering welders to perform at their highest levels.



3M™ Adflo™
Powered Air Purifying Respirator



3M™ Versaflo™
Supplied Air Regulators



3M™ Speedglas™
Welding Helmets G5-01



3M™ Speedglas™
Welding Helmets 9100MP



3M™ Speedglas™
Welding Helmets 9100-Air

3M™ Reusable Respirators



3M™ Secure Click™ Half Mask, Reusable Respirator HF-800 Series

- Unique filter and cartridge connection, push until you hear a click
- Speaking diaphragm designed to help provide easier communication while working
- Exhalation valve directs exhaled breath and moisture downward



3M™ Maintenance-free Reusable Respirator 4000+ Series

- Maintenance-free: save time with integrated filters.
- Less heat and moisture build-up due to the central exhalation valve.
- Reusable until damaged, clogged with particulates, or saturated with gas.



3M™ Reusable Half Masks 6500QL Series

- Our silicone facepiece keeps its shape, even in high-heat environments.
- Low-profile, wide field-of-view design.
- Easy on and off, in non-contaminated environments, with our convenient Quick Latch (QL) Drop-Down Mechanism.
- Easy breathing with 3M™ CoolFlow™ Exhalation Valve.



3M™ Reusable Half Masks 7500 Series

- Soft silicone face piece material for great comfort and durability.
- Easy breathing with 3M™ CoolFlow™ Exhalation Valve.
- Convenient Drop-Down Mechanism.

3M™ Reusable Respirators	Performance level	Approval
Secure click HF-800 Serie with 3M™ Particulate Filter 3128	10 x OEL for Ozone 12 x OEL for particles Plus relief from nuisance level acid gas/organic vapours	EN 140:1998 (masks) EN 143:2000 + A1:2006
Secure click HF-800 Serie with 3M™ Particulate Filter 3138	10 x OEL for Ozone 50 x OEL for particles Plus relief from nuisance level acid gas/organic vapours	EN 140:1998 (masks) EN 143:2000 + A1:2006
Maintenance Free Reusable Respirator 4255+	10 x OEL ¹⁾ or 5000ppm (whichever is lower) for organic vapour ²⁾ 50 x OEL ¹⁾ for particles	EN405:2001 + A1:2009 FFA2P3 R D
Maintenance Free Reusable Respirator 4277+	10 x OEL ¹⁾ or 1000ppm (whichever is lower) for organic vapours ²⁾ , inorganic vapours and acid gases 50 x OEL ¹⁾ for particles	EN405:2001 + A1:2009 FFABE1P3 R D
Half masks 6500QL or 7500 with 3M™ Particulate Filters 2128	10 x OEL ¹⁾ for Ozone 12 x OEL ¹⁾ for solid and liquid particles (P2 R) Plus relief from nuisance level ³⁾ acid gas/organic vapours.	EN140:1998 (masks) EN143:2000 + A1:2006
Half masks 6500QL or 7500 with Particulate Filter 2138	10 x OEL ¹⁾ for Ozone 50 x OEL ¹⁾ for solid and liquid particles (P3 R) Plus relief from nuisance level ³⁾ acid gas/organic vapours.	EN140:1998 (masks) EN143:2000 + A1:2006

Since everyone's head size and shape is different, we recommend that you work with your 3M™ distributor to find the respirator models that are most compatible with your welding helmet(s). The filter option reference is for particle filtration. The 3M™ Half masks can be combined with many other types of filters for both gases and vapours. Please visit www.3M.com to find other options.

1) OEL = Occupational Exposure Limit – please use local exposure limit.

2) Organic vapours boiling point >65 degrees C.

3) Nuisance level means concentrations below the OEL.

Do you, as a welder, know what's in your air?

Follow the path to protection

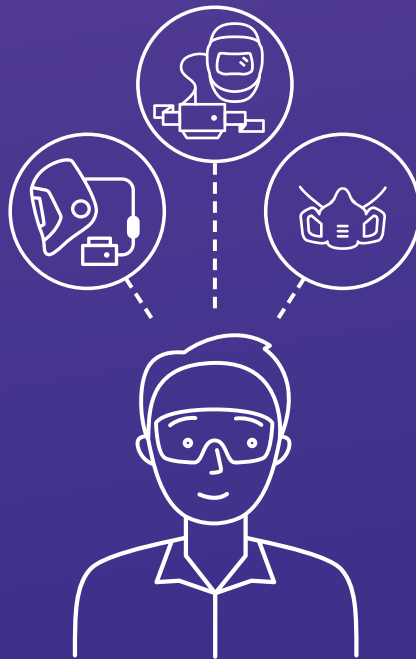


1. Detect

We believe welders deserve to feel safe and comfortable during their workday.

Clean air is critical to employee safety, but you won't know if you have appropriate protection without monitoring and understanding what's in your air.

Different welding methods and environments requires different levels of protection – let us help you on the path to safety



2. Select

Establishing a thorough respiratory protection program requires both selecting the correct respirators and a plan to change out your gas/vapor cartridges.

Selecting the welding PPE include various parameters such as protection, comfort and performance. Each situation and welding environment have their unique challenges

It doesn't matter how good your protective equipment is if nobody uses it. We make helmets that are comfortable, good-looking, and promote welders' performance.



3. Protect

Risk remains constant. You'll need a consistent program that can also adapt to new challenges, and we want to help you establish one.

We've developed tools and guidelines to help you maintain your equipment and make the most out of it.



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www.speedglas.com

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