



 **Speedglas™**
Welding Safety

A welder wearing a 3M Speedglas helmet and protective gear is shown welding a metal plate. Bright blue sparks are visible from the welding process. The background is a dark industrial setting.

3M™ Speedglas™ Consumables & Accessories Overview

How to maintain and get the most
out of your Speedglas helmet

3M Science. Applied to life.™

What kind of welder are you?

High precision TIG welding situations where clear visibility and a wide field of view is essential.



General welding situations at mid- to low-amperage across a range of materials.



When welding and grinding needs to happen in a variety of situations, locations and conditions.



Heavy industry welding situations involving high amperage and extensive grinding.



G5-02 ●



G5-03 E ●



G5-03 Pro ●



G5-03 Pro ●
+ safety helmet



G5-03 Pro Air ●



G5-01 ●



9100MP ●

Prolong the lifespan of your welding gear

To optimise the effective lifetime of your welding equipment and avoid the additional cost of replacement, regular maintenance is important.

To help maximise safety and comfort, make it a regular habit to check and change the following items. Typical replacement intervals are shown below, but please replace more frequently if your pre use checks suggest that this is necessary:

System	Component	Typically replaced	Notes
Welding filters	Outer protection plate	Once a week	Replace anytime the plate becomes deeply pitted, scratched or too dirty to clean with a soft cloth.
Welding filters	Inner cover plate	Once a month	Regularly clean with a soft cloth and replace if any pits or scratches occur.
Welding helmets	Visor plate	Every two weeks	Replace more often if visibility is reduced.
Welding helmets	Sweatband	Once a month	Replace more often if sweatband becomes unhygienic.
Welding helmets	Face seal	As needed	Replace frequently in really dirty environments, or if it has splits or tears or whenever the seal becomes unhygienic.
Adflo PAPR	Prefilter	Once a week (based on application and environment)	Regular replacement of the prefilter extends the life of the particle filter.
Adflo PAPR	Particle filter	At least every month	Replace the particle filter when particle filter indicator becomes red. Otherwise, replace whenever the battery operating time becomes too short, or when “fully loaded” filter triggers low airflow alarm. Never clean the filter with compressed air as this will damage the filter media
Adflo PAPR	Gas filter	As needed	Replace the gas filter according to your work place requirements. It is not recommended to wait until you can sense odours or smells.
Adflo PAPR	Odour filter	Any time you smell unpleasant odours	Odour filter is not required if gas filter is used.
Adflo PAPR	Spark arrestor	As needed	Replace if deformed and no longer fitting well. Clean from dust and dirt when needed
Adflo PAPR	Breathing tube	If damaged, deformed or leaking any air	To extend the life of the breathing tube, use a tube cover or use a heavy duty rubber breathing tube.

Important Notice: Note that higher-than-normal levels of pollutants, heat and sparks will require more frequent replacement of components. Chart assumes minimum 4 hours usage per day.

3M™ Speedglas™ Heavy Duty Welding Helmet G5-01



Component		Part number	Description
Welding filter	Outer protection plates	52 60 00	Outer protection plate (standard)
		52 70 00	Outer protection plate (scratch)
		52 70 01	Outer protection plate (scratch+)
		52 70 70	Outer protection plate (heat)
	Inner cover plates	52 80 25	Inner cover plate
		52 80 28	Inner cover plate anti-fog
Welding helmet	Visor plate	61 30 00	Visor plate, anti-fog and hard coated
	Face seal	61 40 00	Face seal
	Sweatbands	19 80 16	Sweatband, towelling
		19 80 18	Sweatband, leather
		19 80 17	Sweatband, fleecy cotton
	Airduct breathing tube	61 37 00	Airduct breathing tube (short) incl. Holder

Additional accessory options for G5-01 and G5-03 Pro/Pro Air



A Task light.

B To better enable you to weld when looking down, replace the rigid neck protection with, for example the smaller fabric neck protection.

C Increase coverage of your head, neck and chest by adding the larger fabric head cover and/or the extended fabric neck protection.

D For increased visibility, add the flurescent yellow extended head cover.

E When you need the durability of leather, attach the leather head cover and the leather neck protection.

F To maximise coverage from sparks add the fabric shroud and the extended or larger fabric head cover.



Our range of products, models and colors may vary depending on region and year.
For an accurate list of available products visit www.3M.com or contact your local supplier.

3M™ Speedglas™ Welding Helmet G5-02



Component		Part number	Description
Welding filter	Outer protection plate	62 60 00	Outer protection plate (scratch)
	Inner cover plate	62 40 00	Inner cover plates
	Magnifying lens Options	17 20 20	Magnifying lens x1.5
		17 20 21	Magnifying lens x2.0
		17 20 22	Magnifying lens x2.5
Welding helmet	Sweatbands	16 80 10	Sweatband, fleecy cotton (length 24cm)
		16 75 20	Sweatband, towelling
		16 80 00	Sweatband, leather
	Large head rest	53 62 11	Head rest (large)

We recommend use of 3M welding fume disposable or re-useable respirators together with standard welding helmets

3M™ Speedglas™ Welding Helmet G5-03 E



Component		Part number	Description
Welding filter	Outer Protection Plates	52 60 00	Outer protection plate (standard)
		52 70 00	Outer protection plate (scratch)
		52 70 01	Outer protection plate (scratch+)
		52 70 70	Outer protection plate (heat)
	Inner cover plates	52 80 15	Inner cover plate
		52 80 29	Inner cover plate anti-fog
Welding helmet	Sweatbands	16 80 10	Sweatband, fleecy cotton (length 24cm)
		16 75 20	Sweatband, towelling
		16 80 00	Sweatband, leather
	Large Head Rest	53 62 11	Head rest (large)

We recommend use of 3M welding fume disposable or re-useable respirators together with standard welding helmets

3M™ Speedglas™ Welding Helmets G5-03 Pro/Pro Air

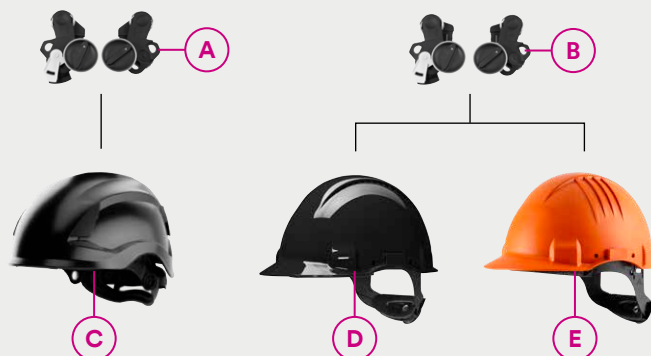


Component		Part number	Description
Welding filter	Outer protection plates	52 60 00	Outer protection plate (standard)
		52 70 00	Outer protection plate (scratch)
		52 70 01	Outer protection plate (scratch+)
		52 70 70	Outer protection plate (heat)
	Inner cover plates	52 80 25	Inner cover plate
		52 80 28	Inner cover plate anti-fog
Welding helmet	Face seal	61 40 00	Face Seal
	Sweatbands	19 80 16	Sweatband, Towelling
		19 80 18	Sweatband, Leather
		19 80 17	Sweatband, fleecy cotton
	Air duct breathing tube	61 37 00	Air duct Breathing Tube (short) incl. holder

We recommend use of 3M welding fume disposable or re-useable respirators together with standard welding helmets

Additional accessory options for G5-03 Pro

- A** Safety helmet adaptor G5-03 Pro for X5500NVE
- B** Safety helmet adaptor G5-03 Pro for G3001NVE and G3501MOR
- C** 3M™ Safety Helmet X5500NVE (non-vented)
- D** 3M™ G3001NVE Safety Helmet
- E** 3M™ G3501MOR High Heat Safety Helmet



Before you choose your protective equipment

The Hierarchy of Controls can be used as a guide through the process of mitigating exposures to welding fume.* The measures towards the top of the list are normally considered to be the most preferable.



Eliminate the hazard

E.g. Use different bonding solutions or find ways to minimise the amount of welding.



Substitute the hazard

E.g. Use a different metal or welding technique that produces less contaminants.



Engineering controls

Use engineering controls to isolate workers from the hazard. E.g. local exhaust ventilation (LEV) or on-tool extraction.



Administrative controls

E.g. Introduce dedicated welding areas and regular testing of LEV.



Personal Protective Equipment (PPE)

PPE will still be required for most manual welding due to the hazards involved and the limitations of other controls.

* Source: <https://www.cdc.gov/niosh/topics/hierarchy/>

3M™ Speedglas™ Welding Helmet 9100MP



Component		Part number	Description
Welding filter	Outer Protection Plates	52 60 00	Outer protection plate (standard)
		52 70 00	Outer protection plate (scratch)
		52 70 01	Outer protection plate (scratch+)
		52 70 70	Outer protection plate (heat)
	Inner cover plates	52 80 05	Inner cover plate, 9100V
		52 80 15	Inner cover plate, 9100X
		52 80 15	Inner cover plate, 9100XX and 9100XXi
Welding helmet	Visor plates	52 30 00	Visor plate, standard
		52 30 01	Visor plate, anti-fog
	Face Seal	53 42 00	Face seal
	Sweatband	16 80 10	Sweatband, fleecy-cotton

Additional accessory options for 9100MP

A 3M™ PELTOR™ X-series helmet mounted earmuffs

B Shroud for 9100 MP



Below is a helpful overview of regular maintenance; always read and follow User Instructions.

Before use

- Welding helmet and headband.** Inspect for cracks or any damaged parts. Replace if needed.
- Welding filter.** Check that the sensors are clean. Replace the battery if the low battery indicator flashes or if the indicators do not flash when the buttons are pressed.
- Protection plates.** Ensure that your welding filter is equipped with an outer protection plate and inner cover plate. To help provide the best possible vision, they should be clean and without scratches.
- Magnification.** If you can't see the detail you need, try one of our magnifying lenses, available in x1.0, x1.5, x2.0, x2.5 and x3.0 strengths.
- Respiratory welding helmets: face seal.** If the face seal is damaged, there is a risk that contaminated air will get inside the welding helmet. Verify it's in place and free from splits and tears.
- Respiratory welding helmets: breathing tube.** Confirm that the tube is undamaged and not leaking any air. To extend the life of the breathing tube, use a breathing tube cover or use a heavy-duty breathing tube

After use

- Clean the welding helmet.** Wipe with a moist tissue or cloth, both inside and outside the welding helmet.
- Face seal and sweatband.** Clean the face seal according to the cleaning instructions. Face seal and sweatband should be replaced if they have splits or tears or whenever they become unhygienic.
- Protection plate/cover and visor plate.** Clean with a soft cloth and replace if any pits or scratches occur.
- Breathing tube.** Replace if damaged, deformed or leaking any air. If you suspect that the inside of the breathing tube is dirty, it must be changed. DO NOT rinse, immerse in water, or clean with solvents.
- Storage.** Store the welding helmet in a dry, clean area away from direct sunlight, high temperatures and solvents, as stated in the user instructions. Ideally use the bag that comes with the welding helmet and Adflo PAPR system or similar.

3M™ Adflo™ Powered Air Purifying Respirator System



Component	Part number	Description
Filters	83 60 10	Prefilter
	83 70 12	Particle filter
	83 75 42	Gas filter A2
	83 72 42	Gas filter A1B1E1
	83 71 10	Odour filter
	83 71 20	Odour filter pad
Breathing tubes	83 40 16	Breathing tube
	83 40 17	Breathing tube heavy-duty rubber
	83 40 18	Breathing tube cover, flame retardant
	83 40 19	Breathing tube, long
Spark arrestor	83 60 00	Spark arrestor

Additional accessory options for Adflo

Heavy duty
back pack BPK-HD



A



B



C

Batteries and charger

A Standard battery

B Heavy duty battery

C Battery charger

What is welding fume?

All welding fume contains particles as well as gases.

Welding fume particles vary in size, from particles that are large like grains of sand through to tiny particles that cannot be seen by the naked eye and can easily be inhaled.

Welding fume has been reclassified as carcinogenic¹⁾, and exposure to welding fume and other gases associated with welding can cause a range of health issues.

① Fast fact:

Poor respiratory protection is the 4th most common workplace violation.²⁾

1) IARC2017

2) Top 10 Most Frequently Cited Standards, OSHA, U.S. Department of Labor, for 2020.

Assess the risk



The type and quantity of welding fume, gases and vapours are determined by the material, welding process, amperage and the welding electrode used.



Consult an expert to identify the hazards levels against country safety standards.

① Fast fact:

A qualified health & safety professional or consultant can conduct area and personal exposure monitoring to determine type and concentration of contaminants.

Our range of products, models and colors may vary depending on region and year. For an accurate list of available products visit www.3M.com or contact your local supplier.



3M Welding Centre of Excellence
SE-78521 Gagnef, Sweden

www.speedglas.com
www.3M.com



facebook.com/3MSpeedglas



Instagram.com/3MSpeedglas



youtube.com/3MSpeedglas

3M, Speedglas and Adflo are trademarks of 3M Company, used under license in Canada. PELTOR is a trademark of 3M Svenska AB, used under license in Canada. PSD products are occupational use only.

Please recycle. © 3M 2025. All rights reserved.