



**Speedglas™**  
Welding Safety



# Speedglas Consumables Optimization.

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





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

For maximum safety and comfort, make it a regular habit to check and change the following items at the intervals recommended below or more frequently as required:

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 soft cloth or lens paper.
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.
Respirators	Prefilter	2 days to once a week (based on application & environment)	Regular replacement of the prefilter extends the life of the particle filter, saving money while also helping the battery run-time.
Respirators	Particle Filter	At least every month	For Adflo respirator, replace 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.
Respirators	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.
Respirators	Odour Filter	Any time you smell unpleasant odours	Odour filter is not required if gas filter is used.
Respirators	Spark Arrestor	As needed	Replace if deformed and no longer fitting well.
Respirators	Breathing Tube	If damaged, deformed or leaking any air	To Extend the life of the breathing tube, use a tube cover or a heavy duty rubber breathing tube.
Welding Helmets with Respirators	Face Seal	At least every 2 months	Replace earlier in really dirty environments, or if it has splits or tears or whenever the seal becomes unhygienic.
Adflo Systems	Breathing Tubes	If damaged, deformed or leaking any air	To extend the life of breathing tube, use a tube cover or 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

G5-01 Component		SAP ID	Short-ID	Description
ADF	Outer Protection Plates	7100016691	526000	Outer protection plate (standard)
		7000000223	527000	Outer protection plate (scratch-resistant)
		7100108831	527001	Outer protection plate (extra scratch-resistant)
		7100016690	527070	Outer protection plate (heat-resistant)
	Inner Protection Plate	7000000227	528025	Inner protection plate for Speedglas G5-01 Auto-Darkening Filter
Helmet	Grinding Visors	7100190170	613000	3M™ Visor Plate, Anti-Fog and Hard coated, for 3M™ Speedglas™ Welding Helmet G5-01, 613000, 5 EA/Case
	Face Seals	7100161510	614000	3M™ Face Seal for 3M™ Speedglas™ Welding Helmet G5-01, 614000, 1 EA/Case
	Sweatbands	7100169234	198016	3M™ Speedglas™ Sweatband, Towelling, 198016, 3 EA/Case
		7100190171	198018	3M™ Speedglas™ Sweatband, Leather, 198018, 1 EA/Case
		7100173404	198017	3M™ Speedglas™ Sweatband in fleecy cotton, pkg of 3 - 198017
Short Breathing Tubes	7100182269	613700	3M™ Airduct Breathing Tube (short) incl. holder for 3M™ Speedglas™ Welding Helmet G5-01, 613700, 1 EA/Case	

### Additional Accessory Options for G5-01



- A. Helmet in standard configuration with rigid neck protection and the smaller, fabric head protection.
- B. To better enable you to weld when looking down, replace the rigid neck protection with, for example the **smaller fabric neck protection (169041)**.
- C. Increase coverage of your head, neck and chest by adding the **larger fabric head cover (169023)** and/or the **extended fabric neck protection (169042)**.
- D. For increased visibility at all times, add the **flurescent yellow extended head protection (169021)**.
- E. When you need the durability of leather, attach the **leather head protector (169022)** and the **leather neck protector (169043)**.
- F. To maximize coverage from sparks add the **fabric shroud (169030)** and the extended or **larger fabric head protection (169023)**.
- G. Task light (169200)

## 3M™ Speedglas™ Welding Helmet G5-02



G5-02 Component		SAP ID	Short-ID	Description
ADF	Outer Protection Plates	7100205305	626000	Scratch resistant outer protection plate, pkg of 5
	Inner Protection Plates	7100202350	624000	Inner protection plates, pkg of 2
	Magnifying Lens Options	7100202361	172020	Magnifying lens x1.5
		7100202360	172021	Magnifying lens x2.0
7100202396		172022	Magnifying lens x2.5	
Helmet	Sweatbands	7100080223	168010	Sweatband in fleecy cotton (length 24cm), pkg of 2
		7100080253	167520	Sweatband, towelling, purple, pkg of 2
		7000044367	168000	Sweatband, leather
	Large Head Rests	7100189980	536211	Large Head Rest



## 3M™ Speedglas™ Welding Helmet 9100 FX Air

9100FX Air Component		SAP ID	Short-ID	Description
ADF	Outer Protection Plates	7100016691	526000	Outer protection plate (standard)
		7000000223	527000	Outer protection plate (scratch-resistant)
		7100108831	527001	Outer protection plate (extra scratch-resistant)
		7100016690	527070	Outer protection plate (heat-resistant)
	Inner Protection Plates	7000000225	528005	Inner protection plate for Speedglas 9100V Auto-Darkening Filter
		7000000226	528015	Inner protection plate for Speedglas 9100X Auto-Darkening Filter
7000000227		528025	Inner protection plate for Speedglas 9100XX and 9100XXi Auto-Darkening Filter	
Helmet	Grinding Visors	7000000236	523000	Spare visor for Speedglas 9100 FX Welding Helmet
		7100080231	523001	Spare anti-fog visor for Speedglas 9100 FX Welding Helmet
	Sweatbands	7000000224	168015	Sweatband for Speedglas 9100 Series Welding Helmets
	Short Breathing Tubes	7100167262	533500	Air duct assembly for Speedglas 9100 FX Air
	Air Deflectors	7000044540	535000	Air deflector for Speedglas 9100 FX Air Welding Helmet

### Additional Accessory Options 9100 FX Air



Extended protective headcover for Speedglas 9100 FX Welding Helmets (Large)  
169007  
7100167240



Extended protective throat and ear cover for Speedglas 9100 Series Welding Helmets  
169010  
7000000230



## 3M™ Speedglas™ Welding Helmet 9100MP & MP Lite

9100FX Air Component		SAP ID	Short-ID	Description
ADF	Outer Protection Plates	7100016691	526000	Outer protection plate (standard)
		7000000223	527000	Outer protection plate (scratch-resistant)
		7100108831	527001	Outer protection plate (extra scratch-resistant)
		7100016690	527070	Outer protection plate (heat-resistant)
	Inner Protection Plates	7000000225	528005	Inner protection plate for Speedglas 9100V Auto-Darkening Filter
		7000000226	528015	Inner protection plate for Speedglas 9100X Auto-Darkening Filter
7000000227		528025	Inner protection plate for Speedglas 9100XX and 9100XXi Auto-Darkening Filter	
Helmet	Grinding Visors	7000000236	523000	Spare visor for Speedglas 9100 FX Welding Helmet
		7100080231	523001	Spare anti-fog visor for Speedglas 9100 FX Welding Helmet
	Face Seals	7100167292	534200	Face Seal for Speedglas 9100MP Welding Helmet
	Sweatbands	7100080223	168010	Sweatband 9100 MP pack of two
		7100112082	168011	Sweatband 9100 MP Lite pack of two

### Additional Accessory Options 9100MP & MP Lite



Shroud for 9100 MP/9100 MP-Lite  
169015  
7100106682



Cover for MP/MP-Lite Safety helmet  
169014  
7100167334



## 3M™ Adflo™ Powered Air Purifying Respirator System

Adflo Components	SAP ID	Short-ID	Description
Filters	7100080248	836010	Pre-filter, pkg of 5
	7100116817	837012	Particle Filter, pkg of 2
	7000028075	837542	Gas Filter A2
	7000028043	837242	Gas Filter A1B1E1
	7000028074	837110	Odour Filter
	7000044586	837120	Odour Filter Pad
Breathing Tube	7000028067	834016	Standard self adjusting QRS
	7000044527	834017	Heavy-duty rubber QRS
	7000028062	834018	Cover
Spark arrestor	7000028010	836000	Spark Arrestor

## Why is it important to regularly maintain your equipment?

### 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.

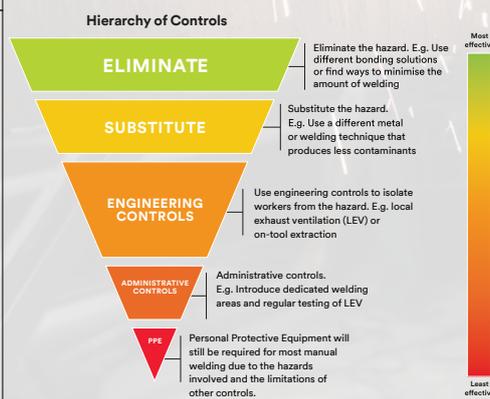
Welding fume has been reclassified as carcinogenic<sup>1</sup>, and exposure to welding fume and other gases associated with welding can cause a range of health issues.

#### Fast fact:

Poor respiratory protection is the fourth most common workplace violation.<sup>2</sup>

### Before you choose your protective equipment

The Hierarchy of Controls can be used to guide you through the process of mitigating exposures to welding fume.<sup>5</sup> The measures towards the top of the list are normally considered to be the most preferable.



### Assess your workers' 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

#### Fast fact:

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

### Short-term health problems



**Eye, nose and throat irritation**



**Dizziness**



**Metal fume fever**  
(high temperatures, chills, aches, vomiting, weakness and fatigue).



**Nausea**



**Headaches**

#### Fast fact:

Symptoms of metal fume fever may be more noticeable on a Monday, after some days without exposure.<sup>3</sup>

### Long-term health problems

Illnesses due to welding fume often take many years to develop.



**Larynx and urinary tract cancers**

**Lung function abnormalities**  
including bronchial asthma, chronic obstructive pulmonary disease (COPD) and lung cancer

**Stomach ulcers, kidney damage and nervous system damage**

**Significant increase of heart attack and stroke**

#### Fast fact:

Welders have the same risk of chronic bronchitis as a regular smoker<sup>4</sup> and a 40% higher risk of lung cancer than non-welders.<sup>1</sup>

#### References:

<sup>1</sup> IARC2017

<sup>2</sup> Top 10 Most Frequently Cited Standards, OSHA, U.S. Department of Labor, for 2015.

<sup>3</sup> Source: [www.hse.gov.uk/welding/illness.htm](http://www.hse.gov.uk/welding/illness.htm) (02.03.2017)

<sup>4</sup> Incidence and prevalence of chronic bronchitis: Impact of smoking and welding, 2012

<sup>5</sup> Source: <https://www.cdc.gov/niosh/topics/hierarchy/>

<sup>6</sup> NPF = Nominal Protection Factor. The nominal protection factor based on laboratory-measured performance data according to European Standards. The protection factor is assigned by local authorities in each European country and can therefore be different for each country.







## YouTube Video Links for - G5-01



### Replace Face Seal

<https://www.youtube.com/watch?v=RdLlaGM7y0Q&list=PL6kbXORMpTVFyepTS5ZXCzM4TAMQliVbf&index=6&t=0s>



### Replace The Hinge

[https://www.youtube.com/watch?v=cwfUO\\_WdCbl&list=PL6kbXORMpTVFyepTS5ZXCzM4TAMQliVbf&index=14&t=0s](https://www.youtube.com/watch?v=cwfUO_WdCbl&list=PL6kbXORMpTVFyepTS5ZXCzM4TAMQliVbf&index=14&t=0s)



### Full Playlist for the G5-01

<https://www.youtube.com/playlist?list=PL6kbXORMpTVFyepTS5ZXCzM4TAMQliVbf>



### How to Replace Headband

<https://multimedia.3m.com/mws/media/1620071O/3m-hmt-g501-video-replace-headband-mp4.mp4>  
<https://youtu.be/6IPAJTgnhZ>



### How to Change Protection Plate

<https://multimedia.3m.com/mws/media/1631796O/3m-hmt-g501-video-change-task-light-protection-plate.mp4>  
<https://youtu.be/lx4Gv175EcY>



### How to operate task light

<https://multimedia.3m.com/mws/media/1631873O/>  
<https://youtu.be/lx4Gv175EcY>



### How to use breathing tube cover

<https://multimedia.3m.com/mws/media/1631874O/>  
<https://youtu.be/iFtL1W-T4q0>

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## YouTube Video Links for - G5-02



### How to replace the outer protection plate

<http://gpimedia.3m.com/appserver/main/opennodeview.do?tab=assetlocationtab&nodeId=1384114&assetId=1657670>



### How to add the headband cushion part

<https://multimedia.3m.com/mws/media/1684839O/how-to-video-speedglas-headband-g502.mp4>



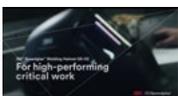
### How to replace the battery

<https://multimedia.3m.com/mws/media/1684845O/how-to-video-speedglas-adf-battery-g502.mp4>



### How to replace the inner protection plate

<https://multimedia.3m.com/mws/media/1684846O/how-to-video-speedglas-welding-filter-g502.mp4>



### The 3M Speedglas Welding Helmet G5-02 – Reliable protection

[https://www.youtube.com/watch?v=69OoifEmlis&list=PL6kbXORMpTVHXksDvxb\\_e-TdxosUgADV0](https://www.youtube.com/watch?v=69OoifEmlis&list=PL6kbXORMpTVHXksDvxb_e-TdxosUgADV0)



### How to replace the G5-02 outer protection plate

<https://www.youtube.com/watch?v=5yht0Z6acT0>

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## YouTube Video Links for - 9100FX Air



### Replace Face Seal

<https://www.youtube.com/watch?v=huRh40c6JqY&list=PL6kbXORMpTVGG3BDvQQII5VPp3E9zFSE4&index=38&t=0s>



### Replace Air Deflector

<https://www.youtube.com/watch?v=-Y6O2WxwUzw&list=PL6kbXORMpTVGG3BDvQQII5VPp3E9zFSE4&index=6&t=0s>



### Replace Hinge

<https://www.youtube.com/watch?v=zklWsTvlGvA&list=PL6kbXORMpTVGG3BDvQQII5VPp3E9zFSE4&index=39&t=0s>



### General 9100 Playlist

<https://www.youtube.com/playlist?list=PL6kbXORMpTVGmX1crjZ9pwNdT9K1DY4GE>

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## YouTube Video Links for - 9100MP and MP Lite



### Replace Face Seal

<https://www.youtube.com/watch?v=dhW7-aFCUqk&list=PL6kbXORMpTVGG3BDvQQII5VPp3E9zFSE4&index=25&t=0s>



### Add Earmuffs

<https://www.youtube.com/watch?v=zzVPBMka4yg&list=PL6kbXORMpTVGG3BDvQQII5VPp3E9zFSE4&index=19&t=0s>



### Replace Harness

[https://www.youtube.com/watch?v=r7df\\_2b\\_0Z4&list=PL6kbXORMpTVFVkm4-0Lh1mO9UaHStFfpP&index=9&t=0s](https://www.youtube.com/watch?v=r7df_2b_0Z4&list=PL6kbXORMpTVFVkm4-0Lh1mO9UaHStFfpP&index=9&t=0s)



### General 9100 MP Playlist

<https://www.youtube.com/playlist?list=PL6kbXORMpTVFVkm4-0Lh1mO9UaHStFfpP>

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## YouTube Video Links for - Adflo



### Adflo Use and Checks

<https://www.youtube.com/watch?v=g2UaWgCRqRA&list=PL96D2544B044DE116&index=19&t=0s>



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