Comfortable protection for safer welding.
The innovator of the 3M™ Speedglas™ Auto-Darkening Welding Filter completed his thesis in the shipyards of Sweden studying ways to protect welders’ eyes and skin from harmful UV radiation. The studies were conducted more than 30 years ago and resulted in the first prototype of an auto-darkening welding filter, a combination of liquid crystal elements, polarizers and electronics.

Today Speedglas is the world’s leading brand of protective equipment especially developed uniquely for welders’ demands and it is a vital part of 3M’s range of protective equipment.
How ADF’s work for welding

Before:
With the shield in the safe down position, the welder has a clear view through the welding filter. Both hands are free and the electrode can be precisely positioned.

During:
Within 0.1 milliseconds of the arc strike, the filter has switched to the dark state.

After:
The filter automatically returns to the clear state after welding is complete, allowing for immediate and safe inspection of the weld pool, as well as preparation for the next weld.

3M™ Speedglas™ Welding Filter Guide

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Optimized Suitable Not Recommended

Please note: There are a few parameters that affect the performance of an auto-darkening welding filter like type of welding machine, working environments etc. The table is a general guide to all our various models due to detector function based solely on welding applications.

This table is a quick guide to all our various models due to detector function based solely on welding applications.

Before you select a model, ask yourself:

- How will I use my ADF?
- Do I occasionally change welding process/shade no?
- This is a long-term investment: A variable welding filter offers more flexible features for new working conditions.
3M™ Speedglas™ 9100 Welding Shield

Optimize your welding comfort, coverage and control. The new Speedglas 9100 Welding Shield features an all-new head suspension that profiles your unique head shape for a secure, stable fit.

More Coverage: we made the shield deeper and wider, providing greater coverage of ears, neck and sides of the head.

More Comfort: Professional welders marvel at the stability and balance of the shield – the result of its lower pivot point. The new head suspension also cradles your head better, giving a secure fit without the need to tighten the headband as much as you would on a conventional shield.

More control: Welders are delighted to see all the filter options: more versatility, greater optical control… and more user satisfaction.

Features and Benefits:

Better Optics, Bigger Views
- Three models to pick from, including the Speedglas 9100XX filter with a 73x107 mm viewing area – 30% larger than any other Speedglas welding filter
- Seven user selectable dark shades (5, 8 and 9 -13), including shades for gas welding, microplasma, and low-amp TIG
- The new, patented tack welding comfort mode uses a shade 5 light state to help reduce eye fatigue from constantly-changing light levels. You have the ability to “lock-in” any shade, light or dark

Side-Windows:
- Exclusive shade 5 filters that widen your field of vision

Suspension that Shapes to Your Head
- Two crown straps gently saddle the top of the head for increased shield stability and better weight distribution
- The front of the headband also self-adjusts: pressure is evenly distributed to sets of twin-pads to fit the shape of your forehead
- The back portion of the headband is self-adjusting and swivels to fit different head shapes

3M™ Speedglas™ 9100 Hard Hat Option

With the 3M™ Peltor™ G3001 Hard Hat
The Peltor G3001 Hard Hat is produced in high quality UV-stabilised ABS plastic and it got top result for absorbing and distributing forces from fallen objects. This hat is one of the lightest hard hats on the market. Meets European standard EN 397 with approved extra requirements for low temperature (-30°C).

3M™ Speedglas™ 9100 Welding Filter Options

3M™ Speedglas™ 9100XX Filter
Viewing area: 73 x 107 mm

3M™ Speedglas™ 9100X Filter
Viewing area: 54 x 107 mm

3M™ Speedglas™ 9100V Filter
Viewing area: 45 x 93 mm
3M™ Speedglas™ 100 Welding Shield

The highly-affordable Speedglas 100 welding filter has excellent optical quality, reliable light-to-dark switching, and can be used with most arc welding processes, such as stick (MMA), MIG/MAG, and many TIG applications.

The easy-to-use Speedglas™ 100 welding shield is the ideal “first” auto-darkening shield for hobby welders, farmers, DIY types, and maintenance or construction workers who weld infrequently but can benefit from the ability to always clearly see with their welding protection in place. Apart from the black/silver shield there are a number of graphic shields available – all with specific identity.

Features and Benefits:

**Constant Protection**
- UV/IR protection shade 12 permanent

**Variable Shade Welding Filters (100V)**
- Three selectable sensitivity settings: a normal setting used for most types of welding, a setting for other welders working nearby and a setting for low-current or stable arc welding
- Five user-selectable dark shades 8-12
- Selectable delay settings (100-250 ms)
- Switching time light-dark 0,1 ms

**Single Shade Welding Filters (100S-10 and 100S-11)**
- Single dark shade 10 or 11
- Selectable delay settings (100S-10/100S-11: 150 ms / 200 ms)
- Switching time light-dark 0,1 ms

3M™ Speedglas™ 100 Welding Shield
Classification 1/2/2
Conforms to EN 379

3M™ Speedglas™ 100 Hard Hat Option

with the 3M™ Peltor™ G3001 Hard Hat
The Peltor G3001 Hard Hat is produced in high quality UV-stabilised ABS塑料 and it got top result for absorbing and distributing forces from fallen objects. This hat is one of the lightest hard hats on the market.
To fit with the Speedglas 100 welding shield the hard hat lining has been turned 180 degrees (and it is CE-approved in this position).
Meets European standard EN 397 with approved extra requirements for low temperature (-30°C).

3M™ Speedglas™ 100 welding filter options

3M™ Speedglas™ 100V Welding Filter
Viewing area: 44 x 93 mm

3M™ Speedglas™ 100S-10 Welding Filter
Viewing area: 44 x 93 mm

3M™ Speedglas™ 100S-11 Welding Filter
Viewing area: 44 x 93 mm

3M™ Speedglas™ 100 Welding Shields – Graphic Edition

Skull Jewels  Steel Rose  Chrome  Tribal  Mechanical Skull
Wild Pink  Still  Trojan Warrior  Blaze  Aces High
3M™ Speedglas™ SL Welding Shield

Welders have asked for two things in personal protection: lighter weight and more comfort. Our challenges in designing an all-new shield were to significantly reduce its weight, while maintaining the performance and protection that welders worldwide have come to expect in every Speedglas product. The result of our efforts: a 360 gram auto-darkening welding shield.

Features and Benefits:

The Shield: stronger, thinner
+ Strong lightweight material with excellent protection and coverage
+ Non-absorbent material, that retains its performance in high humidity
+ Back-and-forth adjustments allow for better fit and safety

Auto-Darkening Welding Filter
+ For most arc welding processes – such as MMA, MIG/MAG, TIG and plasma welding
+ Auto ON and OFF
+ Viewing area 42 x 93 mm
+ Light state shade 3
+ Variable dark shade 8-12
+ Switching time light-dark 0,1 ms (+23°C)
+ Opening time dark-light (user-adjustable) 60-250 ms

The Headband: Fits better, feels cooler
+ A pattern of holes for breathability and better conformity to the welder’s head
+ Accommodates smaller head sizes; its full range is from 50 cm to 64 cm

3M™ Speedglas™ SL Hard Hat Option

with the 3M™ Peltor™ G3001 Hard Hat
The Peltor G3001 Hard Hat is produced in high quality UV-stabilised ABSplastic and it got top result for absorbing and distributing forces from fallen objects. This hat is one of the lightest hard hats on the market. To fit with the Speedglas 100 welding shield the hard hat lining has been turned 180 degrees (and it is CE-approved in this position). Meets European standard EN 397 with approved extra requirements for low temperature (-30°C).
3M™ Speedglas™ 9000 Welding Shield with 3M™ Adflo™ Powered Air Respirator

Speedglas welding shields with the Adflo powered air respirator makes a light, compact, all-in-one system. The exclusive “stackable” configuration of the Adflo turbo unit means that the gas filter can be stacked onto the particle filter for additional protection from specific organic, inorganic and acidic vapours.

Features and Benefits:

An Adaptable System
+ With the right type of filter, Adflo effectively protects against both particles and gases – all in one system. The filters can be replaced selectively: you don’t need to change all filters at the same time
+ Prefilter: increases the service life of the particle filter
+ Particle filter: high efficiency particle filtration
+ Gas filter: (A1B1E1 or A2) filters off organic and inorganic vapours
+ Odour filter: removes unpleasant smells (not needed when the gas filter is installed)

Filter Indicator
+ As soon as you turn on your Adflo powered air respirator a display indicates the status of the particle filter

Designed for Maximum Comfort
+ Ergonomic leather belt (75 - 150 cm)
+ The Adflo respiratory system has no external batteries, no battery cables, and no sharp corners. Its slim profile is designed to go into tight spaces

Airflow
+ The exclusive airflow pattern evenly distributes filtered air throughout the entire breathing zone of the shield. The intelligent turbo unit keeps the airflow rate at a constant, preset level
+ The soft, flexible face seal creates a positive pressure environment within the shield, keeping the surrounding pollutants at bay
+ For hot humid jobs the user can increase the airflow from 170 l/min to 200 l/min

3M™ Adflo™ Powered Air Respirator
Nominal protection factor 50.
Conforms to EN 12 941 (TH 2)

Other Adflo™ Powered Air Respirator products

3M™ Speedglas™ 9000 shield with Adflo PAPR
Welding shield with auto-darkening welding filter with safety helmet option

3M™ Speedglas™ FlexView
with Adflo PAPR
Welding shield with auto-darkening welding filter and a 120 x 90 mm clear visor for weld prep.
Available in safety helmet option

Protective visor with 3M™ Adflo™ PAPR
Clear visor in polycarbonate or acetate. Shade 5 visor in polycarbonate
3M™ Speedglas™ 9000 Welding Shield with 3M™ Fresh-air C Compressed Air Respirator

For highly-contaminated welding environments, you need the 3M Fresh-air C compressed air respiratory system with a Speedglas welding shield or a visor. The belt-mounted regulator connects to an approved air hose with a quick release connector system. The airline supply must be air of breathable quality meeting the requirement of EN12021.

Features and Benefits:

Adjustable Air Flow
- The lightweight, belt mounted regulator allows the user to adjust the airflow from 160 to 300 litres per minute, making Fresh-air C ideal for hot and strenuous work
- Air pressure 4-10 bar
- The exclusive airflow pattern evenly distributes filtered air throughout the entire breathing zone of the shield
- The soft, flexible face seal creates a positive pressure environment within the shield, keeping the surrounding pollutants at bay

Comfort Belt
- Polypropylene 78 -150 cm

Filtration System
- The airline supply must be air of breathable quality meeting the requirement of EN12021
- Oil mist or water vapour in the airline or non-toxic, unpleasant odours may be removed with an air cleaning station, such as the 3M™ Aircare™ 500GR filtration systems

Other Fresh-air C Compressed Air Respirator products

3M™ Speedglas™ 9000 shield with Fresh-air C
Welding shield with auto-darkening welding filter. Available in safety helmet option

3M™ Speedglas™ FlexView with Fresh-air C
Welding shield with auto-darkening welding filter and a 120 x 90 mm clear visor for weld prep. Available in safety helmet option

Protective visor with 3M™ Fresh-air C
Clear visor in polycarbonate or acetate. Shade 5 visor in polycarbonate