



**G40 / G50**



***Grinding Welding Helmet***



# Professional Quality Welding Helmet

## SAFETY WARNINGS - READ BEFORE USING



### WARNING

Read & Understand All Instructions Before Using



Auto-Darkening welding helmets are designed to protect the eye and face from sparks, spatter and harmful radiation under normal welding conditions. Auto-Darkening filter automatically changes from light state to dark state when welding arc is struck, and it returns to the light state when welding stops.

**The Auto-Darkening welding helmet comes assembled. But before it can be used, it must be adjusted to fit the user properly. Set up for delay time, sensitivity and shade number for your application.**

**The helmet should be stored in dry, cool and dark area and remember to remove the battery before long-time storage.**



### WARNING



- This Auto-Darkening welding helmet is not suitable for laser welding.
- Never place this helmet and Auto-Darkening filter on a hot surface.
- Never open or tamper with the Auto-Darkening filter.
- This Auto-Darkening welding helmet will not protect against severe impact hazards.
- This helmet will not protect against explosive devices or corrosive liquids.
- Do not make any modifications to either the filter or helmet, unless specified in this manual.
- Do not use replacement parts other than those specified in this manual. Unauthorized modifications and replacement parts will void the warranty and expose the operator to the risk of personal injury.
- Should this helmet not darken upon striking an arc, stop welding immediately and contact your supervisor or your dealer.
- Do not immerse the filter in water.
- Do not use any solvents on the filter screen or helmet components.
- Use only at temperatures:  $-10\text{ }^{\circ}\text{C} \sim +65\text{ }^{\circ}\text{C}$  ( $14^{\circ}\text{F} \sim +149\text{ }^{\circ}\text{F}$ ).
- Storing temperature:  $-20\text{ }^{\circ}\text{C} \sim +85\text{ }^{\circ}\text{C}$  ( $-4\text{ }^{\circ}\text{F} \sim +185\text{ }^{\circ}\text{F}$ ). The helmet should be stored in dry cool and dark area, when not using it for a long time.
- Protect filter from contact with liquid and dirt.
- Clean the filter surface regularly; do not use strong cleaning solutions. Always keep the sensors and solar cells clean using a clean lint-free tissue.
- Regularly replace the cracked / scratched / pitted front cover lens.
- The materials which may come into contact with the wearer's skin can cause allergic reactions in some circumstances.
- The ADF shall only be used in conjunction with the inner cover lens.
- The eye-protectors against high speed particles worn over standard ophthalmic spectacles may transmit impacts, thus creating a hazard to the wearer.
- Toughened mineral filter oculars shall only be used in conjunction with a suitable backing ocular.
- If the symbols F or B are not common to both the ocular and the frame then it is the lower level which shall be assigned to the complete eye-protection.

## INSTRUCTIONS FOR USE

**WARNING! Before using the helmet for welding, ensure that you have read and understood the safety instructions.**

Information manual for the G40/G50 welder protective helmets comply with Para 1.4 of Appendix II of the EC Regulations.

G40/G50 helmets offer permanent protection against UV/IR rays, also face and eye protection from sparks caused by the welding process.

Do not look directly at the welding rays with unprotected eyes when the arc strikes. This can cause painful inflammation of the cornea and irreparable damage to the lens of the eye leading to cataracts.

## RANGE OF APPLICATION

**WARNING! Before using the helmet for welding, ensure that you have read and understood the safety instructions.**

ESAB welding helmets and welding filters can be used for the majority of the arc welding applications and for TIG where stated. The welding filters provide protection against harmful UV- and IR-radiation according to the requirement for shade number marked on each passive of automatic (ADF) model; eye protection remains as long as the flip up is in the down position covering the vision.

The following chart is presented as a reference for the selection of the most suitable shade for the welding filter:

Welding process or related techniques	Current internally in amperes																
	0.5	2.5	10	20	40	80	125	175	225	275	350	450					
	1	5	15	30	60	100	150	200	250	300	400	500					
E manual Flux core electrodes Fluxed stick electrodes	8			9	10	11			12			13	14				
MIG / Metal-inert-gas Argon (Ar/He) Steels, alloyed steels Copper & its alloys etc.						10	11	12			13	14					
MIG / Metal-inert-gas Argon (Ar/He) Aluminium, copper, nickel and other alloys						10	11	12	13	14							
TIG / Tungsten-inert gas Argon (Ar/H <sub>2</sub> ) (Ar/He) All weldable metals such as: steels, aluminium, copper, nickel and their alloys	8			9	10	11			12	13							
MAG / Metal-active gas (Ar/Co <sub>2</sub> O <sub>2</sub> ) (Ar/Co <sub>2</sub> /He/H <sub>2</sub> ) Construction steel, hardened & tempered steels Cr-Ni-steel, Cr-steel & other alloyed steels						10	11	12	13			14					
Electric arc compressed air joining (Melt joining) carbon electrodes (O <sub>2</sub> ) Flame grooving compressed air (O <sub>2</sub> )								10	11	12	13	14					
Plasma cutting (fusion cutting) All weldable metals see WIG Centre and outer gas: Argon (Ar/H <sub>2</sub> ) (Ar/He)							11			12	13						
Plasma cutting (fusion cutting) Micro-plasma welding Centre and outer gas: Argon (Ar/H <sub>2</sub> ) (Ar/He)	4	5	6	7	8	9	10	11	12	13			14				
	1	5	15	30	60	100	150	200	250	300	400	500					
	0.5	2.5	10	20	40	80	125	175	225	275	350	450					

Depending upon the application conditions, the next highest or next lowest protection level can be used.

The darker fields correspond to those areas in which the corresponding welding process cannot be used.

The ESAB G40/G50 welding helmets are suitable, but not limited to the following applications:

AC/DC pulses

Inverters WIG/TIG

Stick welding

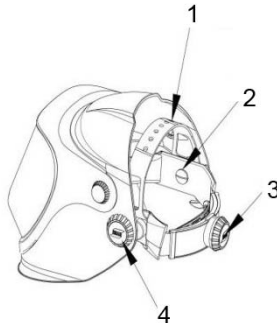
Argon/Helium

MIG/MAG protective gas electrodes.

## PREPARATION & OPERATION

ESAB G40/G50 welding helmets are fully assembled and ready to be used after minor adjustments. All welding helmets are equipped with a comfortable headgear that can be adjusted in four different ways:

- Push and move to adjust the “Head height”
- “Rake adjustment” to limit the upper and lower helmet positioning
- Push and turn to adjust the “Head size”
- Turn to adjust the “Distance from face”



1. Push and move “Head height”
2. “Rake adjustment”
3. Push and turn “Head size”
4. Turn “Distance from face”

Before commencing work please inspect carefully the welding helmet and the passive glass for any visible marks, cracks, pitted or scratched surfaces; damaged surfaces even on protection plates reduce vision impair protection. If protection plates are scratched, damaged or built up with spatter please replace.

Welding helmets should not be dropped. Do not place heavy objects or tools on or inside the helmet as they might damage the components. If used properly the welding filter requires no further maintenance during its lifetime.

## SERVICING AND MAINTENANCE

Only clean the G40/G50 with mild soap and water. Dry with a clean cotton cloth. Please note the use of solvents is strictly prohibited, as they will damage the mask and filters. Scratched or damaged visors must always be replaced.

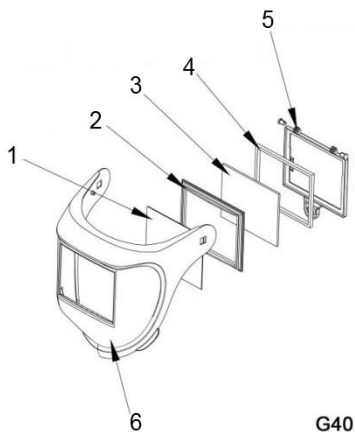
The user must make daily regular checks to ensure no damage is evident. Outer and Inner Visors are consumables and must be replaced regularly with genuine certified ESAB spare parts.

## REPLACING THE OUTER LENS AND WELDING FILTER

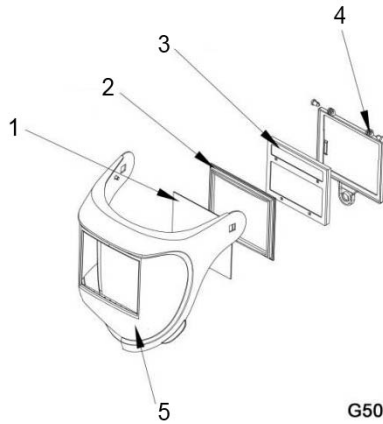
Lift the flip front place helmet on its top. Remove the clip that holds the protective lenses and welding filter replace the component(s) and make sure that you put them back in the same order. Replace the clip if necessary. Make sure that the welding filter stays within outer and inner protective lenses.

Follow the same procedure to replace the protective lens installed on the welding shell, simply remove the clip that hold the cover lens from the inside part of the shell and replace with a suitable ESAB part.

See illustration below



1. Front cover lens
2. Cradle
3. Mineral glass
4. Mineral glass gasket
5. Lens retainer
6. Main shell



G50

1. Front cover lens
2. Cradle
3. Welding filter
4. Lens retainer
5. Main shell

**PRODUCT MARKING**

**Product marking**

**Welding shell marking:**

	<b>ESAB</b>	<b>EN175</b>	<b>B</b>	<b>CE</b>
Producer				
Applicable EU standard				
Mechanical strength at 120 m/sec				
EC conformance mark				

**Welding visors marking:**

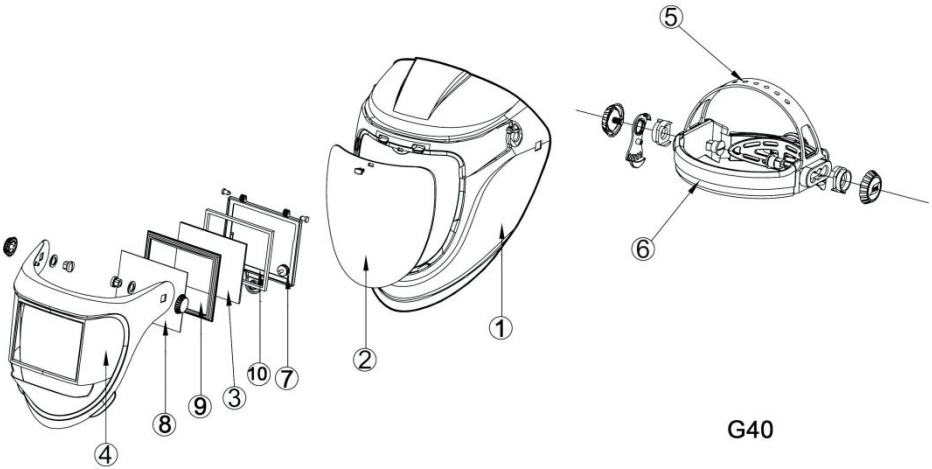
	<b>ESAB</b>	<b>1</b>	<b>B</b>	<b>CE</b>
Producer				
Optical classification				
Mechanical strength at 120 m/sec				
EC conformance mark				

**Protection lens marking:**

	<b>ESAB</b>	<b>1</b>	<b>B</b>	<b>CE</b>
Producer				
Optical classification				
Mechanical strength at 120 m/sec				
EC conformance mark				

If the symbols F, B and A are not common to both the ocular and the frame then it is the lower level which shall be assigned to the complete eye-protector.  
The eye protector shall only be used against high speed particles at room temperature, not against high speed particles at extremes of temperature.

## PARTS LIST & ASSEMBLY G40

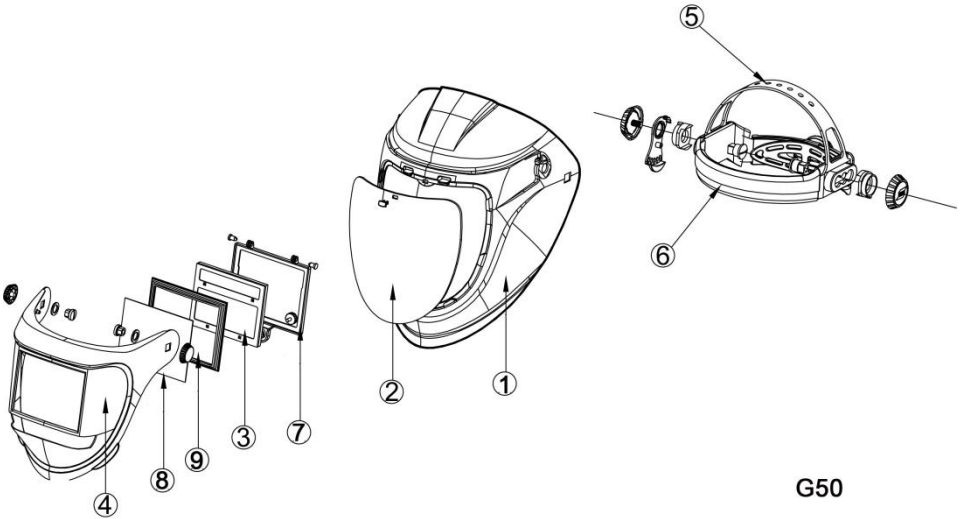


### Part List

ITEM	DESCRIPTION	PART NO.
	G40 60x110	0700 000 436
	G40 90x110	0700 000 437
1	Main shell	0700 000 515
2	Large Inner Visor G50 Clear(163 x 54 x 2.2 mm) Irregular with longest and widest dimension: 163x54mm	0700 000 501
3	Mineral glass 60x110	0160 292 003
3	Mineral glass 90x110	0760 031 633
4	Flip up G50 holder	0700 000 516
5	Head gear G50	0700 000 415
6	Sweat band head gear Pro	0700 000 414
7	Lens retainer (including screws)	0700 000 518
8	Front Cover lens(110 x 90 x 1 mm)	0700 000 517
9	Cradle 60x110	0700 000 520
9	Cradle 90x110	0700 000 519
10	Mineral glass gasket 60x110 & 90x110	0700 000 521



## PARTS LIST & ASSEMBLY G50



### Part List

ITEM	DESCRIPTION	PART NO.
	G50 9-13	0700 000 438
1	Main shell	0700 000 515
2	Large Inner Visor G50 Clear (163 x 54 x 2.2 mm) Irregular with longest and widest dimension: 163 x 54 mm	0700 000 501
3	Welding filter(110 x 90 x 8.5 mm) 9-13	0700 000 523
4	Flip up G50 holder	0700 000 516
5	Head gear G50	0700 000 415
6	Sweat band head gear Pro	0700 000 414
7	Lens retainer (including screws)	0700 000 518
	Inside cover lens ADF	
8	Front Cover lens(110 x 90 x 1 mm)	0700 000 517
9	ADF Cradle	0700 000 519

## TECHNICAL DATA G50 ADF

© Viewing Field	97 x 47 mm (3.8" x 1.85")
© Optical Class	1/1/1/2
© Shade Control	Variable shade 9-13
© Switching Time	0.08 ms
© Sensitivity & Delay Time	Adjustable (Internal)
© UV/IR Protection	DIN 15
© Operating Temperature	-10 °C – 65 °C (14 °F – 149 °F)
© Power Supply	Solar cell, no battery change
© Lens Control	Automatic
© Standards	CE/ANSI/CSA
© Helmet Material	Special Nylon

## CERTIFICATION & CONTROL LABELS

The G40 & G50 welding filters are tested for eye protection by the following notified body: DIN Prüf-und Zertifizierungsstelle für Augenschutz, Alboinstr. 56, D-12103 Berlin, notified body 0196 that provides approval and continual quality system under the control of the European Commission, the German Ministry for Work and the Central Office of the Provinces  
We are therefore allowed to use the following marks:



European Conformity mark.  
This confirms that the  
product fulfils the  
requirements of the Directive  
89/686/ EWG

**EN 166:2002**

Address from  
DIN CERTCO Gesellschaft für  
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