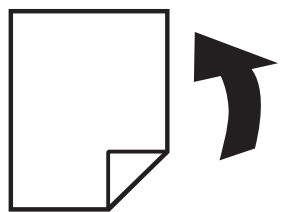


3M™ Speedglas™ 100

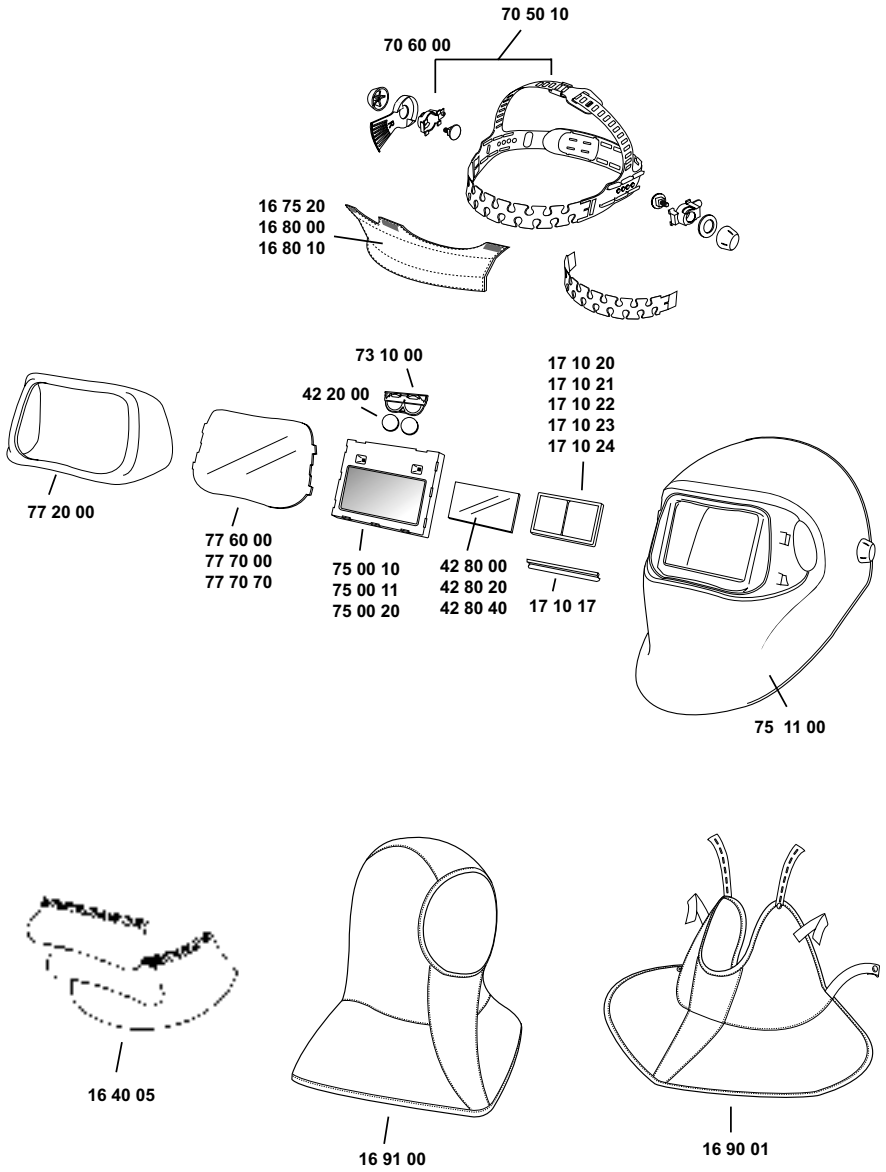
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Bedienungsanleitung
Notice d'instructions
Инструкция по
эксплуатации
Інструкція з експлуатації
Istruzioni d'uso
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Instrucciones de uso
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нұсқаулығы
Инструкции за употреба
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Οδηγίες Χρήσης
הוראות שימוש במסכת הריתוך



Parts List





User manual 3M™ Speedglas™ 100



The product was examined at the design state by DIN Certco Prüf- und Zertifizierungszentrum, Gartenstraße 133, 73430 Aalen, Germany (Notified body 0196)

This product has been produced to comply with the requirements of the Australian Standards AS/NZS 1337:1992 and 1338.1:1992 under an agreed production certification scheme operated during manufacture in accordance with the SAI Global Standards Mark programme.

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3M™ Speedglas™ 100

Welding Shield

BEFORE WELDING

For your own protection read these instructions carefully before using the Speedglas 100 welding shield.

The complete assembly is illustrated in figure A:1.

Adjust the welding shield according to your individual requirements to reach the highest comfort. (see figure B:1 - B:3).

Shade number should be chosen according to table on page 217.

The Speedglas 100 welding shield gives permanent protection (shade 12 equivalent) against harmful UV- and IR-radiation, regardless of whether the filter is in the light or dark state or whether the auto-darkening function is operational.

Two lithium batteries are used as the power source (3V CR2032).

WARNING!

- When used in accordance with these user instructions, this product is designed to help protect the wearer's eyes and face from harmful radiation including visible light, ultra-violet radiation (UV), infrared radiation (IR) and sparks and spatter resulting from certain arc welding processes.
- Use of this product in any other application such as laser welding/cutting or gas welding/cutting may result in permanent eye injury and vision loss.
- Do not use any welding product without appropriate training. Read instructions before use.
- Use only with original Speedglas brand spare parts such as inner and outer protection plates according to the part numbers provided in these instructions. The use of substitute components or modifications not specified in these user instructions might impair protection and may invalidate claims under the warranty or cause the shield to be non-compliant with protection classifications and approvals.
- The Speedglas 100 welding shield is not designed for heavy duty overhead welding/cutting operations due to the risk of burns from falling molten metal.

If the protection meets the requirements at extremes of temperature (-5°C to +55°C) the marking is completed with the letter T. Additional markings on the product refer to other standards.

FUNCTIONS

On/Off

To activate the welding filter, press the ON/SHADE button. The welding filter automatically turns OFF after 1 hour of inactivity.

The welding filter has two photo sensors (see figA:2) that react independently and cause the filter to darken when a welding arc is struck. The welding filter may not go to dark position if the sensors are blocked or the welding arc is totally shielded.

Flashing light sources (e.g. safety strobe lights) can trigger the welding filter making it flash when no welding is occurring. This interference can occur from long distances and/or from reflected light. Welding areas must be shielded from such interference.

Shade

Models Speedglas 100S-10 and Speedglas 100S-11 have a fixed dark shade where no setting is required.

Model Speedglas 100V has selectable dark shade settings. Five different Shade Number settings, 8-12, are available in the dark state. In order to see the current Shade Number setting, momentarily press the ON/SHADE button. To select another Shade Number, press the ON/SHADE button repeatedly while the LED indicators on the display are flashing. Move the flashing LED to the desired Shade Number.

In all welding processes the arc should only be viewed with the recommended dark shade. See table page 217.



- The manufacturer is not responsible for any modifications to the welding filter or use with welding shields other than the Speedglas 100 welding shield. Protection may be seriously impaired if unsuitable modifications are made.
- Wearers of ophthalmic spectacles should be aware that in the case of severe impact hazards the deformation of the shield might cause the inside of the shield to come into contact with the spectacles creating a hazard for the wearer.

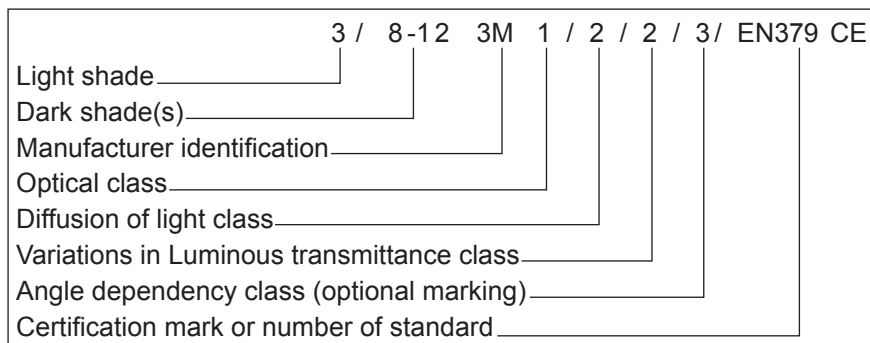
APPROVALS

Speedglas 100 has been shown to meet the Basic Safety Requirements under Article 10 of the European Directive 89/686/EEC and is thus CE marked. The product complies with the harmonized European Standards EN 175, EN 166, EN 169 and EN 379. The product was examined at the design state by DIN Certco Prüf- und Zertifizierungszentrum (Notified body number 0196).

Markings

The welding filter is marked with the shade range and optical classifications.

The following is an example (EN 379):



Note! The above is an example. Valid classification is marked on the welding filter.

The markings on the welding shield and the protection plates, indicate safety class for protection against high speed particles. S stands for the basic requirement for increased robustness, F stands for low energy impact and B stands for medium energy impact.

Sensitivity setting (Speedglas 100V only)

The sensitivity of the photo detector system (which responds to the light from the welding arc) can be adjusted to accommodate a variety of welding methods and workplace conditions. In order to see the current sensitivity setting, momentarily press the SENS button. To select another setting, press the SENS button repeatedly until the LED shows the desired setting.

- Position 1** Least sensitive setting. Used if there is interference from other welders' arcs in the vicinity.
- Position 2** Normal position. Used for most types of welding indoors and outdoors.
- Position 3** Position for welding with low current or with stable welding arcs. (eg TIG welding)

If the filter does not darken during welding as desired, increase the sensitivity until the welding filter switches reliably. Should the sensitivity be set too high, the filter may remain in the dark state after welding is complete due to ambient light. In this case, adjust the sensitivity downward to a setting where the welding filter both darkens and lightens as desired.

Low battery indicator

The batteries should be replaced when the low battery indicator flashes or LEDs do not flash when the buttons are pressed.

WARNING

Should the Speedglas 100 welding shield fail to switch to the dark state in response to an arc, stop welding immediately and inspect the welding filter as described in these instructions. Continued use of a welding filter that fails to switch to the dark state may cause temporary vision loss. If the problem cannot be identified and corrected, do not use the welding filter, contact your supervisor, distributor or 3M for assistance.

MAINTENANCE

Replacement of outer protection plate.

Remove front frame. (see figure C:1)

Remove the used outer protection plate and place the new outer protection plate on the welding filter. (see figure C:2)

Front frame must always be used (see figure C:3).

Replacement of welding filter

The welding filter can be removed and replaced according to figure E:1 - E:4.

Replacement of inner protection plate

The used inner protection plate is removed as illustrated in figure D:1. The new inner protection plate should be mounted after the protective film is removed as illustrated in figure D:2.

Magnifying lens (accessory) mounting (see figure D:3).

Replacement of batteries

The welding filter must be removed from the welding shield to access the battery compartment (see figure E:1-E:4). Take out the battery holder (use a small screwdriver if necessary). Insert new batteries in the battery holder according to figure G:1. Slide the battery holder into the welding filter until it snaps in position. Note that all settings will be reset to the original manufacturing setting.

Replacement of headband

The headband can be replaced according to figure F:1-F:2.

CAUTION

The used batteries/worn out product parts should be disposed of according to local regulations. The welding filter should be disposed of as electronic waste.

Temperature range

The recommended operating temperature range for the product is -5°C to $+55^{\circ}\text{C}$. Store in a clean and dry environment, temperature range -30°C to $+70^{\circ}\text{C}$ and relative humidity less than 90%.

Inspection

The sensors (see fig A:2) on the welding filter must be kept clean and uncovered at all times for correct function.

To check that the electronics and buttons are working, press the buttons and the LED indicators will flash.

WARNING

- Carefully inspect the complete Speedglas 100 welding shield assembly before each use. Check for cracks in the shield and look for light leaks. Cracked, pitted or scratched filter glass or protection plates reduce vision and can seriously impair protection. All damaged components should be replaced immediately.
- To avoid damage to the product do not use solvents for cleaning. Clean the welding filter and protection plates with a lint-free tissue or cloth. Clean the welding shield with a mild detergent and lukewarm water. Do not immerse in water or spray directly with liquids.
- The welding shield is heat resistant and approved against standard requirements for flammability but can catch fire or melt in contact with open flames or very hot surfaces. Keep the shield clean to minimize this risk.
- Materials that come into contact with skin may cause allergic reactions to susceptible persons.

Parts List 3M™ Speedglas™ 100

Part no. Description

Spare parts

75 11 10	SPEEDGLAS 100 Shield with SPEEDGLAS 100S-10 Auto darkening welding filter Single shade 3/10
75 11 11	SPEEDGLAS 100 Shield with SPEEDGLAS 100S-11 Auto darkening welding filter Single shade 3/11
75 11 20	SPEEDGLAS 100 Shield with SPEEDGLAS 100V Auto darkening welding filter Variable shade 3/8-12
75 11 00	SPEEDGLAS 100 Shield
75 00 10	SPEEDGLAS 100S-10 Auto darkening Welding Filter Single shade 3/10
75 00 11	SPEEDGLAS 100S-11 Auto darkening Welding Filter Single shade 3/11
75 00 20	SPEEDGLAS 100V Auto darkening Welding Filter Variable 3/8-12
75 11 90	SPEEDGLAS 100 Shield without headband
77 20 00	SPEEDGLAS 100 front frame
70 50 10	Headband including assembly parts
70 60 00	Mounting details for headband
73 10 00	Battery cover

Consumables

- 77 60 00 SPEEDGLAS 100 Outer protection plate standard pkg of 10
- 77 70 00 SPEEDGLAS 100 Outer protection plate scratch resistant pkg of 10
- 77 70 70 SPEEDGLAS 100 Outer protection plate heat resistant pkg of 10
- 16 75 20 Sweatband, in towelling, purple, 2 pcs
- 16 80 10 Sweatband, in fleece, brown, 1 pcs
- 42 80 00 Inner protection plate pkg of 5 plate marking 42 02 00
- 42 80 20 Inner protection plate +1 shade pkg of 5
- 42 80 40 Inner protection plate +2 shade pkg of 5
- 42 20 00 Battery pkg of 2

Accessories

- 16 40 05 Ear and neck protection in leather (3 parts)
- 16 90 01 Neck protection in TecaWeld
- 16 91 00 Hood neck/head in TecaWeld
- 17 10 17 SPEEDGLAS 100 holder for magnifier
- 17 10 20 Magnifying Lens 1.0
- 17 10 21 Magnifying Lens 1.5
- 17 10 22 Magnifying Lens 2.0
- 17 10 23 Magnifying Lens 2.5
- 17 10 24 Magnifying Lens 3.0

Technical Specification

Weight:

Weight welding shield
(incl welding filter):

440 g

Viewing area:

44 x 93 mm

UV/IR protection:

According to shade number 12
(permanent)

Switching time light to dark:

0.1 ms (+23°C)

Opening time dark to light (delay)

100 ms-250 ms

Light state:

shade no 3

Dark state:

shade no 8-12

Battery type:

2 x CR2032 (Lithium 3V)

Operating temperature:

-5°C to + 55°C

Battery life:

1500 hours

Head sizes:

50-64

Material

Shield:

PA

Welding filter:

PA

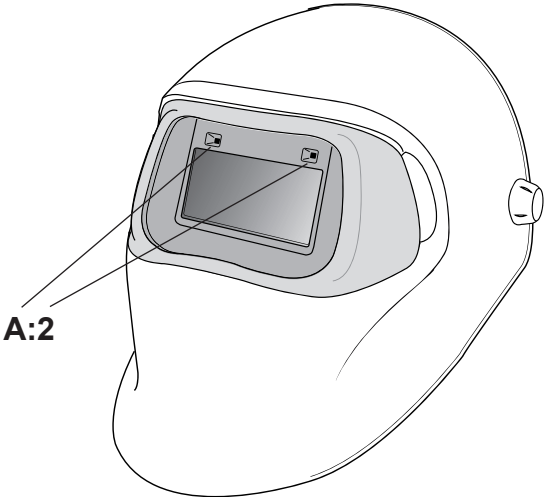
Headband:

PA

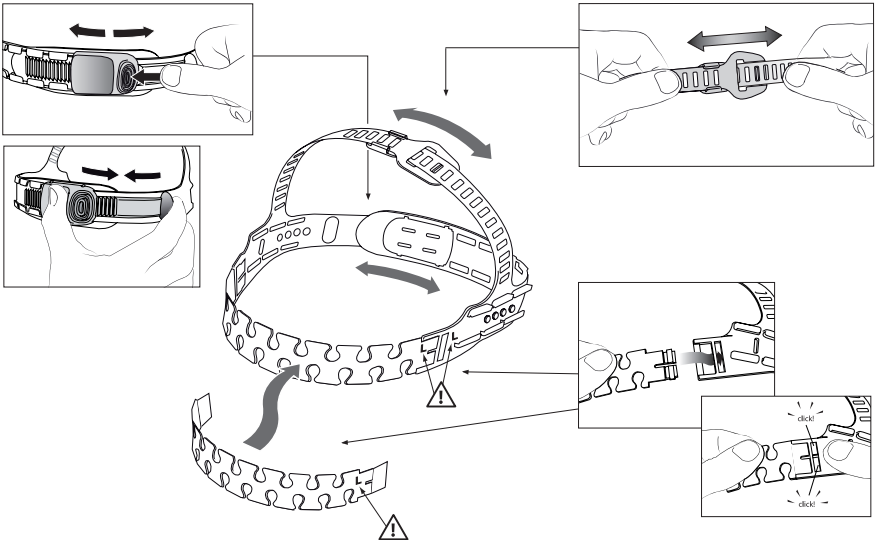
Protection plate:

PC

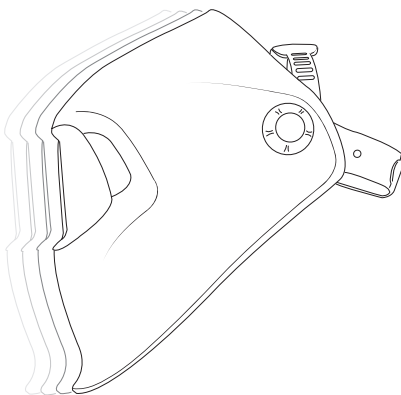
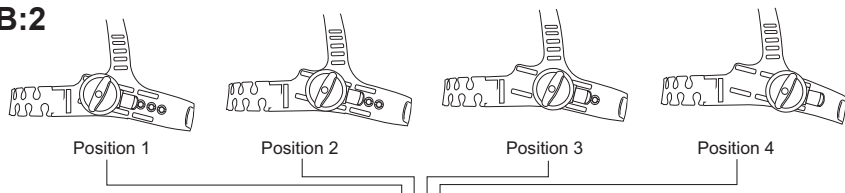
A:1



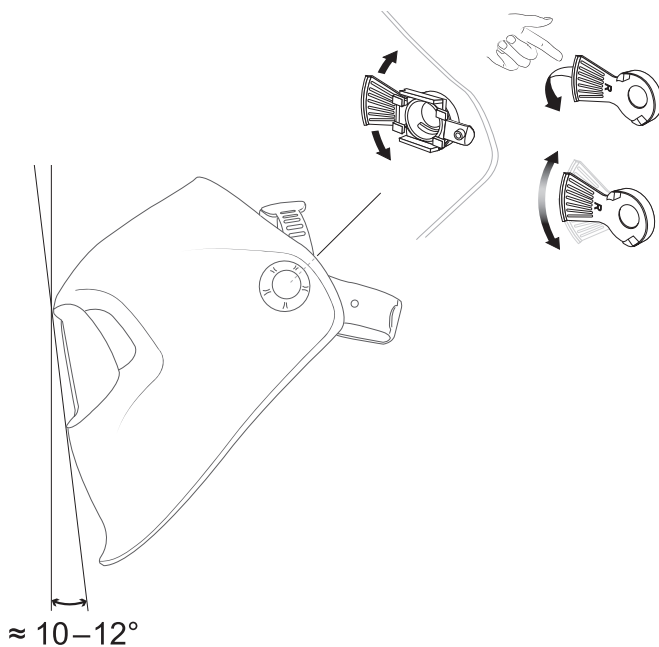
B:1



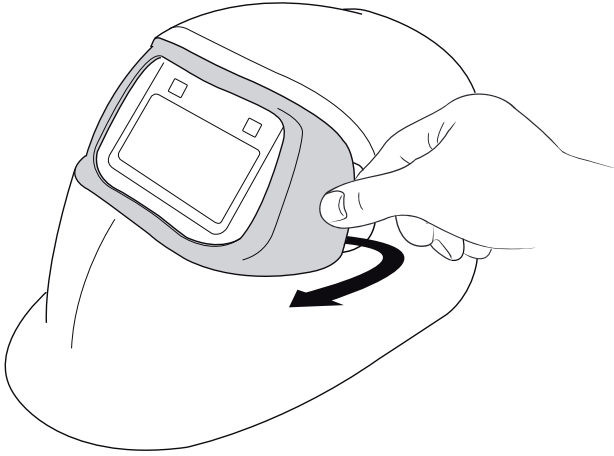
B:2



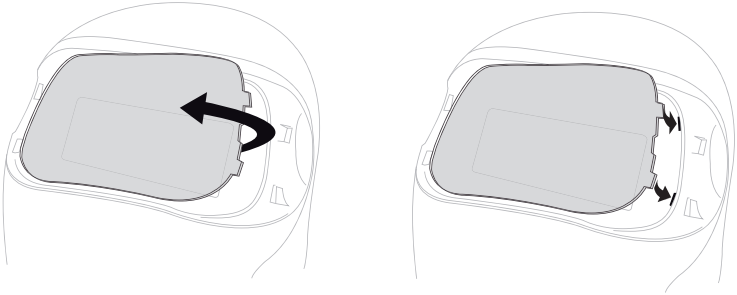
B:3



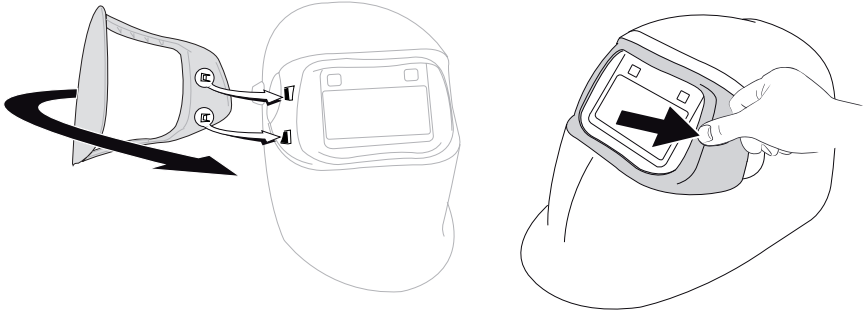
C:1



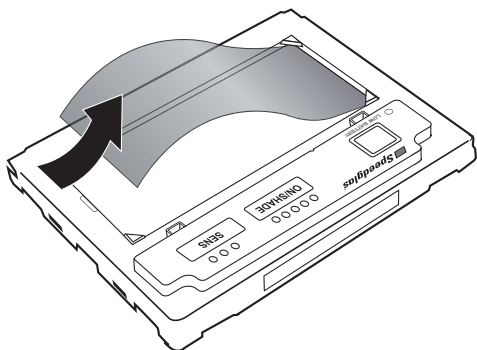
C:2



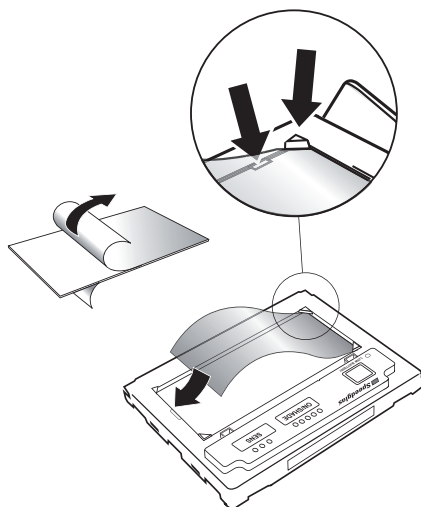
C:3



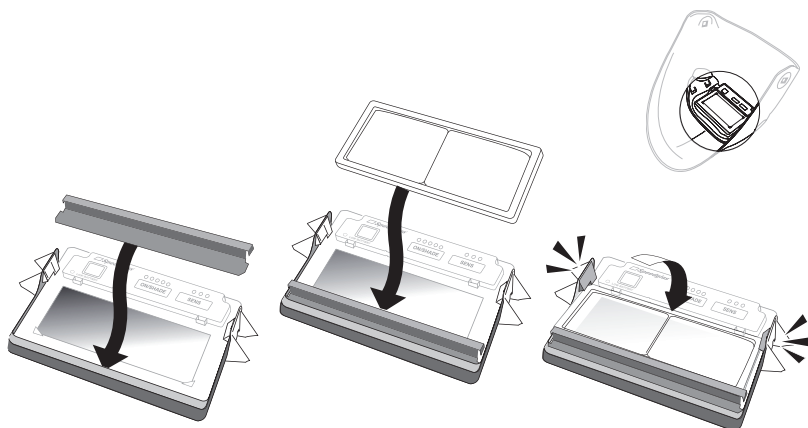
D:1



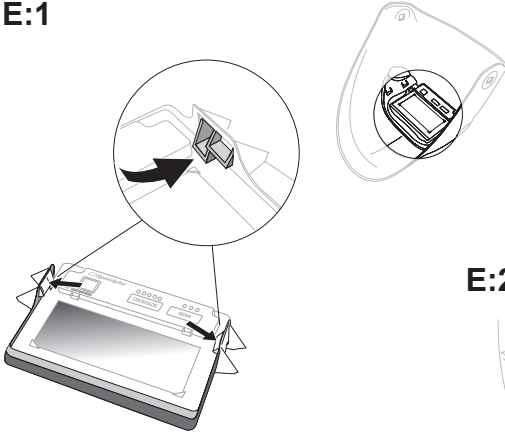
D:2



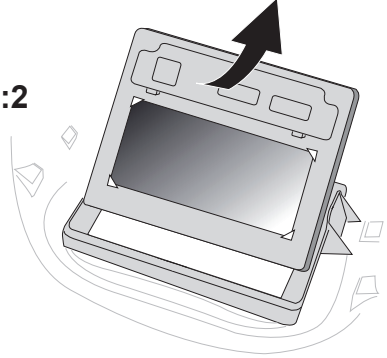
D:3



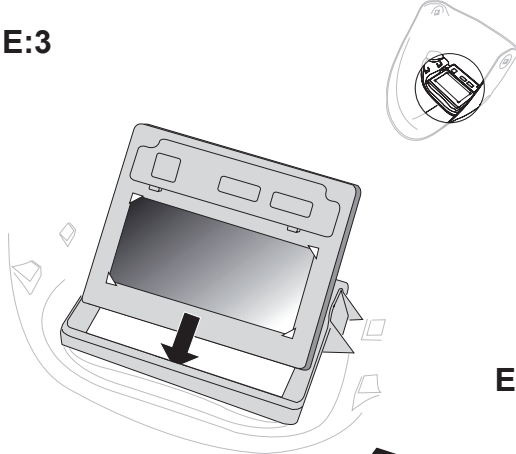
E:1



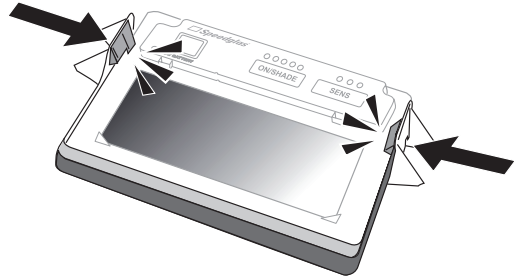
E:2



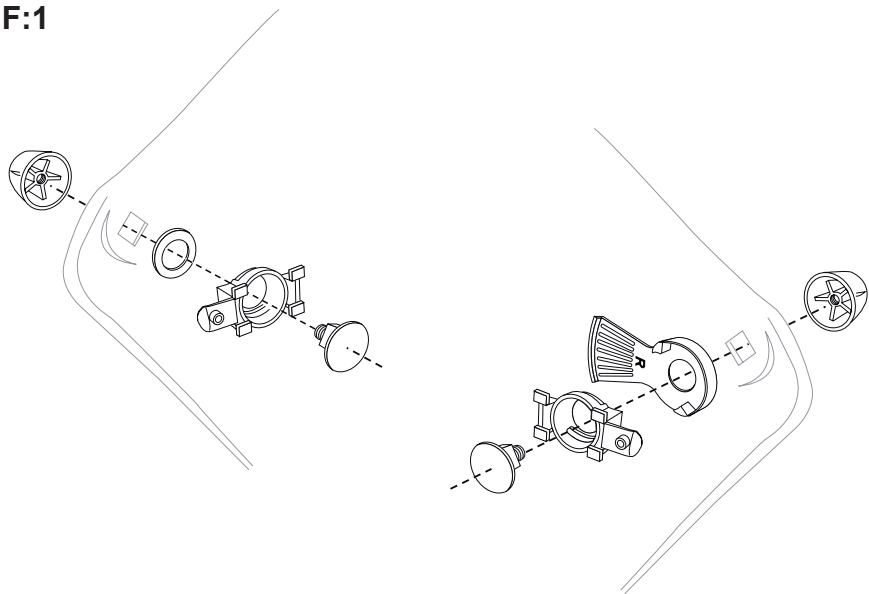
E:3



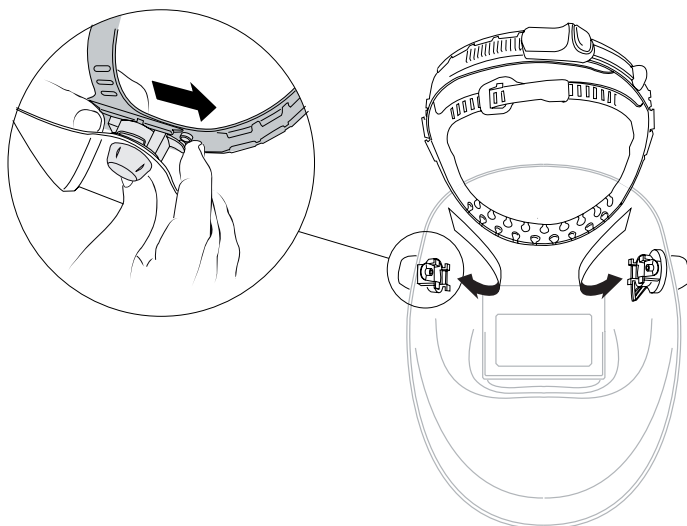
E:4



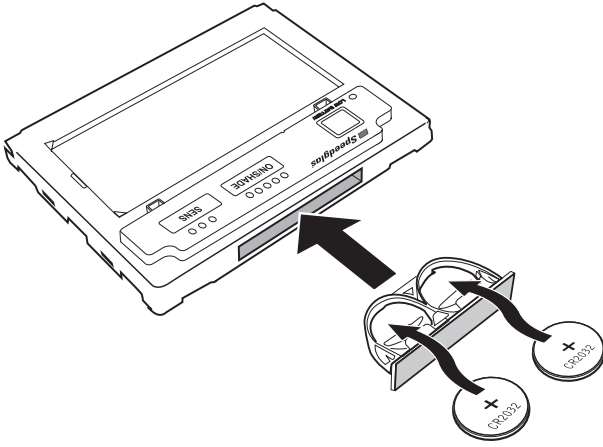
F:1



F:2



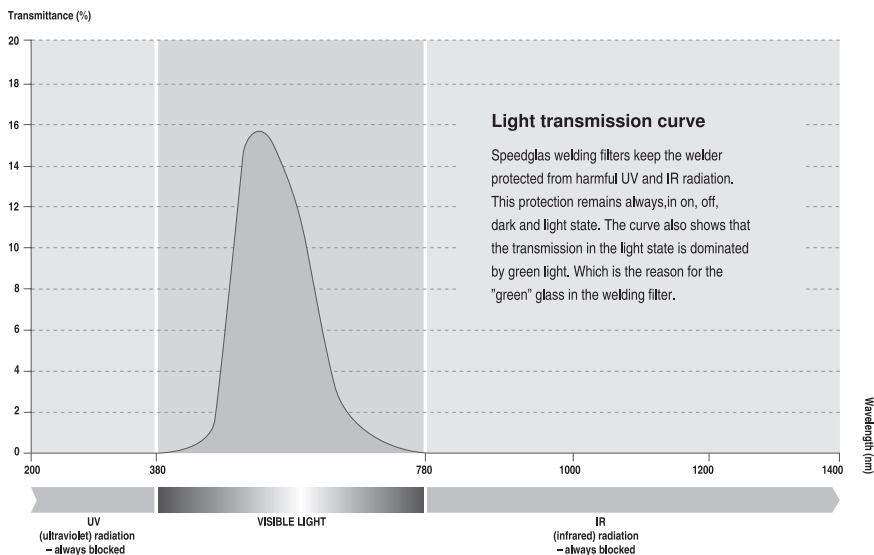
G:1



Recommended shade numbers according to EN 379:2003

Welding process	Current in amperes A																					
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600	
MMAW (covered electrodes)	8			9				10			11			12			13			14		
MAG	8			9				10			11			12			13			14		
TIG	8			9				10			11			12			13			14		
MIG	8			9				10			11			12			13			14		
MIG with light alloys	8			9				10			11			12			13			14		
Air-arc gouging	8			9				10			11			12			13			14		
Plasma jet cutting	8			9				10			11			12			13			14		
Microplasma arc welding	4	5	6	7	8	9	10	11	12													
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600	

▲ The table shows the typical shade setting for various working applications. A setting above or below that identified in the table may be required, according to the conditions of use.



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