

# Weltek®

Kapio\* S4  
PL-2B01/2013  
Welding helmet

## User Instruction Manual



## PL-2B01/2013 User Manual

Information manual for the PL-2B01/2013 welder protective helmets complying with Par. 1.4 of Appendix II of the EC regulations. The PL-2B01/2013 welding helmets are high quality products that contribute to the comfort and safety of the welder. PL-2B01/2013 welding helmets may be used only in connection with arc welding. Table 1 below shows how to choose the most suitable shade level:

Welding process Or related techniques	Current internally in amperes													
	0.5	2.5	10	20	40	80	125	175	225	275	350	450		
E manual Flux core electrodes Fluxed stick electrodes					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	15		
TIG / Tungsten-Inert Gas Argon (Ar/He) (Ar/He) All weldable metals such as: steels, aluminium, Copper, nickel and their alloys.					9	10	11	12	13					
MAG / Metal-active Gas (Ar/Co2O2) (Ar/Co2/He/H2) Construction Steel, hardened & tempered steels Cr-Ni-steel, Cr-steel & other alloyed steels.							10	11	12	13	14	15		
Electric arc compressed air joining (Melt joining) carbon electrodes (O2) Flame grooving compressed air (O2)									10	11	12	13	14	15
Plasma cutting (fusion cutting) All weldable metals see WIG Centre and outer gas: Argon (Ar/H2) (Ar/He)								11	12	13				
Plasma cutting (Fusion cutting) Micro-plasma welding Centre and outer gas: Argon (Ar/H2) (Ar/He)	2.5	5	6	7	8	9	10	11	12	13	14	15		
	4													

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.

**Table 1**

### Information

PL-2B01/2013 welding helmets afford reliable protection for the eyes whilst electric arc welding. They offer permanent protection against UV/IR rays, heat & sparks in any state from the clear to dark. The protection shades of the PL-2B01/2013 welding helmets have been chosen to avoid eye damage caused by the welding arc.

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

PL-2B01/2013 welding helmets allow the welder to see the point of arc strike more precisely. This leads to a real time saving. The helmet does not have to be flipped up and down during welding, both hands are kept free and because of the helmets lightweight fatigue is reduced.

The helmet is available in 2 options depending on the country; The helmet can be supplied with or without UVIR shade 5 side windows – the side windows giving the user a degree of side vision whilst still giving protection from the welding rays.

### Range of application:

The PL-2B01/2013 welding helmets can be used for the following applications:

- Electrode
- MIG
- Mag
- Tig (>10A)

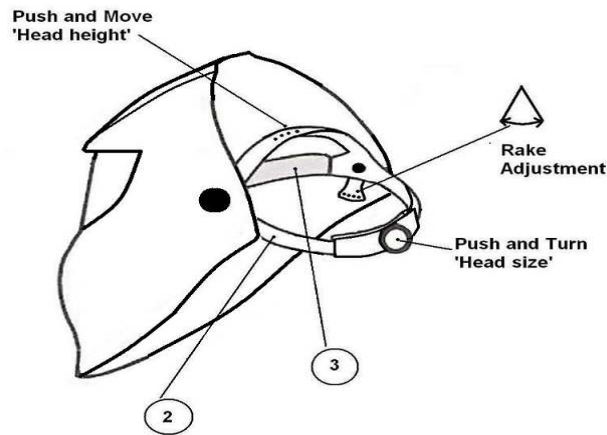
They are not suitable for use with laser systems and oxy-acetylene (gas welding) applications. The welding

filter must not be used for any other purpose other than welding. They should never be used as sunglasses when driving as this could lead to incorrect identification of the colour of traffic light. The welding filters operate well under extreme low lighting and very strong sunlight.

### **Operation**

#### **Adjustment of headgear:**

PL-2B01/2013 welding helmets are equipped with a comfortable headgear that can be adjusted in three different ways.



### **Servicing and maintenance**

PL-2B01/2013 welding helmets should not be dropped. Do not place heavy objects or tools (hammers etc.) on or inside the helmet so as not to damage the electro-optical filter.

Always make sure that the helmet is equipped with an outside and inner lens (in front of the filter on the outside and on the inside behind the filter). These protection lenses must be replaced if damaged in any way (see overleaf). They are consumables and should be checked and replaced regularly.

The filter should be cleaned when changing the protection lenses.

This can be done by any of the following ways:

- Wipe with a clean, dry piece of cloth.

- Clean with a piece of smooth cloth moistened with pure alcohol.

- Clean with a commercial disinfectant

If used properly the welding filter requires no further maintenance during its lifetime.

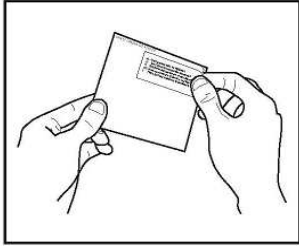
If a filter should be replaced on a PL-2B01/2013 welding helmet, use exclusively certified products (DIN-CE marks). We recommend the use of Weltek welding filters in all PL-2B01/2013 helmets.

The filter itself contains no special or toxic products and can be disposed of in the same way as other electronic devices.

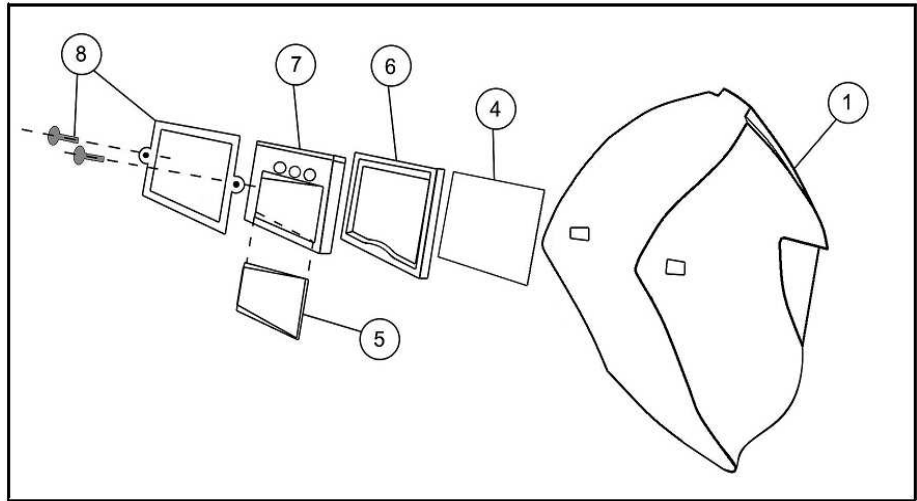
#### **Replacing the Outer Spatter Lens:**

Ensure that the helmet is always equipped with an Outside Lens (before the filter, on the outside of the helmet) and an Inner Lens (behind the filter, inside the helmet). These protection lenses must be replaced if broken, damaged or covered with welding spatter to such an extent that vision is impaired. Inner & Outer Lenses are consumables and must be replaced regularly with certified Weltek spare parts (CE marked).

Before using the PL-2B01/2013 helmet for the first time the protective films must be removed from the Front Spatter Lens (drawing 1), The films cannot be removed from the Front Spatter Lens with the Lens in place, Please follow the instructions below to remove the Spatter Lens.



**Drawing 1**



**Drawing 2**

**Inserting and removing a new protection lens:**

To insert the new outer protection lens the filter must be removed by unscrewing the two retaining screws from the inside of the helmet. The old protection lens can then be removed and the new lens inserted followed by the light seal cradle, ADF, inner protection lens and then the ADF retaining frame and finally replace the two retaining screws (see drawing 2).

**4S ADF:**



To allow the filter to switch, the sensors on the front of the filter must not be covered. The filter then switches to the dark state when the arc strikes and to the clear state when it stops. The filter switches to the light state when the welding arc stops

**How to set the shade:**

On the 4S set the shade by turning the knob on the inside of the helmet (pos. 1).

The most suitable setting can be found on the Chart in this brochure or chosen using your experience. This setting can also be made manually during the welding process.

- Turning clockwise = darker
- Turning anti clockwise = clearer

**Before using the filter we recommend the following adjustments are made:**

Turn the sensitivity knob clockwise to the max. setting (pos. 2). Depending upon the surrounding light the filter will switch to the dark state or will flicker (if the surrounding light is very low, the filter may not switch to

the dark state). Turn back the sensitivity knob (pos. 2) until the filter switches to the clear state.

The filter is now set to its optimum sensitivity (According to the surrounding light conditions).

Setting the delay; The clearing delay can be adjusted manually by turning the delay knob (pos. 3) between a fast clear (0.1 sec) fully anti clock wise and a slow clear (1.0 sec) fully clockwise.

### **Spare parts for PL-2B01/2013 Welding Helmets**

<b>Item</b>	<b>Part Number</b>	<b>Description</b>
1		PL-2B01/2013 Standard
1		PL-2B01/2013 With Side Windows
2	AX1096	Standard head gear
2	AX1097	Longitudinal adjustment head gear
3	AX1140	Sweat band
4	AX4000	Front Cover lens
5	AX2250	Inside Cover lens
6	AX3069	ADF Cradle
7		ADF
8	AX3060	Lens retainer and screws

Items without a part number are not available as spare parts

### **Filter Testing:**

Before use of the welding helmet the auto darkening filter (ADF) and helmet needs to be checked according to the following procedure:

Check outer protection lens is clean and can be seen through.

Ensure the the sensors are covered in any way and are clean.

Once these checks have been carried out you can now test the ADF.

Turn the outside shade knob to the darkest setting (shade 13) and set the sensitivity to the highest setting (turning clockwise). Now point the sensor towards a light source such as an overhead light, lamp etc. The ADF should now switch to the dark state (please note if the ADF is stored in a dark area away from light it may need to be left out in strong light for 20 minutes to absorb power, if after 20 minutes if the ADF does still not react then there is an issue with the sensor). Once the filter is in the dark state you can check the shade variation is functioning correctly, simply turn the shade knob anti-clockwise. By doing this, the shade should get lighter. If the shade does not appear to alter then you have an issue with the shade variation.

To test the delay function set the delay to the maximum setting. Now move the filter sensor away from the light source it should take 1 second to return to the light state, now alter the delay setting to the minimum and repeat the process, the time taken to return to the clear state should be 0.1 second. If the ADF does not react in this way then there is an issue with the delay function.

Testing the sensitivity. Set the sensitivity to minimum setting now point the ADF at the light source you used to test the other functions (if filter switches to dark state move away until the filter returns to clear state) slowly turn the sensitivity clockwise until the filter switches to dark state (if it does not then move closer to the light until it reacts). If the ADF does not react then there is an issue with the light sensors.

If any of the functions fail during test or in use then please do not use the ADF and contact your local distributor.

### **Warning**

The auto-darkening filters fitted in the PL-2B01/2013 helmets are not waterproof and will not work properly if they have been in contact with water.

Welding helmets and filters only resist a certain amount of heat. Please do not place them near naked flames or hot work areas etc.

Operating temperature of electronic filter minus 5°C to plus 55°C.

Materials that may get in contact with the wearers skin could cause Allergic reactions to susceptible individuals

### **Certification and Control labels**

The 4S welding filters are tested for eye protection by the following notified body: ECS GmbH Obere Bahnstrasse 74, 73431 Aalen Germany, notified body 1883, 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.



European Conformity mark.

This confirms that the product fulfills the requirements of the Directive 89/686/EWG

# EN 175 B



# ANSI Z87.1

Notified Body ECS GmbH  
Registration Number 1883  
Obere Bahnstrasse 74  
73431 Aalen  
GERMANY

### **ADF Marking Explanation:**

#### **CE 4/9-13 WT 1/1/1/2/379**

- 4 - light state scale number
- 9- lightest dark state scale number
- 13 darkest state scale number
- WT - Manufactures identification
- 1 - Optical class
- 1 - Diffusion of light class
- 1 - variation in luminous transmittance class
- 2 – Angle of Dependence classification
- 379 - Number of the standard

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WELTEK operates a policy of continuous improvement. We therefore reserve the right to make changes and improvements to any of our products without notice