

WELDING GOGGLES



Auto Darkening Welding Goggles & Mask Kit



WELDING TECHNOLOGY
SUPPLIERS OF WELDING AND ENGINEERING EQUIPMENT

XCEL-ARC



Ph: 07 204 1246
info@weldingtechnology.co.nz
www.weldingtechnology.co.nz

CONTENTS



SAFETY.....	3
FEATURES.....	4
PARTS BREAKDOWN.....	5
OPERATING INSTRUCTIONS.....	6
MAINTENANCE & TROUBLESHOOTING.....	11
RECOMMENDED SHADE SETTINGS.....	12

WELDING TECHNOLOGY
SUPPLIERS OF WELDING AND ENGINEERING EQUIPMENT



Please read and understand all instructions before using.

- Be sure that the dark shade of the lens in the welding helmet is the correct shade number for your application.
- The Xcel-Arc Welding Goggles are not suitable for “overhead” welding application, laser welding, or laser cutting applications.
- The Xcel-Arc Welding Goggles is designed to protect the eyes and face from sparks, spatter, and harmful radiation under normal welding conditions.
- The Xcel-Arc Welding Goggles do not provide unlimited eye, ear and face protection. If you are uncertain, do not use this product as misuse may result in serious injury. These goggles provide protection against the hazards of welding, but are not designed or intended to be used without other appropriate personal protective equipment (PPE). Additional PPE is required for all other areas of exposed skin, such as face and neck.
- The Xcel-Arc Welding Goggles will not protect against explosive devices or corrosive liquids. Machine guards or eye splash protection must be used when these hazards are present.
- Impact resistant, primary eye protection spectacles or goggles that meet current AS/NZS/ANSI specifications, must be worn at all times when using these welding goggles.
- Avoid work positions that could expose unprotected areas of the body to spark, spatter, direct and/or reflected radiation. Use adequate protection if exposure cannot be avoided.
- Before each use, check that the protection plates are clean and that no dirt is covering the sensors on the front of the lens.
- Inspect all operating parts before each use for signs of wear or damage. Any scratched, cracked, or pitted parts should be replaced immediately.
- Do not make any modifications to either the Xcel-Arc Welding Goggles, other than those specified in this manual.
- Do not use any replacement parts other than those specified in this manual. Unauthorised modifications and replacement parts will void the warranty and expose the user to the risk of personal injury.
- If this lens does not darken when striking arc, stop welding immediately and check the lens is in Weld Mode and not Grind Mode. If the issue persists, contact your local UNIMIG Service Department.
- Do not immerse the Xcel-Arc Welding Goggles in water.
- Do not use any solvents on any lens or mask components.
- The recommended operating temperature range for welding lens is -10°C to 65°C (14°F-149°F). Do not use this device beyond these temperature limits.
- Never place these Welding Goggles and auto-darkening filter on a hot surface.
- The Xcel-Arc Welding Hood included in this kit is flame-retardant. This welding hood does not provide protection against molten metals.
- Failure to follow these warnings and/or failure to follow all of the operating instructions could result in severe personal injury.



FEATURES

The Xcel-Arc Welding Goggles provide protection to your face and eyes from spatter and UV/IR radiation. Fitted with 2 arc sensors, the Xcel-Arc Welding Goggles provide 5-13 Shade control as well as GRIND mode for use when grinding.

The Xcel-Arc Welding Goggles feature True Colour Lens Technology, ensuring you always get a clear and natural view of your surroundings and workpiece.

The Xcel-Arc Welding Goggles have been designed to be versatile in their usage. There is room under the mask to fit an Elipse® Half-Mask P2 Respirator. The mask itself can also be removed, so that only the goggles can be used. In addition, the goggles also feature an alternate elastic headband, giving you multiple options to wear the goggles as desired.

TECHNICAL DATA	
SKU	XA-MASK
Filter Dimensions	171.5 x 77.5 mm
View Size	110x40mm
Arc Sensors	2
Classification	1/1/1/2
Light State	3
Dark State	5-9 / 9-13
UV/IR Protection	DIN15
Time from Light to Dark	0.08ms
Time from Dark to Light	0.1-0.9s
Sensitivity Delay	Adjustable (External)
Power Supply	Solar Cells & CR2450 Replaceable Battery
Warranty	2 Years
Operating Temperature	-10°C to 65°C
Storage Temperature	-20°C to 85°C
Shade Control	Yes (External)
Grind Mode	Yes (External)
TIG Amperage	5A
Standards	AS/NZS 1337.1:2010, AS/NZS 1338.1:2012, CE, ANSI, CSA

WELDING TECHNOLOGY
SUPPLIERS OF WELDING AND CUTTING EQUIPMENT

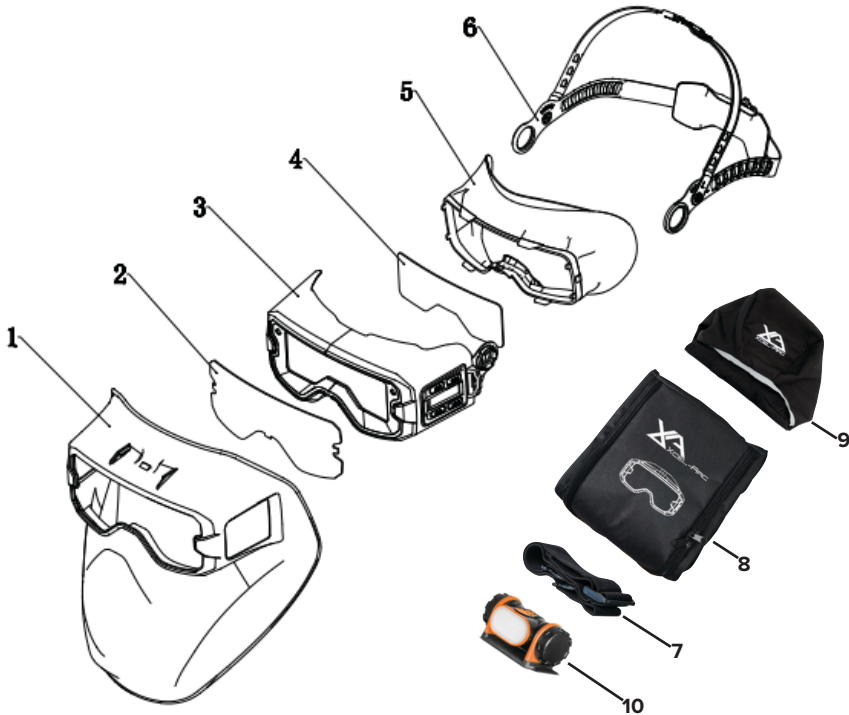


Ph: 09 274 1246

info@weldingtechnology.co.nz

www.weldingtechnology.co.nz

PARTS BREAKDOWN



#	DESCRIPTION	#	DESCRIPTION
1	Auto Darkening Goggles Shell	6	Auto Darkening Goggles Plastic headband
2	Auto Darkening Goggles Outer Lens (XA21003)	7	Auto Darkening Goggles Elastic Headband
3	Auto Darkening Goggles	8	Auto Darkening Goggles Bag
4	Auto Darkening Goggles Inner Lens (XA21003)	9	Welding Hood
5	Auto Darkening Goggles Silicone Padding	10	Auto Darkening Goggles LED Light



OPERATING INSTRUCTIONS

BEFORE USING

- Check the inside & outside protection lens are clean and that no dirt is covering the sensors on the front of the goggles.
- Make sure the protection films on both inside & outside protection lens are removed.
- Inspect all operating parts for signs of wear or damage. Any scratched, cracked, or damaged parts should be replaced immediately.

SLEEP MODE

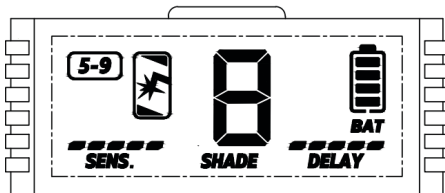
- The goggles have a sleep function to save power. When in WELD MODE, after 30 minutes of no activity sleep mode will be activated;
- Any movement or pushing any button will return the goggles back to an active state.

MEMORY

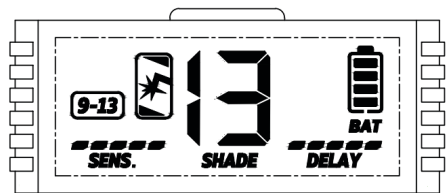
- The goggles will remember the last shade setting used by the operator after setting up. After returning to an active state from sleep mode, the goggles will show the last used shade.

Note: CUT MODE and GRIND MODE won't be recorded.

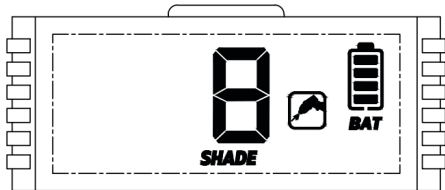
DISPLAY SCREEN



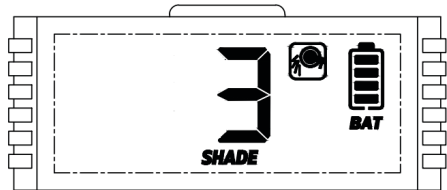
WELD Mode (5-9)



WELD Mode (9-13)



CUT Mode (5-8)



GRIND Mode (3)

WELDING TECHNOLOGY
SUPPLIERS OF WELDING AND ENGINEERING EQUIPMENT

Ph: 09 274 1246










info@weldingtechnology.co.nz

www.weldingtechnology.co.nz



OPERATING INSTRUCTIONS

DISPLAY ICONS

 BAT				 SENS.
1. Battery Status	2. WELD Mode	3. Shade 5-9	4. Shade 9-13	5. Sensitivity (1-5)
 DELAY	 SHADE			
6. Delay (1-5)	7. Shade Setting	8. CUT mode	9. GRIND Mode	

MODES

- The goggles have 4 function modes:
 - » WELD MODE (Shade range 5-9).
 - » WELD MODE (Shade range 9-13).
 - » GRIND MODE.
 - » CUT MODE.
- In WELD MODE, 3 functions can be adjusted; Sensitivity, Shade and Delay.
- Press the MODE button on the goggles to cycle between WELD MODE and CUT MODE.
- Within any mode, press and hold the GRIND button for 2 seconds and release to change to GRIND MODE. Press and hold the GRIND button for 2 seconds and release to change back to welding and cutting modes.

VARIABLE SHADE CONTROL

- To change the shade in welding and cutting modes, press the SHADE button once and Icon 7 will start flashing. Once Icon 7 is flashing, press the SHADE button again to cycle through the different shades.
- Note: Choose an optimum Shade number for the required welding process or application (see back cover).
- If the goggles do not darken when striking an arc, stop welding immediately and contact the Xcel-Arc service department.



OPERATING INSTRUCTIONS

SENSITIVITY CONTROL

- The responsiveness to different light levels in various welding processes can be adjusted in the range 1-5 (from low to high). Sensitivity only can be adjusted in welding modes.
- To change the sensitivity in WELD MODE, press the SENS. button once and Icon 5 will start flashing. Once Icon 5 is flashing, press the SENS. button again to cycle through the different shades.
- **1 (Low):** The photo-sensitivity changes to be lower.
 - » Suitable for high amperage welding and welding in bright light conditions (lamp light or sun light).
- **5 (High):** The photo-sensitivity changes to be higher.
 - » Suitable for low amperage welding and welding in poor light conditions.
 - » Suitable for welding with steady arc process such as TIG welding.
 - » Under normal use, a higher sensitivity setting is recommended.

DELAY CONTROL

- The length of time delay for the goggles to return to a light state after welding can be adjusted in the range 1-5 (for 0.1-0.9s). The time delay is for the protection of welder's eyes from strong residual rays after welding.
- To change the delay in WELD MODE, press the DELAY button once and Icon 6 will start flashing. Once Icon 6 is flashing, press the DELAY button again to cycle through the different shades.
- **1 (0.1s):** The time taken for the goggles to lighten after welding becomes shorter. The shortest time is about 0.1s depending upon welding point temperature and shade set. This setting is ideal for track welding or production welding with short welds.
- **5 (0.9s):** The time taken for the goggles to lighten after welding becomes longer. The longest time is about 0.9s depending upon welding point temperature and shade set. This setting is ideal for welding at high amperage where there is an afterglow from the weld.

GRIND MODE SELECTION

- Select GRIND mode by pressing and holding the "GRIND" button for 2 seconds and releasing, on the right side of the goggles. Icon 9 will display when GRIND mode is active. An orange light on the inside of the goggles will also start to flash.

Note: Do not weld in the GRIND mode, the goggles will not darken.

CUT MODE SELECTION

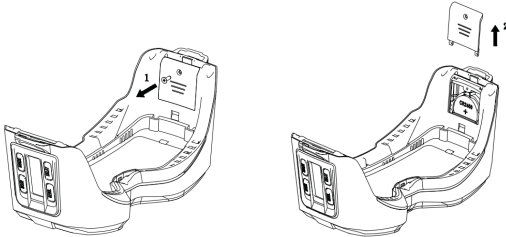
- Press the MODE button to cycle to the CUT MODE. Icon 8 will display when CUT mode is active.
- To change the shade in CUT MODE, press the SHADE button once and Icon 7 will start flashing. Once Icon 7 is flashing, press the SHADE button again to cycle through the different shades (5-8).

Note: Do not weld in the cutting mode.



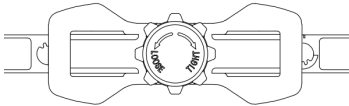
OPERATING INSTRUCTIONS

POWER SUPPLY AND CHANGING THE BATTERY

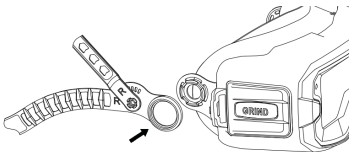


- The power of the goggles is provided by a replaceable battery, CR2450.
- Icon 1 will flash when the battery is low and a replacement is needed.
- Loosen the screw on battery cover with a screwdriver to remove the battery cover. Take the battery out and replace with a new battery; Replace the cover and tighten the screw with a screwdriver.

HEADGEAR ADJUSTMENT AND CHANGING ELASTIC HEADGEAR



- Headgear of the goggles can be adjusted by turning the Headband tightness adjusting knob.

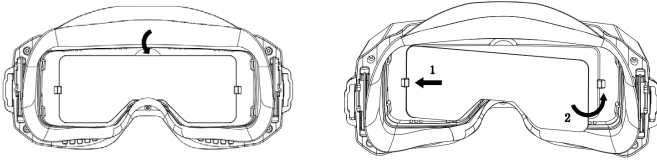


- Plastic headgear of the goggles can be changed to elastic headgear.
 1. Pull out the lock catch of the plastic headgear on both sides of goggles directly, then remove the plastic headgear from the goggles.
 2. Push the lock catch both side of elastic headgear on to the goggles;
 3. Elastic headgear can be changed back to plastic headgear in same way.



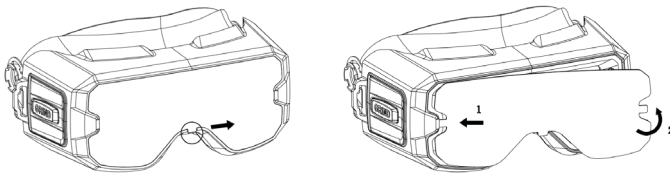
OPERATING INSTRUCTIONS

REPLACING THE INNER LENS



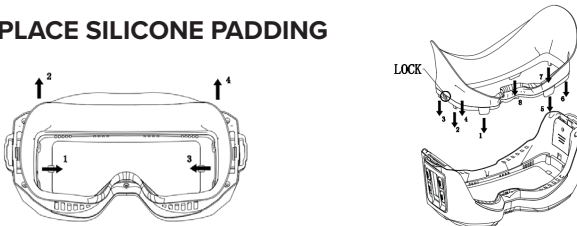
- The Inner lens is a protective lens and must be replaced if broken, damaged or covered with welding spatter to the extent that vision is impaired.
- Remove inner lens from the goggles.
- Insert a new inner lens to Position 1 and position 2 of the goggles.
- The user must always make sure the lens is fitted properly and there are no visible gaps.

REPLACE OUTER PROTECT LENS



- The outer lens is a protective lens and must be replaced if broken, damaged or covered with welding spatter to the extent that vision is impaired.
- Remove outer lens from the goggles.
- Insert a new outer lens to position 1 and position 2 of the goggles.
- The user must always make sure the lens is fitted properly and there are no visible gaps.

REPLACE SILICONE PADDING



- The silicone padding can be replaced if broken, damaged or covered with welding spatter.
- Pull the silicone padding at position 1 and position 3 towards the centre of the goggles, then pull up the silicone padding at position 2 and position 4.
- Insert a new silicone padding into the goggles and lock well.
- The user must always make sure the silicone padding is fitted properly.



MAINTENANCE

- The Xcel-Arc Welding Goggles need little maintenance. Use a clean, soft piece of cloth, moistened with soap / commercial disinfectant to wipe the inside and the outside of the goggles then dry.
- **Note:** Do not immerse the Goggles or Mask in water directly.

TROUBLESHOOTING

PROBLEM	RESOLUTION
The goggles do not darken when welding.	<ul style="list-style-type: none"> • Stop welding or cutting immediately. • Make sure the sensors are facing the arc and no obstructions. • Check the mode that is on WELD, not GRIND. • Review sensitivity recommendations and adjust sensitivity if possible. • Replace the battery if necessary.
The goggles stay dark after welding or if there is no arc present.	<ul style="list-style-type: none"> • Adjust the sensitivity to a lower level (Level 1). • If the work place is extremely bright, it is recommended to reduce the surrounding light level.
The goggles switch during the welding.	<ul style="list-style-type: none"> • Increase the sensitivity if possible. • Make sure the sensors are facing the arc and no obstructions. • Increase Delay 0.1 – 0.3 second may also reduce switching.
Inconsistent shade number on the corner of the goggles.	<ul style="list-style-type: none"> • It is a natural feature and will not be dangerous for the eyes. • In order to get a maximum comfort, try to keep a view angle at around 90°.

WARRANTY

Esseti NZ Ltd is pleased to offer a 2 year warranty on the Xcel-Arc Welding Goggles.

WELDING TECHNOLOGY
SUPPLIERS OF WELDING AND ENGINEERING EQUIPMENT



Ph: **09 274 1246**
info@weldingtechnology.co.nz Xcel-Arc Welding Goggles Manual | **11**
www.weldingtechnology.co.nz

RECOMMENDED SHADE SETTINGS

Current Amperes

	0.5	1	2.5	5	10	15	20	30	40	50	60	100	125	150	175	200	225	250	275	300	350	400	450	500																								
Covered Electrode	Shade 9										Shade 10					Shade 11					Shade 12					Shade 13					14																	
	Shade 10										Shade 11										Shade 12					Shade 13					14																	
MIG Plate Welding	Shade 10										Shade 11										Shade 12					Shade 13					14																	
	Shade 10										Shade 11										Shade 12					Shade 13					14																	
MIG Sheet Metal	Shade 9										Shade 10					Shade 11					Shade 12					Shade 13					14																	
	Shade 9										Shade 10					Shade 11					Shade 12					Shade 13					14																	
TIG	Shade 9										Shade 10					Shade 11					Shade 12					Shade 13					14																	
	Shade 9										Shade 10					Shade 11					Shade 12					Shade 13					14																	
MAG	Shade 10										Shade 11					Shade 12					Shade 13					Shade 14					Shade 15																	
	Shade 10										Shade 11					Shade 12					Shade 13					Shade 14					Shade 15																	
Arc Gouging	Shade 10										Shade 11										Shade 12					Shade 13					Shade 14					Shade 15												
	Shade 10										Shade 11										Shade 12					Shade 13					Shade 14					Shade 15												
Plasma Cutting	Shade 11										Shade 12										Shade 13										Shade 14					Shade 15												
	Shade 11										Shade 12										Shade 13										Shade 14					Shade 15												
Plasma Welding	4				5				6				7				8				9				Shade 10				Shade 11				Shade 12				Shade 13				Shade 14				Shade 15			
	4				5				6				7				8				9				Shade 10				Shade 11				Shade 12				Shade 13				Shade 14				Shade 15			