



WORKARMA

FUSION TIG ENDURO

WELDING GLOVE



Australian Standard
 AS/NZS 2161.2:2020
 AS/NZS 2161.3:2020
 Lic. SMK41339
 SAI Global



EN 12477:2001
TYPE B

FEATURES

- Certified to AS/NZS 2161.2:2020 (ISO 21420) - General Requirements and Test Methods
- Certified to AS/NZS 2161.3:2020 (EN 388) - Protection Against Mechanical Risks
- Complies to EN 407:2020 - Protection Against Thermal Risks
- Premium leather
- Aramid stitching across wear seams
- Double stitched
- Reinforced palm and thumb
- Contact heat rated 250°C
- Available in sizes L - XL

AVAILABLE RANGE

PART NUMBER	SIZE	PACK QTY
GWTCGNYSLGC	Large	1 Pair
GWTCGNYSLXC	XL	1 Pair

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FUSION TIG ENDURO WELDING GLOVE Hand Protection

TEST AND CERTIFICATION

Certified to

- AS/NZS 2161.2:2020 (ISO 21420) - General Requirements and Test Methods
- AS/NZS 2161.3:2020 (EN 388) - Protection Against Mechanical Risks

Complies to

- EN 407:2020 - Protection Against Thermal Risks

Certified by SAI Global



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EN 388:2016



4244X

EN 407:2020



42324X

EN 12477:2001
TYPE B

STANDARD	TEST DESCRIPTION	CONFORMITY
EN 388:2016 +A1:2018	Abrasion resistance: 2016	Level 4
	Cut resistance: 2016	Level 2
	Tear strength resistance: 2016	Level 4
	Puncture resistance: 2016	Level 4
EN ISO 21420:2020	Chromium VI	Pass
	pH	Pass
	Azo-dyes	Pass
	Dexterity	Level 5
EN 407:2020	Limited flame spread	4
	Contact heat	2
	Convective heat	3
	Radiant heat	2
	Small splashes of molten metal	4
	Large quantities of molten metal	X

UNDERSTANDING PROTECTION AGAINST MECHANICAL HAZARDS (EN 388:2016 +A1:2018)

Protection against mechanical hazards is symbolised by a pictogram followed by four numbers (performance levels) then two letters. For the first 4 positions the higher the number, the higher the level of protection. For the 5th position, the TDM cut test, A to F will be awarded for each gloves test result, with A being the lower score and F being the highest score. The letter P in the six position (if applicable) is for gloves certified to provide impact protection.

Example:

TEST	RATING RANGE	EXAMPLE RESULT
Abrasion	1-4	4
Cut (Coup Test)	1-5	x
Tear	1-4	4
Puncture	1-4	2
Cut (TDM Test ISO 13997)	A-F	C
Impact protection	P	P

EN388:2016

4X42CP

For dulling during the cut resistance test, the coupe test results are only indicative, while the TDM cut resistance test is the reference performance result. If there is an X in any of the positions, it means this performance metric was not tested.

UNDERSTANDING PROTECTION AGAINST THERMAL RISKS (EN 407:2020)

Protection against thermal risks (heat and/or fire) is symbolized by a pictogram followed by 6 numbers. The 'flame' icon is only applied to products that have at least level 1 performance in the limited flame-spread test. The higher the number, the better the protection level. An X indicates that the protection level was not tested.

TEST DESCRIPTION	PROTECTION LEVEL
1. Limited flame spread	4
2. Contact heat	2
3. Convective heat	3
4. Radiant heat	2
5. Small splashes of molten metal	4
6. Large quantities of molten metal	X

EN 407
123456

For more detailed explanation of the above risks, please refer to next page.

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1. LIMITED FLAME SPREAD (BURNING BEHAVIOUR)



The limited flame spread test is used to assess the ability to protect the wearer's hand if it comes close to a naked flame. The gloves don't need to be non-flammable, but they must inhibit combustion and burn slowly enough for the wearer to recognise this and safely remove the gloves. The after-flame and after-glow time is measured in this test.

PERFORMANCE LEVEL	AFTER-FLAME TIME (S)	AFTER GLOW-TIME (S)
1	< 20s	No requirement
2	< 10s	< 120s
3	< 3s	< 25s
4	< 2s	< 5s

2. CONTACT HEAT



During the test the glove is exposed to temperatures between +100°C up to +500°C and then measured how long it takes for the inner side of the glove to become 10°C warmer than it was from the beginning (about 25 °C degrees). If no other information is given, it is the palm that is tested.

PERFORMANCE LEVEL	CONTACT TEMPERATURE (°C)	THRESHOLD TIME (S)
1	100°C	< 15s
2	250°C	< 15s
3	350°C	< 15s
4	500°C	< 15s

3. CONVECTIVE HEAT



The samples are exposed to a heat source, and it is measured how long it takes to increase the inside temperature of the glove to 24°C.

PERFORMANCE LEVEL	HEAT TRANSFER DELAY
1	< 4s
2	< 7s
3	< 10s
4	< 18s

4. RADIANT HEAT



This tests the back of the gloves to ensure materials can resist extreme heat radiating through the glove's various materials. This test measures radiant heat and the results are the average time for heat permeation of 2.5kW/m².

PERFORMANCE LEVEL	HEAT TRANSFER DELAY
1	< 7s
2	< 20s
3	< 50s
4	< 95s

5. SMALL DROPS OF MOLTEN METAL



This test assesses the degree of protection offered to the wearer's hand from being struck by drops of molten metal. Palm, back and cuff are tested if different materials or construction are present. The test result is based on the number of drops of molten metal that generates a temperature increase between the glove material and the skin of 40°C.

PERFORMANCE LEVEL	NUMBER OF 0.5G DROPLETS
1	< 10
2	< 15
3	< 25
4	< 35

6. LARGE QUANTITIES OF MOLTEN METAL



A PVC film is attached to the back of the glove material and molten iron is poured onto the material. If any glove material ignites during the test, it doesn't meet the requirement of this standard. The measurement consists of how many grams of molten iron are required to damage the PVC film.

PERFORMANCE LEVEL	MOLTEN IRON MASS (g)
1	30g
2	60g
3	120g
4	200g

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APPLICATIONS

Including but not limited to industries such as:

- Construction

FITTING INSTRUCTIONS

- Dry the hand before putting on the gloves
- Insert all five fingers into the cuff of the glove, and pull the cuff over your wrist until the glove is properly in place
- Check that the glove's fit is secure around the fingers and the palm. Also check the cuff, which should have a snug fit around your wrist
- If the fit feels too tight or too loose, consider changing size to avoid any tears or discomfort
- Take glove off by pulling cuff back over hand

WARNINGS AND LIMITATIONS OF USE

- Gloves tested according to 6.6 Small Splashes of molten metal is not suitable for welding activities
- Glove is not intended for use in wet conditions
- For gloves with Level 1 Contact Heat, the glove cannot be used for removing items from ovens with a maximum use up to 100°C
- Wearer must complete a risk assessment to determine suitable protection required
- The selection of the right glove must be made according to the specific needs of the workplace, the type of risk and its environmental conditions
- Check that the glove does not present holes, cracks, tears, colour change etc and discard any glove presenting such defects
- Replace gloves when glove shows signs of wear and tear
- Gloves shall not be worn when there is a risk of entanglement by moving parts of machines
- The tested performance levels only refer to the palm side of the glove

- EN 12477: 2001 Type B gloves are recommended when high dexterity is required, as for Tig Welding: Type A gloves are recommended for other welding processes
- There is no standardised test method at present for detecting UV penetration of materials for gloves but the current methods of construction of protective gloves for welders do not normally allow penetration of UV radiation
- The glove's material provides minimum electrical resistance up to 100V (AC or DC) for arc welding
- With arc welding installations, it is not possible to protect all parts conducting the welding voltage against direct contact for operational reasons
- WARNING: it is not meant to bring any protection in case of defective or wrong use of the welding equipment. It does not qualify the glove for protection against electrical shock where protective gloves designed according to EN 60903 shall be used

STORAGE, SHELF LIFE AND CLEANING

- Store in a dry environment with temperatures between -5°C and +50°C
- Sunlight may cause gloves to become discoloured and lose their dexterity. Store away from direct sunlight
- Not recommended to machine wash or hand wash with water - use a specialised leather cleaner

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