

ILLUSIONS AUSTRALIA

SAFE WORK PROCEDURE

SWP 084 – WELDING - GENERAL OPERATIONS

1. PURPOSE AND SCOPE

Minimum requirements for general welding operations at Illusions Australia.

Applies to approved arc/MIG/TIG and related welding processes and supplements Hot Works – General and process-specific controls.

2. AUTHORISATION AND COMPETENCY

Only trained, competent and authorised workers may weld.

Workers must understand electrical, arc-radiation, fume, gas-cylinder, fire and hot-metal hazards for the process/material.

3. REQUIRED PPE

The following PPE must be worn as appropriate:

- Correct welding helmet/filter shade.
- Safety glasses beneath helmet where appropriate.
- Welding gloves.
- Flame-resistant protective clothing.
- Safety footwear.
- Hearing protection where required.
- Respiratory protection where required after ventilation/extraction controls.

4. PRE-START CHECKS

Before commencing work, confirm that:

- Welder, earth/return clamp, leads, torch and controls are serviceable.
- Gas cylinders/regulators/hoses are secure and leak-free where used.
- Material/coatings are identified.
- Ventilation/local fume extraction is adequate.
- Screens/exclusion zone protect others from arc radiation and sparks.
- Combustibles are removed/protected.
- Fire extinguisher is accessible.
- Workpiece is stable and earth/return connection is sound.

5. SAFE OPERATING PROCEDURE

1. Set up screens, ventilation and fire controls.
2. Secure cylinders upright and fit correct regulators where applicable.
3. Prepare material and remove hazardous coatings where required.

4. Connect return clamp close to work on suitable clean metal.
5. Select correct process settings and PPE.
6. Weld from a stable position, controlling sparks and hot metal.
7. Keep face out of the fume plume and extraction close to source.
8. Treat welded components as hot and mark/isolate where necessary.
9. Stop if ventilation, shielding or equipment condition deteriorates.
10. Shut down power and gas supplies after work and conduct fire check.

6. PROHIBITED PRACTICES

Workers must not:

- Weld without correct eye/face protection.
- Allow unprotected persons to view the arc.
- Weld on sealed/unknown containers.
- Weld near flammable vapours or uncontrolled combustibles.
- Use damaged leads/hoses/regulators.
- Use oxygen for ventilation or cleaning.
- Weld coated/unknown material without assessing fumes.
- Leave hot work unattended while ignition risk remains.

7. ARC RADIATION

Welding arcs emit intense ultraviolet and infrared radiation.

- Use correct helmet shade.
- Install screens.
- Protect exposed skin.

8. FUMES

Welding fumes vary substantially with process, base metal and coatings.

- Identify materials/coatings.
- Use local extraction/ventilation.
- Do not position breathing zone in the plume.

9. GAS CYLINDERS

Compressed shielding gases and fuel gases require secure handling.

- Keep cylinders upright and secured.
- Protect valves from damage.
- Use correct regulators and leak checks.

10. FAULTS, DAMAGE AND ABNORMAL CONDITIONS

Stop for fire, gas leak, electrical fault, failed extraction, damaged PPE/equipment or worker symptoms.

Raise alarm/isolate as appropriate.

11. SHUTDOWN AND HOUSEKEEPING

- Switch off welder and close cylinder valves.
- Release pressure where required by equipment procedure.
- Mark/segregate hot work.
- Inspect for smouldering/ignition.
- Coil leads/hoses safely.
- Report defects.

12. EMERGENCY AND INCIDENT RESPONSE

1. Stop the equipment or activity immediately.
2. Isolate the hazard or energy source where safe to do so.
3. Provide or obtain first aid as required.
4. Notify the Foreman, Leading Hand or other authorised Illusions Australia representative.
5. Call emergency services where required.
6. Do not recommence until the incident, defect or unsafe condition has been addressed.

13. STOP WORK REQUIREMENT

Work must stop where:

- Required competency/PPE is absent.
- Material/coating is unknown.
- Ventilation/fire controls are inadequate.
- Equipment or gas system is defective.
- Work area cannot be isolated from others.

No production requirement or deadline takes priority over safe work.

DOCUMENT CONTROL

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