

Confined Space Welding Risk Assessment

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THE PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	

RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	
Risk Rating & Required Action:								Notes on Hierarchy of Controls:	
4A		Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.						Remember to apply controls in the preferred order shown by the coloured pyramid:	
3H		Review and approve additional controls before task starts. Senior supervisor sign-off needed.						1. Eliminate	
2M		Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.						2. Substitute	
1L		Proceed, following standard operating procedures. Monitor and keep records.						3. Isolate	
Consequence Scale:								4. Engineering	
Consequence	People (injury/illness)		Project / Assets		Compliance / Reputation		5. Administrative		
Catastrophic	Fatality or permanent total disability		project shutdown		Significant regulator intervention; criminal prosecution		6. PPE		
Major	Serious injury/illness (hospital > 5 days)		critical delay		Improvement notice; major media coverage		Always document why a lower-order control is accepted if elimination or substitution is not reasonably practicable.		
Moderate	Medical-treatment injury; lost-time > 1 day		moderate delay		Minor breach; adverse client comment		aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.		
Minor	First-aid only, no lost time		negligible delay		Isolated non-conformance				
Insignificant	No injury		no schedule impact		Deviation caught and corrected on site				

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Preparation	Inadequate ventilation, Lack of safety gear	3H	<ul style="list-style-type: none"> - Perform a risk assessment before initiation of work - Ensure all personnel are trained in confined space safety - Verify that all safety gear is readily available and in good condition - Develop a confined space entry permit - Communicate the welding schedule to all involved personnel - Set up warning signs around the confined space - Provide personal protective equipment (PPE) to all workers - Ensure proper lighting inside the confined space - Confirm readiness of an emergency response team - Gather necessary welding tools and inspect for safety 	2M
2. Entry	Entry point hazards, Slip and trip risks	3H	<ul style="list-style-type: none"> - Conduct a toolbox talk with all team members - Inspect the entry point for structural stability - Use safety rails or barriers around the entry points - Ensure all entry tools and ladders are secured properly - Provide anti-slip mats at the entry point - Designate a safety spotter to oversee entry - Provide adequate illumination at the entry and exit points - Check for any obstructions around the entry point - Establish hand signal communication for ease of entry - Ensure personal harnesses are available and utilised 	2M
3. Atmospheric Testing	Toxic gases, Low oxygen levels	4A	<ul style="list-style-type: none"> - Use calibrated gas detectors to monitor air quality - Ventilate the confined space before performing work - Install continuous atmospheric monitors - Implement a strict protocol for atmospheric testing - Instruct workers on emergency procedures for toxic gas exposure - Maintain detailed records of all atmospheric test results - Replace air cylinders as needed - Inform workers of atmospheric conditions regularly 	2M

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			<ul style="list-style-type: none"> - Conduct a second atmospheric test if conditions change - Ensure all detectors have a valid calibration certificate 	
4. Equipment Setup	Electric shock, Equipment malfunction	3H	<ul style="list-style-type: none"> - Ensure all equipment is properly grounded - Verify all equipment is in good working order - Use proper lockout/tagout procedures - Wear appropriate PPE - Follow manufacturer's instructions - Keep work area clean and free of clutter - Use proper lifting techniques - Avoid overexertion - Use proper body mechanics - Take regular breaks - Stay hydrated - Avoid alcohol and drugs - Get adequate rest - Follow safety protocols - Use proper communication - Stay alert - Avoid distractions - Use proper posture - Take regular breaks - Stay hydrated - Avoid alcohol and drugs - Get adequate rest - Follow safety protocols - Use proper communication - Stay alert - Avoid distractions - Use proper posture 	1L
5. Welding Process	High temperature, UV radiation	4A	<ul style="list-style-type: none"> - Wear appropriate PPE - Use proper welding techniques - Keep work area clean and free of clutter - Use proper lifting techniques - Avoid overexertion - Use proper body mechanics - Take regular breaks - Stay hydrated - Avoid alcohol and drugs - Get adequate rest - Follow safety protocols - Use proper communication - Stay alert - Avoid distractions - Use proper posture - Take regular breaks - Stay hydrated - Avoid alcohol and drugs - Get adequate rest - Follow safety protocols - Use proper communication - Stay alert - Avoid distractions - Use proper posture 	2M
6. Monitoring	Fatigue, Distraction	3H	<ul style="list-style-type: none"> - Take regular breaks - Stay hydrated - Avoid alcohol and drugs - Get adequate rest - Follow safety protocols - Use proper communication - Stay alert - Avoid distractions - Use proper posture - Take regular breaks - Stay hydrated - Avoid alcohol and drugs - Get adequate rest - Follow safety protocols - Use proper communication - Stay alert - Avoid distractions - Use proper posture 	2M

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7. Gas Cylinder Handling	Cylinder leaks, Incorrect gas	3H		1L
8. Emergency Preparedness	Inadequate emergency response, Equipment failure	4A		1L
9. Fire Safety	Sparks igniting flammable materials, Equipment overheating	4A		2M

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10. Work Completion	Residual fumes, Post-welding sharp edges	3H		1L
11. Documentation and Reporting	Incomplete records, Lack of incident tracking	2M		1L
12. Review and Improvement	Re-occurring incidents, Control measure failures	2M		1L

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13. Disassembly and Equipment Removal	Manual handling injuries, Residual contamination	3H		1L
14. Decontamination	Chemical exposure, Environmental hazards	3H		1L
15. Confined Space Exit	Exit obstruction, Falls during egress	3H		1L

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SAMPLE

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES IF ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory

Work Health and Safety Act 2011

Work Health and Safety Regulations 2011

Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>

Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>

Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>

Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

Victoria

Occupational Health and Safety Act 2004

Occupational Health and Safety Regulations 2017

Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>

Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

New South Wales

Work Health and Safety Act 2011

Work Health and Safety Regulations 2017

Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>

Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

Western Australia

Work Health and Safety Act 2020

Work Health and Safety Regulations 2022

Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>

Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011

Work Health and Safety (National Uniform Legislation) Regulation 2011

Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>

Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>

Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

South Australia

Work Health and Safety Act 2012 (SA)

Work Health and Safety Regulations 2012 (SA)

Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>

Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

Tasmania

Work Health and Safety Act 2012

Work Health and Safety (Transitional and Consequential Provisions) Act 2012

Work Health and Safety Regulations 2012

Work Health and Safety (Transitional) Regulations 2012

Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>

Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.