



SWMS — Copper Pipe Hot Works Welding

Bright Spark
Electrical

HIGH RISK CONSTRUCTION WORK	<ul style="list-style-type: none"> Hot works involving open flame or heat-producing processes in proximity to structures (WHS Regulation 2017 s.291 — High Risk Construction Work) Work involving gas cylinders and pressurised equipment presenting explosion or fire risk Work in areas with potential for structural fire involving combustible building elements
STANDARD PPE REQUIRED	<ul style="list-style-type: none"> Fire-resistant (FR) long-sleeve shirt and pants Safety boots with steel toe cap and penetration-resistant sole (AS/NZS 2210.3) Cut-resistant gloves for pipe preparation (AS/NZS 2161.3) Full face shield or welding goggles shade 5 (AS/NZS 1337.1) Hi-visibility vest (AS/NZS 4602.1) — where required by site rules Safety helmet / hard hat where overhead hazards exist (AS/NZS 1801) Leather welding gloves (AS/NZS 2161.3) Safety glasses (AS/NZS 1337.1) P2 half-face respirator for fume-generating activities (AS/NZS 1716) Disposable gloves for flux handling

#	ACTIVITY / WORK STEP	HAZARD	CONTROL MEASURES	PPE REQUIRED	RISK BEFORE	RISK AFTER
1	Site Hot Works Permit Obtainment	Fire or explosion risk from unidentified combustible materials near the hot work area	<p>1. ELIMINATE: Remove all combustible and flammable materials from within 3 metres of the hot works area before commencing work.</p> <p>2. ISOLATE: Establish a 3 metre physical exclusion zone using barriers and signage.</p> <p>3. ENGINEERING: Position a fire blanket or fire-rated shield around the work area to contain sparks and heat.</p> <p>4. ADMINISTRATIVE: Complete and display a valid hot works permit and conduct a pre-work toolbox talk. Designate a fire-watch person to remain on site during, and for 30 minutes after, work ceases.</p> <p>5. PPE: FR clothing, safety glasses (AS/NZS 1337.1) and leather gloves (AS/NZS 2210.3).</p>	<ul style="list-style-type: none"> FR clothing Safety glasses (AS/NZS 1337.1) Leather gloves Safety boots 	HIGH (16)	LOW (3)

#	ACTIVITY / WORK STEP	HAZARD	CONTROL MEASURES	PPE REQUIRED	RISK BEFORE	RISK AFTER
2	Gas Cylinder Handling and Equipment Setup	Cylinder rupture or explosion from improper handling, damage or leak	<p>1. SUBSTITUTE: Use pre-made or press-fit copper fittings where hot works can be avoided entirely.</p> <p>2. ISOLATE: Secure cylinders upright in a purpose-built trolley with chains, away from heat and ignition sources.</p> <p>3. ENGINEERING: Fit flashback arrestors to both the fuel-gas and oxygen lines at the regulator and the torch.</p> <p>4. ADMINISTRATIVE: Inspect hoses, regulators and connections for leaks with soapy water before each use and log the inspection.</p> <p>5. PPE: Leather welding gloves (AS/NZS 2161.3), FR clothing and safety glasses.</p>	<ul style="list-style-type: none"> Welding goggles shade 5 Leather welding gloves FR clothing Safety boots 	HIGH (15)	LOW (3)
3	Pipe Brazing and Soldering	Burns and eye injury from open flame, hot metal and UV radiation	<p>1. ENGINEERING: Use heat shields and clamps to hold the work and keep hands clear of the flame path.</p> <p>2. ADMINISTRATIVE: Allow brazed joints to cool before handling and mark hot sections with chalk or tags.</p> <p>3. PPE: Full face shield, leather gauntlets and FR clothing.</p>	<ul style="list-style-type: none"> Full face shield Leather gauntlets FR clothing 	MED (12)	LOW (2)
4	Post-Weld Inspection and Pressure Testing	Burns from touching residual hot pipe or fittings during inspection	<p>1. ADMINISTRATIVE: Allow a cooling period of 15 minutes before touching joints. Mark hot areas with tags or chalk during the cool-down.</p> <p>2. ADMINISTRATIVE: Verify pipe sections are not pressurised until cooling is confirmed.</p> <p>3. PPE: Leather gloves when handling soldered pipework.</p>	<ul style="list-style-type: none"> Leather gloves Safety glasses 	MED (9)	LOW (2)
5	Gas Line Disconnection and Site Cleanup	Gas leak or flash fire during disconnection of fuel lines	<p>1. ISOLATE: Close cylinder valves and bleed the lines before disconnecting regulators.</p> <p>2. ADMINISTRATIVE: Conduct a final fire-watch sweep 30 minutes after the last hot work and check concealed spaces.</p> <p>3. PPE: Leather gloves, safety glasses and FR clothing.</p>	<ul style="list-style-type: none"> Leather gloves Safety glasses FR clothing 	HIGH (15)	LOW (2)

EMERGENCY PROCEDURE

In the event of fire, cease all hot works immediately and activate the nearest fire alarm. Use the designated fire extinguisher (CO2 or dry powder) only if safe to do so. Evacuate via the marked egress route to the site assembly point, notify the site supervisor and call 000. Do not resume work until the area is declared safe by the responsible person.

SIGN-OFF

PREPARED BY	Name: _____	Date: _____
REVIEWED BY	Name: _____	Date: _____
APPROVED BY	Name: _____	Date: _____

WORKER SIGN-OFF

By signing below, each worker confirms they have read, understood and will comply with the controls in this document.

#	NAME	SIGNATURE	DATE
1			
2			
3			
4			
5			
6			

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