

## Quenching Heat-Treated Parts Risk Assessment

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

### THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS 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			<b>Elimination</b> Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	<b>Substitution</b> 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.	<b>Engineering</b> Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	<b>Administrative</b> Change	
								<b>PPE</b>	
<b>Risk Rating &amp; Required Action:</b>								<b>Notes on Hierarchy of Controls:</b>	
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. <b>Eliminate</b>	
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	
								4. Engineering	
								5. Administrative	
								6. PPE	
<b>Consequence Scale:</b>								Always document <b>why</b> a lower-order control is accepted if elimination or substitution is not reasonably practicable.	
Consequence	People (injury/illness)		Project / Assets		Compliance / Reputation				
Catastrophic	Fatality or permanent total disability		project shutdown		Significant regulator intervention; criminal prosecution				
Major	Serious injury/illness (hospital > 5 days)		critical delay		Improvement notice; major media coverage				
Moderate	Medical-treatment injury; lost-time > 1 day		moderate delay		Minor breach; adverse client comment				
Minor	First-aid only, no lost time		negligible delay		Isolated non-conformance				
Insignificant	No injury		no schedule impact		Deviation caught and corrected on site				
								<i>aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.</i>	

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	Manual handling of parts, Slippery floors	3H	<ul style="list-style-type: none"> <li>Ensure personnel are trained in manual handling techniques</li> <li>Use appropriate lifting equipment where necessary</li> <li>Keep floors dry and clean</li> <li>Wear non-slip footwear</li> <li>Conduct pre-start safety meetings</li> <li>Inspect area for debris that may cause slips</li> <li>Maintain clear walkways</li> <li>Store unused equipment safely</li> <li>Provide adequate lighting</li> <li>Utilise appropriate signage</li> </ul>	2M
2. Heat Treatment	Burns from hot surfaces, Fume inhalation	4H	<ul style="list-style-type: none"> <li>Use personal protective equipment (PPE) including heat-resistant gloves</li> <li>Ensure proper ventilation systems are in place</li> <li>Implement a buddy system during operations</li> <li>Regularly check and maintain heating equipment</li> <li>Provide training on safe operational procedures</li> <li>Utilise warning signs for hot equipment</li> <li>Enforce controlled access to the area</li> <li>Monitor air quality</li> <li>Emergency procedures in place</li> <li>Carry out regular equipment checks</li> </ul>	2M
3. Transport to Quenching Area	Crush injuries from moving parts, Collisions with equipment	3H	<ul style="list-style-type: none"> <li>Use appropriate transportation devices with safety features</li> <li>Implement traffic management plans</li> <li>Provide operator training for equipment</li> <li>Use spotters in confined spaces</li> <li>Regular maintenance of transport equipment</li> <li>Segregate pedestrian pathways</li> <li>Conduct regular equipment inspections</li> <li>Ensure clear communication procedures</li> </ul>	1L

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			Use mirrors in blind spots Limit speed in transport areas	
4. Quenching Process	Boiling liquid splash, Chemical exposure	4A	[REDACTED]	2M
5. Post-Quenching Inspection	Hot parts handling, Cut injury, sharp edges	3H	[REDACTED]	1L
6. Reporting and Documentation	Data entry errors, Inadequate recordkeeping	2M	[REDACTED]	1L

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7. Clean Up	Hazardous waste exposure, Slips, trips and falls	3H		1L
8. Equipment Maintenance	Electrical hazards, Mechanical failures	4A		2M
9. Emergency Response	Inadequate emergency response, Panic and confusion during incidents	4A		2M

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10. Review and Feedback	Inadequate assessment procedures, Failure to implement improvements	2M		1L
11. Storage of Finished Parts	Tipping or falling objects, Unauthorised access	3H		1L
12. Inventory Management	Overstocking causing congestion, Poor inventory tracking	2M		1L

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13. Worker Training and Competency	Inadequate skill levels, Failure to follow procedures	3H		1L
14. Communication and Coordination	Miscommunication between teams, Delayed responses to issues	2M		1L
15. Continuous Improvement	Complacency in safety practices, Ineffective safety procedures	3H		1L

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			[REDACTED]	
16. Tool Management	Faulty tools, Improper tool usage	3H	[REDACTED]	1L
17. Quenching Fluid Management	Contamination of fluids, Improper disposal	3H	[REDACTED]	2M



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18. Health Monitoring	Exposure to hazardous substances, Musculoskeletal disorders	3H	[REDACTED]	2M
19. Waste Management	Improper waste segregation, Environmental contamination	4A	[REDACTED]	2M
20. Final Quality Check	Rework due to quality failures, Inadequate testing	2M	[REDACTED]	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>

### 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>

### Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011

Work Health and Safety (National Uniform Legislation) Regulations 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>

### 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.

### 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>

### 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>

### 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