

Casting And Stressing Of Tendons 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			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	
								4. Engineering	
								5. Administrative	
								6. PPE	
Consequence Scale:								Always document why 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	Improper handling of equipment, Slips and trips	3H	<ul style="list-style-type: none"> - Use designated walkways to avoid tripping - Inspect equipment before use - Provide training on equipment handling - Ensure appropriate housekeeping is maintained - Use slip-resistant footwear - Communicate about potential hazards during briefings - Implement a tool box to avoid misplacement - Use barriers to restrict access to work area - Conduct pre-work safety meetings - Use appropriate PPE 	2M
2. Inspection of Materials	Damaged materials, Inadequate inspection	3H	<ul style="list-style-type: none"> - Only trained personnel to conduct inspections - Have checklist for inspection criteria - Repair and replace damaged materials - Ensure regular inspection schedules - Document inspection findings - Maintain a log of all materials inspected - Implement a system of peer reviews - Provide adequate lighting for inspections - Conduct refresher training on inspection protocols - Segregate damaged materials from use 	2M
3. Equipment Setup	Equipment malfunction, Incorrect setup	4A	<ul style="list-style-type: none"> - Follow manufacturer's instructions for setup - Conduct function tests before full operation - Use built-in safety features - Engage experts for complex setups - Conduct regular maintenance - Use only certified equipment - Implement a checklist for setup - Display setup instructions prominently 	2M

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			<ul style="list-style-type: none"> - Provide supervision during setup - Report abnormalities immediately 	
4. Tendon Positioning	Incorrect positioning, Strain from manual handling	3H	<ul style="list-style-type: none"> - Establish a safe work zone and restrict access to the work area. - Use proper lifting techniques, avoiding twisting or bending the back. - Ensure the tendon is correctly aligned and supported throughout the process. - Use appropriate tools and equipment to assist with positioning. - Communicate clearly with the team, using hand signals or radios. - Take regular breaks to avoid fatigue. - Perform a pre-work safety check of all equipment. - Use fall protection if working at height. - Ensure the work surface is clean and free of obstacles. - Use proper tie-off techniques when working on a structure. - Maintain a clear path for the tendon to avoid snags. 	2M
5. Tensioning Preparation	Excessive tension, inadequate tool calibration	4A	<ul style="list-style-type: none"> - Verify the tensioning equipment is calibrated and in good working order. - Follow the manufacturer's instructions for the tensioning process. - Use the correct tensioning sequence and rate. - Monitor the tensioning process closely, stopping if any abnormalities are detected. - Use the correct tensioning tool for the specific tendon. - Ensure the tendon is properly anchored and supported. - Use the correct tensioning force for the specific tendon. - Use the correct tensioning sequence and rate. - Monitor the tensioning process closely, stopping if any abnormalities are detected. - Use the correct tensioning tool for the specific tendon. - Ensure the tendon is properly anchored and supported. - Use the correct tensioning force for the specific tendon. 	2M
6. Stressing Tendons	Over-stressing, Equipment failure	4A	<ul style="list-style-type: none"> - Verify the tensioning equipment is calibrated and in good working order. - Follow the manufacturer's instructions for the tensioning process. - Use the correct tensioning sequence and rate. - Monitor the tensioning process closely, stopping if any abnormalities are detected. - Use the correct tensioning tool for the specific tendon. - Ensure the tendon is properly anchored and supported. - Use the correct tensioning force for the specific tendon. - Use the correct tensioning sequence and rate. - Monitor the tensioning process closely, stopping if any abnormalities are detected. - Use the correct tensioning tool for the specific tendon. - Ensure the tendon is properly anchored and supported. - Use the correct tensioning force for the specific tendon. 	2M

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7. Post-Stressing Inspection	Undetected damage, Equipment hazards	3H		2M
8. Dismantling Equipment	Falling equipment, Injury from power tools	3H		2M
9. Clean-up	Residual material hazards, Environmental hazards	3H		2M

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10. Final Inspection and Sign-Off	Missed hazards, Incomplete documentation	3H		1L
11. Worker Training	Inadequate knowledge, Lack of refresher courses	3H		2M
12. Communication Procedures	Miscommunication, Ambiguity in instruction	3H		2M

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13. Emergency Preparedness	Delayed response, Inadequate training	4A		2M
14. Routine Maintenance	Unattended equipment failures, Inadequate maintenance	3H		2M
15. Workplace Monitoring	Undetected hazards, Lack of timely reporting	3H		2M

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16. Equipment Storage	Improper storage, Equipment damage	3H		2M
17. Hazard Communication	Unknown hazards, Inadequate communication	3H		2M
18. Health Monitoring	Health deterioration, Missed symptoms	3H		2M

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19. Contractor Management	Unfamiliarity with site protocols, Non-compliance with safety procedures	3H		2M
20. Review and Continuous Improvement	Complacency, Ineffective procedures	3H		1L

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