

Join Metal Sections Using Bolting Techniques 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:	

SAMPLE

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																									
Risk Rating & Required Action: <table border="1"> <tr> <td>4A</td> <td>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.</td> </tr> <tr> <td>3H</td> <td>Review and approve additional controls before task starts. Senior supervisor sign-off needed.</td> </tr> <tr> <td>2M</td> <td>Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.</td> </tr> <tr> <td>1L</td> <td>Proceed, following standard operating procedures. Monitor and keep records.</td> </tr> </table>										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.	3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.	2M	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.	1L	Proceed, following standard operating procedures. Monitor and keep records.																
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Notes on Hierarchy of Controls: Remember to apply controls in the preferred order shown by the coloured pyramid: <ol style="list-style-type: none"> 1. Eliminate 2. Substitute 3. Isolate 4. Engineering 5. Administrative 6. PPE <p>Always document why a lower-order control is accepted if elimination or substitution is not reasonably practicable.</p> <p><i>aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.</i></p>																																	
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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	Slips, trips and falls, Falling objects	3H	<ul style="list-style-type: none"> - Ensure work area is clean and free from debris - Use appropriate signage and barriers to warn of potential hazards - Wear steel-toed boots and hard hats - Ensure all tools and materials are stored securely - Provide training on hazard awareness and safety protocols - Conduct pre-start checks to identify any existing hazards - Ensure adequate lighting is available in the working area - Secure loose cables and equipment to prevent trips - Use anti-slip mats in areas prone to slipping - Ensure appropriate clearance for head and body 	2M
2. Selection of Bolts and Nuts	Wrong specification leading to joint failure, Sharp edges causing cuts	3H	<ul style="list-style-type: none"> - Consult specification sheets for correct selection of bolts and nuts - Conduct training on recognising correct bolt and nut grades - Use protective gloves when handling bolts to prevent cuts - Verify bolt and nut size with appropriate measuring tools - Ensure all selected materials meet engineering design requirements - Regularly inspect bolts and nuts for defects before use - Maintain a stock of the correct types and sizes of bolts and nuts - Use correct handling techniques to avoid injury - Review job safety analysis for bolt and nut selection - Secure bolts and nuts in containers to prevent spillage 	2M
3. Lifting Components	Manual handling strain, Crush injuries	4A	<ul style="list-style-type: none"> - Use lifting equipment such as chain blocks and hoists for heavy components - Ensure all lifting equipment is certified and inspected regularly - Train workers in correct manual handling techniques - Plan lifts to minimise manual handling - Use team lifting techniques for awkward or heavy loads - Wear steel-toed boots and gloves to prevent foot and hand injuries - Establish clear communication before and during lifting operations - Maintain a clear path for moving loads 	2M

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			<ul style="list-style-type: none"> - Utilize mechanical aids like trolleys and forklifts where possible - Implement a buddy system for heavy or difficult lifts. 	
4. Aligning Bolt Holes	Hand injuries, Misalignment leading to structural failure	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L
5. Inserting Bolts	Pinch points, Dropping tools	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
6. Tightening Bolts	Over-torque leading to bolt failure, Repetitive strain injuries	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L

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			[REDACTED]	
7. Checking and Inspecting Bolts	Missed defects, Excessive wear indicating future failure	3H	[REDACTED]	1L
8. Finalising Task	Leaving tools behind, Unsafe connections	2M	[REDACTED]	1L
9. Cleaning Work Area	Chemical exposure from cleaning agents, Back injuries from poor posture	2M	[REDACTED]	1L

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			[REDACTED]	
10. Debrief and Review	Lack of feedback, Missed learning opportunities	1L	[REDACTED]	1L
11. Storing Equipment	Equipment damage, Misplacement	2M	[REDACTED]	1L
12. Equipment Maintenance	Unexpected equipment failure, Maintenance-related injuries	2M	[REDACTED]	1L

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			[REDACTED]	
13. Documentation	Loss of data, Inaccurate records	1L	[REDACTED]	1L
14. Skill Development	Inadequate skills leading to mistakes, Overlooking updates in technology	1L	[REDACTED]	1L
15. Continuous Improvement	Complacency in safety practices, Failure to adopt new processes	1L	[REDACTED]	1L

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			[REDACTED]	
16. Emergency Preparedness	Lack of preparedness for emergencies, Poor communication during an incident	3H	[REDACTED]	2M
17. Mental Health Monitoring	Workplace stress, Burnout from repetitive tasks	3H	[REDACTED]	1L
18. Guest and Visitor Safety	Unauthorised access to work areas, Injury to visitors	3H	[REDACTED]	1L

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			[REDACTED]	
19. Work Area Security	Theft of materials, Unauthorised access	3H	[REDACTED]	2M
20. Environmental Protection	Pollution from waste, Damage to local fauna	3H	[REDACTED]	1L

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 FOR 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-of-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) Regulations 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplaces-and-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>

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>

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

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.

