

**Wood Joinery Techniques and Timber Jointing**

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.	Administrative Change	
								PPE	

  

Risk Rating & Required Action:	
<b>4A</b>	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.
<b>3H</b>	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
<b>2M</b>	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
<b>1L</b>	Proceed, following standard operating procedures. Monitor and keep records.

  

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
<b>Catastrophic</b>	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
<b>Major</b>	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
<b>Moderate</b>	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
<b>Minor</b>	First-aid only, no lost time	negligible delay	Isolated non-conformance
<b>Insignificant</b>	No injury	no schedule impact	Deviation caught and corrected on site

  

**Notes on Hierarchy of Controls:**  
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. **Substitute**
3. **Isolate**
4. **Engineering**
5. **Administrative**
6. **PPE**

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

*aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.*

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. WHS Leadership, Governance and Legal Compliance	<ul style="list-style-type: none"> <li>Lack of clear WHS policy specific to joinery and timber jointing activities (e.g. biscuit jointing, dovetailing, mortise and tenon work)</li> <li>Senior management not demonstrating due diligence under WHS Act 2011 for joinery operations</li> <li>Inadequate integration of WHS obligations into business objectives and production targets</li> <li>Failure to monitor and review compliance with WHS Regulations, Codes of Practice and Australian Standards relevant to machine woodworking</li> <li>Poor allocation of resources (time, money, competent people) to manage joinery-related risks</li> <li>Inadequate consultation with workers and Health and Safety Representative about joinery hazards and controls</li> </ul>	4A	<ul style="list-style-type: none"> <li>Develop, endorse and communicate a WHS policy that explicitly references machine and hand-tool joinery work (e.g. mortising machines, dowel insertion, finger-jointing, box joints, dovetail work)</li> <li>Establish a WHS governance structure assigning clear officer and management responsibilities in line with WHS Act 2011 due diligence requirements</li> <li>Integrate WHS performance indicators (e.g. incident rates, corrective action close-out for joinery tasks) into management performance reviews and production planning</li> <li>Maintain a central register capturing relevant WHS legislation, Codes of Practice and applicable Australian Standards (e.g. AS/NZS 3544 series for machinery safety, AS 1473 where applicable) and schedule regular compliance reviews</li> <li>Ensure consultation arrangements (HSRs, WHS committees, toolbox meetings) specifically address joinery risks and proposed control changes before implementation</li> <li>Undertake periodic external or internal WHS audits focusing on timber jointing systems, with documented corrective actions and governance oversight</li> </ul>	3H
2. WHS Planning, Risk Management and Change Management	<ul style="list-style-type: none"> <li>No formal risk management procedure for joinery-specific hazards such as pinch points, ejection, noise and wood dust</li> <li>Risk assessments focusing only on operational tasks, not system and management failures</li> <li>Unmanaged change when introducing new joint types (e.g. sliding dovetails, blind dovetails, pocket-screw systems) or new equipment (e.g. dowel insertion machines, biscuit joiners)</li> <li>Failure to consider cumulative exposure to noise, dust, vibration and repetitive manual handling across multiple joinery tasks</li> <li>Inadequate planning for high-risk tasks such as hand-cut joinery near powered machinery or complex jigs</li> </ul>	4A	<ul style="list-style-type: none"> <li>Implement a corporate WHS risk management procedure aligned to AS/NZS ISO 31000 that mandates formal assessments for all joinery and timber jointing systems</li> <li>Maintain a standard WHS risk assessment template distinct from SWMS, focusing on systems (training, maintenance, supervision) rather than task steps</li> <li>Introduce a formal Management of Change (MoC) process for new joinery machinery, jigs, tooling and processes (e.g. new pocket-screw systems, upgraded mortising machines) requiring pre-implementation risk review</li> <li>Require periodic review of risk assessments when there are incident trends, equipment changes, new joinery products or layout modifications</li> <li>Define clear risk rating criteria and thresholds for when risks must be escalated to senior leadership for additional resourcing or design changes</li> <li>Ensure SWMS for high-risk construction work reference and remain consistent with this higher-level WHS risk framework</li> </ul>	3H

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	<ul style="list-style-type: none"> <li>Lack of documented criteria for risk acceptance and escalation of high residual risks to senior management</li> </ul>			
3. Procurement, Design and Layout of Joinery Plant and Equipment	<ul style="list-style-type: none"> <li>Purchasing mortising machines, finger-jointing systems, biscuit joiners, dowel insertion machines or routers without adequate safety features</li> <li>Inadequate consideration of guarding, emergency stops and dust extraction at design and procurement stage</li> <li>Poor workshop layout causing congestion, unsafe access/egress and interaction between hand-cut joinery areas and powered equipment</li> <li>Insufficient provision for safe workpiece support (e.g. long boards used for tongue and groove or sliding dovetail joints) leading to instability and strain</li> <li>Failure to standardise equipment controls across different brands and models, increasing operator error risk</li> <li>Not involving workers and HSRs in plant selection and layout decisions</li> </ul>	4A	<ul style="list-style-type: none"> <li>Establish procurement standards requiring all joinery machinery to comply with relevant Australian Standards (e.g. AS/NZS 4021 series) and include effective guarding, interlocks, emergency stops and dust extraction connections</li> <li>Include WHS functional safety specifications in supplier contracts for mortisers, dowel cradles, biscuit joiners, pocket screw jigs and dovetail machines</li> <li>Undertake pre-purchase WHS evaluation and factory acceptance tests for major joinery plant, including risk assessments and trials where practical</li> <li>Design workshop layout to ensure safe clearances, line-of-fire control, defined pedestrian routes and segregated areas for noisy or high-risk joinery equipment</li> <li>Provide engineered workpiece support systems (roller tables, infeed/outfeed supports, cradles and jigs) for long board and panel jointing operations</li> <li>Maintain plant register including risk assessments, safe operating envelopes and guarding configurations for all joinery machinery</li> </ul>	2M
4. Machine Guarding, Interlocks and Safety Devices Management	<ul style="list-style-type: none"> <li>Inadequate or removed guarding on mortising machines, routers, finger-jointing equipment and biscuit joiners</li> <li>Defeated interlocks and emergency stops due to production pressures or poor safety culture</li> <li>Non-standard or makeshift jigs and cradles for dowel insertion and box joint formation compromising guarding effectiveness</li> <li>Lack of inspection regime for guards, sensors and interlocks leading to undetected failures</li> <li>Modifications to joinery machinery by unqualified persons, creating new entanglement or ejection hazards</li> </ul>	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> <li>No documented control of temporary removal of guards for maintenance or set-up</li> </ul>			
5. Wood Dust, Fume and Noise Exposure Management	<ul style="list-style-type: none"> <li>Inadequate local exhaust ventilation for machining and joinery operations such as routing, mortising, finger-jointing and biscuit joining</li> <li>Accumulation of fine combustible wood dust presenting fire and explosion risk</li> <li>Chronic exposure to hazardous wood dusts (including sensitising hardwood species) without system-level controls</li> <li>Excessive noise levels from joinery machinery leading to hearing loss over time</li> <li>Poor maintenance of extraction ducting, filters and silencers reducing control effectiveness</li> <li>Lack of monitoring program for dust concentrations and noise exposure</li> </ul>	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
6. Manual Handling, Workpiece Support and Ergonomics	<ul style="list-style-type: none"> <li>Systematic underestimation of manual handling risks for heavy lifting boards used in tongue and groove, half-lap joints, box joints and dowelled assemblies</li> <li>Poorly designed workstations for detailed joinery items and hand-cut joinery leading to repetitive strain and awkward postures</li> <li>Insufficient mechanical aids for moving timber packs and large panels to and from joinery equipment</li> <li>Inadequate storage systems causing workers to reach, twist or climb unsafely to access materials and jigs</li> <li>Failure to factor manual handling risks into job design and production quotas</li> </ul>	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
7. Competency, Training and Licensing for Joinery Operations	<ul style="list-style-type: none"> <li>Workers operating mortising machines, routers, dowel insertion equipment, pocket-screw systems and dovetail jigs without verified competency</li> </ul>	4A	<p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> <li>Inadequate induction for new or young workers on the specific hazards of timber jointing operations</li> <li>No refresher training or verification of competency when plant, jigs or work methods change</li> <li>Supervisors lacking specific technical understanding of joinery hazards, resulting in poor oversight</li> <li>Reliance on informal, peer-to-peer training without structured assessment or records</li> </ul>		[REDACTED]	
8. Safe Systems of Work, Procedures and Work Instructions	<ul style="list-style-type: none"> <li>Absence of documented procedures for complex joinery tasks involving multiple machines and jigs</li> <li>Reliance on ad hoc or undocumented practices for tasks such as blind dovetails, sliding dovetails and intricate box joints</li> <li>Procedures focusing only on operational steps without addressing system controls (maintenance, supervision, verification, lock-out)</li> <li>Out-of-date or inconsistent instructions across different departments or shifts</li> <li>Lack of clarity on responsibilities for developing, reviewing and enforcing safe systems of work</li> </ul>	3M	[REDACTED]	2M
9. Supervision, Work Scheduling and Fatigue Management	<ul style="list-style-type: none"> <li>Insufficient supervision in areas where high-risk joinery equipment is used, particularly outside normal hours or for overtime work</li> <li>Production pressures and tight deadlines for complex joinery items leading to risk-taking behaviours</li> <li>Inadequate management of fatigue, especially for workers performing repetitive or fine detailed work such as hand-cut joints and detailed assembly</li> </ul>	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> <li>Poor coordination between shifts resulting in uncommunicated plant issues and incomplete maintenance</li> <li>Supervisors prioritising throughput over safety due to misaligned incentives</li> </ul>		[REDACTED]	
10. Plant Maintenance, Inspection and Asset Management	<ul style="list-style-type: none"> <li>Inadequate planned maintenance of mortisers, routers, dowel inserters, biscuit joiners and other joinery machinery leading to failure or loss of control</li> <li>Use of worn or damaged tooling (cutters, bits, blades, drills) increasing kickback and ejection risks</li> <li>Reactive maintenance culture with breakdowns addressed only after incidents occur</li> <li>Lack of equipment history and traceability for safety-critical defects</li> <li>Failure to verify the integrity of safety systems (interlocks, emergency stops, extraction) after maintenance or modification</li> </ul>	4A	[REDACTED]	2M
11. Hazardous Substances, Adhesives and Finishing Systems	<ul style="list-style-type: none"> <li>Use of timber adhesives, fillers and finishes in joinery assembly without proper hazardous chemical management</li> <li>Inadequate ventilation or controls when using solvent-based products during joinery or pre-finishing stages</li> <li>Lack of up-to-date Safety Data Sheets and risk assessments for commonly used joinery glues and sealants</li> <li>Incompatible storage of flammable adhesives, solvents and wood dust increasing fire risk</li> <li>Inadequate training on mixing, application and clean-up procedures for adhesives used in joints such as dowels,</li> </ul>	3H	[REDACTED]	2M

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	biscuits, finger joints and mortise and tenon			
12. Electrical Safety, Isolation and Portable Equipment Control	<ul style="list-style-type: none"> <li>Inadequate inspection and tagging of portable joinery equipment such as biscuit joiners, drills for dowelling and routers</li> <li>Uncontrolled use of power boards, extension leads and temporary wiring creating trip and electrocution risks</li> <li>Lack of documented isolation procedures for fixed joinery plant during maintenance and cleaning</li> <li>Overloading of circuits in areas with multiple high-demand joinery machines</li> <li>Unclear responsibilities between electrical contractors and in-house maintenance regarding modifications to plant control systems</li> </ul>	3H	[REDACTED]	2M
13. Fire and Explosion Safety in Timber Joinery Areas	<ul style="list-style-type: none"> <li>Accumulation of wood dust in extraction systems, ceiling spaces and equipment enclosures creating explosion potential</li> <li>Ignition sources (sparks from metal contact, electrical faults, static, smoking) not controlled in dusty joinery</li> <li>Inadequate fire detection, suppression and emergency response planning for joinery workshops</li> <li>Improper storage of flammable adhesives, solvents and finishes in proximity to timber and dust</li> <li>No formal hot-work permitting process for welding, grinding or cutting near joinery equipment or dust systems</li> </ul>	4A	[REDACTED]	2M
14. Contractor Management and Visitor Safety in Joinery Areas	<ul style="list-style-type: none"> <li>External contractors performing maintenance or installation on joinery machinery without understanding site-specific hazards and controls</li> <li>Poor coordination of contractor activities with production, leading to</li> </ul>	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> <li>simultaneous operations and conflicting controls</li> <li>• Visitors entering joinery areas without induction or appropriate controls around high-risk plant</li> <li>• Incomplete verification of contractor competencies, insurances and SWMS for high-risk works on joinery equipment</li> <li>• Lack of oversight over third-party installers commissioning new mortising machines, dowel cradles or automated finger-jointing systems</li> </ul>		[REDACTED]	
15. Incident Reporting, Investigation and Continuous Improvement	<ul style="list-style-type: none"> <li>• Under-reporting of near misses, minor injuries and equipment malfunctions related to joinery operations</li> <li>• Superficial investigation of incidents that do not identify underlying system failures (training, maintenance, supervision)</li> <li>• Lack of structured process to track corrective actions and verify effectiveness of changes</li> <li>• Poor sharing of lessons learned from joinery incidents across shifts or different sites</li> <li>• Failure to meet statutory notification requirements for notifiable incidents under the WHS Act 2011</li> </ul>		[REDACTED]	1L
16. Emergency Preparedness, First Aid and Rescue	<ul style="list-style-type: none"> <li>• Inadequate planning for emergencies specific to joinery operations such as entanglement, crush injuries, severe lacerations and eye injuries</li> <li>• First aid resources and equipment not matched to the injury profile of joinery work</li> <li>• Workers not trained in emergency shutdown of joinery machinery in case of incident</li> <li>• Poor signage, blocked access routes or unclear assembly points in joinery workshops</li> </ul>	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> <li>Lack of coordination with external emergency services regarding access and hazards in joinery areas</li> </ul>		<div style="background-color: black; height: 15px; width: 100%;"></div> <div style="background-color: black; height: 15px; width: 100%;"></div>	

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 2025  
 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>

**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.