

Concrete Slab Construction

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:	
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.

Consequence Scale:			
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

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 Governance, PCBU Duties and Consultation	<ul style="list-style-type: none"> Lack of clearly defined WHS responsibilities for concrete slab construction and tilt-up panel operations under the WHS Act 2011 Inadequate consultation with workers, Health and Safety Representatives (HSRs), subcontractors and principal contractors on slab design, pour sequencing and lifting strategies Poor coordination of WHS duties between PCBUs involved in excavation, concrete placement, grinding/polishing, slab polishing and tilt-up/raft systems Failure to integrate WHS requirements into project governance documents, contracts and site management plans Insufficient leadership commitment, resulting in WHS being treated as a compliance exercise rather than a core management function No structured process for reviewing WHS performance, incident trends and near misses specific to concrete and tilt-up works 	High	<ul style="list-style-type: none"> Define and document WHS governance structure for concrete slab construction and tilt-up activities, including PCBU duties, officer due diligence obligations and lines of authority in accordance with the WHS Act 2011 and WHS Regulations Include explicit WHS clauses in contracts requiring compliance with relevant Australian Standards (e.g. AS 3850 Tilt-up concrete construction, AS 3600 Concrete structures, AS/NZS 3012 Electrical installations – Construction and demolition) and project-specific WHS procedures Establish a formal consultation framework with workers, HSRs, subcontractors and principal contractors, including pre-start meetings, design coordination workshops and lift planning meetings for tilt-up and slab on ground works Develop a project WHS Management Plan that specifically addresses concrete foundations, excavation interfaces, waffle pod raft systems, slab on ground, tilt-up panel construction, lifting, grinding and polishing activities Ensure officer regularly review WHS performance reports, audit findings, incident investigations and corrective actions related to concrete and tilt-up works, and allocate adequate resources to address identified deficiencies Implement a scheduled management review process (e.g. quarterly) to assess effectiveness of the WHS management system, including consultation effectiveness, competence management and control implementation for concrete slab construction 	Medium
2. Design, Engineering and Planning Management	<ul style="list-style-type: none"> Inadequate structural design, engineering verification of slabs, waffle pod raft systems and tilt-up panels, increasing risk of structural failure instability Insufficient planning for crane capacity, lifting points, panel weights, concrete strengths, propping, bracing and pour sequence for tilt-up and lift slab operations Lack of early design consideration for safe access, edge protection, fall prevention, penetration covers and safe use of concrete grinders and slab polishers Poor integration of geotechnical information into slab and foundation 	High	<ul style="list-style-type: none"> Require all concrete slab, waffle pod raft and tilt-up designs to be prepared and/or certified by suitably qualified, competent structural engineers in accordance with relevant Australian Standards and the National Construction Code Implement a formal design review and verification process, including independent checking for critical elements such as lifting inserts, bracing layouts, panel casting beds, slab thicknesses and reinforcement detailing Integrate Safe Design (WHS Regulation Part 6) into the project, ensuring designers consider construction, installation, maintenance and demolition hazards associated with concrete foundations, tilt-up panels, grinders and slab polishers Develop detailed engineering documentation and lift plans for all tilt-up and lift slab operations, including crane selection, rigging configurations, exclusion zones, wind limitations, load charts and contingency measures Ensure geotechnical reports are reviewed and their recommendations incorporated into slab and foundation design, including bearing capacities, drainage, compaction requirements and excavation stability controls 	Medium

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	<p>design, causing unexpected ground movement or excavation instability</p> <ul style="list-style-type: none"> • Inadequate planning for load paths, temporary works, reshoring, back-propping and curing times before placing loads, grinding or polishing on the slab • Failure to design for lifecycle maintenance, including future grinding, polishing and modification works 		<ul style="list-style-type: none"> • Plan and document minimum curing times and concrete strength requirements prior to panel lifting, load application, use of heavy grinding/polishing equipment, and vehicle access onto the slab • Include provisions in design for permanent access fixings, penetrations and surface tolerances to minimise future high-risk work when installing services or carrying out grinding and polishing 	
3. Contractor, Supplier and Subcontractor Management	<ul style="list-style-type: none"> • Engagement of concrete, excavation, formwork, reinforcement, tilt-up, crane, grinding and polishing contractors without verifying WHS competence and licensing • Inconsistent WHS standards between principal contractor and specialist subcontractors leading to gaps in risk controls • Poor coordination of multiple PCBU on site, causing interface risks between excavation, slab pours, panel casting, lifting operations and grinding/polishing works • Inadequate control of labour-hire workers, including unclear roles and induction responsibilities • Reliance on suppliers (e.g. concrete waffle pods, lifting inserts, grinders and polishers) without confirming they provide compliant products, user manuals and safety information 		<ul style="list-style-type: none"> • Implement a formal pre-qualification process for all contractors involved in concrete slab construction, excavation, tilt-up, grinding/polishing, assessing their WHS systems, competence, licences and incident history • Include WHS performance requirements and right-of-audit clauses in all contracts, specifying minimum standards for supervision, training, plant maintenance, and compliance with project-specific procedures • Develop and enforce a coordination protocol between PCBUs (e.g. principal contractor, crane company, tilt-up specialist, concrete supplier, grinding and polishing contractors) including regular coordination meetings and shared risk assessments • Ensure labour-hire arrangements clearly define WHS responsibilities for induction, training, supervision and provision of plant and PPE in accordance with WHS Act 2011 duty to consult, cooperate and coordinate • Require suppliers of concrete, waffle pods, reinforcement, lifting hardware, concrete grinders and slab polishers to provide compliant documentation, safety data sheets, maintenance instructions and engineering certifications where applicable • Monitor contractor WHS performance through inspections, audits and KPI reviews, and apply corrective actions, including suspension or removal from site for serious non-compliance 	Medium
4. Competency, Licensing and Training Systems	<ul style="list-style-type: none"> • Workers and supervisors operating concrete pumps, grinders, slab polishers, cranes or involved in tilt-up lifts without appropriate high-risk work licences, VOCs or competency assessment • Insufficient training in recognition of structural red flags such as slab cracking, panel movement, bracing failure or ground subsidence 	High	<p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<ul style="list-style-type: none"> Lack of specific training on safe systems for concrete grinding and polishing, including dust control, noise exposure and plant isolation Supervisors not adequately trained in WHS legislative duties, hazard identification and incident response for concrete and tilt-up works No refresher training program, resulting in skill fade and normalisation of unsafe practices Inadequate induction content specific to concrete slab on ground, waffle pod raft systems, tilt-up panel construction and lifting operations 		[REDACTED]	
5. Plant, Equipment and Maintenance Management	<ul style="list-style-type: none"> Use of poorly maintained concrete pumps, cranes, lifting gear, grinders, slab polishers and small plant leading to mechanical failure or loss of control Unverified lifting equipment (slings, chains, clutches, inserts, spreader bars) for tilt-up panel lifting and handling Inadequate inspection and tagging systems for electrical equipment used with grinders and polishers causing electrical shock or fire Lack of engineering verification and maintenance documentation for temporary propping, bracing systems and casting beds Failure to manage plant interface risks such as mobile plant operating near slab edges, excavations or panel stacks 	High	[REDACTED]	Medium
6. Work Method Development and Permit-to-Work Systems	<ul style="list-style-type: none"> Concrete and tilt-up work occurring without documented safe systems of work or without considering site-specific conditions Critical activities such as panel lifting, large slab pours, night works and grinding/polishing in enclosed spaces 	High	[REDACTED]	Medium

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	<p>proceeding without formal permits or authorisation</p> <ul style="list-style-type: none"> Failure to coordinate overlapping work methods between excavation, steel fixing, concrete placement, curing, grinding and tilt-up lifting sequences Inadequate controls for hot works, cutting, drilling or modification of slabs and panels that may affect structural integrity or fire risk 		[REDACTED]	
7. Site Layout, Traffic and Structural Stability Management	<ul style="list-style-type: none"> Poor site layout leading to conflicts between excavation works, concrete deliveries, cranes, panel storage, grinders and polishers and pedestrian movements Inadequate planning for safe stacking and storage of tilt-up panels, reinforcement, waffle panels and formwork, creating collapse or crush risks Uncontrolled access to exclusion zones during crane work, panel rotations, slab pours and grinding/polishing operations Insufficient planning for maintaining structural stability of slabs, foundations, panels and temporary works under varying loads and weather conditions 	High	[REDACTED]	Medium
8. Health Risk Management (Silica, Noise, Vibration and Ergonomics)	<ul style="list-style-type: none"> Exposure to respirable crystalline silica from cutting, grinding and polishing concrete slabs and panels Excessive noise from concrete cutting, grinding, polishing, pumps, vibrators and mobile plant leading to hearing loss 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> • Whole-body and hand-arm vibration from prolonged use of grinders, slab polishers and compactors • Musculoskeletal disorders from repetitive handling of formwork, reinforcement, waffle pods, grinding tools and polishing equipment • Inadequate management of chemical exposures from sealers, curing compounds, adhesives and cleaning agents used with slabs and polished concrete 		[REDACTED]	
9. Environmental Conditions and Emergency Preparedness	<ul style="list-style-type: none"> • Adverse weather (wind, rain, heat, cold) impacting slab pours, curing, crane operations, panel lifting and grinding/polishing activities • Inadequate planning for emergency response to structural failures, panel collapse, trapped persons, chemical spills or plant incidents during concrete works • Lack of clear communication systems and emergency access routes during large pours or lift operations • Insufficient management of heat stress and fatigue for workers involved in prolonged slab and polishing work, especially in hot climates 	High	[REDACTED]	Medium
10. Documentation, Monitoring, Audit and Continuous Improvement	<ul style="list-style-type: none"> • Inadequate documentation and record keeping for risk assessments, engineering certifications, inspections and permits related to concrete works • Failure to monitor implementation of controls for tilt-up lifting, slab on ground construction, waffle pod systems and grinding/polishing activities • Lack of systematic incident and near-miss reporting, analysis and 	High	[REDACTED]	Low

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	follow-up for concrete and tilt-up related events • No structured process to capture lessons learned and improve WHS management across projects		[REDACTED] [REDACTED] [REDACTED]	

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.