

Concrete Finishing Polishing and Sealing

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, Roles and Consultation	<ul style="list-style-type: none"> Lack of documented WHS responsibilities for concrete finishing, polishing and sealing operations Inadequate consultation with workers, subcontractors and HSRs on high-risk concrete processes Failure to integrate WHS Act 2011 due diligence duties into management decision-making Poor communication of changes to materials (e.g. new sealants, oxides) and plant (e.g. new ride-on trowels) No formal system to review incidents, near misses and regulatory updates relevant to concrete works 	4A	<ul style="list-style-type: none"> Establish a WHS governance framework that clearly allocates PCBU, officer, manager, supervisor and worker duties in line with WHS Act 2011 and WHS Regulation Implement a WHS consultation procedure requiring regular toolbox talks and pre-start meetings for concrete finishing, polishing and sealing activities Maintain a WHS legal register and compliance calendar including obligations relating to hazardous chemicals, plant, noise, silica and manual handling Require officers to demonstrate due diligence through periodic WHS performance reviews, site walks and documented risk assessment approvals Implement a formal process for change management (MOC) when new equipment, chemicals or work methods are introduced, including risk assessment and worker consultation Establish a system for recording, investigating and trending incidents and near misses specifically relating to concrete finishing and sealing operations Schedule regular management review of WHS performance indicators (e.g. silica controls, noise exposure, equipment defects, housekeeping) for continuous improvement 	3H
2. Competency, Licensing and Training Systems	<ul style="list-style-type: none"> Inadequate verification of operator competency for power trowels, ride-on trowelling machines, concrete slab polishers, mechanical screeds and sealer sprayers Lack of training in the use of decorative concrete systems, oxide colouring and chemical sealants Insufficient instruction in managing concrete curing, joint smoothing, floor screeding and expansion gaps to prevent structural defects in work No formal training on control of respirable crystalline silica and dust during roughening and etching with abrasives Workers unaware of emergency procedures for chemical splashes, vapour exposure or equipment failure 	4A	<ul style="list-style-type: none"> Develop and maintain a competency matrix for all concrete finishing, polishing and sealing roles, specifying required licences, VOCs and refresher training intervals Implement a documented training program covering operation of ride-on trowelling machines, power trowels, mechanical screeds, slab polishers and sealer sprayers in accordance with manufacturer instructions Provide task-specific training on sealant and oxide products, including safety data sheets (SDS), safe handling, storage, mixing and application limitations Deliver silica and dust control training in line with WHS Regulation and current Australian guidance, including use of on-tool extraction, water suppression and RPE maintenance Include in induction programs the principles of concrete curing, floor screeding tolerances, expansion joint placement and substrate preparation to reduce system design failures Conduct and record Verification of Competency (VOC) assessments for operators of mechanised trowels, mechanical screeds and polishing machines before unsupervised use Provide regular emergency response drills for chemical exposures, equipment fire, loss of control of ride-on plant and spill events Ensure supervisors are trained in recognising early signs of fatigue, impairment and unsafe work methods during intensive concrete finishing shifts 	2M
3. Design, Planning and Methodology for Concrete Works	<ul style="list-style-type: none"> Poor planning of concrete mix, finishing methods and curing times leading to rushed operations and quality defects Inadequate consideration of floor flatness and level requirements for 	3H	<ul style="list-style-type: none"> Implement a formal pre-construction planning process for concrete works involving project engineers, supervisors and key workers to define finishing, polishing and sealing methodologies Develop standard design criteria and acceptance tolerances for floor screeding, surface flatness, joint smoothing and expansion gap placement aligned with relevant Australian Standards 	2M

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	<ul style="list-style-type: none"> bedding-screeding, floating and joint smoothing tasks • Failure to plan expansion gaps and joint layouts, causing structural cracking and re-work • Lack of coordination between substrate treatment, topping systems and decorative sealing requirements • Insufficient planning of access, egress and staging for sequential finishing, polishing and sealing activities 		<ul style="list-style-type: none"> • Integrate curing time, ambient conditions and sequencing requirements into work programs to avoid compressing finishing and sealing tasks into unsafe timeframes • Require written methodologies for specialised systems such as decorative sealing, oxide colouring and topping over treated substrates, reviewed by competent persons • Ensure interface coordination between structural design, joint layout, substrate treatment and final sealing specifications is documented and communicated to the site team • Incorporate access, edge protection, lighting and ventilation requirements into the planning phase for both manual and mechanised finishing operations • Require formal review and approval of any deviation from the planned methodology through a change management process 	
4. Plant and Equipment Selection, Guarding and Maintenance	<ul style="list-style-type: none"> • Use of unsuitable or poorly maintained power trowels, ride-on trowelling machines, mechanical screeds and slab polishers • Lack of guarding or emergency stop systems on rotating equipment and abrasive tools used for roughening and etching concrete • Failure of sealer sprayers or pressure systems leading to sudden chemical release • Inadequate maintenance and servicing intervals for concrete trowel mechanised equipment • Use of non-compliant equipment in wet concrete finishing environments 	4M	<p>[REDACTED]</p>	2M
5. Hazardous Chemicals, Sealants, Oxides and Substrate Treatments	<ul style="list-style-type: none"> • Exposure to hazardous vapours and solvents from concrete sealers and decorative finishes • Skin and eye contact with corrosive or irritant sealants, primers and substrate treatment chemicals 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> Incompatible chemical use when treating substrates before topping or decorative sealing Inadequate labelling, storage and segregation of oxide colouring agents and liquid sealers Lack of emergency eyewash and spill management systems in sealant mixing and spraying areas 		[REDACTED]	
6. Silica, Dust, Noise and Vibration Exposure Management	<ul style="list-style-type: none"> Respirable crystalline silica generation during roughening, abrasive etching, grinding and polishing of concrete slabs Excessive dust during floor screeding, floating concrete and preparation activities High noise levels from power trowels, ride-on trowelling machines, mechanical screeds and slab pushers Prolonged exposure to vibration from mechanised trowels and polishing equipment Inadequate monitoring of airborne contaminants and noise levels 	4A	[REDACTED]	2M
7. Manual Handling and Ergonomic Risk Management	<ul style="list-style-type: none"> Repetitive bending, reaching and twisting during hand trowelling, joint smoothing and finishing fresh concrete Handling heavy bags of cement, oxides and screed materials during bedding-screeding operations 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> • Pushing, pulling and guiding power trowels, concrete trowel mechanised units and smaller polishers over large areas • Poor ergonomics when working at floor level for floating, finishing and treating substrates • Inadequate planning for mechanical aids and team lifting for equipment relocation 		[REDACTED]	
8. Site Layout, Traffic Management and Access Control	<ul style="list-style-type: none"> • Interaction between ride-on trowelling machines, mobile plant and pedestrians on slabs and access routes • Uncontrolled public or other trade access to zones where sealing, polishing or power trowelling is underway • Inadequate segregation of work areas for abrasive etching, grinding and sealant spraying • Restricted access and egress for workers during finishing operations on large or multi-level slabs • Unplanned loading of materials on green concrete surface leading to structural compromise 	4A	[REDACTED]	2M
9. Environmental Conditions, Ventilation and Exposure to Weather	<ul style="list-style-type: none"> • Working in poorly ventilated areas during application of solvent-based sealers and primers • Heat stress and dehydration during extended finishing and power trowel operations on exposed slabs • Adverse weather (rain, wind, temperature extremes) affecting curing, sealing quality and work scheduling • Condensation or mist from sealer spraying reducing visibility and increasing slip and trip risks 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> Inadequate control of exhaust fumes when using fuel-powered equipment in partially enclosed spaces 		[REDACTED]	
10. Surface Integrity, Slips, Trips and Falls Management	<ul style="list-style-type: none"> Slip risks on wet, freshly finished concrete and sealed surfaces Trip hazards from screed rails, expansion gap formers, hoses, power leads and mechanical screed components Falls at same level from uneven, partially screeded floors and unmarked step changes Uncontrolled access to areas undergoing roughening, abrasive etching or polishing with residual slurry Failure to manage housekeeping and slurry removal during polishing and sealing operations 	3H	[REDACTED]	1L
11. Electrical, Fuel and Fire Safety in Concrete Operations	<ul style="list-style-type: none"> Electrical shock from damaged leads, temporary power boxes and equipment used on wet slabs Fire and explosion risks from flammable sealants, solvents and fuel used for equipment Inadequate segregation between ignition sources and flammable vapours during sealing operations Overloading of temporary electrical systems for multiple polishing and trowelling machines Lack of emergency shutdown procedures for fuel-powered plant in case of fire 	4A	[REDACTED]	2M

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			[REDACTED]	
12. Contractor, Subcontractor and Supplier Management	<ul style="list-style-type: none"> Subcontractors undertaking concrete finishing and sealing without adequate WHS systems Inconsistent work practices between multiple contractors using differing sealants, screeds and finishing plant Poor communication of hazards and controls from principal contractor to specialist polishing or decorative sealing crews Suppliers providing sealers or equipment without adequate technical and safety information Lack of verification that subcontractor SWMS and risk assessments address systemic risks for polishing and sealing 	3H	[REDACTED]	2M
13. Emergency Preparedness, First Aid and Incident Response	<ul style="list-style-type: none"> Delayed response to chemical splashes, inhalation or sealant spills Lack of specific emergency procedures for equipment entanglement, trowels, screeds or polishing heads Inadequate first aid coverage during extended or night-shift concrete finishing and sealing activities Failure to manage environmental releases of slurry, chemicals or wash-water from polishing and sealing Poor communication protocols in the event of fire, plant rollover or structural compromise of a slab 	3H	[REDACTED]	1L

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14. Fatigue, Work Scheduling and Psychosocial Risk Management	<ul style="list-style-type: none"> • Long, continuous shifts associated with large concrete pours, finishing, power trowelling and late-night sealing • Pressure to meet deadlines resulting in compromised adherence to WHS procedures • Insufficient rest breaks during intensive tasks such as floor screeding, abrasive etching and polishing • Psychosocial stress from conflicting demands between quality, program and safety expectations • Inadequate supervision during night or weekend work when management presence is reduced 	3H	[REDACTED]	2M
15. Documentation, Records and Continuous Improvement	<ul style="list-style-type: none"> • Incomplete or outdated risk assessments for concrete finishing, polishing and sealing activities • Lack of documented procedures for key systems such as quality control, sealant management and plant maintenance • Poor record-keeping for VOCs, inspections and monitoring data • Failure to capture and act on lessons learned from quality defects, re-work or WHS incidents • Inconsistent application of standards across different projects and crews 	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 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.