Angle Grinder

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE 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:

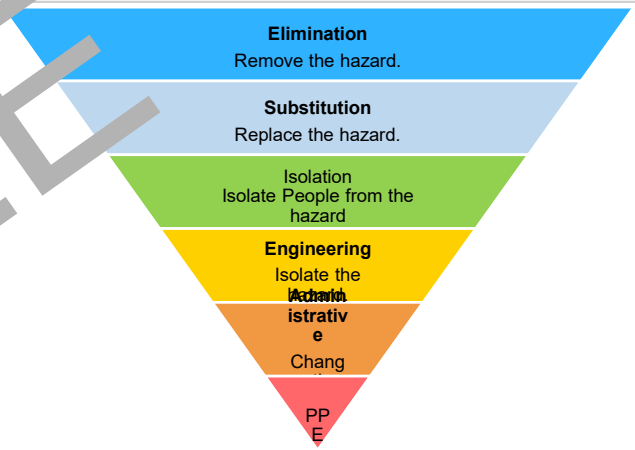
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE		
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Rev before work
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACU	2M MO RATE	Ensure control measures in place.
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 H	1L LOW	Monitor and keep records.

HIERARCHY OF CONTROLS



Risk Rating & Required Action:

4A	Stop work. The risk is intolerable. E inate the hazar redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or hi er-level authorisati is required.
3H	Review and approve additional c rols b ask arts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in ace and effe ive. 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. Procurement, Design and Selection of Angle Grinders and Accessories	• Purchase of angle grinders and discs that are not fit for purpose for borehole work, brick cutting or steel smoothing • Use of non-compliant, counterfeit or poor-quality grinding and cutting discs • Mismatch of disc size, speed rating and spindle size to the angle grinder specifications • Lack of consideration of vibration levels, noise output and dust controls at the procurement stage • Failure to specify guards, side handles and safety features (e.g. dead-man switch, anti-kickback) as mandatory • Inadequate compatibility between angle grinder, discs and borehole fixtures or jigs used on site • Inconsistent supplier quality and no verification of compliance with Australia Standards	High	• Establish a formal procurement procedure for angle grinders and discs that requires verification against relevant Australian Standards (e.g. AS/NZS 6074 successor standards, disc markings for maximum RPM, size and material compatibility) • Standardise approved models of angle gr ers across e organisation, specifying power rating, disc size, guard design, dead-man switch, anti-re t an ti-kickback features where reasonably practicable • Implement a pre-purchase risk assessment ch list that con ers task types (borehole applications, brick cutting, steel smoothing, xpected duty cyc environ nt (confined spaces, outdoors) and interface with existing equipme or jigs • Specify that onl scs a acces ries sourced from approved suppliers with evidence of conformity (e.g. certificati , test data, aceabi) may b urchased and issued • Include proc ment con ls that pro use of second-hand or modified angle grinders and prohibit the u f dama d, u belled or out-of-date discs • Requ procu ent documentation to include maximum operating speed, intended material use (e.g. m or vs ste and compatibility information for borehole applications • Integra WH input i o procurement approvals so that HSEQ or WHS personnel review high-risk e ipme purch es such as large angle grinders and specialty discs for brick cutting • Main central register of approved grinder and disc types and ensure purchasing systems block n-approved items • I orporate life-cycle cost considerations (e.g. lower vibration, quieter tools, dust-extraction capable guards) to reduce long-term health risks such as HAVS and occupational noise-induced hearing loss	Medium
2. Governance, WHS Management System and Legislative Compliance	• Absence of a for WHS procedure governing angle g der operati across all applicati ies, b k cutting, steel smoothing) • Non-compliance with WHS Act 1 and WHS Regulations re plant, noise, hazardous chemicals and airborne contaminants (e.g. respirable crystalline silica) • Lack of clear allocation of PCBU, officer and worker duties in relation to angle grinder risk management • No systematic process for consultation with workers about grinder-related risks and control measures • Inadequate integration of angle grinder risks into the organisation's overall risk management framework and risk register	High	• Develop and implement a WHS policy and plant safety procedure that specifically references angle grinders, cutting, grinding and borehole applications, aligning with the WHS Act 2011 and relevant WHS Regulations • Define and document responsibilities of officers, managers, supervisors, and workers for angle grinder risk identification, control implementation, supervision and review • Integrate angle grinder hazards (contact with rotating parts, disc burst, kickback, noise, vibration, silica dust, fire) into the organisation-wide risk management procedure, including risk criteria and review requirements • Ensure a documented consultation process (e.g. safety committees, toolbox talks) includes discussion of angle grinder risks and encourages reporting of issues and improvement suggestions • Embed angle grinder risks into the corporate risk register and link them with specific controls, owners and review dates • Establish a contractor management system requiring contractors to demonstrate competency, provide relevant risk assessments and safe systems of work for angle grinder use before commencing work • Implement an internal audit and inspection program that periodically reviews compliance with angle grinder procedures, training records, maintenance documentation and PPE requirements	Medium

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
	• Poor oversight of contractors and labour hire workers who use angle grinders on site • Failure to monitor and review angle grinder incidents, near misses, and audit findings to drive system improvements		• Set up a formal incident and near-miss reporting and investigation process specific to plant, ensuring that all angle grinder-related events are analysed and corrective actions tracked to closure • Ensure officers receive due diligence training that [illegible]ers plant risks such as angle grinders, so they can verify the adequacy of resources and processes	
3. Training, Competency and Authorisation of Personnel	• Use of angle grinders by untrained or inexperienced workers, including apprentices and labour hire personnel • Lack of task-specific competency for specialised applications such as grinding on boreholes or precision steel smoothing • Inadequate understanding of disc selection, speed ratings, and compatibility for cutting bricks versus metal • Poor knowledge of system controls such as pre-use inspection process, lock-out procedure, dust controls and emergency response • Failure to recognise early signs of fatigue, overexposure to [illegible] vibration or dust during extended grinding work • No formal authorisation process leading to uncontrolled access to high-risk plant	High	• Develop a formal competency framework for angle grinder users, including theoretical and practical components covering all common applications (boreholes, brick cutting, disc grinding, steel smoothing) • Provide structured training on hazard identification and risk control specific to angle grinders, including disc integrity, guards, kickback, silica dust, sparks and fire ignition sources • Implement an authorisation system under which only trained and assessed personnel are permitted to operate angle grinders, with records maintained in the training management system • Include training on correct disc selection and inspection, reading disc markings, speed and material compatibility and the risks of using incorrect or damaged discs • Ensure training covers interaction of multiple controls, such as using dust extraction, water suppression where suitable, and respiratory protection when cutting bricks or working on boreholes that generate fine dust • Provide refresher training at defined intervals or following incidents, changes to equipment, procedures or relevant legislation and codes of practice • Incorporate awareness of cumulative health risks (noise-induced hearing loss, hand-arm vibration syndrome, respiratory disease) and correct use of PPE as part of induction and ongoing competency assessment • Require supervisors to verify and document competency prior to assigning workers to high-risk grinding tasks or specialised borehole operations	Medium
4. Supervision, Planning and Work Coordination	• Workers performing high-risk grinding tasks with minimal or no supervision, particularly when working on boreholes or elevated locations • Poor planning of grinding tasks leading to rushed work, extended shifts or work in unsuitable environmental conditions • Inadequate coordination between trades resulting in other workers being exposed to sparks, dust, noise and flying particles • Use of angle grinders in restricted or confined borehole areas without appropriate controls or rescue considerations	High	[redacted]	Medium

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
	• Failure to verify that controls identified in risk assessments and procedures are actually implemented on site		[redacted]	
5. Plant and Equipment Maintenance, Inspection and Tagging	• Use of angle grinders with damaged guards, defective switches, worn power cords or faulty plugs • Use of discs that are cracked, out of date, incorrectly stored or contaminated with oils and moisture • Lack of systematic inspection before use leading to undetected defects in the grinder body, attachments or borehole fixtures • Absence of test and tag or electrical inspection systems for portable grinder • Uncontrolled modificati[redacted] grinders or jigs that affect gua[redacted]g, alignment or stability when used[redacted] boreholes or for brick cutting • Failure to identify e[redacted]ssive vibratio[redacted] bearing wear or misalignment that c[redacted]d contribute to disc failure	High	[redacted]	Medium
6. Safe Work Procedures, Work Instructions and Documentation	• Lack of documented procedures for high-risk angle grinder tasks including borehole applications, brick cutting and overhead grinding • Reliance on informal or inconsistent work practices that vary between supervisors and work crews • Procedures that focus only on basic operation and fail to address system controls such as isolation, access control and environmental conditions	High	[redacted]	Medium

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
	• Obsolete or inaccessible documents leading to continued use of unsafe legacy practices • Failure to incorporate manufacturer instructions into the organisation's procedures and work instructions		[redacted]	
7. Environmental and Site Conditions Management	• Uncontrolled generation of respirable crystalline silica dust during cutting of bricks and masonry • Poor ventilation or confined geometry around boreholes, leading to dust accumulation and reduced visibility • Fire hazards from grinding sparks contacting combustible materials, flammable liquids or gases in the vicinit • Adverse weather c[redacted]tions (wind, rain) affecting stab[redacted], dust migration or electrical safety fo[redacted]utdoor gri[redacted] work • Unmanaged noise levels impactin[redacted] both operators and adjacent work[redacted] or neighbours • Inadequate lighting around boreholes or workfaces, contributing to misalignment and loss of control	[redacted]gh	[redacted]	Medium
8. Personal Protective Equipment (PPE) Management System	• Inadequate face, eye and respiratory protection for brick cutting and borehole grinding that generate high dust and flying particles • Inconsistent use of gloves, hearing protection and protective clothing due to poor PPE policy or enforcement • PPE provided that is not suitable for the specific risks (e.g. incorrect	High	[redacted]	Medium

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
	respirator class for silica dust, poorly fitting eye protection) • Lack of systems for PPE issuance, replacement and cleaning, leading to degraded or unhygienic equipment • Workers not trained in correct selection, fitting, use and maintenance of PPE specific to angle grinder hazards		[redacted]	
9. Site Access Control, Layout and Interaction with Other Activities	• Unauthorised persons entering areas where angle grinding is taking place and being exposed to sparks, dust and noise • Congested work areas around boreholes or masonry cutting stations leading to trip hazards, entanglement or collision • Poor layout of power supply, leads a hoses creating risks of entanglement with rotating discs or falls around grinding zones • Simultaneous op ations (e.g. welding, lifting, drilling) adv ely inte ith angle grinder work • Uncontrolled storage of bricks, dis , off-cuts and scrap steel creating tter and unstable piles near gri g workfaces	High	[redacted]	Medium
10. Emergency Preparedness, Incident Response and Health Monitoring	• Delayed or ineffective response to injuries from disc failure, eye and face impacts, lacerations or entanglement • Inadequate preparedness for fires initiated by sparks contacting combustibles during grinding operations • Lack of procedures for managing acute dust exposure events, particularly in confined or semi-confined borehole environments	High	[redacted]	Medium

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
	• Failure to identify early signs of occupational disease or long-term injury associated with chronic noise, vibration and dust exposure from regular grinder use • Incomplete reporting and investigation of angle grinder incidents and near misses, reducing opportunities for system improvement		[redacted]	

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

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-of-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/forms-and-resources/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