

Bench Grinder Risk Assessment

Model Specification

Axminster Model AC200BG

Rating 55W 230 Volts

Speed 2850 rpm

Wheel 200MM by 25mm

Weight 17.5 kg

Context of this risk assessment

The grinder is to be used in a community workshop (MAKESPACE) where the pool of potential users will range from competent technologists to inexperienced users who would not be expected to know about the dangers of grinders. This adds complexity to all risk assessment and needs to be managed.

Workshop users work individually and with focus and can show a lack of awareness of adjacent activity

The ability to sharpen and regrind tools is important in that it is a requirement that allows other activity to take place effectively and safely.

Who might be harmed

The operator in close proximity to the tool

Others working in the secure woodshop both in the immediate area around the machine and elsewhere in that space.

Visitors to the workshop.

Portable Appliance Test (PAT): *PERSON*, *DATE*

Risk Evaluation

Hazard Identified	Assessed Risk			Mitigation Measures	Post Mitigation Risk		
	S e v e ri t y (1 - 5)	P r o b a b il it y (1 - 5)	R is k R a ti n g		Seve rity (1-5)	Prob abili ty (1-5)	Ris k Rat ing
				Notes: Add appropriate elements of list below to either training programme or maintenance schedule			
Users may not immediately or naturally be aware of the significant hazards	4	3	12	Explore all avenues to communicate to users the hazards and mitigation measures described below including <ul style="list-style-type: none"> Notices around the grinder Rigour of training programmes Mark equipment as RED Specific safety notes on induction programme 	2	2	4
Electric Shock. Cables can be abraded and dislodged from connections potentially allowing electrocution of operator and others who may attempt to help injured operator.	4	1	4	Visual check prior to use Ensure regular reporting of faults, provide DO NOT USE sign Restrict use to trained members (technological solution?) Set up accident and equipment fault logs Periodic PAT testing of the equipment to identify issues Secure or permanent mounting to bench Include issue in induction/training programme	3	1	3
Injury from high speed debris from a burst grinding wheel	5	2	10	Ensure guards, shields and covers in place and used without fail Operator to stand at one side when first turning grinder on and check in vicinity for others at risk. Avoid regular transporting of grinder (as it is heavy and could be damaged, dropped or wheel dislodged)	5	1	5

				<p>Visual check prior to use.</p> <p>Ensure no one sharpens on side of wheel which can weaken the wheel</p> <p>Ensure regular reporting of faults, provide DO NOT USE sign</p> <p>Mark equipment as RED</p> <p>Maintain rules re access restrictions to woodshop</p> <p>Restrict use to trained members (technological solution?)</p> <p>Set up accident and equipment fault logs</p> <p>Periodic checks</p> <p>PPE Requirements</p> <p>Secure or permanent mounting to bench</p> <p>Locate equipment out of main central working area. Side or corner position with additional screening</p> <p>Emphasise this hazard strongly in training and through notices close to grinder</p>		
Grinder falling on foot of operator possibly due to vibration or poor carrying	4	3	12	Secure or permanent mounting to bench	4	1 4
Trapped work between rests and wheels could cause tool to be ejected or wheel to be damaged or burst	4	3	12	Ensure through training that good practice is followed in setting up rests and grinding techniques.	3	2 6
Fire due to sparks	4	3	12	Grinder must not be located near to stores of flammable materials Operator must check for smell of solvents or flammable items (including wire wool) in immediate vicinity of grinder.	4	1 4
Eye damage due to dust or sparks	5	4	20	<p>Ensure eye washstation nearby</p> <p>Ensure use of appropriate PPE especially eye protection.</p> <p>Ensure visibility through screen/spark guards is checked regularly and screen guards replaced routinely.</p> <p>Consider when locating the grinder how the ejection of sparks at the back will be managed and implement a mitigation proposal</p> <p>Avoid locating grinder where others might be working behind it and where sparks may be ejected – ie not on central bench</p> <p>Emphasise this hazard strongly in training and through notices nearby grinder</p>	3	3 9
Injury due to contact with the moving wheel	4	3	12	<p>Enforce simple rules on operators beyond others already mentioned</p> <ul style="list-style-type: none"> ● Do not wear gloves, no loose clothing or jewellery, Long hair tied back, ● Check the grinder switch is off before plugging it in. ● Concentrate on grinding and do not carry out a conversation when grinding. 	3	2 6

				<ul style="list-style-type: none"> • Do not use the grinder when others could bump into you or cause a distraction. • Turn the grinder off with its switch and check the switch is off before plugging in. • Do not leave the grinder until the wheels have stopped rotating. 			
Noise level and injuries due to hand vibration	2	2	4	User and others in close proximity are recommended to wear hearing protection Users must be made aware of such problems and symptoms to watch out for	2	1	2
Breathing dust	4	3	12	Enforce additional rules beyond those mentioned elsewhere eg <ul style="list-style-type: none"> • Do not use for extended time (>15minutes) • Run room filter during and for at least half hour after operating. • Enforce use of PPE • Limit materials that can be ground 	3	2	6

Recommendations

Boost training regime by extracting relevant mitigation issues above that are within the control of the user. Identify and train someone to maintain, clarify issues such as what materials can be used and also who can train the trainers.

Establish rigorous maintenance scheduling and fault recording

Add reporting of safety concerns as agenda item for every senior staff meeting

Consider possible location in metal work zone where similar hazards might be present and common mitigation measures are taken. Avoid any through routes

Consider and take advice on spark arrestors and use of dust extraction. Avoid sparks and wood dust combination

Publish and enforce rules about use of grinder and other tools when tired or under the influence of drugs or alcohol

Consider new rule whereby use of the grinder can only take place if operators and all others in the immediate area are wearing dust masks to PP2 standard

DRAFT Prepared Allen Kaye 15/12/2020

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