




Safe Operating Procedures

SOPs are designed to help employees identify hazards, limitations, PPE, & safety training for specific equipment/tasks.
Environmental Health and Safety, 414 J.M. Smith Hall

	Equipment/ Task Name	Bench Grinder
	Departments Impacted	Art & Architecture Department
	Purpose	A bench grinder is a benchtop type of grinding machine used to drive abrasive wheels. This type of grinder is commonly used to hand grind various cutting tools and perform other rough grinding. Depending on the bond and grade of the grinding wheel, it may be used for sharpening cutting tools such as tool bits, drill bits, chisels, and gouges. Alternatively, it may be used to roughly shape metal prior to welding or fitting.
TASK	HAZARDS	CONTROLS
1. Inspect work area.	Slip, trip, and fall hazard.	Check workspace, walkways and machine surrounds to ensure no slip/trip hazards are present.
2. Inspect bench grinder.	Abrasion and laceration hazard.	Ensure all guards and safety shields are in position.
	Entanglement hazard.	Ensure that a gap of no greater than 1.5 mm exists between wheels and rest.
	Bodily injury hazard.	Make sure equipment is securely mounted or bolted to floor or a bench if it's a bench mounted tool.
	Electric shock hazard.	Visually inspect the cord to make sure it is in good condition.
	Projectile hazard.	Inspect wheels to confirm wheels are in good condition and not cracked or broken.
3. Make adjustments.	Entanglement hazard.	Unplug or turn off grinder to make adjustments.
4. Prior to use.	Inhalation hazard.	<ul style="list-style-type: none"> Engage dust collection system if available. Wear a dust mask to minimize inhalation hazards.
	Entanglement hazard.	<ul style="list-style-type: none"> Never wear a glove on the hand that is closest to the grinder. Tie back hair, remove jewelry, and never wear loose clothing while operating grinder.
5. Start the grinder.	Projectile hazard.	<ul style="list-style-type: none"> Stand off to the side of the grinder and turn grinder power on. After grinder has operated smoothly at full speed you can approach the front of the grinder with your work piece. Never grind on the sides of the wheels. Always rest the material against the resting table while grinding.



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		<ul style="list-style-type: none"> Ferrous and non-ferrous materials should not be ground on the same wheel. Aluminum embedded in a steel wheel can create excess heat and the wheel can explode when steel tool is ground on the same wheel. 			
	Burn hazard.	<ul style="list-style-type: none"> Do not allow excessive heat to build up in your work piece- you should not see your work piece glow red during proper grinding. Cool work piece with cooling fluid at intervals to prevent overheating and possible changes in the material properties of your work piece. 			
	Abrasion and laceration hazards.	<ul style="list-style-type: none"> Never stop the rotation of the wheel or any rotating or moving machinery parts by hand. Never reach into the working area prior to the spindle coming to a complete stop. 			
	Burn hazard.	Allow work piece to cool prior to inspecting it and be cautious of sharp edges and burrs.			
6. Clean grinder.	Abrasion, laceration, and entanglement hazards.	Shut off the grinder and allow it to come to a complete stop before removing debris from wheel.			
	Eye injury hazard.	Wear safety glasses to protect against flying debris.			
7. Clean work area.	Slip, trip, and fall hazard.	Sweep or vacuum work area and place all materials back in storage area.			
Required Training:		Required Personal Protective Equipment (PPE)			
1. Bench grinder training.		<ol style="list-style-type: none"> Safety glasses or face shield Dust mask Appropriate footwear (no open toed footwear) Hearing protection (if appropriate) 			
SOP ID	A011	Related Documents	Art Shop Manual	Creation/Revision Date	11/2018

Suggestions, questions, or comments? Please contact EH&S