UNC CHARLOTTE
Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

OPERATING A PEDESTAL GRINDER

Location: Smith 128A/B

Required Training: Grinders are designed and intended for use by properly trained and experienced operators. If you are not familiar with the proper and safe operation of a grinder, do not use until proper training and knowledge have been obtained.

Required Personal Protective Equipment (PPE): Safety glasses, Face shield, Long sleeve shirt, Dust mask

Reference Materials: Checklist for Abrasive Wheel Equipment Grinders (See page 3)

PHOTOS	TASK	HAZARDS	CONTROLS
	Remove all jewelry. Wrap long hair in net. Ensure clothing is sturdy and snug. Loose clothing, gloves, neckties, rings, bracelets, or other jewelry may get caught in moving parts.	Caught in grinder	• Do not wear any jewelry that may get caught in the grinder. • Do not wear gloves when operating a pedestal grinder. • Loose clothing may get caught in moving parts.
	Wear clear safety glasses with side shields and if necessary use a dust mask.	Flying debris and dust particles	• Students are required to provide their own safety glasses. • See laboratory instructor or laboratory manager if you do not have safety glasses before proceeding to use equipment.
	Inspect safety glasses for cracks, scratches or other damage. Ensure the ANSI standard Z87.1 is stamped into the side of glasses. If necessary inspect dust mask or face mask.	Flying debris and dust particles	• If defects are found report this to your laboratory instructor before using.
	Put on PPE	Flying debris and dust particles	• Always wear safety glasses or face shield, use dust mask as required.
	Utilize checklist for abrasive wheel equipment grinder to inspect the grinder.	Pinching hazards	• Properly adjust and tighten tool rests to prevent pinching hazards.
	Check for cracked or	Projectile hazards.	• Confirm wheels are not cracked or

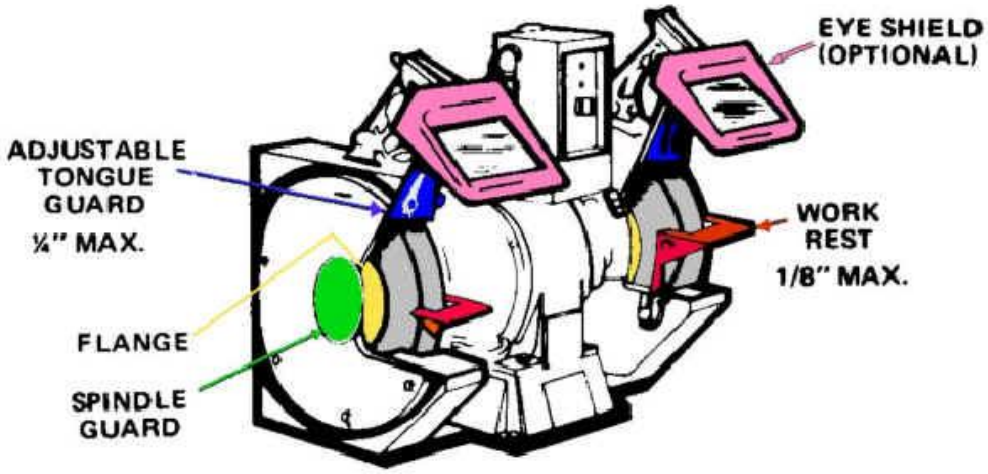
	broken grinding wheels		broken. Confirm grinding wheel is rated with proper Revolutions per Minute (RPM).
	Inspect work area, walk around grinder looking for debris and ensure proper lighting.	Slips, trips & falls	• Keep the work area around the grinder free from scraps, dust, oil and grease.
	Inspect grinder, ensure the grinder is stable (not rocking) on the floor.	Tip over, sliding, walking	• Report any defect to your laboratory instructor or laboratory manager and ensure corrective action before operating. • Replace any warning labels that have become obscured or removed.
	Visually inspect the electrical power cord.	Electrical shock	• If the electrical cord is damaged or worn the electrical cord should be unplugged and tagged "Out of Service-Do Not Use". • This should be reported to the laboratory manager immediately. • Electrical cord replacement should only be conducted by a factory authorized technician.
	Ensure the electrical cord is connected to the outlet.	Electrical Shock	• Caution: Always remember to disconnect the electrical power cord before adjusting the machine.
	Turn on grinder by switching the button to the "ON" position	Projectile hazards.	• Stand off to the side of the grinder when turning it on. Broken pieces of grinding wheel may strike operator.
	Grind object.	Abrasion and burns to fingers and hands	• Keep fingers and hands away from wheels. • Cool part as needed to avoid burns.
		Flying sparks and debris	• Wear safety glasses and face shield. • Keep flammable materials away from grinding operation.
		Pinch to hand.	• Keep fingers away from pinch points.
		Flying debris	• Lower eye shields
	Turn off the grinder by switching the button to the "OFF" position	Abrasion and burns to fingers and hands	• Always turn the power off and wait until the grinder stops.
	Clean work area and return all PPE to a clean storage area.	Injury	• Ensure adequate housekeeping measures to prevent accidents.

For more information about this LSA, contact the *Department of Engineering Technology* at UNC Charlotte (704) 687-2305
Please visit our website at: http://www.et.uncc.edu\

The development of Laboratory Safety Analyses is a very effective means of helping reduce incidents, accidents, and injuries in the workplace. It is an excellent tool to use for training purposes and can also be used to investigate "near misses" and accidents.

Courtesy of OSHA http://www.osha.gov/SLTC/machineguarding/new-grinder-checklist.html

Checklist for Abrasive Wheel Equipment Grinders[1]



Standard 29 CFR 1910	Description	YES	NO[2]
	From the Abrasive Wheel standard		
215(a)(2)	Do side guards cover the spindle, nut and flange and 75% of the wheel diameter?		
215(a)(4)	Is the work rest used and kept adjusted to within 1/8-inch (0.3175cm) of the wheel?		
215(b)(9)	Is the adjustable tongue guard on the top side of the grinder used and kept to within 1/4-inch (0.6350cm) of the wheel?		
215(d)(1)	Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor?		
215(d)(1)	Before new abrasive wheels are mounted, are they visually inspected and ring tested?		
	From other OSHA standards		
22(a)	Is cleanliness maintained around grinders?		
94(b)(2)	Are dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust?		
133(a)(1)	Are goggles or face shields always worn when grinding?		
212(b)	Are bench and pedestal grinders permanently mounted?		
304(f)(4)	Is each electrically operated grinder effectively grounded?		
305(g)(1)(iii)(A)	Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent method?		
305(j)(4)(ii)(F)	Does each grinder have an individual on and off control switch?		

Foot Notes:

1 Extracted from OSHA Publication #2209; this check list does NOT include ALL elements of 29 CFR 1910.215; it is a only a guide. A mark in the NO column indicates a need for corrective actions.