

SIUE EB0029 CONCRETE LABORATORY

Job Safety Analysis

JOB/TASK NAME EB0029 CONCRETE LABORATORY		DATE 12/22/2011	
JOB TITLE PERFORMING THE JOB/TASK Instructors, Teaching Assistants, Students			
REQUIRED PERSONAL PROTECTIVE EQUIPMENT		Safety glasses, face shield, gloves, work boots/shoes as required by the particular work being done. See detailed instructions in individual laboratory experiment procedure handouts for Personal Protective Equipment required for certain operations.	
EQUIPMENT / TOOLS REQUIRED FOR JOB (Complete Tool Inspection Prior to Start of Job): Concrete compression test machine, portable electric concrete mixer, ovens, cylinder mold splitter, curing tank heaters.			
JOB STEPS		POTENTIAL HAZARDS	HAZARD CONTROL METHOD
1.	Safety Training	See items listed below	1) All persons actively engaged in laboratory activities must have safety training. The training shall include the following parts: a) General Laboratory Rules b) Laboratory Experiment Procedures c) Personal protective equipment (PPE)
2.	Housekeeping	a. Slips, trips, falls b. Dust	2) Keep work area clean and clear of debris and liquids. 3) Be aware of everything going on around you. 4) Keep an eye on fellow workers and alert them of any potential risk/harm. 5) Keep the floor and bench tops clean but do NOT sweep them. Do use the HEPA vacuum cleaner for DRY dust pickup only. For cleaning other concrete dust from surfaces not safely or easily cleaned using the HEPA vacuum, use a wet rag or mop.
3.	Attire	a. Cuts, abrasions b. Entanglement	6) All persons in the area where sanding, grinding, cutting operations are occurring must wear safety glasses.

			7) No open-toe shoes are allowed in the lab. 8) Long pants must be worn whenever there is risk that heavy or sharp or abrasive materials could pose a risk of injury. 9) Do NOT wear loose clothing or jewelry that could be caught or entangled in machinery. 10) Tie back long hair wear headwear to prevent long hair that be caught or entangled in machinery.
3.	Tools and Equipment	a. Cut/Burn b. Electrical Hazards c. Noise levels d. Pinch points e. Dust	11) While tools or equipment are being used properly fitted personal protective equipment must be worn by the operator and others in the area. 12) Before use of any powered equipment or tool, a thorough inspection must be completed to insure proper working condition. Make any proper necessary corrections before use of the equipment. 13) Do not use equipment or tool that is damaged beyond repair or has any safety features missing (guards). Report damaged tool/equipment to team captain or safety advisor for "DO NOT OPERATE" tag. 14) Portable power equipment shall be unplugged when not in use. 15) All power cords shall be inspected before the cord or tool is used, periodically while being used and when work with the cord or equipment is done for the day. Any damaged cord must be taken out of service immediately. 16) Do not use or touch electrical equipment if water or other fluids are on the equipment, the floor around it, or your clothes are wet a) Exception: The concrete saw and concrete grinder use a stream of water to cool the blade. However, the water shall not be allowed to collect on the power cord or on/off switch or on the floor or on your clothing. Dry any fluid from those areas before using the equipment. 17) If while operating the equipment or power tool

			a circuit breaker trips for any reason, the instructor, lab TA or other qualified person must determine the cause and correct it before resetting the breaker. 18) When using the concrete saw proper hearing protection must be worn. 19) Only authorized, trained persons may operate the concrete compression test machine. 20) Before turning the concrete compression test machine power ON or OFF, or causing the platen to move, announce "Clear Machine" to let everyone in the area know and also visually inspect the test area to be sure no one is in harm's way. 21) Before turning the portable concrete mixer power ON or OFF, announce "Clear Machine" or similar warning to let everyone in the area know and also visually inspect the test area to be sure no one is in harm's way. 22) All dust producing work must be done in a well-ventilated area. If the area cannot be well ventilated then active dust collection must be used. Use the JET dust collector provided" with the pleated (2-micron) filter on top for all dust created while working with power tools or hand tools. 23) Anyone sanding, grinding or cutting anything that produces visible dust in the air must wear a dust mask. This includes anyone else who may be working nearby. 24) Any powered sander (or grinder if so equipped) used must be connected via a flexible hose to the JET dust collector that is running whenever the powered equipment is. 25) When working with fine, dry cementitious and aggregate materials, do so in the aggregate area with the overhead filtered vent hood operating to remove the dust. Even with the vent hood operating, avoid breathing the dust that will cloud the area.
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