



UNC CHARLOTTE

Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

CONDUCTING SOIL COMPACTION


Location: Smith 131

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

Required Personal

Protective Equipment (PPE): Safety glasses, dusk mask in dusty work conditions, and closed toed shoes.

Reference Materials: Manufacturer’s safety rules and operating instructions. LSA CIET014 “Operating a Sample Extruder”

PHOTOS	TASK	HAZARDS	CONTROLS
	Remove all jewelry. Wrap long hair in net. Ensure clothing is sturdy and loose. Loose clothing, neckties, rings, bracelets, or other jewelry may get caught in compaction equipment	Caught in compaction equipment	<ul style="list-style-type: none"> Do not wear any jewelry that may get caught in the compaction equipment. Loose clothing may get caught in the compaction equipment.
	Wear clear safety glasses with side shields and if necessary use a face shield.	Flying debris and dust particles	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> If defects are found report this to your laboratory instructor before using.
	Put on all necessary PPE	Flying debris, dust particles, and falling objects	<ul style="list-style-type: none"> Always wear safety glasses. Always wear closed toed shoes to prevent injuries to ones feet.
	Inspect work area, walk around compaction stand looking for debris and ensure adequate work space and lighting.	Slips, trips & falls	<ul style="list-style-type: none"> Remove any debris that could possible cause a injury. Keep work space around compactor free from old soil and aggregate, oil or grease.

	Prepare molds and tools	Flying debris, dust particles, and falling objects	<ul style="list-style-type: none"> Always wear PPE when working with compaction equipment
	Preparation of soil materials	Flying debris, dust particles, and falling objects	<ul style="list-style-type: none"> Always wear PPE when working with soil materials. While working with soil, devote your individual attention to the task at hand of measuring out and mixing the required amount of soil materials.
	Compaction of soil materials	Flying debris, dust particles, pinch points and falling objects	<ul style="list-style-type: none"> Always wear PPE when working with hot materials. Use care when placing and compacting soil materials within the mold using hand tools. While working with soil materials, devote your individual attention to the task at hand of forming and compacting test specimen. Avoid awkward work positions while handling the compaction hammer; they could result in slips or falls.
	Extrusion of hot asphalt specimen	Pinch points, dropped objects	<ul style="list-style-type: none"> Always wear PPE when working with soil materials. Use care when extruding soil materials from within the mold. Follow LSA CIET014 "Operating a Sample Extruder."
	Clean work area and return all PPE to clean, dry storage area.	Injury	<ul style="list-style-type: none"> To ensure adequate housekeeping measures to prevent accidents. Properly clean all tools of asphalt residue.

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.