

Anchored Earth Retention and Micropile Installation Safety Tips For the Employer



1. The employer must establish a competent person for each project. This is typically the Superintendent, Foreman or perhaps the drill rig operator.
2. The competent person must insure that all employees are trained in the safe methods of Anchored Earth Retention or Micropile operations as specified in the company safety manual and OSHA requirements.
3. Transport drilling equipment on the road and jobsite properly. Clean loose debris (mud, rocks, dirt) from equipment and deck of the trailer prior to transporting. Perform pre-trip inspections, load and unload equipment correctly, know weights and heights of equipment, secure the load, and insure safe access and work area stability.
4. An individual designated by the competent person must inspect all equipment prior to its use. Damaged or otherwise faulty equipment must be repaired or replaced before drilling activity begins.
5. Select and provide employees with appropriate personal protective equipment (i.e., hard hats, eye and hearing protection, gloves and possible respiratory protection). Train employees on the proper use and care of their PPE and enforce its use.
6. Create a comprehensive Site Specific Hazard Analysis which includes a detailed Utility Damage Prevention Plan to ensure active participation of the Project Team (Owner, General Contractor, Utilities, and your company), to prevent accidental contact with a utility. Always “Call before You Drill”. It is the responsibility of each contractor and subcontractor to contact the local Locate Service Center. Use the local “Call Before You Dig” system to locate all overhead and underground utilities BEFORE work begins.
7. Identify the micropile, rock or soil anchor location and establish a danger zone around the area. Inform all workers of safe drilling and grouting procedures. Equipment operators must be trained and authorized to operate their respective equipment according to the manufacturer’s operators manual. Coordinate all auxiliary equipment operations during micropile, rock or soil anchor installation to avoid “struck by” accidents.
8. Set up and inspect grout mixing and pumping equipment according to the manufacture’s recommendations. Supply hoses for water, compressed air, and grout must be inspected and secured at joint connections with safety wire, pins, or whip checks. Electrical connections must be sound, protected from moisture, and guarded from employee contact to prevent shock or electrocution.
9. Insure the grout pressure relief system is inspected and functions correctly. Instruct employees on the hazards of cement grout and skin or eye contact. Air flow reduction valves should be used on all compressed air supply lines.
10. Instruct employees on the use of proper rigging and or manual lifting techniques when handling drill steel, casing pipe, tendons or reinforcing material, and bagged cement. Follow the manufacturer’s recommendations for tendon tensioning or stressing procedures and train your employees on these methods.
11. Conduct daily pre-task safety and production meetings. Maintain employee safety education with weekly safety meetings. Never allow your employees to become comfortable with the hazards associated with Anchored Earth Retention and Micropile Installation. Follow the procedures outlined in the ADSC “Anchor and Micropile Installation Safety Guide”. Use the free OSHA Consultation Program. For more information about OSHA and the Consultation Program, call 1-800-321-OSHA or visit www.osha.gov.

Anchored Earth Retention and Micropile Installation Safety Tips For the Employee



1. The employer must designate a safety supervisor/competent person for each project. Make sure you know who this person is so you know who to ask safety related questions. Learn the emergency procedures for your project.
2. Make sure you are trained in the safe methods of Anchored Earth Retention and Micropile Installation operations using the company safety manual and attend all safety orientations and daily or weekly safety meetings. Ask questions if you are unsure of any procedures.
3. Use caution when assisting with the loading and unloading of drill rig equipment, and insure the trailer is level. Be on the lookout for low clearance, soft soils, entanglement with supply hoses, or any unsafe conditions when moving the drill rig on the jobsite.
4. All equipment must be inspected and repaired prior to its use by someone designated by the competent person. You may assist the competent person in this task. Help inspect ground conditions to insure adequate and level support for the drill rig, grout mixing and pumping equipment.
5. Wear the personal protective equipment that you have been issued. Hard hats, eye and hearing protection, gloves, and the correct respiratory protection (if necessary) will protect you from injury, but only if you wear them correctly.
6. Before any drilling begins, ask if the underground utilities have been located. Follow the Utility Damage Prevention Program or Site Specific Hazard Analysis, and make sure that you and the other drilling crew members are aware of the locations. Keep a watchful eye out for overhead power lines and keep the equipment and yourself at least 10 feet away from them at all times.
7. During drilling and grouting operations, keep area a free from slip / trip hazards. The drill rig, grout mixer and grout pump have numerous moving and or rotating parts. Keep your hands, arms, legs, and clothing away from all moving parts, pinch points. Do NOT remove or defeat any safety devices or guards. Rotary heads, drifters, shank adapters, subs, couplings, drill steel, casing, may get hot during drilling operations. Do NOT touch any part of these parts with your bare hands. Always wear gloves for protection.
8. Cement grout can be caustic (burn) to your skin. Wash off any grout with water as soon as possible. If grout gets into your eyes, you must flush the eyes with water or eye wash immediately. Medical attention may be necessary, if flushing does not remove the grout. Keep eye wash available at all times.
9. Communication between the drill operator and the helper(s) is a must. Since there are no “standardized” hand signals, make sure all hand signals are clear and everyone understands them before an operation begins.
10. Always use proper rigging and or manual lifting techniques when handling drill steel, casing pipe, tendons or reinforcing material, and bagged cement.
11. When tensioning an anchor or micropile tendon, the equipment must be inspected and repaired prior to its use by someone designated by the competent person. Always use caution and follow the manufacturer’s recommendations and your employer’s procedures for tensioning the tendons.