

CSDA Best Practice for Sawing and Drilling Operations

Title: Electrical Safety Fact Sheet

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Electricity is widely recognized as a potential workplace hazard, exposing employees to electric shock, burns, fires and explosions. Working on or around electrical conductors and equipment can be particularly dangerous, because electrical energy often cannot be sensed until contact is made. The following guidelines should be applied to every workday:

1. On a daily basis, before starting any task, inspect the work area for possible electrical hazards. Take all necessary precautions to avoid cutting into electrical lines. In work areas where the exact location of the electrical power is unknown, power in the general vicinity of the building should be de-energized.
2. Operators should wear ASTM F 1117 dielectric boots and ASTM D 120 rubber insulating gloves. Leather protector gloves that meet ASTM F 696 should be worn over insulating gloves to prevent damage. Instruct each employee on how to recognize and avoid unsafe conditions that apply to the work areas.
3. Shut off the main power source when working on anything electrical, such as switches and outlets. Follow lockout/tagout procedures. Never overload a circuit by plugging too many items into one outlet.
4. Assure proper grounding of all electrical equipment. In-use proper grounding can be assured by using a Ground Fault Circuit Interrupter (GFCI), in conjunction with an assured equipment grounding conductor program. Use equipment that provides a permanent and continuous path from circuits, equipment, structures, conduit or enclosures to ground.
5. If working near high voltage lines, operators must maintain a safe working distance—a minimum distance of 10 feet (50 kV line or less) between their equipment and the electrical distribution or transmission lines. The higher the voltage line, the greater the distance that is required between the equipment and the line.
6. Inspect electrical tools and equipment daily. Remove defective or suspect equipment from use and tag “Do Not Use.” Make sure equipment is properly maintained.
7. Use only three conductor cords. Do not use worn or frayed electrical cords or any electrical cord with visible wires. Verify the ground plug is present and has not been damaged or modified.
8. Keep all hoses and cords out of the path of travel and away from saw blades, core bits, air tools and keep them from being run over by equipment. Electrical cords in high traffic areas should be protected. Electrical cords should not be secured with staples, coat hangers, nails or wire. Keep all cords, tools and electrical connections dry.
9. Ensure all components, cords, plugs and twist locks are properly sized and not modified from their original specifications. If a cord is warm or hot to the touch, the cord is too small for the equipment being used. Use cords that are rated to carry the maximum current ratings of the motor being used. Larger cords are necessary when using longer stretches of cord.
10. Make sure that the tool is OFF before plugging it in. Shut off power whenever possible when connecting or disconnecting connectors. Verify that once connected, the cord is fully plugged in, secured and cannot be disconnected.
11. Do not pick up or carry a tool by its cord or hose. Do not unplug by pulling on cord. Grasp plug body to remove or insert a cord from an outlet and never use excessive force.
12. Develop and maintain a safety and health program to provide guidance for safe operations. Proper maintenance and records will help ensure that all equipment is safe.