



SAFETY UNLIMITED, INC.

Weekly Safety Meeting

Electrical Safety

Electricity is an essential source of energy for most work-related operations. However, fewer sources have a greater potential to cause harm than electricity. Working safely with electricity is possible if you are trained in, understand, and follow certain basic ground rules.

Electrical hazards are doubly hazardous in that there is not only the chance of electrocution but also, there is the probability that any electric shock will cause a loss of consciousness that may well result in a fall of some sort.

By its nature, electricity will take the path of least resistance to the ground. If your body happens to be in that path, even a small amount of electric current can have fatal effects.

The risk of shock or electrocution is greatest around metal objects and in damp conditions. Therefore, make sure all electric equipment, switch enclosures, and conduit systems are properly grounded and that all external or damp operations are wired for wet conditions.

When working in damp areas, wear personal protective equipment such as rubber gloves and boots; use rubber mats, insulated tools, and rubber sheets to protect you from exposed metal.

Methods of Receiving an Electric Shock:

- From a defective power tool;
- From defective extension cords;
- From overloading a switch or overriding a by-pass;
- By not grounding electrical equipment;
- By coming in close contact with live electric lines;
- By coming too close to high power lines with the power arcing over and making contact.
- Missing any parts, especially safety guards;
- Loose or dull blades;
- Plug and cord insulation are not intact;
- Defects or cracks in the tool housing; or
- Guards and safety shut-off switches are not in good working order.

Conditions That Indicate a Hazard:

- Tripped circuit breakers and blown fuses show that too much current is flowing in a circuit. This could be due to several factors, such as malfunctioning equipment or a short between conductors. You need to determine the cause in order to control the hazard.
- An electrical tool, appliance, wire, or connection that feels warm may indicate too much current in the circuit or equipment. You need to evaluate the situation and determine your risk.
- An extension cord that feels warm may indicate too much current for the wire size of the cord. You must decide when action needs to be taken.
- A cable, fuse box, or junction box that feels warm may indicate too much current in the circuits.
- A burning odor may indicate overheated insulation.
- Worn, frayed, or damaged insulation around any wire or other conductor is an electrical hazard because the conductors could be exposed. Contact with an exposed wire could cause a shock.
 - Damaged insulation could cause a short, leading to arcing or a fire.
 - Inspect all insulation for scrapes and breaks.
 - You need to evaluate the seriousness of any damage you find and decide how to deal with the hazard.

Precautions for Avoiding Electrical Shocks:

- Always make sure electric tools are properly grounded or double insulated. The double insulated tool must have an undamaged outer case and be clearly labeled as "double insulated" by the manufacturer.
- Always check to be sure the grounding system is complete. Unless they are designated as double insulated, grounded power tools must be attached to a grounded service circuit. If there is any doubt about the grounding, test it! (Ground testers are inexpensive.)
- Use heavy duty grounded extension cords. These cords have two layers of insulation, with reinforcement between the layers. They are less susceptible to damage than house-hold type cords. To check if the cord is heavy duty, check its shape. Most flat cords are not heavy duty. Heavy duty cords will have a marking on the insulation such as: "S," "SJ," "SJO," etc.
- Avoid mixing water and electricity! Not only keep cords, tools and working/walking surfaces dry, keep your hands and feet dry as well. The electrical resistance of wet skin is at least 100 times less than dry skin. Wet skin greatly increases the likelihood of severe shock if a person comes in contact with a live circuit. If you must work around water, connect to a ground fault circuit interrupter (GFCI) to automatically shut off the current if there is an abnormal current flow.

Never work on or around a live electrical circuit. Lock out the power so that only you have control over energizing the machine or equipment. Don't take chances.

BE CAREFUL WITH POWER...OR THIS WILL BE YOUR LAST HOUR!!
