

Training Module: Electrical Shock

Objective: To familiarize employees with the hazards of working around electricity.

Trainer's Note: Workers should understand the power of electricity. Accidents happen because of ignorance. Teach workers about the components of electricity and how to deal with hazardous situations.

Background

Voltage, current, grounding and resistance are basic electrical terms. Electricity and proper grounding work together for safety.

- Voltage is the force that causes the current to flow.
- Current (amperage) is the amount of electricity that is flowing.
- Resistance is the restriction that slows down or stops the flow of current.
- The greater the resistance the less the amount of electrical flow.
- A ground is a connection between an electrical circuit and the earth.
- Electricity always seeks a ground.

Electrical shock occurs when a part of the body completes a circuit between conductors or a grounding source. Death or injury is caused by the amount of current and increases with voltage. Avoid contact with electrical equipment, especially in damp or wet areas.

The effect of electrical shock depends on the amount of current flow and the path of the current through the victim's body. Some people have survived shocks of several thousand volts, while others have been killed by voltages as low as 12. To prevent electrical shock, which can cause several types of injuries, make sure that your body cannot become part of the electrical flow and a path for the current.

An important phase of electrical safety is knowing how to help an electrical shock victim. Often, particularly in cases of low-voltage shock, victims are unable to pull away from the current source. Stop the flow of electricity in the victim's body. This can be done by disconnecting or de-energize the circuit. **Call for help immediately. Do Not** attempt to remove the victim from the source of the current.

Safety Tips:

- Inspect area for electrical hazards.
- Don't overload circuits.
- Keep electrical equipment away from water and dampness.
- Always check electrical cords for fraying and signs of wear and defects.
- Be sure to lock out/tag out switches when working on equipment.
- In case of an electrical fire, shut off the power and use a fire extinguisher to put out the fire. Never use water to put out an electrical fire; water used on an electrical fire can result in a fatal shock.

Review The Following Points

- Voltage, current and resistance are the basic electrical terms.
- Electrical shock occurs when a part of the body completes a circuit between conductors.
- Electricity and proper grounding work together for safety.

Electrical Shock Quiz

True or False

Name _____

- | | | |
|--|---|---|
| 1. Never use a handtool that has the ground prong broken off of the plug-in end. | T | F |
| 2. Be sure to tag out and lock out equipment switches. | T | F |
| 3. If using a handtool and you feel a tingling sensation, the tool should be taken out of service. | T | F |
| 4. The higher the voltage, the greater the amount of current. | T | F |
| 5. Resistance to electrical flow is almost zero when the skin is wet. | T | F |