

- Goals:** This safety session should teach employees to:
- Understand the causes and consequences of electrical hazards.
 - Take proper precautions around electricity.

Applicable Regulations: 29 CFR 1910.331-335



1. Electrical Hazards Are a Major Cause of On-the-Job Injuries and Accidents

Safety requires understanding how electricity works and when it's hazardous.

2. Electrical Current Travels Through Insulated Conductors

- **Conductors** are the wires and cables that carry electricity from the power plant.
- Conductors are wrapped in **insulators**—electricity-resistant materials like rubber, plastic, and glass that keep the electric current on its path and prevent accidents.
 - Don't use anything electrical that has missing or frayed cord or wire insulation.

3. Grounding Connects Electrical Equipment to Earth

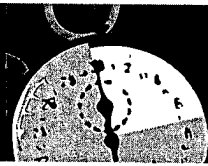
Grounding keeps the power on a low-resistance path and helps protect against shock.

- Most electrical equipment is grounded with metal frames and covers and/or 3-pronged plugs.
- In outdoor or wet areas, special electric outlets called **ground fault circuit interrupters (GFCIs)** provide added protection.
 - GFCIs monitor current and are designed to shut power off if an imbalance could cause shock.

4. Uninsulated or Ungrounded Electrical Equipment Can Cause Shock

Shock occurs when you touch the ground plus a live wire or poorly insulated tool or machine at the same time.

- When electric current goes through your body, it causes shock and may result in:
 - Pain
 - Loss of muscle control that can lead to falls or contact with powered equipment
 - Nerve, muscle, or tissue damage
 - Internal bleeding
 - Cardiac arrest or death
- The longer your contact with live power, the greater the shock (especially if the current enters your body near your heart).
- Water, even moisture in the air, can turn you, your equipment, or even wooden items into conductors.
 - Don't touch anything electrical with wet hands or if standing in a wet area.
 - Wear rubber boots for work in a damp area that contains electrical equipment.
- Metal is a conductor; don't wear metal jewelry when working with electricity.

**5. Electricity Can Burn Your Body**

- Contact with electrical arcs, flashes and fires, or overheated electrical wires or equipment can burn the skin.
- Electric current that enters your body can also burn body tissue.

6. Electricity Can Cause Fire and Explosion

- Overheated currents or electrical contact with flammable liquids, or vapors, or combustible dust can cause fires or explosions.

7. Check Equipment to Prevent Accidents and Injuries

- Be sure cords have good insulation and have coding that shows they're adequate for the voltage, wire size, and conditions.
- Don't bend 3-pronged plugs or try to force them into 2-pronged outlets.
- When working around flammable materials, use only tools designed for such use.
- If an electrical tool shocks, smokes, smells, or sparks, turn it off. Don't use it.

8. Know and Follow Electrical Safety Precautions

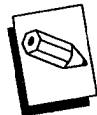
- Don't work on or with live power unless you're trained as a qualified worker.
- Be sure electrical equipment is properly locked and tagged out before testing, repair, or maintenance is done.

Discussion Points:

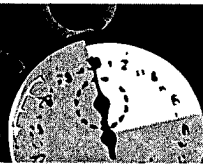
- Use grounded plugs, insulated wires, etc., to illustrate this training session.
- Ask participants what electrical precautions they presently take on the job and how they might change their approach following this session.

Conclusion: Be Aware of Electrical Hazards

Electrical shock can be deadly. Take precautions to keep power on its proper path and keep yourself from becoming an electrical conductor.

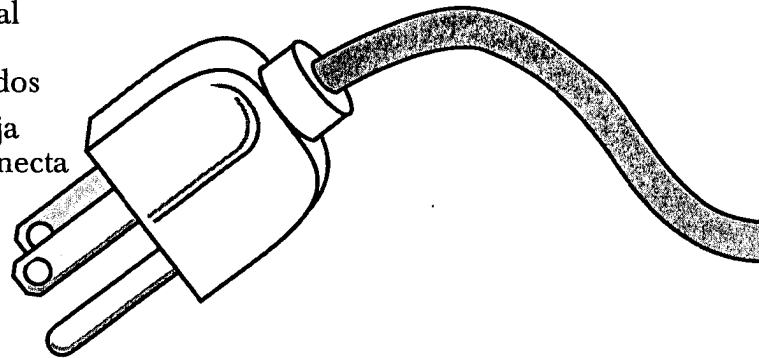
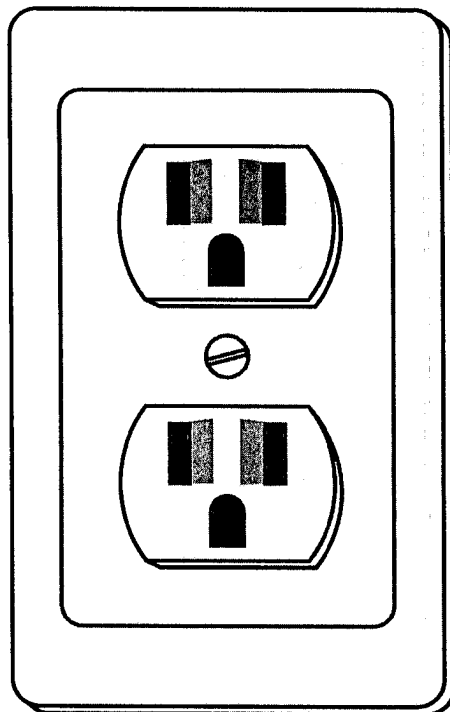
Test Your Knowledge

Have your employees take the electrical hazards quiz. By testing their knowledge, you can judge their ability to understand how electricity works and whether they need to review this important topic again soon.



**USTED GENERALMENTE
ESTA SEGURO CUANDO...**

- La corriente eléctrica pasa de la central eléctrica a sus herramientas, luces y equipos a través de conductores aislados
- La toma de tierra crea una ruta de baja resistencia para la corriente que la conecta a la tierra.

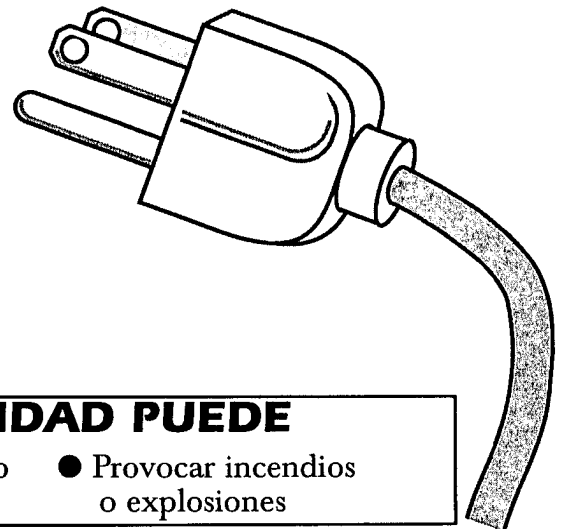


**USTED PUEDE CORRER
PELIGRO CUANDO...**

- Trabaja con equipos eléctricos que no están bien aislados o no están conectados a tierra, esto puede hacer que su cuerpo se convierta en un conductor de electricidad. Si la corriente entra en su cuerpo, usted sentirá una descarga y correrá el riesgo de tener:
 - Dolor
 - Pérdida de control muscular
 - Daños a los músculos, nervios o tejidos
 - Hemorragia interna
 - Paro cardíaco e incluso MUERTE

**Usted corre más riesgo de
RECIBIR UNA DESCARGA
ELÉCTRICA —conducir
electricidad— si entra en
contacto con:**

- Agua u otro líquido —manos mojadas, pisos mojados, humedad en el ambiente
- Metal —joyas, hebillas de cinturones, herramientas metálicas que conducen electricidad



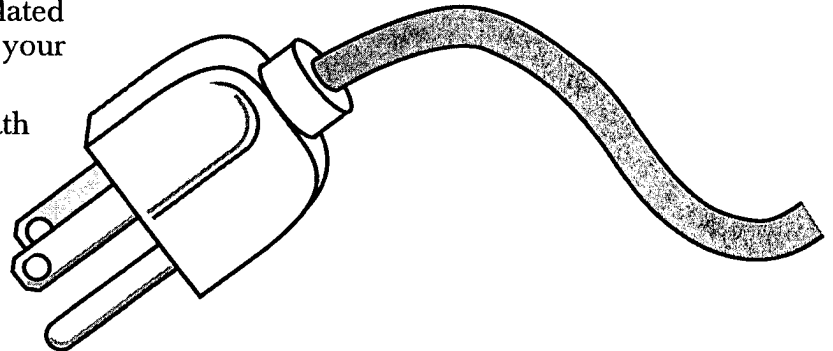
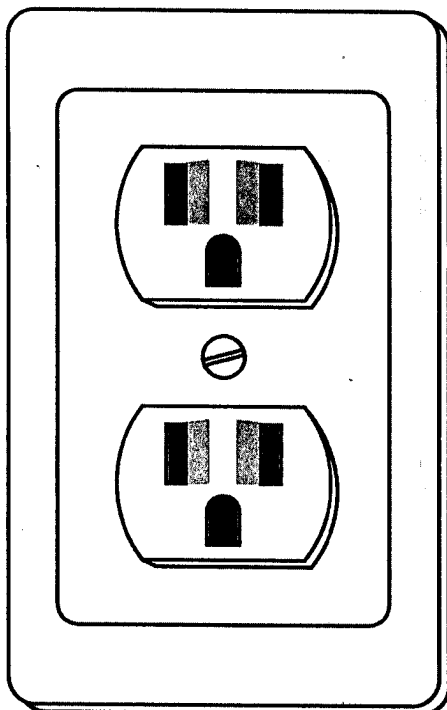
CUIDADO: LA ELECTRICIDAD PUEDE

- Quemar la piel
- Quemar tejidos del cuerpo
- Provocar incendios o explosiones



**YOU'RE USUALLY SAFE
WHEN...**

- Electrical current travels through insulated conductors from the power station to your tools, lights, and equipment.
- Grounding creates a low-resistance path for the current that connects it to the earth.

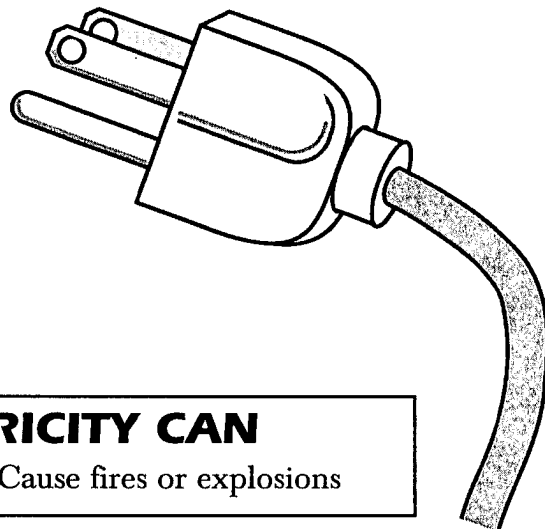


**YOU MAY BE UNSAFE
WHEN...**

- Working with electrical equipment that's poorly insulated or not grounded could make your body an electrical conductor. If the current enters your body, you experience shock and risk:
 - Pain
 - Loss of muscle control
 - Muscle, nerve, or tissue damage
 - Internal bleeding
 - Cardiac arrest
and even DEATH

**You're more likely to
GET SHOCKED—conduct
electricity—if you're in
contact with:**

- Water or other liquid—wet hands, wet floor, damp environment
- Metal—jewelry, belt buckles, conductive metal tools



WARNING: ELECTRICITY CAN

- Burn skin
- Burn body tissue
- Cause fires or explosions

MEETING SIGN-IN SHEET

LOCATION
MANAGER:

Meeting Date:

TOPIC OF MEETING:
SUMMARY OF MEETING:



Name	Title

Name	Title