



CLEVELAND INTEGRITY SERVICES, INC.

How to Avoid Electrical Accidents

Goals: **This session teaches employees to:**

- Know what precautions to take to avoid electrical accidents.
- Understand that only specific qualified employees may perform certain tasks with exposure to live power

Applicable Regulations: 29 CFR 1910.331-335

1. Electricity Has the Power to Shock, Burn, and Cause Fires or Explosions

Most electrical equipment has insulated conductors and is grounded to prevent accidents.

- If you touch equipment that isn't grounded or has defective insulation, your body may conduct the electricity. That can result in shock, which may cause:
 - Pain, loss of muscle control, internal damage, cardiac arrest, or death
 - Burns to internal body tissue
- Electrical equipment can also:
 - Burn your skin
 - Cause fires or explosions if exposed to flammable substances

2. Protect Yourself from Shock

- Inspect electrical equipment before use to be sure insulation is in good condition.
- Check that plugs have a good, tight connection.
- Never bend a 3-pronged plug or force it into a 2-pronged outlet.
- Use only wiring that is approved for use in outdoor or wet areas, and plug into ground fault circuit interrupters (GFCIs)
- Don't touch anything electrical with wet hands or while in a wet area.
 - Wear rubber gloves and rubber boots as protection.
- Don't contact anything electrical with anything metal.
 - Don't wear metal jewelry or a metal hard hat around electricity.
 - Don't use metal tools, including ladders, around electricity.
- Use insulated, nonconductive tools around power sources.

3. Prevent Electrical Fires

- In areas with flammable liquids, vapors, or combustible dust, use only electrical equipment identified as safe for that use.
 - Be sure equipment doesn't spark or get hot enough to ignite the flammables.
- Don't overload outlets, circuits, or motors.
- Don't let grease, dust, or dirt build up on machinery
- Dispose promptly of oily rags, paper, sawdust, etc. Don't let them contact electric lights or equipment.



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4. Obey Restrictions on Electrical Circuit Access

Control panels and circuit breaker/fuse boxes for live electrical parts of 50 volts or more must be in approved cabinets or enclosures, or separate rooms, behind partitions, or at least 8 feet above ground.

- Obey warning signs and locks; keep out unless authorized.

5. Treat Electrical Equipment With Care and Respect

- Don't use cords to raise or lower equipment.
- Don't fasten cords with staples, nails, or anything that could damage insulation.
- Prevent damage by untangling cords and not running them along the floor or in aisles.
- Use extension cords only if necessary and when rated high enough for the job.
- Use only waterproof cords outdoors.
- Keep machines and tools properly lubricated.
- Don't reach blindly into a space that may contain energized equipment.

6. Work on Energized Electrical Equipment Only If Trained and Qualified

OSHA defines qualified workers as those trained to identify exposed live parts and their voltage and know the safety procedures to use with them.

- Electrical circuits and equipment are usually de-energized and locked or tagged out before being worked on.
- Only qualified workers can perform tests or other work on "live" parts.
- If you're not a qualified worker:
 - Stay away from energized equipment, and at least 10 feet from power lines.
 - Don't try to remove a lock or work on locked out equipment.

Conclusion: Your Actions Can Help You Avoid Electrical Accidents

Avoid direct contact and take proper precautions to prevent shock, burns, and fires.