

Electric tools—Basic safety

List electrical hazards on site:

Explain dangers

Using electricity on site can be dangerous. Contact with electrical current can cause electrocution, shock, and burns. Electricity can also cause your muscles to contract, which can lead to a fall.

Take special care when working with:

1. Tools
2. Cords
3. Panels and generators

Identify controls

The basic rule is simple: **Consider all electrical wires and equipment energized until they are tested and proven otherwise.**

TOOLS

- Inspect tools before each use. Any shock or tingle, no matter how small, means that the tool or equipment needs to be checked.
- Take defective tools out of service immediately and tag it out of service.
- Make sure the casings of double-insulated tools are not cracked or broken.
- Use only tools that are polarized or double-insulated.
- Always use a Type A ground fault circuit interrupter (GFCI) with portable electric tools operated outdoors or in damp or wet locations. GFCIs detect current leaking to ground from a tool or cord and shut off power before damage or injury can occur.

- Check for electrical wires or equipment before drilling, nailing, cutting, or sawing into walls, ceilings, and floors.

CORDS

- Make sure that tool cords, extension cords, and plugs are in good condition. Check cords for cracking, fraying, and other signs of wear. Check plugs for cracks and missing, loose, or faulty prongs.
- Do not use cords that are defective or have been improperly repaired.
- Use only 3-pronged (grounded) extension cords.
- Make sure that extension cords are the right gauge for the job to prevent overheating, voltage drops, and tool burnout—12 gauge is ideal.
- Use cords fitted with dead-front plugs. These present less risk of shock and short-circuit than open-front plugs.
- Protect cords from foot and equipment traffic. Keep cords away from heat sources, water, oil, sharp edges, and moving parts of equipment.

PANELS AND GENERATORS

- Temporary panel boards must be securely mounted in a lockable enclosure protected from weather and water.
- Panel boards must be accessible to workers and kept clear of obstructions. Receptacles must be protected by a GFCI.
- Portable generators must be labelled NEUTRAL BONDED TO FRAME to ensure that cord-connected tools or equipment are grounded. Proper grounding and bonding will prevent shock and electrocution.

Demonstrate

With your crew, inspect sample tools and cords used on the job.

Show how a circuit tester and GFCI can be used to test cords, tools, and outlets.

Point out labels indicating double insulation or neutral bonded to frame.