

# Electrical safety

## Explain dangers

Using electricity on site can be hazardous, especially when it comes to tools, cords, and panels or generators. Consider all electrical wires and equipment energized until they are tested and proven otherwise.

## Identify controls

Section 182 of O. Reg. 213/91 states that, “No worker shall connect, maintain or modify electrical equipment or installations unless,

- a. the worker holds a certificate of qualification or a provisional certificate of qualification issued under the *Building Opportunities in the Skilled Trades Act, 2021*, that is not suspended, in the trade of,
  - i. electrician—construction and maintenance, or
  - ii. electrician—domestic and rural, if the worker is performing work that is limited to the scope of practice for that trade; or
- b. the worker is otherwise permitted to connect, maintain or modify electrical equipment or installations under the *Building Opportunities in the Skilled Trades Act, 2021* or the *Technical Standards and Safety Act, 2000*.”

A worker who does not meet the requirements of (a) or (b) may only insert or remove an electrical attachment plug of electrical equipment to or from a power receptacle.

## TOOLS

- Use only electric tools that have a CSA logo or equivalent.
- Ensure repaired cord ends were installed properly with correct polarity
- Make sure the casings of double-insulated tools are not cracked or broken.
- Take defective tools out of service. Any shock or tingle, no matter how small, means that the tool or equipment needs to be checked and repaired or replaced.
- Before drilling, nailing, cutting, or sawing into walls, ceilings, and floors, check for electrical wires or equipment.

- When operating portable electric tools outdoors or in wet locations, take the following precautions:
  - Plug the tool into a receptacle protected by a Class A ground fault circuit interrupter (GFCI). **A GFCI detects current that is leaking to the ground from a tool or cord and shuts off the power before damage or injury can occur.**
  - If the power source being used is an ungrounded generator with a maximum output of 1.8 kw or less, a Class A GFCI must be located in the cord feeding the tool, as close to the tool as possible.

## CORDS

- Make sure that tool cords, extension cords, and plugs are in good condition.
- Use only 3-pronged extension cords. Make sure that extension cords are the right gauge for the job to prevent overheating, voltage drops, and tool burnout. A 12/3 AWG heavy duty extension cord is ideal.
- Do not use cords that are defective or have been improperly repaired.
- Protect cords from traffic.

## PANELS OR GENERATORS

- Temporary panel boards must be securely mounted in a lockable enclosure protected from weather and water. The boards must be accessible to workers and kept clear of obstructions.
- Receptacles must be GFCI-protected.
- Panels must be installed in accordance with the Ontario Electrical Safety Code.
- Use only generators with a label identifying it as “neutral bonded to frame.” Do not use generators with a “floating neutral.” Make sure generators are properly grounded.

## Demonstrate

Inspect sample tools and cords used on the job. Point out labels indicating double insulation.

Show your crew a portable in-line GFCI. It can be used on all grounded electrical receptacles.