

Electrical hazards affect more than just electricians. In fact, 74% of workplace electrical fatalities occur in [non-electrical occupations](#). Many employees may not be trained to perform electrical work and may not recognize electrical hazards.

Electrical work should only be assigned to qualified employees as they are trained to work on or near energized parts. They have the knowledge, skills, and training to perform electrical work. A competent person is someone who can identify hazards and has the authority to correct them.

To prevent injury when using electrical equipment, employees should:

Eliminate/Substitute

- **Have qualified employees de-energize electrical circuits** whenever feasible before beginning work to eliminate hazards.

Use Engineering Controls

- **Ensure qualified employees use lockout/tagout (LOTO) devices** to prevent circuits from accidentally becoming energized during work.
- **Have qualified employees use a voltage tester** to confirm that the de-energized circuit does not have any voltage present due to back feed or induced voltage.
- **Employ insulated tools** specifically designed for electrical work.

Use Administrative Controls

- **Assign electrical work only to qualified employees:** Workers must be properly trained to work on or near energized parts.
- **Assess risks before starting:** Consider potential hazards and evaluate if you possess the necessary knowledge, tools, and experience.
- **Regularly test Ground Fault Circuit Interrupters (GFCI)** using their test buttons, ensuring they are not supplying power to other outlets.
- **Inspect tools before use:** Check for signs of damage, such as cracked casings or missing/broken parts, to prevent electrical shock or fire hazards.

DID YOU KNOW?

10 occupations accounted for most workplace electrical fatalities. They include electricians, laborers (except construction), construction laborers, electrical power installers & repairers, tree trimming, electricians' apprentices, HVAC mechanics, roofers, heavy truck drivers, and painters in construction or maintenance.

Personal Protective Equipment (PPE)

- **Wear appropriate PPE** to ensure protection against electrical hazards.

Work Practices

- **Avoid working in wet conditions** to reduce the risk of electrical shock.
- **Prevent overloads** by avoiding the use of multiple tools or equipment plugged into a single outlet.
- **Do not daisy-chain multiple extension cords** together, as this increases the risk of overheating and electrical fires.
- **Maintain a 10-foot clearance from overhead power lines** when working outdoors, including when using long tools or equipment such as scaffolding or ladders.
- **Use only three-prong plugs**, ensuring the ground prong is intact to reduce shock hazards.
- **Select extension cords with adequate ratings** for the tools being used. Underrated cords can overheat and lead to electrical fires.
- **Follow the manufacturer's instructions** for safety and operation when using electrical power tools.
- **Inspect cords before each use** to ensure that insulation is intact. Use cords marked "S" (hard service) instead of "SJ" (junior hard service) to minimize risk of damage.

