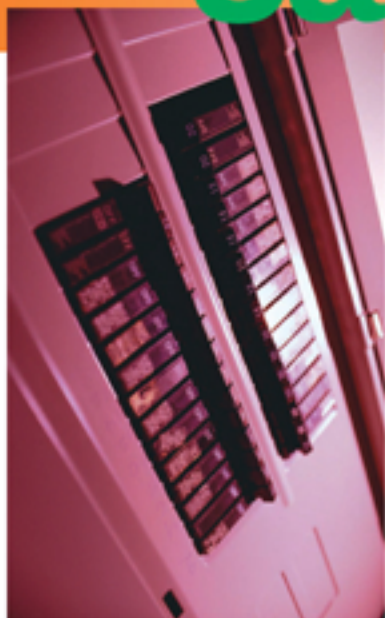


Safety Around Electricity



Electrical Safety Basics

- **FAMILIARIZE** yourself with the locations of electrical power emergency cut-off switches, and always follow lockout/tagout procedures when cleaning, servicing or adjusting equipment.
- **DON'T** overload outlets, and choose extension cords that are right for the piece of equipment you are using.
- **CHECK** electrical tools, appliances and equipment regularly for damage or wear.
- **INSPECT** all electrical cords and outlets for cracks, fraying or other damage.
- **USE** the least amount of voltage possible to get the job done.
- **BE** sure appliances and tools are switched off before plugging or unplugging them.
- **WORK** safely when digging in areas where there may be underground electrical cables or when working near power lines.
- **USE** the right insulated personal protective equipment when working around electricity.

What Are Conductors & Insulators?

Electricity flows easily through some materials. These are called conductors. Conductors include metal, water and the earth's surface.

Other materials hinder the flow of electricity. These are called insulators. Insulators include glass, plastic, porcelain, rubber and dry wood.

But watch out: Damp conditions can turn almost anything into a conductor.

For example: Dry wood is an insulator, but once wood is saturated with moisture, it conducts electricity. Same with your own skin — when dry, it does not conduct electricity easily. But if you get wet, you are at high risk for electrocution. Use caution when working with electricity in a wet environment. Consider using hydraulic, compressed-air, battery or hand-powered tools instead.

Insulation: Know Your Colors

Wires and conductors are often color-coded so you know what's grounded, insulated and "hot."

- Green or green and yellow stripes show insulated equipment grounding conductors.
- White or gray insulation covers grounded conductors.
- "Hot" wires or ungrounded conductors are usually red or black, but they can be any color other than gray, white or green.



GROUNDING AND GUARDING

Guarding is when high-voltage electrical equipment is enclosed in a separate room or behind a permanent screen and labeled "danger," "high voltage" or "keep out" so that only authorized people have access to it. Always heed safety warnings.

Grounding re-directs harmful electricity into the earth.

Types of grounding:

A **system ground** protects the equipment you work on from electrical damage. One wire (white or gray insulation) is grounded at the power source.

An **equipment ground** protects you from electric shock. It allows electrical current to pass through the tool or machine into the ground, helping you avoid a shock.

Nature's electricity: Remember, 30 percent of lightning strikes are fatal, and most occur during summer months. Stay safe by keeping an eye on the skies while performing outdoor work. If you see thunderheads forming or hear thunder, seek shelter indoors. If no building is nearby, a vehicle is a safe haven.

Electric Shock: Know What to Do

If someone suffers an electric shock, follow these procedures:

1. Don't touch the victim if he or she is still touching the source of the shock. Disconnect the electrical power, or use a nonmetal object, such as a broom handle, to separate the person from the electrical equipment.
2. Call 911 or your local emergency number right away.
3. If the person is not breathing and has no pulse, perform CPR while waiting for help to arrive.
4. If the person has electrical burns (often these are found at the sites where the current entered and exited the body), remember that even if they do not look serious, there may be severe deep tissue damage. Don't apply ice, cold water or any type of grease to an electrical burn. Apply a sterile gauze bandage and keep the victim warm until help arrives.

CPR 1-2-3

1. **Open the airway.** Roll the person onto his or her back. Gently lift the person's chin with one hand while pushing down on the forehead with the other hand. Check for breathing — sometimes opening the airway is enough to start a person breathing again.

2. **Start rescue breathing.** Keep the head tilted back, and pinch the person's nose closed with your thumb and forefinger. Make an airtight seal with your mouth on the victim's mouth and give two slow breaths. Check again for breathing after every two breaths.

3. **Begin chest compressions.** Kneel down and find the notch where the two halves of the rib cage meet in the middle of the chest. Put the heel of one hand on the breastbone just above that notch. Interlace your fingers and press with the heel of your hand. Bring your shoulders over the person's chest and press down, keeping your arms straight. Compress the chest and relax for equal amounts of time. You should do chest compressions at a rate of 80 to 100 per minute, or 15 chest compressions for every two rescue breaths.

