



ELECTRICAL SAFETY



SAFETY FIRST

Electricity has become such a necessary part of our lives that we tend to take it for granted, but using it safely is vitally important.



WHY WORRY ABOUT ELECTRICITY?

Given the right circumstances, electricity can:

- kill or maim an individual.
- elicit a painful shock.
- damage sensitive equipment.
- ignite combustible materials.

Each year, thousands of people in the United States are critically injured as a result of electrical fires and accidents in their own homes and workplaces. The National Safety Council estimates 600 people die annually from electrical accidents. Many electrocutions and home fires can be prevented by understanding basic electrical safety principles and adhering to safe practices.

FOR MORE INFORMATION VISIT

Electrical Safety Foundation International
www.esfi.org

Safe Electricity
www.safeelectricity.org

Iowa One Call
www.iowaonecall.com

Iowa Electrical Licensing & Inspection
www.iowaelectrical.gov



Safe



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Technology

THE BASIC RULES TO STAY SAFE ARE SIMPLE!

- Treat electricity with respect.
- Look up to avoid contact with power lines.
- Be extra careful using electricity in damp areas and outdoors.
- Use properly maintained and correct cords, cables and plugs.
- Use licensed electricians for installations and repairs.
- Use safety switches as additional protection against electrical shock.

Call 811 before you dig. Iowa law requires everyone to locate underground utilities before digging.



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PORTABLE GENERATORS



WHAT YOU NEED TO KNOW

Portable electric generators provide a good source of power during electrical outages, but if improperly installed or operated, can become deadly. These precautions can help keep you and your family safe from carbon monoxide poisoning and electrical shock.



- Do not connect generators directly to household wiring without an appropriate transfer switch installed. An improperly connected generator can “back feed” electricity from a home to the transformer. This can be fatal for linemen working on power lines.
- Make sure your generator is properly grounded. Use a ground fault circuit interrupter (GFCI).
- Keep the generator dry.
- Make sure extension cords used with generators are rated for the load; are free of cuts and worn insulation; and have three-pronged plugs.
- Do not overload the generator. A portable generator should be used only when necessary, and only to power essential equipment or appliances.
- Never operate the generator in enclosed or partially enclosed spaces. Use carbon monoxide detectors in nearby enclosed spaces to monitor levels.
- Keep children away from portable generators at all times.
- Before refueling, always turn the generator off and let it cool down.
- Turn off all appliances powered by the generator before shutting it down.



Tamper resistant receptacles (TRRs) provide a simple, permanent solution for preventing common childhood shock and electrical burn injuries. TRRs look like ordinary outlets, but are designed with spring-loaded cover plates that close off.

AFCI AND GFCI

Arc Fault Circuit Interrupter (AFCI) protection circuit breakers and Ground Fault Circuit Interrupter (GFCI) protected electrical receptacles are important safety devices with different functions. AFCIs are intended to address fire hazards; GFCIs address shock hazards. The amount of electricity fatal to a human is thousands of times less than the amount that will “trip” a regular circuit breaker.

AFCI	VS.	GFCI
		
Arc Fault Circuit Interrupter		Ground Fault Circuit Interrupter
HOW THEY WORK		
AFCIs detect hazardous arcing conditions and shut down the electricity before a fire can start.		GFCIs prevent deadly shock by quickly shutting off power to the circuit if the electricity flowing into the circuit differs by even a slight amount from that returning, indicating a leakage current.
PROTECTS AGAINST		
Arc faults are a dangerous electrical problem caused by damaged, overheated or stressed electrical wiring or devices that may result in a fire.		Ground faults are an unintentional electrical path between a power source and a grounded surface. A person who becomes part of a path for leakage current will be severely shocked or electrocuted.
MAINTENANCE		
Test AFCIs each month. If the device does not trip when tested, it should be replaced.		Test GFCIs each month. If the device does not trip when tested, it should be replaced.

ELECTRIC POWER LINES

Power lines carry electric current strong enough to cause serious injury or even death. Electricity wants to move from a high voltage zone to a low voltage zone, which can happen through your body.

- Never touch a person or object that is touching a downed line. The ground around power lines, up to 35 feet away, may be energized.
- Do not drive over downed power lines. If your car comes in contact with a downed power line, stay in the car until help arrives.
- Be careful not to touch or step in water near a downed power line.

Report downed power lines! Call 911, then your cooperative.

