

Why Electrical Grounding Is Important

Electricity can kill if not used properly. Power tools and other electrical equipment can easily cause electrical shocks if they're not in good condition, if insulation is inadequate or if they come into contact with water or moisture. The most important thing you can do to ensure your safety around electricity is to properly ground all electrical tools and equipment.

Grounding Tools and Equipment

When there's a current leakage from a tool or piece of equipment, the current will flow through any available conductor until it reaches the ground. If your body is in contact with that tool, you are the nearest conductor, unless the tool is grounded.

To prevent ground-fault hazards, all electrical tools should be connected by a three-pronged, grounded plug. If grounding is not available, always use double-insulated tools, which are covered with a nonconductive surface to protect you from contact with the circuit. Another device, a ground fault circuit interrupter (GFCI), is required at most construction sites. It shuts off electricity if a ground fault occurs.

Ground Fault Circuit Interrupters

A ground fault circuit interrupter provides extra protection from electrical shock, especially when you work in wet or outside areas.

A GFCI is a fast-acting circuit breaker that senses small imbalances in a circuit caused by current leakage and, in a fraction of a second, shuts off the electricity. A GFCI protects against shock, overheating, fires and destruction of wire insulation. However, it won't protect you against line-to-line contact hazards, such as direct contact with two live wires.

Install GFCI outlets where power tools are used or wherever electrical equipment is used near water or dampness, such as outdoors. GFCIs can be wired into circuits at a panel box or used to replace ordinary outlets.

