



## **Ground Fault Circuit Interrupter (GFCI)**

**Arkansas Workers' Compensation Commission/  
Health & Safety Division [www.awcc.state.ar.us](http://www.awcc.state.ar.us)  
1-800-622-4472 fax: 501-683-3169  
[Health&Safety@awcc.state.ar.us](mailto:Health&Safety@awcc.state.ar.us)**

Although most portable electric tools have an equipment grounding conductor and many are double insulated, these methods are not foolproof. A grounding wire could break or a cord could become defective. Using a GFCI overcomes these insulation problems.

The **GFCI**, as it is commonly called, is simply a fast-acting circuit breaker that will cut off the electricity to a power tool within 1/40th of a second if it detects there is a fault with the grounding system. Faults can occur when there is insulation damage to cords, receptacles, connectors, etc. It may be caused by dragging the cords over rough edges, fastening with nails or staples, overheating or simply by aging. When these things happen, it allows current to leak out of its normal circuit. The GFCI monitors this current and protects the user from electrocution by interrupting the power before it can do any harm.

One disadvantage of this protection is that it is sometimes overly sensitive to moisture and humidity. On rainy or damp days, the GFCI units will occasionally cause what is called "nuisance" tripping. The temptation then is to by-pass the GFCI to get on with our work. This is not only unwise, but a violation of OSHA standards. OSHA requires GFCI protection on all 120-volt, single-phase, 15- and 20-ampere circuits on construction sites, which are not part of the permanent wiring of the building or structure. With these things in mind:

1. Be sure that all temporary wiring is installed complete with GFCI protection.
2. Do not let anyone tamper with or by-pass the GFCI unit.
3. To minimize nuisance tripping, keep cords out of water and use watertight or seal connectors where possible.
4. GFCI's must not be used on temporary lighting circuits.
5. GFCI's must be placed as close to the power source as possible.

**Disclaimer:** Information contained in this handout is considered to be correct. If there are questions, please contact the Arkansas Workers' Compensation Commission/Health and Safety Division.