

Three primary factors affect the severity of the shock a person receives when he or she is a part of an electrical circuit:

- Amount of current flowing through the body (measured in *amperes*).
- Path of the current through the body.
- Length of time the body is in the circuit.

Other factors that may affect the severity of the shock include:

- The voltage of the current.
- The presence of moisture in the environment.
- The phase of the heart cycle when the shock occurs.
- The general health of the person prior to the shock.

Effects can range from a barely perceptible tingle to severe burns and immediate cardiac arrest.

Due to the dynamic, rugged nature of construction work, normal use of electrical equipment causes wear and tear that results in insulation breaks, short-circuits, and exposed wires. If there isn't ground-fault protection, these can cause a ground-fault that sends a current through the worker's body, resulting in electrical burns, explosions, fire, or death.

How to Avoid Hazards:

- Use ground-fault circuit interrupters (GFCIs) on all 120-volt, single-phase, 15- and 20-ampere receptacles, *or* have an assured equipment grounding conductor program (AEGCP).
- Follow the manufacturers' recommended testing procedure to insure GFCI is working correctly.
- Use distinctively marked, double-insulated tools and equipment.
- Use tools and equipment according to the instructions included in their listing, labeling, or certification.

Visually inspect all electrical equipment before use. Remove from service any equipment with frayed cords, missing ground prongs, cracked tool casings, etc. Apply a warning tag to any defective tool and don't use it until the problem has been corrected.

* Source material taken from www.osha.gov.