

# Ground Fault Circuit Interrupters (GFCI)

## What is the GFCI?

The GFCI is a fast-acting circuit interrupter that senses small current imbalances.

These small imbalances in the circuit are caused by current leakage to ground and, in a fraction of a second, the GFCI shuts off the electricity. The GFCI continually matches the amount of current going to an electrical device against the amount of current returning from the device along the normal path. Whenever the amount “going” differs from the amount “returning” by approximately 5 milliamps, the GFCI interrupts the electrical power within as little as 1/40 of a second.

## What are OSHA’s Electrical Standards for Construction?

GFCIs can be used successfully to reduce electrical hazards on construction sites...

Tripping of GFCIs - interruption of current flow - is sometimes caused by wet connectors and tools. It is a good practice to limit exposure of connectors and tools to excessive moisture by using watertight or sealable connectors. Providing more GFCIs or shorter circuits can prevent tripping caused by the cumulative leakage from several tools or by leakages from extremely long circuits.

*To help cope with the electrical hazards at construction sites...*

The Occupational Safety and Health Administration (OSHA) issued a revision of OSHA safety and health regulation, 29 Code of Federal Regulations Part 1926, Subpart K (Electrical Standards of Construction). This revision was published in the federal Register and contains the requirements for the GFCI and the assured equipment grounding conductor program.

## What are the Employer’s Responsibilities on a Construction Site?

*OSHA ground-fault protection rules and regulations have been determined necessary and appropriate for employee safety and health.*

*Therefore, it is the employer’s responsibility to provide either...*

- Ground-fault circuit interrupters on construction sites for receptacle outlets in use and not a part of the permanent wiring of the building or structure.
- A scheduled and recorded assured equipment grounding conductor program on construction sites, covering all cordsets, receptacles that are not part of the permanent wiring of the building or structure, and equipment connected by cord and plug that are for use or used by employees.

It is also the employer’s responsibility to provide approved ground fault circuit interrupters for a 120-volt, single-phase, 15- and 20-ampere receptacle outlets on construction sites that are not part of the permanent wiring of the building or structure, and that are in use by employees. Receptacles on the ends of extension cords are not part of the permanent wiring and, therefore must be protected by GFCIs whether or not the extension cord is plugged into permanent wiring.

Effective management of worker safety and health protection is a decisive factor in reducing the extent and severity of work-related injuries and illnesses and their related costs. An effective program includes provisions for the systematic identification, evaluation and prevention or control of general workplace hazards, specific job hazards and potential hazards that may arise from foreseeable conditions. An effective program will include management commitment and employee involvement, work site analysis, hazard prevention and control, training and the proper equipment.

