

---

## **Chapter 9 : ELECTRICAL SAFETY**

---

### ***INTRODUCTION/OVERVIEW***

The OSHA regulations for ground fault protection allow employers to choose between the use of Ground Fault Circuit Interrupters (GFCI) or an Assured Equipment Grounding Conductor Program. These equipment-grounding requirements, which have been in the National Electrical Code for many years, are intended to provide protection from electrocution.

**Ground Fault Circuit Interrupters (GFCI)** are intended to interrupt the circuit in the event of a ground fault in a very short time to prevent electrocution. They operate independently of the equipment grounding circuit. The **Assured Equipment Grounding Conductor Program** requires periodic inspection and testing of the ground circuit. Regardless of which of these two options is chosen the grounding requirements of the National Electrical Code still apply.

The OSHA regulations pertain only to the use of temporary wiring on construction sites. They do not apply to the permanent wiring of the building or structure. The reasoning is that the permanent wiring is not subject to the abuse and rigors of construction and therefore the grounding circuit can be considered reliable.

This chapter presents an outline summary of the two options given in the OSHA regulations. It also includes a listing of other basic rules and regulations on general electrical safety.

---

## **OPTION 1 - GROUND FAULT CIRCUIT INTERRUPTERS**

*Section 1926.400(h)(2) - Ground Fault Circuit Interrupters:* All 120 volt, single phase, 15 and 20 ampere receptacle outlets on construction sites, which are not part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground fault circuit interrupters for personnel protection.

Receptacles on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, need not be protected with ground fault circuit interrupters.

The OSHA regulations require GFCI protection at the receptacle only when the receptacle is being used by employees for cord- and plug-connected equipment that must be grounded.

## **OPTION 2 - ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM**

*Section 1926.400(h)(3) Assured Equipment Grounding Conductor Program:* The employer shall establish and implement an assured equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not part of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use or used by employees.

### **GENERAL REQUIREMENTS**

1. If the assured equipment grounding conductor program option is elected, a written description of the program shall be available on the jobsite although it does not have to be posted.
2. The employer shall designate one or more competent persons to implement the assured equipment grounding program. A competent person is capable of identifying existing and predictable hazards in the surroundings, as well as working conditions which are unsanitary, hazardous or dangerous to employees, and is authorized to take prompt corrective measures to eliminate them. The competent person does not necessarily have to be on the jobsite at all times.
3. Daily visual inspection is made only on the days equipment is actually used and may be made by the person using the cord set and plug-connected equipment.
4. Double insulated tools are not required to be grounded and therefore cannot and do not have to be tested as required by this regulation.
5. It is not required that all tests be performed at the jobsite.
6. The requirements of this standard apply also to tools and cord sets owned by employees and used at the jobsite.

### **SAMPLE PROGRAM**

