Cherry Hill Glass
20 ELM ST
BRANFORD CT 06405

CONSTRUCTION SS
Safety Services Company

Worksite: _____ Instructor: _____ Date/Time: _____

Topic C034: Ground Fault Circuit Interrupters (GFCI)

Introduction: A Ground Fault Circuit Interrupter (GFCI) is an over-current protection device that instantaneously de-energizes an electrical circuit to protect personnel from electric shock. A large percentage of electrical accidents are caused from using improperly grounded temporary electrical systems or damaged power tools and extension cords in the workplace. The National Electrical Code for grounding conductors requires that a system grounding conductor be connected to any local metallic water-piping system available on the premises, provided the length of the buried water piping is a minimum of 10 feet.

Extension cords are used on the job for many purposes and if not carefully chosen for the job and properly cared for, can be hazardous. The main concern is the insulation and the wire size needed to carry the current. If the wrong length or size of cord is selected for a particular tool then the voltage available is reduced to the tool, creating an over-current hazard. Extension cords are not to be used for permanently installed equipment and should never stretch across areas of foot traffic. Additional receptacles should be provided or drop wiring installed.

Plugs and receptacles must match the job at hand. Each type of receptacle is designed to handle a specific amount of voltage and current. Always be aware of your circuit requirements.

Use only tools, equipment, and cords that have a grounding prong (third prong), and never remove the prong.

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Specific OSHA regulations that cover grounding requirements in the workplace:

A conductor used as a grounded conductor or as an equipment ground shall be identifiable and distinguishable from all other conductors.

No grounded conductor shall be attached to any terminal or lead so as to reverse designated polarity.

A grounding terminal or grounding-type device on a receptacle, cord connector, or attachment plug shall not be used for any other purpose.

The employer shall use either a ***GFCI*** or assured equipment grounding conductor program as specified to protect employees at temporary workplaces. These requirements are in addition to any other requirements for equipment grounding conductors.

All 120-volt, single-phase, 15- and 20-ampre receptacle outlets in workplaces, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ***GFCI's*** 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 or other grounded surfaces need not be ***GFCI*** protected.

The frame of a portable generator need not be grounded if the generator supplies only equipment mounted on the generator and/or cord-and plug-connected equipment through receptacles mounted on the generator, and the non-current-carrying metal parts of equipment, and the equipment grounding conductor terminals of the receptacles are bonded to the generator frame.

Vehicle mounted generators may use the vehicle frame as the grounding electrode if the frame of the generator is bonded to the vehicle frame and the generator supplies only equipment located on the vehicle and/or cord-and plug-connected equipment through receptacles mounted on the vehicle or on the generator if receptacles are bonded to the generator frame.

Conclusion: It is essential to have electricity available in the workplace. The above-mentioned regulations and requirements were established and implemented to curtail electrical shock fatalities. It is the employer's responsibility to provide safe conditions and equipment. Likewise, it is the employee's responsibility to use safe work practices, good sense, and caution when electrical equipment is in use. Follow these requirements for safe electrical powered operations.

Employee Attendance: *(Names or signatures of personnel who are attending this meeting)*

_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____
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These guidelines do not supersede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.