

WEEKLY SAFETY MEETING

FOR THE CONSTRUCTION INDUSTRY

SAFETY MEETING OUTLINES

Box 700, Frankfort, IL 60423

815-464-0200

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Week of 08/30/2021

Company Name _____ Job Name _____ Date _____

GFCIs

Portable power tools are used all over construction sites. Of course, there has to be some way to get the power to those tools, so we also use extension cords and temporary wiring. When these tools or cords are used or maintained improperly we are exposed to electrocution hazards. There are two systems that are used to help prevent an injury when an electrical accident occurs. The first system is implementing an assured equipment grounding conductor program. The second system consists of installing and using ground fault circuit interrupters (GFCIs or GFIs) [see 29 CFR 1926.404(b)(1)(i) and (ii)]. Today we'll discuss how GFCIs work and how they protect you.

A GFCI is a fast-acting circuit breaker that senses very small imbalances in the current flowing in the circuit. It constantly compares the current flowing to the tool with the amount returning from it. Whenever the amount going to the tool differs from the amount returning by about five milliamps, the GFCI opens the circuit, interrupting the flow of electricity. GFCIs typically respond in as little as 1/40th of a second.

When cords become worn or frayed, the ability of the insulation to protect you from the current in the wires decreases. It decreases even more in wet environments. The tool could also break or malfunction, or the insulation inside it could fail. All of these situations could expose you to electric current. If the electricity starts to flow through your body, it's not flowing back to the GFCI. The GFCI detects this imbalance and interrupts the circuit before enough electricity flows through you to cause harm.

Sometimes people find GFCIs irritating because they seem to trip, or interrupt the circuit, for no apparent reason. Large motors can occasionally cause GFCIs to trip even in a good, safe circuit, because the motor temporarily absorbs extra current when it first starts. If a GFCI trips, it's because there is a current imbalance in the circuit. This almost always means that there is a problem, and you should either find the cause or report the problem to your supervisor. Some common causes of imbalances are very long runs of extension cord; using an extension cord that is too small for the load; using cords or plugs in wet areas, especially if the insulation is worn or damaged; and malfunctioning tools.

It is the employer's responsibility to provide GFCIs for all 120 volt, single phase, 15- and 20-amp receptacles or to implement an assured equipment grounding conductor program. It is your responsibility to use electricity carefully and safely.

SAFETY REMINDER

**Always visually inspect all cords, plugs,
and power tools before using them.**

Special Topics For Your Project _____

Employee Safety Recommendations _____

Reviewed MSDS # _____ Subject _____

Meeting Attended By _____

Supervisor's Signature _____