

## OSHA Focus Four: "Electrocution"



**Electrocution**

Data from the U.S. Bureau of Labor Statistics (BLS) show that electrocution was the fourth leading cause of death in construction in 2005, after falls to a lower level, transportation injuries, and being struck by objects and equipment.

Electrocutions caused 9% of 1,243 construction worker deaths, but accounted for less than 1% of reported recordable nonfatal injuries in 2005.

For 2003-2005, the death

rate from electrocutions for the construction industry was 1.1 per 100,000 full-time workers, for an average of 121 electrocutions per year. The highest rates of death from electrocution were among electrical power installers and repairers and earth drillers.

The construction occupations with the highest

average number of deaths per year due to electrocution were electricians (29), construction laborers (19), supervisors/managers (13), electrical power installers and repairers (10).

### What are the major types of electrocution hazards in construction?

A. Contact with overhead power lines

B. Contact with energized sources (e.g., live parts, damaged or bare wires, defective equipment or tools)

C. Improper use of extension and flexible cords

**Monthly Safety Question:**  
 What extension "Cord Size" is used for 25 Amps?  
 (Answer at bottom)

*An electrical hazard can be defined as a serious workplace hazard that exposes workers to the following:*

- ▣ Burns
- ▣ Electrocution
- ▣ Shock
- ▣ Arc Flash/Arc Blast
- ▣ Fire
- ▣ Explosions

## GFI Pigtails

The Cord-connected Type of GFCI is an attachment plug incorporating the GFCI module. It protects the cord and any equipment attached to the cord. The attachment plug has a non-standard appearance with test and reset buttons. Like the portable type, it incorporates a no-voltage release device that will disconnect power to the load if any supply con-



## "Lock Out Rather Than Luck Out"

## Fatal Facts: GFCI

### Actual Incident:

A 29-year-old male welder was electrocuted and died when he contacted an energized receptacle end of an extension cord.

It was found that the welding unit and cord were incompatible; however, both the welding cord and extension cord were damaged

allowing them to be used together. The result was an ungrounded system that killed a worker.

### How do we prevent these results?

- \*Inspect all electrical equipment before use.
- \*Use GFCI on power tools.
- \*Use intact and properly-rated cords .

American Wire Gauge (AWG)	
Cord Size	Handles Up To
#10 AWG	30 amps
#12 AWG	25 amps
#14 AWG	18 amps
#16 AWG	13 amps

- \*Take all damaged equipment out of service.
- \*Use testing meters, where appropriate, if you are trained to do so.

