



SAFETY INCENTIVE PROGRAM
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SIP TIP: ELECTRICAL SHOCKS

There's a widespread but mistaken idea that 110 volts can't seriously injure or kill a person. Each of you should think about the dangers of low voltage electricity, especially if you use portable electric tools. The possibility of death from electric shock doesn't depend entirely on the voltage of the power supply. It also depends on the resistance of the human body, which varies greatly among individuals, and on the conditions under which a person is working. It takes only 1/10 of an AMP TO KILL YOU!

Construction Electrical Hazard Seminar

Saturday, February 25, 2006
First Energy facility on Miller Road
\$20.00 per person
Includes continental breakfast, lunch,
multiple handouts, and door prizes.
All paid attendees will receive a Santronics
AC Sensor.
If you have any questions, please call
216-398-9860.

Electricity always tries to reach a ground potential and will always take the path of least resistance. If the outer metal shell of a defective tool becomes energized, the operator sets up a direct path through his own body between the energized tool and the ground itself. The ground can be the earth or it could be pipes or steel building structures that are in contact with the earth. Body resistance is lowered when you work in wet areas or sweat heavily; electricity can then flow easily through vital regions of the body.

Many times on a construction site, due to the frequency and severity of use, electrical equipment that was originally designed and provided with an electrical path to ground is not capable of transferring 'fault current' to ground because the ground prong has been accidentally or intentionally broken off. The electrical path to ground, sometimes known as the 'ground wire', is provided to transfer the 'fault current' to ground in the event that an exposed part of the piece of equipment is energized by the 'hot' conductor or wire in the system. If this happened and the equipment ground was not continuous, the path of least resistance from the drill to the ground would be through the user's body.

It is important to recognize the value of always inspecting your electrical equipment prior to use for defects, such as ground prongs, frayed cords, cracked tool casings, etc. which indicate that the tool should be taken out of service. And don't forget to mark the defective tool with a tag to prevent another worker from grabbing the tool and using it. The following rules apply only to electrical installations used on the jobsite, both temporary and permanent:

- Extension cords used with portable electrical tools and appliances shall be of three-wire types. Grounds are never to be removed from the extension cords.
- Splices shall have insulation equal to that of the cable.
- Electrical and extension cords or cables are not to be laid on floors, in walkways, etc., unless it is impractical to do otherwise. They should be suspended or secured in such a way as not to block or hang in walkways, doorways or work areas.

REMINDER: IT TAKES ONLY 1/10 OF AN AMP TO KILL YOU!