ACME

Leading Through Innovation

EHS Pledge

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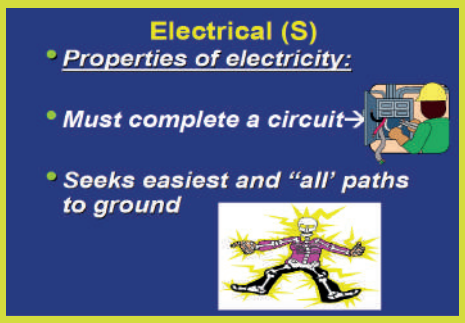
ACME ADVOCATES ELECTRICAL SAFETY FOR ONE & ALL...

May Is Electrical Safety Month

Every day, electricity helps light up our world. While we benefit tremendously from this vital energy source, there are many potential risks that accompany its use, including fires, shocks and other accidents that lead to the death and injury of thousands each year. It is up to all of us to protect ourselves, our loved ones, and our homes & workplaces from the dangers of electrical hazards.

Preventing accidents starts with educating ourselves about electrical safety and raising awareness about common causes of incidents-like aging wire systems, as well as fires and shocks from surge protectors and electrical cords. By taking steps such as installing electrical safety devices, having a professional electrician inspect our home/workplace wiring system, ensuring surge suppressors are not overloaded, and using appliances and equipment according to manufacturer instructions, we can all help minimize the tragic and costly dangers of electricity. As we mark May as Electrical Safety Month, we encourage all employees to learn about electrical safety practices and to take proactive steps to prevent future incidents.



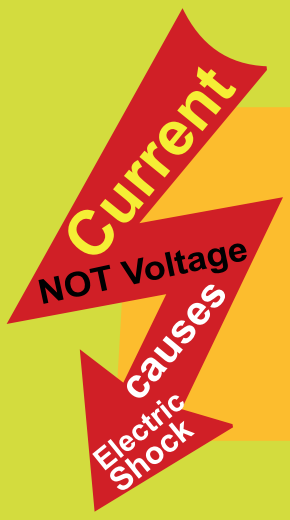
Electrical Safety at Workplace

Electricity is widely recognized as a serious workplace hazard, exposing employees to electric shocks, burns, fires, and explosions.

It is well known that the human body will conduct electricity. If direct body contact is made with an electrically energized part while a similar contact is made simultaneously with another conductive surface that is maintained at a different electrical potential, a current will flow, entering the body at one contact point, traversing the body, and then exiting at the other contact point, usually the ground. Each year many employees suffer pain, injuries, and death from such electric shocks across various industries.

Current through the body, even at levels as low as 3 milli-amperes, can also cause injuries of an indirect or secondary type in which involuntary muscular reaction from the electric shock can cause bruises, bone fractures and even death resulting from collisions or falls.

Burns suffered in electrical accidents can be very serious. These burns may be of three basic types:



SHOCKED!!!

mA	Effect on Humans
0.5 - 3	Tingling sensations
3 - 10	Muscle contractions & pain
10 - 40	"Let-go" threshold
30 - 75	Respiratory paralysis
100 - 200	Ventricular fibrillation
200 - 500	Heart clamps tight
1500+	Tissues and Organs start to burn

- electrical burns,
- arc burns,
- and thermal contact burns.

Electrical burns are the result of the electric current flowing in the tissues, and may be either skin deep or may affect deeper layers (such as muscles and bones) or both. Tissue damage is caused by the heat generated from the current flow; if the energy delivered by the electric shock is high, the body cannot dissipate the heat, and the tissue is burned. Typically, such electrical burns are slow to heal.

Arc burns are the result of high temperatures produced by electric arcs or by explosions close to the body.

Finally, **thermal contact burns** are those normally experienced from the skin contacting hot surfaces of overheated electric conductors, conduits, or other energized equipment. In some circumstances, all three types of burns may be produced simultaneously.

Nature of Electrical Accidents

Electrical accidents, when initially studied, often appear to be caused by circumstances that are varied and peculiar to the particular incidents involved. However, further consideration usually reveals the underlying cause to be a combination of three possible factors:

- unsafe equipment and installations;
- workplaces made unsafe by the environment;
- unsafe work practice.

The first two factors are sometimes considered together and simply referred to as unsafe conditions. Thus, electrical accidents can be generally considered as being caused by unsafe conditions, unsafe work performance or, in what is usually the case, combinations of the two. It should also be noted that inadequate maintenance can cause equipment or installations that were originally considered safe to deteriorate, resulting in an unsafe condition.

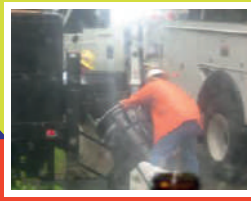
Some unsafe electric equipment and installations can be identified, for example, by the

presence of faulty insulation, improper grounding, loose connections, defective parts, ground faults in equipment, unguarded live parts, and underrated equipment. The environment can also be a contributory factor to electrical accidents in a number of ways. Environments containing flammable vapors, liquids, or gases; areas containing corrosive atmospheres; and wet and damp locations are some unsafe environments affecting electrical safety. Finally, unsafe acts include the failure to de-energize electric equipment when it is being repaired or inspected or the use of tools or equipment too close to energized parts.

Over-head Electricity Lines

Unqualified employees are required to adhere to the 10 ft. minimum. e. Employees working on or around vehicles and mechanical equipment, such as gin-pole trucks, forklifts, cherry pickers, garbage trucks, cranes and elevating platforms, who are potentially exposed to hazards related to equipment component contact with overhead lines, shall have been trained by their employers in the inherent hazards of electricity and means of avoiding exposure to such hazards. The standard for Electrical Safety-Related Work Practices can be applied with respect to electrical hazards related to any size, utilization or configuration of overhead power lines in general industry; e.g., residential power lines, remotely located overhead power lines, temporarily rigged overhead power lines, and overhead power lines along streets and alleys.

Transformer Oil Handling and Storage Instructions



Handling

- Keep away from heat and sources of ignition.
- Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally.
- Do not breathe gas/vapour/spray.
- In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately.
- Avoid contact with skin and eyes.
- Practice good personal hygiene.
- Wash hands after handling and before eating.
- Launder work clothes frequently.

Storage

- Store in a segregated and approved area.
- Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials.
- Eliminate all ignition sources.
- Separate from oxidizing materials.
- Keep container tightly closed and sealed until ready for use in horizontal position
- Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
- Do not store in unlabeled containers.
- Use appropriate containment to avoid environmental contamination.
- Place MSDS in the storage room.
- Ensure proper fire fighting arrangements (eg, fire extinguisher, fire bucket) in the storage room.

Control Measures to be taken at the time of Spillage of oil

- Contain and collect spillage with non-combustible, absorbent material e.g. sand, saw dust, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
- Place deep tray at the below of leakage area.
- Eliminate all ignition sources.
- Use spark-proof tools and explosion-proof equipment.
- Prevent entry into sewers, water courses or confined areas.
- Dispose of via a licensed waste disposal contractor.

Air Conditioner and Fan Safety

Hot weather brings increased use of air conditioners. Contact with electric current from air conditioners accounts for a significant number of electrocutions and electrical injuries each year.

It is advisable to always call a qualified, licensed electrician to perform any electrical work in your home and workplace, including the installation and services of air conditioning and other cooling equipment.

Cooling Equipment Safety Tips

- Keep safety in mind when selecting cooling equipment for use.
- Have a qualified, licensed electrician install and service any electrical equipment in your home.
- Have electric-powered equipment inspected and maintained regularly for safety.
- Make sure your equipment has the label showing that it is listed by a recognized testing laboratory.

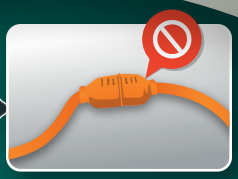
Extension Cord Safety Tips

REACHING TO SAFETY:

Use Extension Cords Properly

Roughly ***3,300 home fires*** originate in extension cords each year, ***killing 50 people and injuring 270 more***. ***Extension cords can overheat*** and cause fires when used improperly, so keep these important tips in mind to ***protect your home and workplace***.

DON'T attempt to **plug extension cords into one another**.



Make sure extension cords are **properly rated** for their intended use, indoor or outdoor, and **meet or exceed the power needs** of the appliance or device being used.

Do ***NOT*** overload extension cords.

Inspect cords for ***DAMAGE*** before use. Check for **cracked or frayed sockets**, loose or bare wires, and loose connections.

Do ***NOT*** run through **walls, doorways, ceilings or floors**. If cord is covered, heat cannot escape, which may result in a ***FIRE HAZARD***.

Buy only cords that have been **approved** by an **independent testing laboratory**.

Keep all **outdoor extension cords** clear of snow and standing water.

A heavy reliance on **extension cords** is an indication that you have too few outlets to address your needs. Have **additional outlets installed** where you need them.

Do ***NOT*** **nail or staple electrical cords** to walls or baseboards.

NEVER use **three-prong plugs** with outlets that only have two slots. **Never cut off the ground pin to force a fit**, which could lead to electric shock.

Do ***NOT*** substitute **extension cords** for permanent wiring.

DOWNED AND DANGEROUS

Downed power lines can be deadly. ALWAYS assume a downed power line is live and avoid going near it or anything in contact with it.

USE PRECAUTION

Downed power lines can energize the ground up to **35 feet** away.

If you see a downed power line, immediately **notify** the local authorities.

Never drive over downed power lines or through water that is in contact with them.

Never try to move a downed power line. Even using items that typically are not conductive **will not** prevent injury or death.

KNOW WHAT TO DO

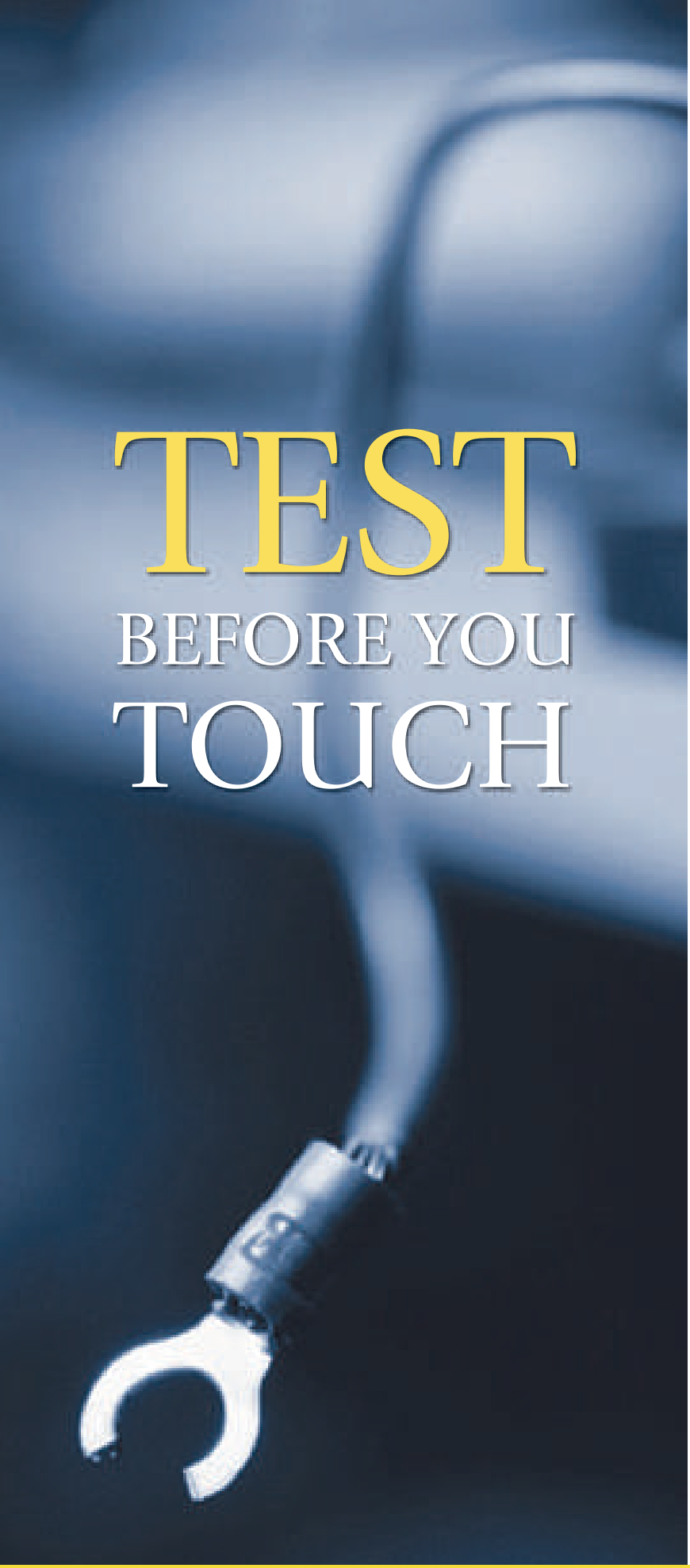
The safe way to move away from a downed power line is to **shuffle** away with small steps, keeping your feet together and on the ground at all times.

If your vehicle comes in contact with a downed power line while you are inside, **stay in the vehicle.** Do not touch any part of the vehicle's frame or any other metal. Use a cell phone or honk your horn to summon help. Allow only rescue personnel to approach the vehicle.

ACME Superheroes of Safety: Who Is Your Safety Inspiration?

Help us recognize and celebrate the people who are protecting and motivating employees – and our company's reputation and profits – every day. We would like to include their names in our June issue, along with a little bit about why they deserve the recognition.

Please email us at **vijeta.chaudhary@acme.in** and put "EHS Leaders" in the subject line and tell us who motivated you and how. Who is your EHS leader at your workplace? What did he/she do to motivate and inspire you?



TURNING OFF THE POWER AT THE CIRCUIT BREAKER MEANS IT'S SAFE TO WORK, RIGHT?

WRONG.

Every year, people are injured or killed by circuits they thought were safely turned off. Simply shutting off the power is not enough. Hazardous conditions can still exist.

Working with electricity requires thorough planning and extreme care. Whether you are a do-it-yourselfer tackling a weekend project or an experienced contractor, learning and practicing safe work habits can significantly reduce your risk.

That's why you must always **TEST BEFORE YOU TOUCH**. You may not get a second chance to learn this important lesson.

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