



HSE BULLETIN

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ELECTRICAL SAFETY

Electrical safety is important because hazards such as arc flash and shock can result in death if you are exposed to them. Fortunately, the likelihood of this occurring is relatively low. However, the control measures that prevent these hazards require careful management, attention to detail and technical competence.

Electricity can kill or severely injure people and cause damage to property. However, we can take simple precautions when working with or near electricity and electrical equipment to significantly reduce the risk of injury to themselves, co-workers, and others around them.

Electrical Hazard

BE SAFE:

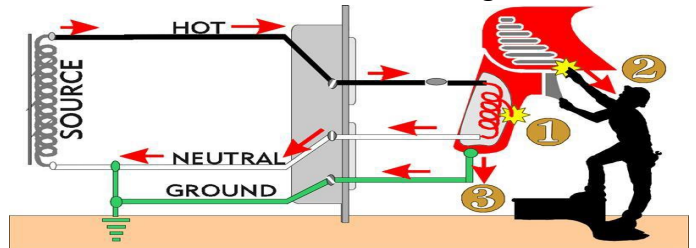
- ❖ Burns
- ❖ Electrocutation
- ❖ Shock
- ❖ Arc flash/arc blast
- ❖ Fire
- ❖ Explosions

BE SAFE WITH ELECTRICITY

	B urns
	E lectrocutation
	S hock
	A rc Flash/Blast
	F ire
	E xplosions

How The Electric Shock Occurs

- ❖ Shock occurs when the body becomes a part of the circuit.
- ❖ Current enters at one point & leaves at another.
- ❖ Contact with both conductors.
- ❖ Contact with one conductor and ground.



(1,000 milliamperes = 1 amp; therefore, 15,000 milliamperes = 15 amp circuit)

Current	Reaction
Below 1 milliampere	Generally not perceptible
1 milliampere	Faint tingle
5 milliampere	Slight shock felt; not painful but disturbing. Average individual can let go. Strong involuntary reactions can lead to other injuries
6-25 milliamperes (women)	Painful shock, loss of muscular control
9-30 milliamperes (men)	The freezing current or "let-go" range. Individual cannot let go, but can be thrown away from the circuit if extensor muscles are stimulated.
50-150 milliamperes	Extreme pain, respiratory arrest, severe muscular contractions. Death is possible.
1,000-4,300 milliamperes	Rhythmic pumping action of the heart ceases. Muscular contraction and nerve damage occur; death likely
10,000 milliamperes	Cardiac arrest, severe burns; death probable

Electrical Protection Method

- ✓ Follow tool safety tips to avoid misusing equipment.
- ✓ Follow manufacturer's instructions.
- ✓ Don't use in wet/damp environments.
- ✓ Keep working areas well lit.
- ✓ Ensure that cords do not cause a tripping hazard.
- ✓ Remove damaged tools from use.
- ✓ Use double insulated tools.
- ✓ Use gloves and appropriate PPEs.
- ✓ Ensure proper guarding.
- ✓ Provide training.
- ✓ Enforce LOTO safety related work practices.
- ✓ Ensure proper identification of power sources

Remember to disconnect, before you correct!!!!