The Beginners Guide to

Electrical Safety

By Electrical and Electronics Engineering

Current Facts

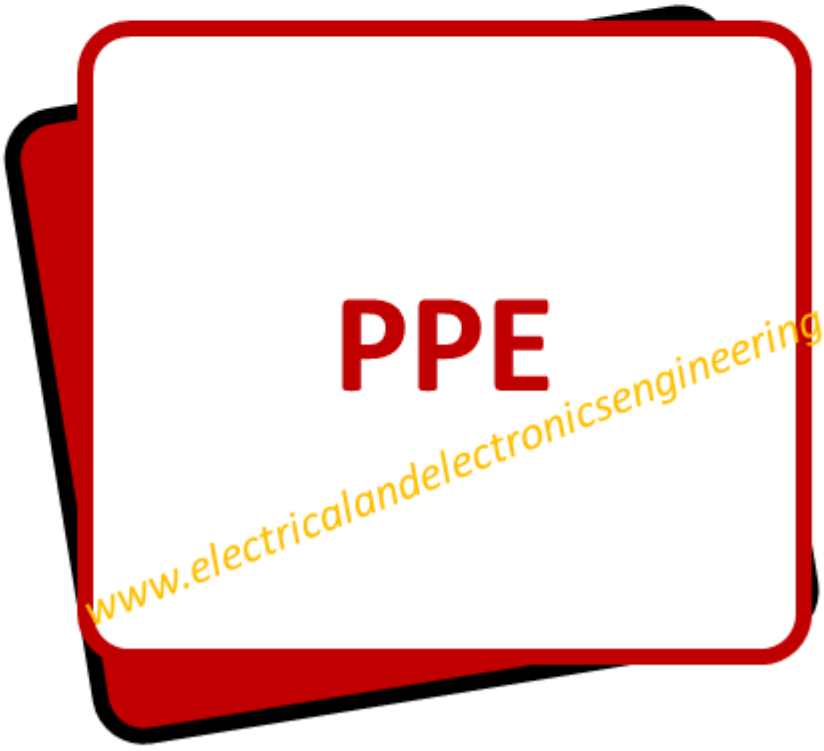
Electrical power equipment can pose a threat to technicians, engineers, operators, and workers that are dealing with equipment.

A small current as little as 1 mA has impact on human body. The higher the level of current, the dangerous are the consequences. The table below displays some basic stats on electric current:

Current (mA)	Reaction	Level
1	Perception level	
5	Slight shock	
6-30	Painful shock	
50-150	Severe muscular contraction	
1000-4,500	Ventricular fibrillation	
10,000+	Cardiac arrest + severe sort of burns and can lead to death	

Personal Protection Equipment

Personal Protection Equipment of PPEs are probably the first and foremost line of defense against electric shocks. While Insulated gloves and Insulated shoes are expected to provide the insulation against accidental touch between live parts of and your body (as far as voltages are low and current is within safe levels), the googles and safety helmet are important for protections against general accidents such incidental falls of objects, protection against dust particles, stones etc



#1 The Gloves

Depending on the sort of insulation required by voltage level your work you might need simple rubber or high voltage gloves.

Always choose a proper glove that fulfils your electric safety needs

#2 Insulated Shoes

Wear appropriate type of shoes that provide insulation depending on your work place. Always use electric shock insulated shoes while working in sensitive places such as electrical rooms, ELV rooms, and hazardous environments

#3 Safety Helmet

The safety helmet is classified under general protection equipment. While it is not directly related with electrical safety, it is included here as a general protection element

#4 Insulated Scaffolding & Ladders

Many times you need to access electrical equipment at heights via ladder and scaffoldings. Insulated scaffolding & Ladders made from dielectric fiberglass and aluminum or some other material should be used while accessing heights in electric environments

Basic Tips

1. **Keep it Clean:** A clean environment is a safe environment
2. **Double insulated:** Always use double insulated power tools
3. **Test it before Touch it:** Before touching any parts of equipment use your tester to check presence of voltage
4. **Remove the metal:** Take off your metallic watches, rings, and other metallic items
5. **Ensure de-energization:** Before dealing with maintenance and repair work always ensure the complete de-energization of equipment

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