GuideSheet Electrical Safety

Serious injury or death may result from exposure to electrical hazards arising from use of faulty appliances/equipment, removal of appliance/equipment safeguards, or overloaded convenience outlets to name a few. Review helpful ways below in which to eliminate electric shock, electrocution, fires, and explosions.

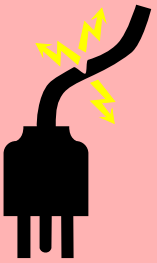
Safe Practices

- Always follow the manufacturer's instruction manual for using energized equipment.
- Inspect electrical tools and power cords before each use (tag damaged equipment and remove from service).
- Ensure electrical equipment is unplugged and locked out (if applicable) prior to any maintenance or cleaning.
- Inspect insulation on cords for signs of cuts, deterioration, or exposed wires.

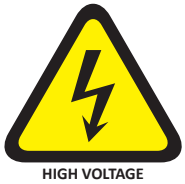
- Keep the work area clean and free of flammable/combustible materials.
- Use the correct tool for the job.
- Use appropriate personal protective equipment (if applicable)
- Keep extension cords/cables clear of doorways or walkways where they can be stepped on or pose a tripping hazard.
- Use a ground-fault circuit interrupter (GFCI) when working in damp areas.
- Match plugs to outlets and make sure plugs are in good condition.
- Protect electrical cords/cables from damage.
- Report any electrical problem promptly.
- Observe safety signs for electrical hazards.

DO NOT

- DO NOT overload motors, circuits, or outlets.
- DO NOT use ungrounded plugs for grounded electrical equipment.
- DO NOT use temporary (< 90 days) wiring or extension cords in place of permanent outlets. The use of extension cords as permanent wiring is prohibited.
- DO NOT twist or tangle electrical cords.
- DO NOT rest objects, furniture, or other heavy items on power cords.



- DO NOT repair/splice a power cord or power strip.
- DO NOT alter an electric plug.
- DO NOT place cords or electrical equipment near heat or water.
- DO NOT use damaged, deteriorated, or recalled appliances/equipment.
- DO NOT use worn or frayed electrical cables.
- DO NOT run cords loosely across floors or under floor rugs.
- DO NOT block access to main disconnects.
- DO NOT wear metal jewelry when working on electrical equipment.
- DO NOT Use metal ladders for electrical work.



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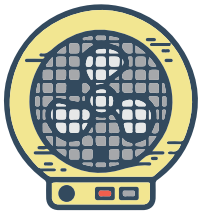
Appliances

- Connect appliances directly to wall, floor or column receptacle outlets.
- Ensure that appliances carry certification (e.g., UL, CSA, ETL, MET) that they meet current safety standards.
- Hospitals and clinics must have approval from their respective safety managers prior to purchase and installation of appliances.

Portable Electrical Space Heaters

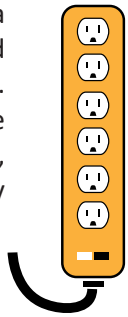
Ensure that space heaters:



- Are plugged directly into permanently installed receptacles.
- Are kept at least three feet away from combustible materials in all directions.
- Are turned off every time you leave the area.
- Include a tip-over sensor and switch that will turn the heater off if it is accidentally knocked over and/or an overheating sensor that will shut off the heater if its temperature gets too high.

Power Taps

Relocatable Power Tap (RPT) or power strip is a variation of an extension cord, where the cord terminates in a row or grouping of receptacles. Power strips are commonly used in offices to provide multiple receptacles to office equipment. In general, the policies pertaining to extension cords also apply to power strips.



Power Taps MUST be:

- Polarized or Grounded, having over-current protection.
- UL 1363 listed.
- Connected directly to a permanently installed receptacle.
- Protected from exterior damage: physical (foot traffic) and environmental (weather).

Power Taps MUST NOT:

- Be frayed, deteriorated, spliced, or modified.
- Pass through walls, doors, or windows.
- Be connected in series.

Surge Protectors

When choosing a surge protector, consider the following:

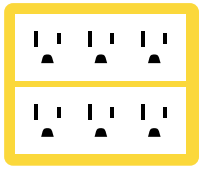
- The UL 1449 Suppressed Voltage rating: This number specifies what spike voltage will cause the protective components inside a surge protector to short or clamp. The lower the rating, the higher the safety.

500V	400V	330V
Good	Better	Best

- Stages of Protection/Surge Current Rating: UL 1449 does not tell you how much surge current (in amps) can be handled or how quickly the suppressor will clamp. With multiple stages of protection, different components are used to suppress a surge.
  - The more stages, the more surge current can be handled. The surge current rating in amps lets you know the maximum amount of surge current that can be safely handled by the suppressor. The higher the number, the better the rating.

1 Stage	2 Stages	3 Stages
Good	Better	Best

Multi-Plug Adaptors



USC Fire Safety does not recommend the use of multi-plug adaptors.

References

OSHA Quick Card Electrical Safety

National Safety Council - Electrical Safety

Sandia National Laboratories - Basic Electrical Safety

Underwriters' Laboratories