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Electrical equipment can pose significant hazards in the workplace including electrical burns, shocks, fires, and explosions. OSHA's electrical standards are designed to protect employees and minimize risk of serious injury from unsafe equipment, environment, and work practices.

## Basic Electrical Safety



**INSPECT** cords and plugs to ensure proper working condition. **DO NOT USE DAMAGED**, worn, frayed, split cords, or plugs missing ground pins or cracked. Repair or replace.

**DO NOT RUN through walls**, ceilings, light fixtures, carpets, doors, or high traffic areas.



**DO NOT OVERLOAD** circuits. Check the manufacturer's amperage requirements prior to plugging in equipment to avoid overloading (do not use higher amperage(s) than the cords are rated for, remember if it's a multiple plug unit that it all adds up).

**OVERLOADED CIRCUIT WARNING SIGNS:** tripped circuit breakers, flickering lights, burning odors, cracking or buzzing, warm/hot, discolored, or mild shock or tingle from equipment, receptacle or switch.

Avoid use of extension cords or multi-outlet adapters. **Extension cords are TEMPORARY USE ONLY** (<90 days). Consult with Facilities Management if additional electrical outlets are needed in your area(s).



**DO NOT DAISY-CHAIN** or plug surge protectors/power strips/extension cords together, due to risk of overloading the circuit and potential fire hazard.

## Power Strips and Surge Protectors

Surge protectors are devices with an On/Off switch and circuit breaker that protect against small surges. Power strips do not offer protection. Must be approved by a Nationally recognized testing laboratory.

Never overload total capacity (1440 watts or 15 amps) and only use equipment with  $\leq 600$  watts or 5 amps.

High current draw devices and any electrical power supplies must be plugged directly into the wall. Surge protectors or power strips should not be used for:

- portable space heaters
- copy machines
- coffee pots
- toasters/toaster ovens
- refrigerators
- hot plates
- microwave ovens
- drying furnaces

Use surge protectors if building contains faulty wiring, has issues carrying electrical load, if high-powered devices turn on or off, or area(s) are susceptible to severe voltage surges (i.e. lightning strike).



**DO NOT** use surge protectors or power strips for **extra outlets**, as an “ON/OFF” switch, or as an extension cord to reach appliances or equipment.

**Check indicator on surge protectors** periodically to ensure “protected” light is “ON”. Surge protectors can be worn down or if they experience an electrical load can be rendered less or non-effective.



*Power strip (no surge protection, UL1363)*



*Surge protector with indicator (UL 1449)*



*Nationally recognized testing laboratories label*



*Ground Fault Circuit Interrupter (GFCI)*

Place in appropriate areas. Surge protectors or power strips with longer cords **may cause trip hazards** and if placed near water source **may cause electrical hazard**.

## Ground Fault Circuit Interrupters (GFCI)

GFCI is a fast-acting circuit breaker designed to shut off electric power at a speed of 1/40<sup>th</sup> of a second when it detects a difference in outgoing and incoming current. GFCI protects people from electric shock.

Always use GFCI outlets or portable GFCI when **working around a water source**, outdoors, near aquarium area(s), or near other wet or potentially wet areas.

## Additional Considerations

Only qualified workers who have been trained in the avoidance of electrical hazards are permitted to work on or near exposed energized parts or servicing electrical equipment.

## Resources

- Cal-OSHA Title 8 Regulations <https://www.dir.ca.gov/title8/sb5g1.html>
- [National Fire Protection Agency \(NFPA\) Electric Code 70](#)
- <https://www.ucop.edu/risk-services/files/bsas/safetymeetings/powerstripsafety.pdf>
- <https://www.ehs.berkeley.edu/sites/default/files/lines-of-services/workplace-safety/30extencords.pdf>

### Additional Safety Questions?

Contact EH&S at (949) 824-6200 or [safety@uci.edu](mailto:safety@uci.edu)