

Electrical Safety

8.13.4 Extension Cords

Extension cords provide a convenient method of bringing ac power to a device that is not located near a power source. They are used as temporary power sources.

Extension cords are probably involved in more electrical-code and safety violations than any other device at the Laboratory. They are stepped on, stretched, cut, overloaded, and, in general, used improperly.

Guidelines for the Safe Use of Extension Cords:

- Use only approved and properly maintained extension cords that have no exposed live parts, exposed ungrounded metal parts, damage, or splices.
- Use only heavy-duty or extra-heavy-duty rated cable.
- Use extension cords that are protected by a ground fault circuit interrupter (GFCI) around construction sites, in damp areas, or in an area where a person may be in direct contact with a solidly grounded conductive object (e.g., working in a vacuum tank (metal to ground)). The GFCI can consist of a special circuit breaker, a GFCI outlet, or an extension cord with a built-in GFCI.
- Ensure that the extension cord is of sufficient current-carrying capacity to power the device. Use of an undersized cord results in an overheated cord and insufficient voltage delivered to the device, thus causing device or cord failure and a fire hazard. Undersized cords also constitute a serious shock hazard as it may not allow the breaker feeding it to trip. (No less than 14 gauge)
- Always use three-conductor (grounded) extension cords—even if the device has a two-conductor cord. Never use two-conductor extension cords at the Laboratory



Cervelliere Limited

www.cervelliere.com

925-240-3575

Avoiding Misuse of Extension Cords: Observe the following restrictions to avoid misuse of extension cords:

- Do not use extension cords in place of permanent facility wiring.
- Avoid running extension cords through doors, ceilings, windows, or holes in the walls. If it is necessary to run a cord through a doorway for short term use, ensure that the cord is:
 - Protected from damage.
 - Removed immediately when no longer in use.
 - Not a tripping hazard.
 - Added Note: Cords that are twisted on the inside but not broken need to be replaced. This happens when cords are run over by vehicles/Scissor lift ect..
This is added when plywood or masonite is laid on top of a cord rolled over.
- Do not daisy chain extension cords (i.e., plug one extension cord into another extension cord).
- Do not overload extension cords. Make sure that the wire size is sufficient for the current required.
- Do not cut off the ground pin of an extension cord or compromise the ground protection in any way.
- Do not use extension cords with a ground conductor that has less current-carrying capacity than the other conductors.
- Do not use frayed or damaged extension cords.
- Never splice extension cords, even for a repair. If an extension cord is damaged, it may be made into two cords, provided the proper connectors are used in a proper manner. Only qualified personnel may install cord caps for use with potentials greater than 50V.
- Only qualified personnel may make repairs of extension cords.
- An extension cord that ends with a splitter or Y may feed individual tools and other loads. It may not feed other extension cords or another splitter or Y.



Cervelliere Limited

www.cervelliere.com

925-240-3575

8.13.5 Relocatable Power Taps (Power strips)

Relocatable power taps are not approved for construction sites or for outdoor use.



