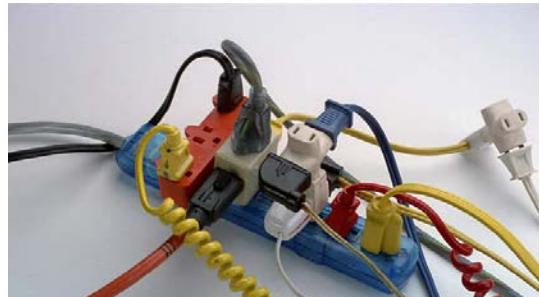


Familiarize Yourself with Common Fire and Life Safety Issues:
Electrical Fire Hazards in the Workplace – Extension Cords and Power Strips



Electrical hazards are consistently near the top of the rankings of accidental fire causes. They are also one of the most common deficiencies noted during fire inspections. The improper use of extension cords and power strips are the most common deficiencies found during fire inspections. The improper use of power strips usually tops the list of electrical deficiencies noted during inspections. Multi-plug adapters, power taps and power strips are regulated by Section 605.4 of the Fire Code. The Fire Code requires that multi-plug adapters, power taps and power strips comply with the following:

- Power Strips and Multi-Plug adapters shall be of the polarized or grounded type equipped with over-current protection and listed in accordance with UL 1363. **Fire Code §605.4.1**
- Power Strips and Multi-Plug adapters shall be plugged directly into an approved permanently installed receptacle. *Power strips may not be plugged into another power strip, which is referred to as “Daisy-Chaining”.* **Fire Code §605.4.2**
- Power Strips and Multi-Plug adapter cords shall not extend through doors, walls, ceilings, floors, under doors or floor coverings or be subject to environmental or physical damage. **Fire Code §605.4.3**
- Power Strips and Multi-Plug adapter that are damaged or have damaged cords shall be repaired or replaced prior to use. **Fire Code §605.1**

Power strips can now be purchased with electrical cords of up to 25 feet allowing for the safe use of electricity in offices and areas with a limited number of electrical receptacles.



Daisy-Chaining power strips is not allowed. Extension cords provide the convenience of powering electrical appliances that are not located in close proximity to an electrical outlet. However, that convenience comes with additional risks when extension cords are not used properly. The United States Fire Administration reports that the improper use of extension cords is the leading cause of fires where the cause of the fire is electrical in nature. The improper use of extension cords is also consistently one of the most common violations observed

during fire and life safety inspections

“Temporary” and “Portable” are key terms to remember when considering the use of an extension cords. According to Fire Code Section 605.5, which regulates the use of extension cords, extension cords can only be used to power portable appliances on a temporary basis. Extension cords shall never be used as a substitute for permanent wiring.

Fire Code Guidelines for the Safe Use of Extension Cords:

- Extension cords shall only be used with portable appliances on a temporary basis. When the appliance is not in use, the extension cord shall be unplugged. **Fire Code §605.5**
- Unless provided with “Over-Current” protection multi-plug extension cords are not allowed to be used. **Fire Code §605.5.1**
- Extension cords shall not:
 - Be affixed to structures;
 - Extended through walls, ceilings, floors, doorways or under floor coverings;
 - Be subject to environmental damage or physical impact. **Fire Code §605.5**
- Extension cords shall be plugged directly into an approved receptacle. **Fire Code §605.5.1**
- The ampacity of the extension cord shall not be less than the rated capacity of the portable appliance being powered. **Fire Code §605.5.2**
- Extension cords shall be maintained in good condition without splices, deterioration or damage. **Fire Code §605.5.3**
- Extension cords shall be grounded when serving grounded appliances. **Fire Code §605.5.4**



Only use grounded extension cords when connecting a grounded appliance.

Light weight, multi-plug extension cords “zip cords” are not allowed to be used on campus. If you should have any questions regarding the use of power strips or extension cord feel free to contact me at mvonraesfeld@stanford.edu. In the next issue of “From the Ground Up”, we will continue to discuss common electrical hazards including electrical space heaters.

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