ELECTRICAL SAFETY

Improperly used electrical equipment is potentially hazardous and can cause fires and serious injuries. Overloaded circuits and cords may result in fires and costly downtime. If a part of the body comes in contact with the electrical circuit, a shock will occur. The current will enter the body at one point and leave at another. This passage of electricity, can cause great pain, burns and even death.

Safety Tips

- Ensure electrical panels and equipment have adequate access (at least 3 feet) (**Figure 1**).
- Ensure electrical equipment has proper clearance for cooling (vents), access to controls and any anticipated maintenance.
- Inspect equipment prior to use. Ensure electrical equipment is properly guarded.
- Do not overload circuits.
- Avoid "daisy chained" power strips and extension cords (e.g. one extension cord plugged into another extension cord) (**Figure 2**). Plug power strips and extension cords directly into outlets.
- Do not use flat extension cords (**Figure 3**). They typically do not have suitable insulation. Extension cords for temporary use must be three-conductor (grounded) and made of a heavy-duty (14 gauge) or extra-heavy-duty (12 gauge) rated cable.
- Do not use frayed/damaged electrical cords or cords with ground prongs removed (**Figure 4**).
- Do not run cords through or above doorways and walls (**Figures 5 and 6**).
- Inspect equipment prior to use.
- Use ground fault circuit interrupters (GFCIs) whenever operating electrical equipment outdoors, in a wet area or within 6 feet of a water source. Plug-In GFCI's can be used where outlets are not already protected.
- Plug high current appliances such as refrigerators and microwaves directly into outlets.
- Do not ignore warning signs. If an item feels hot, makes an unusual noise (buzz or hum), smokes or sparks, take it out of service immediately and tag it "Do Not Use".
- Unplug cords from the outlet by gripping the plug. Do not just pull the cord from a distance (**Figure 7**).
- All work performed on equipment should be done by qualified personnel with the equipment deenergized and locked out. Live work is generally prohibited. Contact EHS for support regarding lockout and/or live work procedures.
- Whenever possible, use equipment that is nationally-recognized testing laboratory (NRTL) listed or labeled equipment.

More Information

- Laboratory Heating Devices Safety Guidelines – https://bit.ly/3BULIrH
- Extension Cord Safety – https://bit.ly/2Wqemk4
- Office Fire Safety – https://bit.ly/3l9G8vv
- Portable Space Heater Safety – https://bit.ly/2VleEIF
- What is a GFCI? – https://bit.ly/3xenRzs

FIGURE 1



FIGURE 2

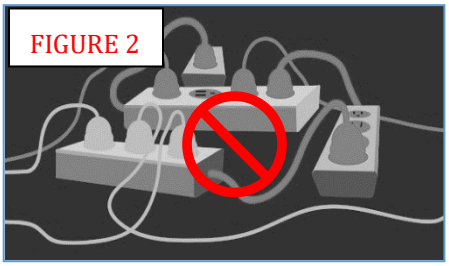


FIGURE 3



FIGURE 4

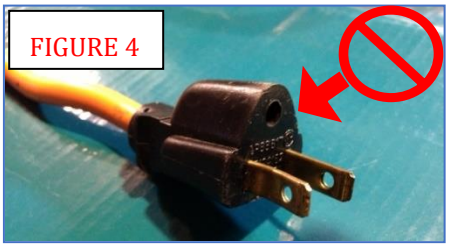


FIGURE 5

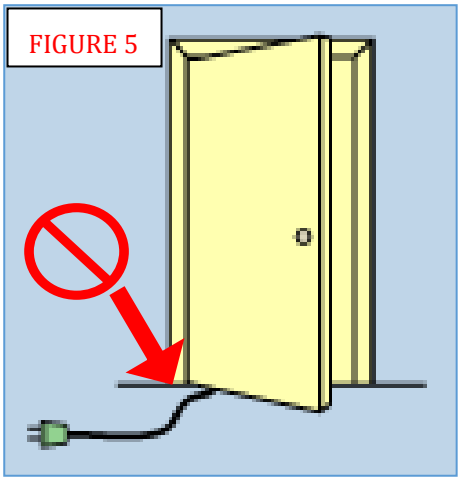


FIGURE 6

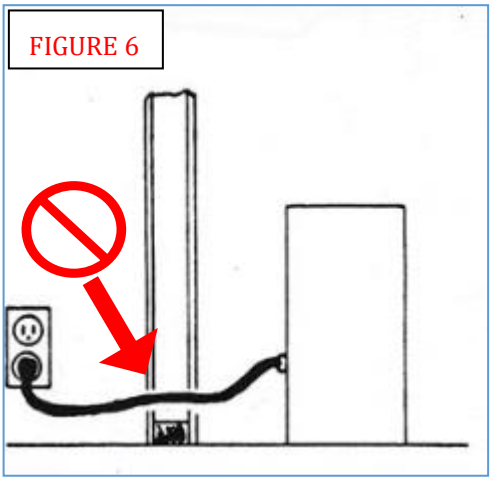


FIGURE 7

