



# Electrical Safety

Reference : CCOHS website

# **Why Is It So Important to Work Safely With or Near Electricity?**

- **It takes less than the electrical current in the power of one Christmas tree bulb to be enough to electrocute you!**
- **Even changing a light bulb without unplugging the lamp can be hazardous because coming in contact with the “hot” or live part of the socket could kill a person.**

# **Working Near Electrical Panels**

- **Some of the most serious electrical injuries are from arc blasts which caused burns right up to 1st degree.**
- **Never open an electrical panel unless you have been trained to do so and are wearing the appropriate PPE!**

# **What kinds of injuries result from electrical currents?**

- **There are 4 main types of injuries:**
- **1 – Electrocution (fatal!)**
- **2 – Electric shock**
- **3 – Burns**
- **4 - Falls**
- **They can happen in various ways.**
- **Direct contact**
- **Electric arcs**
- **Thermal burns or flash burns**
- **Muscle contractions or startle reaction**

# **General Safety Tips for working with/near electricity**

- **Inspect tools, power cords and electrical fittings for damage or wear prior to each use.**
- **Tape cords to walls and floors. Don't use staples or nails! They can damage the cord.**
- **Use cords or equipment that is rated for outdoor use even if you are using them indoors ( they have thicker insulation and are water resistant).**
- **Always use the correct fuse size.**

# **More general safety tips**

- **Be aware of “hot” outlets. Unsafe wiring may exist. Unplug and call an electrician.**
- **Use wooden or non conductive ladders.**
- **Place halogen lights away from combustible items.**
- **Install Ground Fault Circuit Interrupters in areas that are damp or wet. I.E. Pool pump, water bath**
- **Know the location of fuse boxes and circuit breakers.**
- **Label all fuses and circuit breakers.**

# **And more safety tips**

- **Don't use outlets or cords that have exposed wiring.**
- **Don't use power tools with the guards removed.**
- **Do not block access to circuit breakers or fuse boxes.**
- **Do not touch a person or electrical apparatus in the event of an electrical accident. Always disconnect the current first.**
- **Know where to disconnect the power ie: which breaker.**

# **Power tool tips**

- **Switch tools off before connecting them to a power supply.**
- **Disconnect power supply before making adjustments.**
- **Ensure tools are properly grounded, have a 3 prong plug or are double insulated (double insulated have only 2 prongs but are completely safe).**
- **Install a GFCI before using in damp or wet conditions.**
- **Don't clean tools with a flammable or toxic solvent.**
- **Don't operate tools in an area with explosive gases or vapours.**

# Power Cord Tips

- **Keep power cords clear of tools during use.**
- **Suspend power cords to eliminate tripping hazards.**
- **Replace open front plugs with dead front plugs. Less danger of shock or short circuit.**
- **Don't use light duty power cords.**
- **Don't carry tools by the power cord.**
- **Don't tie power cords in knots. This can cause short circuits or shocks.**

# **Sample checklist for basic electrical safety.**

- **Inspect cords and plugs before each time you use them. Discard if worn or damaged.**
- **Eliminate “Octopus” connections.**
- **Don’t pull on the cord when disconnecting.**
- **Never break off the third prong on a plug. Replace broken 3-prong plugs.**
- **Never use extension cords as permanent wiring. Keep power cords away from heat, water and oil.**
- **Never drive over cords!**

# **Don't Work Alone...**

- **A good general rule is to have someone near a person using a power tool. The reason for this is there was an incident where an electrician was up a step ladder using a drill. The drill got bound in the steel and spun the cord around his hand. The cord got stretched and shorted to the case, the worker then got a continuous shock locking his muscles. He could not speak nor could he free his hand from the powerful drill; fortunately a person nearby realized he was in trouble and removed the power cord from the receptacle.**

# **First Aid, CPR and Defibrillator training.**

- **Someone in the work place should have all of the training listed above.**
- **The equipment to do these jobs should be readily available, in good condition, inspected monthly and have signs nearby indicating who has been trained to use it.**