

Standard operating procedure

Electric Soldering Station

PURPOSE

To outline the safety measures and proper operating procedures for operating an electric soldering station containing electric soldering iron and hot air gun.

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

1. Long and loose hair must be contained when operating this equipment.
2. Covered footwear must be worn when operating this equipment.

PROCEDURE A. PRE-OPERATIONAL SAFETY CHECKS

1. Wherever possible, use lead-free solder.
2. Check general work area to ensure no slip/trip hazards are present.
3. Ensure bench top work area is clear.
4. Examine the power lead and soldering iron/heat gun for obvious damage, including tip damage.
5. Turn on fan prior to starting the soldering iron or heat gun.
6. Leave the soldering iron/heat gun in the stand when it is warming up.

B. STANDARD OPERATION AND SAFETY CHECKS

1. Adjust the tip temperature to suit the required thermal transfer during soldering (nominally 340°C for tin/lead solder, 370°C for lead-free).
2. Place the soldering iron/heat gun back in the stand immediately following each use.
3. Avoid positioning your head directly over the soldering process. Soldering creates flux fumes that can irritate the lungs and eyes, and may cause sensitization.
4. Clean the hot tip with either the brass coil or a damp sponge before tinning.
5. "Tin" the tip by placing some solder onto the iron. This allows for more thermal conductivity with the conductor you are about to solder.
6. When trimming leads, contain the lead with a finger to prevent the cut lead becoming a projectile.
7. Press the hot iron against the joint between the two conductors you wish to solder. Be careful the tip does not also touch nearby components so as not to heat them up.
8. Feed solder into the heated joint.
9. When using flux or solder paste, always clean the work piece upon completion to remove residue.
10. Allow all tools and work pieces to cool down before handling or storing.

C. ENDING OPERATION AND CLEANING UP

1. Ensure that the soldering iron tip is well tinned before switching off the soldering iron.
2. Switch off, unplug, and allow the soldering iron/heat gun to cool down before storing.
3. Leave work bench in a safe, clean and tidy state.
4. When using solder containing lead wash hands after completion.

WARNINGS AND PRECAUTIONS

1. Burns from hot tool tips, hot air or components that were in contact with tool tip:
 - a. Do not touch tip when the soldering iron is on or until the tip has had time to cool after shutting off the soldering iron.
 - b. Do not hold hands in front of heat gun when on and never attempt to heat an item with it in your hands.
 - c. Never flick the soldering iron to remove excess solder.
 - d. Allow all tools and work pieces to cool down before handling or storing.
2. Inhalation of fumes, in particular from tin/lead solder:
 - a. Avoid positioning your head directly over the soldering process.
 - b. Always work in a well ventilated area with a fan pulling away from work area.
3. Fire:
 - a. Always keep soldering iron/heat gun in holder when not in use.
 - b. Do not use soldering iron/heat gun to for any purpose other than the recommended uses.
 - c. Do not leave soldering iron/heat gun on when not in use.