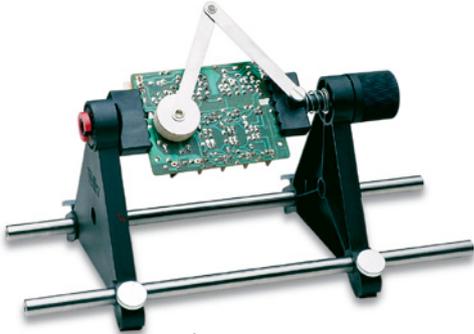


# SOLDERING TIPS & TRICKS



**Weller**<sup>®</sup>

# HOW TO GET STARTED?



Solder aid



Soldering station and iron



Desoldering pump



Fresh air



Cleaning Tools



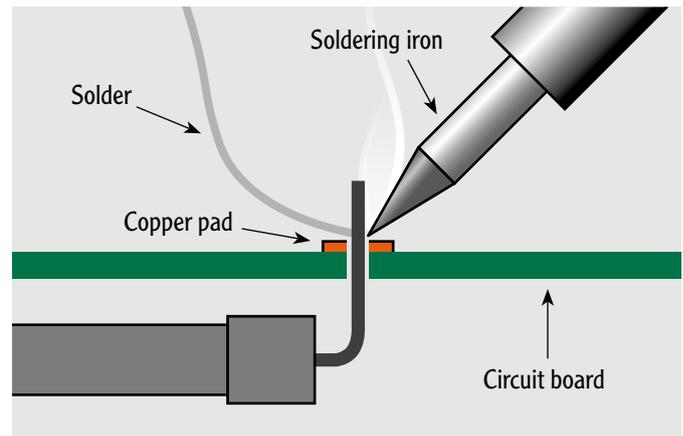
Electronic pliers



Solder wire

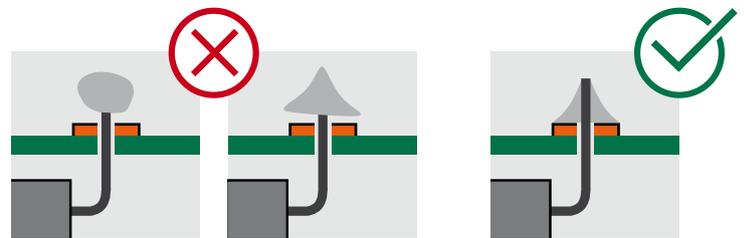
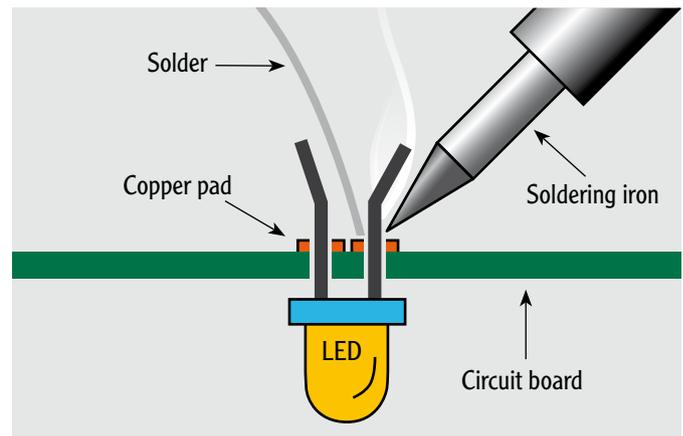
## GET PREPARED

1. Prepare workspace
2. Moisture sponge with de-ionized water
3. Clean solder joint
4. Wet soldering tip with fresh tin



## THROUGH HOLE TECHNOLOGY

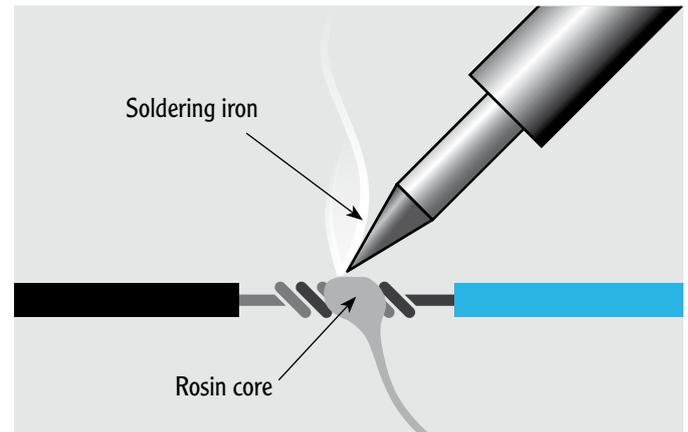
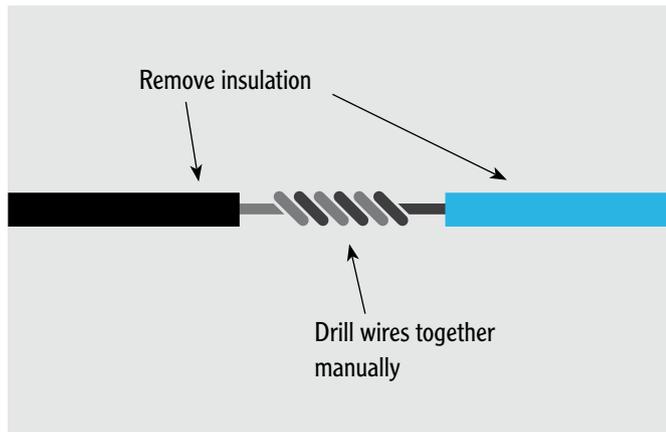
1. Place component through hole
2. Heat up soldering iron to 300 – 400°C
3. Use wetted soldering tip
4. Preheat the pad
5. Simultaneous contact of solder with component and soldering iron



## SOLDER 2 THIN WIRES TOGETHER

1. Remove isolation of both wires with electronic pliers  
**Tip:** place shrinking tube if needed
2. Drill both wires together
3. Touch wires with soldering iron to preheat about 1–3 seconds depending on thickness.  
Stay in this position and place solder simultaneously with soldering tip to the wires.
4. Shrink an isolation to the soldered wire.  
**Tip:** a third hand aid will help

Drawing: component on pc board – wire and iron



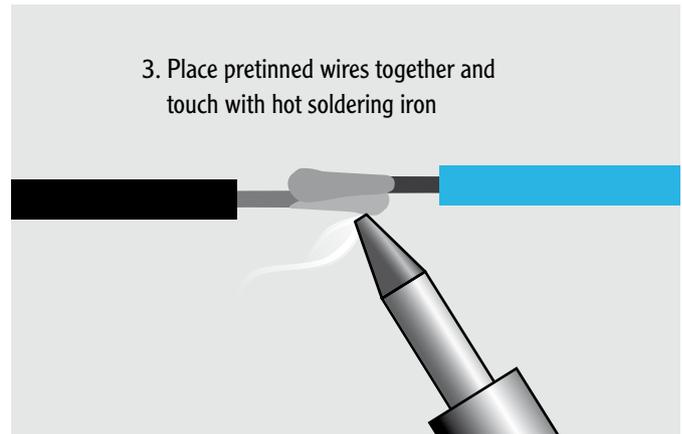
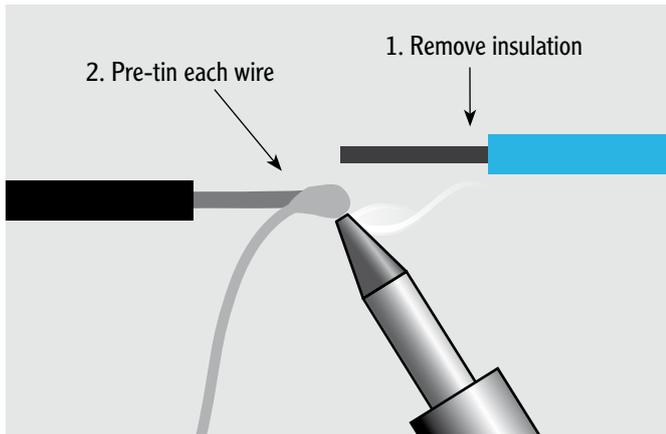
# SOLDER 2 THICK WIRES TOGETHER

1. Remove isolation of both wires
2. Pre-tin each wire – Touch wire with soldering iron to preheat about 1–3 seconds depending on thickness. Stay in this position and place solder simultaneously with soldering tip to the wires. Repeat for second wire.

**Tip:** place shrinking tube if needed

3. Place pretinned wires next to each other
4. Touch with hot soldering iron and melt solder. Cables will be connected. Insulate cables by shrinking.

**Tip:** a third hand aid will help



## USING THE RIGHT SOLDERING TOOLS

- › Work with a soldering iron that has a high power output and the most efficient thermal transfer.
- › Use an “intelligent” soldering station which gives optimized temperature control and a setback function to reduce the temperature of the tip when the iron is not in use.
- › Preheating a board before soldering reduces the risk of overheating.
- › Choose the right soldering tip

**For PCBs:** should match pad size

**For wires:** 5 mm tip



## INCREASING THE LIFETIME OF SOLDERING TIPS

- › Always select the lowest possible working temperature for the job being done.

**Soft soldering: Electronic soldering from 270°C to 450°C**

**Brazing: For plumbing, heavier material from 450°C**

- › Choose a tip with the largest dimension and shortest length that is practical for the soldering task.
- › By ensuring the tip is well ‘wetted’ you will maximize the area of heat transfer between the soldering tip and the point of solder.
- › Pre-heat the tip before you place it for longer time in the safety rest to prevent the tip that it does not get oxidized and unwettable.



# CLEANING TIPS

- › Oxidations need to be removed regularly
- › Wipe the hot tip on a damp sponge
- › Remove oxidized solder and flux etc.
- › Wet the tip immediately after cleaning. If tip is not wetted immediately it will oxidize.
- › Always make sure the tip is fully 'wetted' before placing your iron back into the safety rest.
- › Feed your solder in such a way that it has simultaneous contact with the component and the soldering tip.
- › Apply the minimum amount of pressure onto the tip when soldering.
- › Remove black layers from an oxidized tip with steel wool or a smooth stainless steel brush.
- › Rinse sponge frequently in clean water
- › For leadfree soldering use dry cleaning method with brass wool
- › Where oxidation has already occurred the Tip Activator should be used to recreate the tip's wetting surface. Works easily at low temperature.
- › Gently use a polishing bar to remove compacted oxide films.

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