

INTRODUCTION TO SOLDERING

WHAT IS SOLDERING ?

- Soldering is a type of metal joining process using Melting solder.
- Solder is made up of tin and lead, which is melted using a hot iron and is generally called Metal Alloy.
- The iron is heated to temperatures above 600 degrees Fahrenheit, which then cools to create a strong electrical bond between Joints.

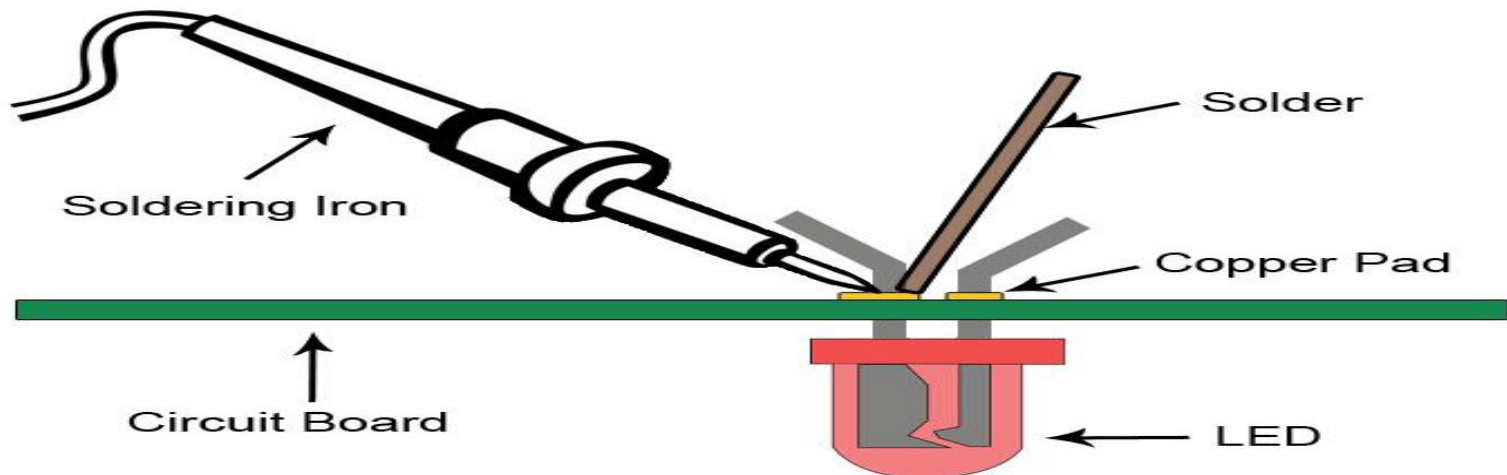


TYPES OF SOLDERING :

- **Soft soldering (90 °C – 450 °C)**
- **Hard soldering (above 450 °C)**
- **Brazing (above 450 °C)**

SOFT SOLDERING (90 °C – 450 °C)

- This Type of Soldering melts alloys containing lead with a low melting point.
- The solder used in this soldering process is often made of a mixture of tin and other metals.
- Applications : It is used for joining wires and small components.



HARD SOLDERING (ABOVE 450 °C)

- **Brass or silver is the bonding metal used in this process which requires a blowtorch to achieve the temperatures at which the Soldering can be done.**
- **Applications : It is used for Pipe Joining applications in Plumbing & Electrical.**



BRAZING (ABOVE 450 °C)

- This Type of Soldering Generally uses metals with a much higher melting point than other types. It is suitable for metal repairs and pipe joining in all Industrial Applications.



TOOLS REQUIRED TO DO SOLDERING & DESOLDERING:

- Soldering Station
- Soldering Iron
- Desoldering Station
- Solder
- Solder Flux



SAFE SOLDERING WORK PRACTICES:

- **Electrical Safety-** Electric soldering irons are plug-in appliances and must have a Test Tag on current safety. This confirms that the soldering iron conforms to electrical safety standards and has not been damaged at the time of the test.
- **Soldering Iron Safety** - Never touch the element or tip of the soldering iron. It is very hot (about 400°C) and will burn. Hold wires to be heated with tweezers, pliers, or clamps to avoid receiving burns from objects that are heated.
- **Personal Protective Equipment** -To prevent burns from splashes of hot solder, long sleeve shirts or lab coats and pants that are made of natural fibres (cotton) and closed toe shoes should be worn. Safety glasses or

THANK YOU

Electronic industry

