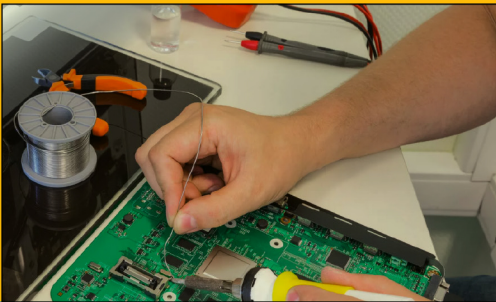


# Hand Soldering Fundamentals



**Details:** One of the significant processes in printed circuit board assembly is the hand soldering. Working on a circuit board, one may have to solder a through hole component or an SMT component. It is important to know that these solder joints require exact precision. Improper techniques can cause defective solder joints which many times may not be visually detectable. The soldering process varies based on the components being soldered and the specific technique used, but the core of the procedure is largely the same. Adhering to procedure, standards & best practices are the basic concepts for producing high quality and reliable solder joints.

## Who can participate

Operators/Newcomers engaged in electrical & electronics assembly/manufacturing process

## Mode of Training

Instructor-led hands-on practical Training available through IPC India

## Instructor

Master IPC Trainer (MIT) or Certified IPC Trainer (CIT)

## Syllabus: Hand Soldering

The workshop is organized into Theory, Video presentations and hands on practical

## Benefits of participation

IPC India course will highlight hand soldering best practices. Whether the final product is used in telecommunications or aerospace, every step in the electronics manufacturing process is critical. IPC supports industry in achieving world class high-quality end products and helps to ensure superior quality, reliability and consistency in electronics manufacturing.

### Session 1: Safety and Handling

- ▶ Personnel and equipment safety
- ▶ Physical damage and contamination of electronic assemblies
- ▶ General Overview of ESD and its prevention

### Session 2: Hand soldering- Through Hole

- ▶ Necessity for hand soldering
- ▶ Materials, tools and equipment used for soldering
- ▶ Selection and setting of tools and equipment
- ▶ Soldering process

### Session 3: Hand soldering-SMT

- ▶ Selection and setting of tools and equipment
- ▶ Soldering process

### Session 4: Practical

- ▶ Tips on soldering iron tip care
- ▶ Hand soldering demonstration by Instructor
- ▶ Hand Soldering of sample through hole an SMT components by students
- ▶ Quiz & Inspection of soldered connections

**Maximum no of candidates: 7 Per Batch | Duration: 1 Full Day (7 - 8 Hours)**

## Schedule for Hand soldering workshop

Session No	Session Name		Duration	Time	Description	
1	Introduction		0:15	9:00 - 9:15 AM	Registration and Introduction of Participants	
	Overview		0:15	9:15 - 9:30 AM	General overview of the Course	
	Safety and Handling		1:00	9:30 - 10:30 AM	Video, Review and Q&A	
<b>Break 0:15 mins</b>						
2	Hand soldering – Through-hole		1:00	10:45 - 11:45 AM	Video, Review and Q&A	
3	Hand soldering – SMT		1:15	11:45 - 1:00 PM	Video, Review and Q&A	
<b>Break 0:45 mins</b>						
4	Practical	Demo	0:15	1:45 - 2:00 PM	Tip care Hand soldering demo by instructor	
		Student Practice	1:00	2:00 - 3:00 PM	Hand soldering Practice	
	Review Q		0:30	3:00 - 3:30 PM	Review Questions	
	<b>Break 0:15 mins</b>					
	Practical	Evaluation	0:30	3:45 - 4:15 PM	Visual Inspection by Students	
	Conclusion		0:15	4:15 - 4:30 PM	Q&A and Summarizing	