Hand Soldering Short Course

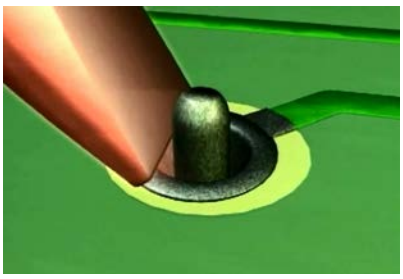
Tools required for testing:

- Safety glasses
- Exhaust fan to pull soldering fumes away from the operator during the soldering operation
- Clear bench with only the materials to be used and circuit boards to be soldered
- Soldering iron designed for the alloy being soldered with largest tip possible. Typically 300C (600F) for leaded and 375C (700F) for lead-free alloys.
- Proper tip for alloy. Lead-free alloy tip will have a thicker layer of Tin.

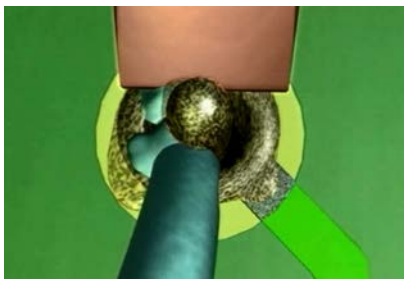
Process:

1. Read the information on the roll of solder to ensure it is the correct material.
2. If using extra flux ensure that it is the same family as the cored wire (ROLO, ORLO,ORMO).
3. Never use a squirt bottle to apply extra flux. Use a Flux-Pen® or dip the solder wire in extra flux prior to bringing it to the solder joint. This will ensure all the flux sees the heat of the soldering process.
4. Any sponges used should be wet using DI water only. Regular water contains chlorine/chloride which can pose a long-term reliability issue.
5. Place the solder iron on the connection to be soldered. Allow a few seconds to preheat the board and component, then bring the solder to the connection. Bring the wire to the opposite side of the connection and wait for it to form the fillet. Do not contact the iron directly with the wire. This will result in spattering, reduced activity of the flux and reduced iron tip life.
6. NEVER PLACE THE SOLDER WIRE ON THE IRON AND THEN TRANSFER IT TO THE CONNECTION. This will burn the flux off prior to cleaning the oxides on the component and board resulting in a non-wetted joint.
7. Remove the wire from the joint before removing the heat (iron).

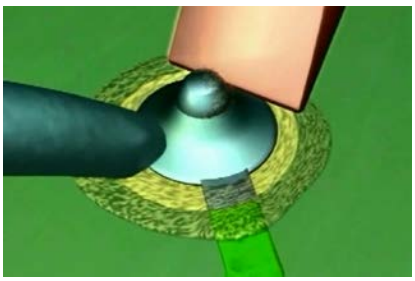
Note: it is suggested for pin in hole soldering use 0.031” diameter cored wire. For SMT repair 0.015” diameter and for High voltage (14 gage wire) 0.062” diameter wire.



1) Apply Heat



2) Apply solder to component



3) Remove solder, then remove heat

For any questions, please contact:
Mike Kaminsky, Senior Field Support Engineer
Cell: 704-706-4026
mkaminsky@kester.com