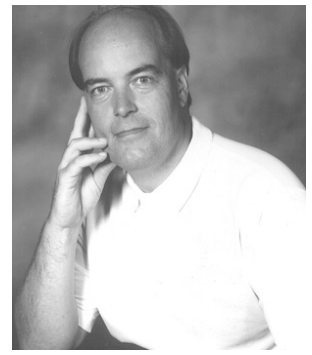


Pin In Hole/Intrusive Reflow Check List



Bob Willis Process Guides

1. Are your through hole components compatible with reflow soldering temperatures? Do they meet the minimum requirement of the IPC/IEC component compatibility standards of 230°C for 30 seconds?
2. Can you obtain the through hole components in packaging suitable for automatic assembly? Manual assembly is possible but automation will improve consistency.
3. Have you calculated your through hole and lead to hole ratio for automatic and manual insertion? You may have to do this if you normally group holes to reduce the number of drill sizes in printed board manufacture. Lead size plus 0.010" is normal.
4. What standoff height do you have on the components and where are the component standoff feet located will they contact your paste deposit? A minimum standoff height should be 0.010"
5. Have you tested your solder resist with your solder paste during reflow, does it cause solder balling? It is often necessary to print paste on to the resist to obtain the correct volume of solder to fill the hole after reflow.
6. Have you calculated the stencil thickness required to fill your plated through holes with solder after reflow? The following calculation will provide a basic initial guide:

$$\text{Volume of Paste} = \frac{(\text{Volume of PTH} - \text{Volume of pin})}{2}$$

7. Have you told your stencil manufacturer that the through hole apertures are required on your new stencil? Normally we tell the stencil supplier to take them out, don't we? Also have you shown your supplier a connector?
8. Have you discussed changes to your soldering standards for Pin In Hole Reflow Assembly with your quality department and your customer? You can achieve 100% fill but positive fillets are more difficult. The joints will also look different !
9. Have you specified your component lead lengths and can you control them? Lead length control is crucial and should ideally give a protrusion of 1-1.5mm below the board.
10. Do you know how strong solder wave and hand soldered joints are? They are no different than through hole reflowed joints but remember, someone will ask you !

If the answer to any of these questions is NO STOP and ask some more questions or purchase the SMART Group Pin In Hole Reflow Report, Interactive CD-ROM or video tape all produced by Bob Willis

Good luck with your Pin In Hole Reflow process 

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