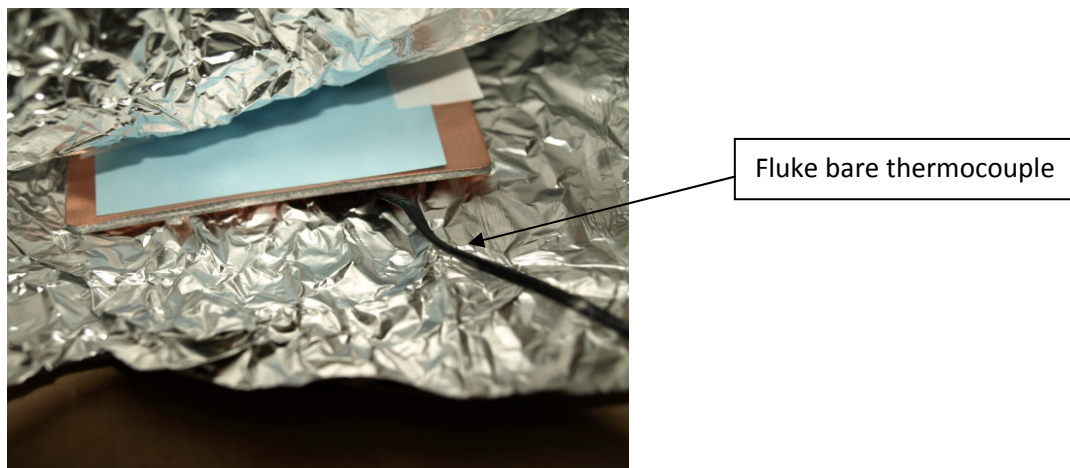


Successful test at measuring temp of back of board temp not face temp.( board must come completely up to temp.) at 255°F. Whatever time this takes is irrelevant only that whatever heat setting you use do not let the back of the board exceed 255°F. Any lower than this and the toner does not stick. Any higher than this and you are liquefying the toner. This is the best way to measure fusion temp. PC board used is ½ oz copper double sided, .064" board thickness.

Method involved a press not an iron but you can get the same results if you iron on a towel to insulate the back of the board. Heated until board temp reached 255°F measured on the back of the board.



After board reaches temp, on the press bed (blanketed for insulation) and off of the foil (to aid in heat distribution) I immediately roll it out with a rubber laminate roller with 5 back and forth rolls reverse the

board and the same 5 rolls back and forth over the entire board. Immediately put into cold water wait a minute and pulled the release paper off (Pulsar transfer paper).

#### Analysis:

All the rings and the lines down to 2 points (.028" roughly) keep very good registration. The 1 point, ½ point and ¼ point rings had issues either missing toner to the ¼ point (.0035") where the distribution of toner is irregular.

#### Conclusion:

It is best left to photographic methods to creating anything smaller than .020" width components and traces (this is the default setting for the smallest pads) and having distances between pads and between traces and any ground planes. Using any smaller dimensions is an art form and therefore not repeatable. For hobby methods 0.020" trace width and ground plane settings are sufficient where noise is not too much an issue. If it is an issue either switch to the photo method or consider using a 4 layer board where you can have ground planes in between the top and bottom of the board.

I welcome others to repeat this and see if you come up with the same findings or not and why. The target is made in Illustrator and the lines are set to point widths and the decimal equivalents are rough estimations.