

LPKF ProConduct® In-house PCB through-hole plating without chemicals

- No plating tank or chemicals required
- Reliable and thermally stable plating results
- Compact, fast and easy to use

LPKF ProConduct® A totally new through-hole plating solution for Rapid PCB prototyping

The LPKF ProConduct® introduces revolutionary technology to produce plated through-holes, which does not require a plating tank or potentially hazardous processing chemicals. This compact system is extremely fast and easy to use. Its rapid parallel processing method delivers completely safe, reliable and thermally stable via plating results for double-sided or multi-layer boards.

Easy to handle

Circuit board prototypes can be easily fabricated in-house in a single day when the LPKF ProConduct® system is combined with an LPKF ProtoMat® circuit board plotter. In-house PCB prototyping gets your designs to market faster by eliminating production delays and high costs that can occur with outside vendors. It also makes your precious design data secure by keeping it under your control.

Perfect results with advanced technology

LPKF ProConduct® uses specially-developed plating technology to rapidly plate vias as small as 0.4 mm (15 mil) up to aspect ratio of 1:4. Even smaller holes are possible under special conditions. The entire process can be completed in just a few minutes for double-sided and even multilayer boards. The electrical resistance of LPKF ProConduct® plating is extremely low with 19.2 mOhm depending on the material thickness*.

* see specifications

LPKF ProConduct® uses a specially-developed conductive polymer paste to quickly and easily plate vias in as little as three minutes. These are the simple processing steps:

1

Mill the board, apply film and drill the holes

Mill the board layout using a LPKF ProtoMat® plotter, then apply adhesive film to the entire board surface and drill the holes.



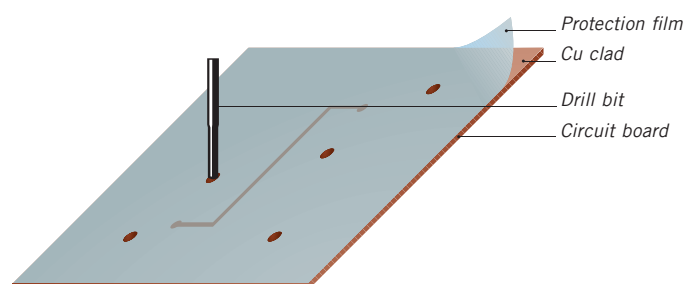
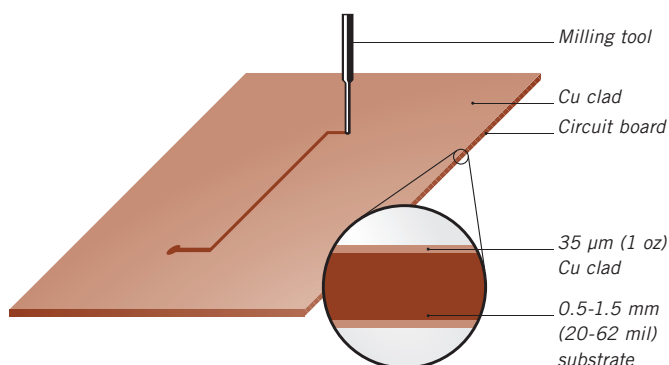
Milling the board

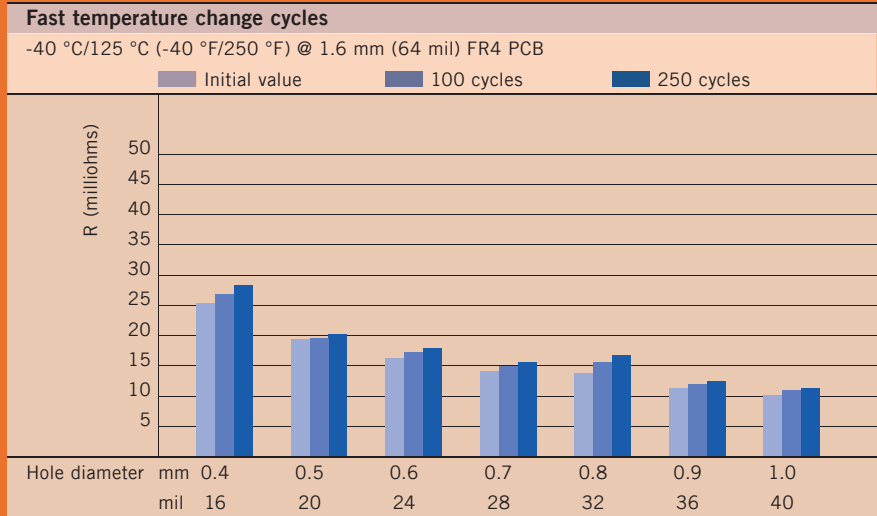


Applying the protection film



Drilling the board





2 Apply the LPKF ProConduct® Paste
 Secure the board to the vacuum table and apply LPKF ProConduct® Paste to the adhesive film with the squeegee provided. The vacuum process draws the conductive paste through the holes. The board can be flipped and paste can be applied to the opposite side to ensure that the holes are completely coated.



Using the squeegee to apply the paste



Flipping the board

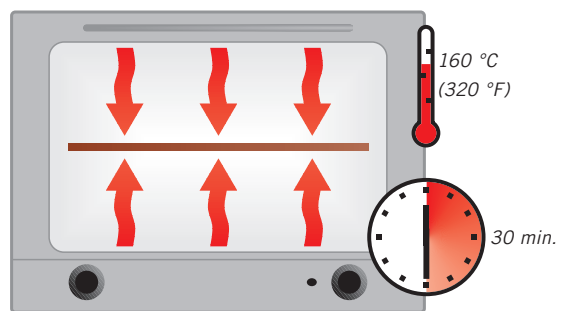
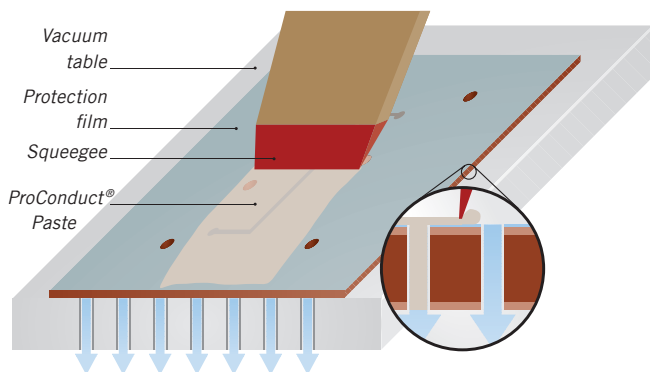
3 Cure the paste
 Remove the film after the LPKF ProConduct® Paste is applied, then insert the board into a hot-air oven for 30 minutes to cure the paste. After the board has cooled for a few minutes it can be populated with components and tested.



Removing the film



Curing the paste in a hot-air oven



Hot-air convection oven

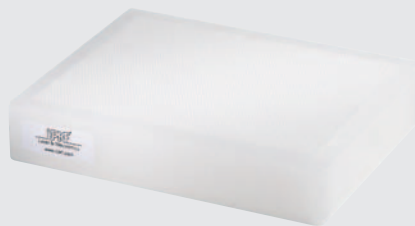
Specifications LPKF ProConduct®	
Max. base material	229 mm x 305 mm (9" x 12")
Min. hole diameter	0.4 mm (15 mil) up to aspect ratio of 1:4*
Number of through-plated holes per circuit board	no limit
Number of layers	4
Solderability	reflow soldering <220 °C (428 °F)
Base material types	FR4, FR3, RF and micromave materials incl. PTFE based materials
Process duration	35 min
Resistance (hole diameter 0.4-1.0 mm at 1.6 mm (63 mil) material thickness)	average 19.2 mOhm with SD of 7.7 mOhm
smaller holes on request	



Part number 115790



Hot-air convection oven
Part number 115877



vacuum table
Part number 115878



vacuum
Part number 114647

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