

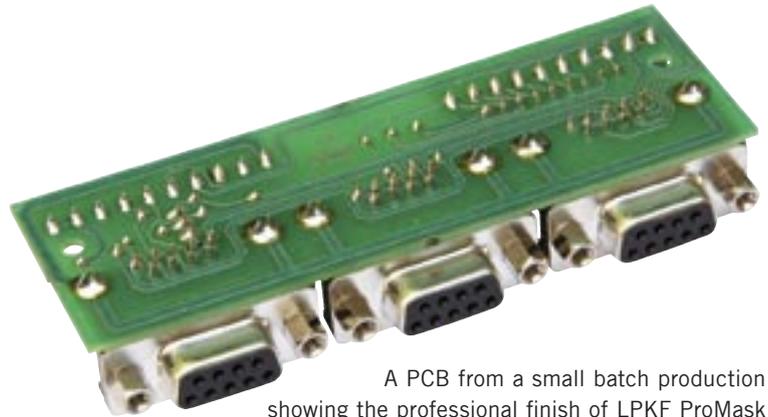
LPKF ProMask and LPKF ProLegend In-house solder-resist masks and legend printing

- Compact, quick and easy to use
- Professional legend printing
- Perfect soldering
- Four simple steps to a professional result

LPKF ProMask In-house production of solder-resist masks

The LPKF ProMask advantages:

- A quick, simple, cost effective solution
- Clean electrical insulation between tracks and components
- Optimal preparation for short free soldering
- Completely protects PCBs from environmental corrosion or oxidation



A PCB from a small batch production showing the professional finish of LPKF ProMask

Perfect results for in-house prototyping

For many years now LPKF ProtoMat® circuit board plotters have provided Electronics designers with the ability to produce their own circuit boards in house, but these boards lacked the professional finish of a green solder mask which today, with SMT components, is essential for soldering safely. LPKF ProMask is the answer. This easy to use system will apply a professional solder resist mask to the already milled prototype circuit board. It is a quick and easy process even for people with no prior experience.

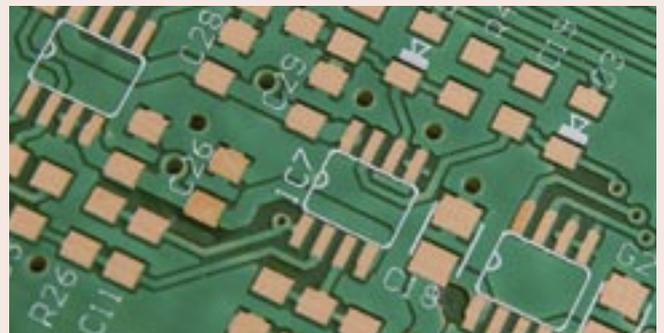
LPKF ProMask gives prototype PCB's the professional finish they deserve and enables the soldering of SMD or conventional components with no fear of short circuits.

In house PCB prototyping gets your designs to market faster by eliminating production delays and high costs that can occur with outside vendors. Plus all your data remains securely within your own facility.

LPKF ProLegend Professional legend printing for circuit boards

The LPKF ProLegend features:

- Fast and cost-effective
- Doesn't wash off
- Lettering as small as 2 mm (0.08")
- Easy to learn – technique identical to LPKF ProMask



Screenprinted circuit board

Perfect solution

Most assembly requires screenprinted legends on circuit boards and prototypes are no exception. LPKF presents ProLegend, an easy-to-learn four-step legend printing system for prototype PCBs.

Identical in process to the ProMask system, ProLegend is the final finishing touch to a professionally produced prototype PCB.

Easy to use and environmentally friendly

The LPKF ProMask and ProLegend both include all the necessary instructions, tools, and supplies. All consumables are premeasured and individually sealed.

All remnants from the ProMask and ProLegend processes are rendered environmentally harmless with an included Ph conditioning powder. Disposal is safe and simple.



Apply the solder-resist mask in four simple steps

1 Producing the artwork

The artwork template is easily produced by printing it from LPKF CircuitCAM (version 5.1 or above) on a standard laser printer (for best results 600 or 1200 dpi).



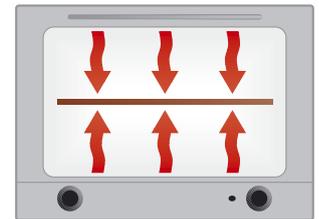
Printing the solder mask artwork

2 Applying the solder-resist lacquer

The lacquer is simply mixed using the single portion packets of lacquer and hardener. It is then applied to the finished prototype PCB using a disposable roller. After application the PCB is pre-dried for 10 minutes in the hot-air oven.



Applying the solder-resist lacquer



Pre-drying in a hot-air oven

3 Exposing PCB with the artwork

The PCB is placed in the image exposure unit and the artwork is placed over it using registration marks. The exposure unit is switched on for 30 seconds after which the board is removed and the artwork film pulled off.



Positioning the artwork



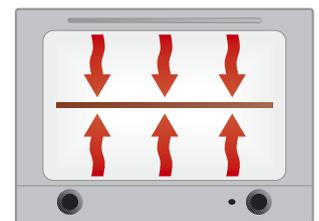
Activating the image exposier

4 Developing and hardening the solder-resist mask

A bath of developer is prepared from the developer powder and hot water. The PCB is immersed in the bath and the non exposed resist is removed by gently brushing. The lacquer residue is rinsed off under flowing water, then the resist is hardened for 30 minutes in the hot-air oven after which the board can be cleaned with LPKF cleaner and rinsed with water.



Developing the solder-resist mask



Hardening in a hot-air oven



ProLegend's process is almost identical.

Specifications LPKF ProMask and LPKF ProLegend

Max. base material dimensions	229 mm x 305 mm (9" x 12")
Max. working area of image exposers	240 mm x 340 mm (9.5" x 13")
Processing time	Approx. 60 min
PAD separation	≥0.5 mm (20 mil) fine pitch
Adhesion strength	Class H and T, testing method: IPC-SM-840 C, Subsection 3.5.2.1
Solder bath resistance	20 sec at 265 °C (509 °F), testing method: IPC-SM-840 C, Subsection 3.7.2
	10 sec at 288 °C (550 °F), testing method: MIL-P 55 110 D
	20 sec at 288 °C (550 °F), testing method: UL 94 (lead-free)
Surface resistance	2 x 10 exp14 Ohm, testing method: VDE 0303, Section 30, DIN IEC 93
Moisture resistance and isolation resistance	Class H and T, testing method: IPC-SM-840 C, Subsection 3.9.1
Solvent/Cleaning agent stability	IPC-SM-840 C (10% caustic cleaner, isopropyl alcohol, monoethanolamine)
Minimum capital height	2.0 mm (with 1,200 dpi laser printer)
Minimum capital strength	0.1 mm (with 1,200 dpi laser printer)

Hardware requirements: 600 dpi laser printer or higher, Software requirements: CircuitCAM 5.1 or higher
 Specifications subject to change.



LPKF ProMask
 Part number 117072

LPKF ProLegend
 Part number 117584



LPKF image exposers
 Part number 117050 (230/240 V, 50Hz)
 Part number 117192 (110/120 V, 60 Hz)



Hot-air convection oven
 Part number 115877

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