



LIFE LINE CIRCUITS

PRINTED CIRCUIT BOARDS

YOUR TRUSTED PCB PARTNER

LEADING PCB FAB - 32 YEARS OF EXPERIENCE



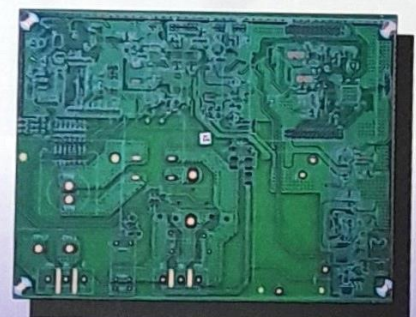
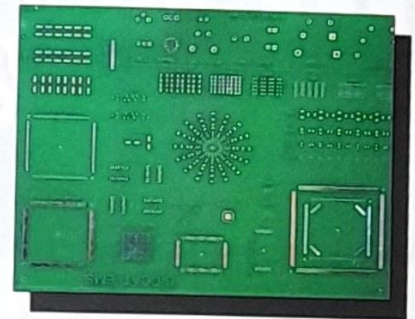
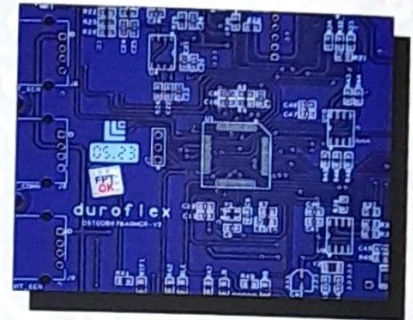
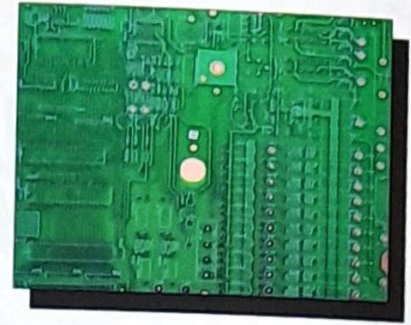
Lifeline Circuits is a leading manufacturer of Professional grade printed circuit boards in india. We provide quick-turn and bulk volume production PCBs with industry leading quality and pricing.

Our customers are in diverse fields ranging from Automobile, Textile, Engineering, Automation, Lighting, Electronics and Communication.

Full Stack PCB manufacture from ideation based design to Final bare board. Walk in with your idea and walk out with your PCBs.

Brief History

- ➔ Incorporated in April 1990
- ➔ Establishment of factory in 1992- Commencement of Single and Double Layer PCBs.
- ➔ 1994 - Commencement of Supply to Bharat Electronics and PTH PCBs
- ➔ 1998 - MIL- Spec PCBs production commences
- ➔ 2000 - Upgradation of manufacturing facilities
- ➔ 2005 - Ability to delivery Quick turn PCBs in 72 Hours
- ➔ 2007 - ISO 9001 Certification
- ➔ 2009 - Surface Finish HASL and RoHS and FPT in house
- ➔ 2012 - Approved for Supply to German Mission-Critical pumps
- ➔ 2016 - Textile PCBs commence
- ➔ 2018 - Complete Design to Finished board inhouse
- ➔ 2020-21 - Supplied PCBs to medical applications and Ventilators during COVID Lockdowns.
- ➔ 2023-24 - Multilayer PCB and Rapid Expansion of Capabilities



OUR VISION

“To be a trusted partner for Printed Circuit Boars and deliver complete customer satisfaction”



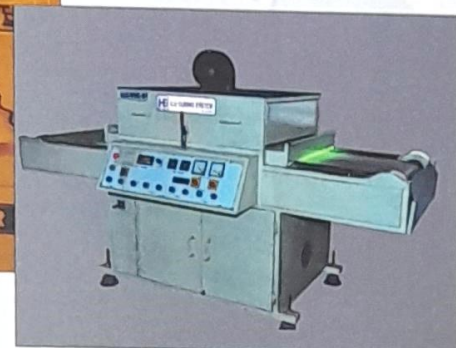
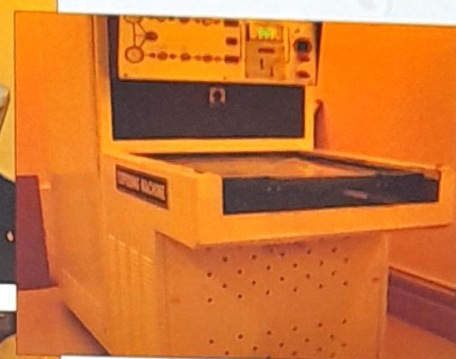
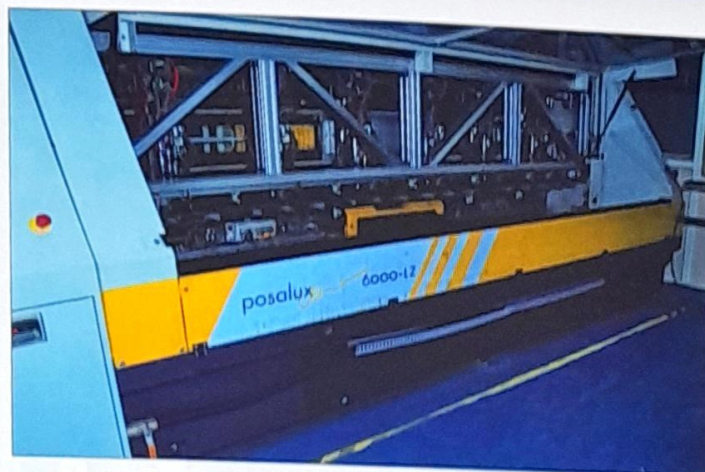


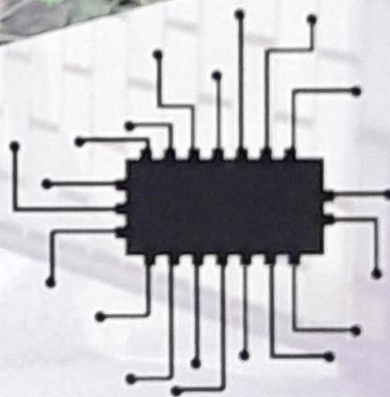
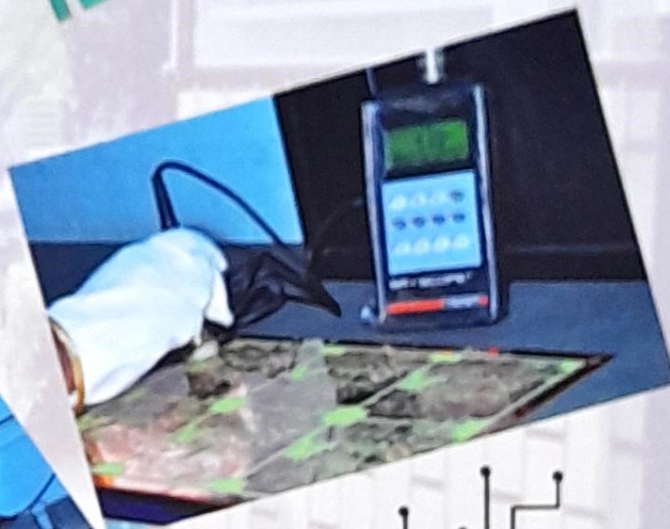
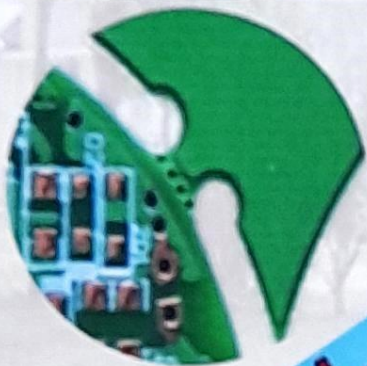
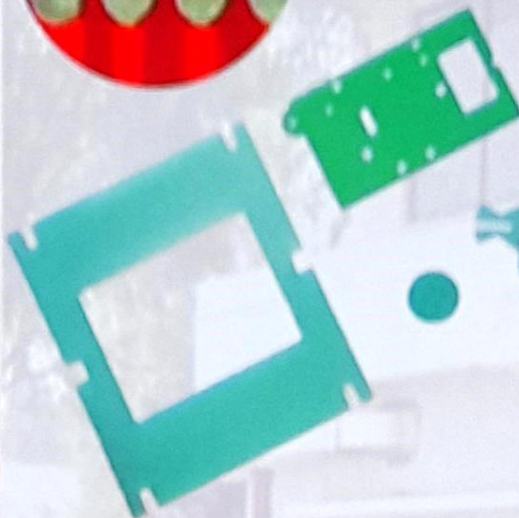
Technical Capabilities:

- a. Types
 - i. Single and Double Side
 - 1. FR4/FR2
 - 2. CEM
 - 3. MCPCB
 - ii. MultiLayer up to 8 Layers
- b. Thickness Range - 0.4 mm to 4.0mm
- c. Input File Format
 - i. Gerber
 - ii. RX274
- d. Copper thickness 18 to 105 Micron
- e. Temperature Grade : 130-180Tg
- f. Max Panel Size : 610 x 450mm
- g. Min hole Dia : 0.25mm
- h. Min annular Ring : 0.1mm
- i. Minimum track Width : 0.10mm
- j. Minimum track Spacing : 0.10mm
- k. Surface Finish : HASL, RoHS, ENIG, Connector Hard Gold
- l. Fastest Delivery Time : 24 hours
- m. Certification: ISO 9001:2015
- n. Specification : IPC-A-600 / 6012

Infrastructure

- a. Drilling : Posalux Ultraspeed LZ
- b. Plating: SMT rectifiers Copper and Tin
- c. Lamination and Exposure: DuPont, USA
- d. Etching: Conveyorised FeCl/Ammonia Double Side
- e. Solder Mask :
 - SMOBC-Colour : Black, Red, Blue, White & Green
- f. Finish: Tin-Lead (HASL), RoHS, ENIG
- g. Legend : UV Cured / Thermal Colour : Black & White
- h. Panelization: Fully Routed/ Routed with Mousebite / V Groove
- i. Electrical Test : MANIA, Italy and ATG, Germany
- j. Copper Inspection: Thickness check
- k. Packing: Vacuum Packing with humidity chart





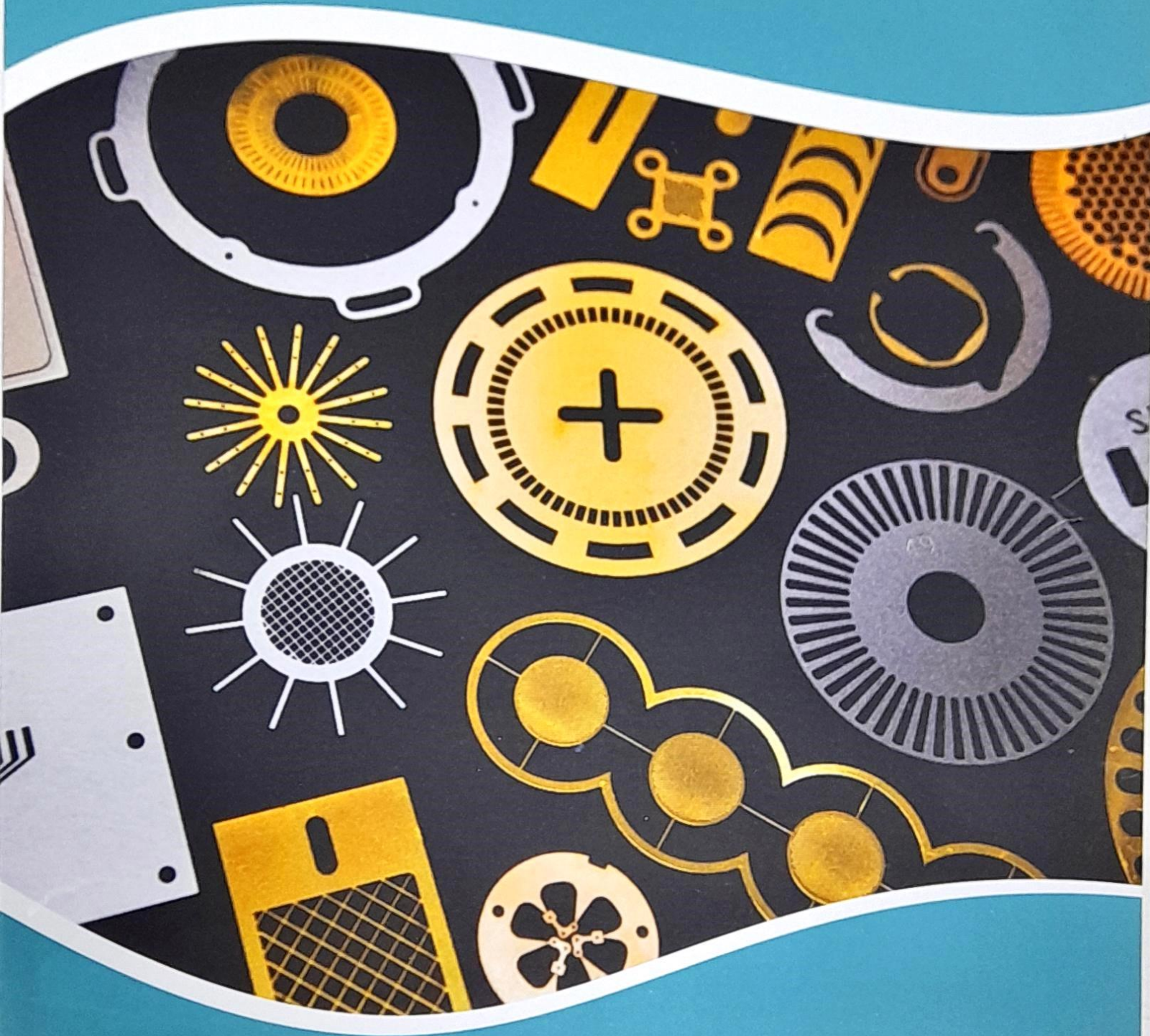
LIFE LINE CIRCUITS PRIVATE LIMITED

CIN: U02520TZ1990PTC002584 | GSTIN: 33AAACL4081H1ZR

Plot No. 40, Sipcot Indl. Complex, Phase-II, Krishnagiri Road,
Kumudepalli Post, HOSUR - 635 109. Tamilnadu.
sales@lifelinecircuits.com / marketing@lifelinecircuits.com
www.lifelinecircuits.com, +91 70944 52523 / 52520



LIFE LINE CIRCUITS PRIVATE LIMITED



Precision Parts by Photo Chemical Machining

Photo Chemical Machining



We are a company specializing in Development and production of high precision metal components. using photo chemical machining process. This is a high precision innovative technology that does not involve laser, Mechanical forces, Water Jet etc..

We possess more than 30 years experience in PCM process and offer full stack capability. from initial design to final product.

We are a people oriented, Customer first, Technologically innovative and an environmentally conscious company.

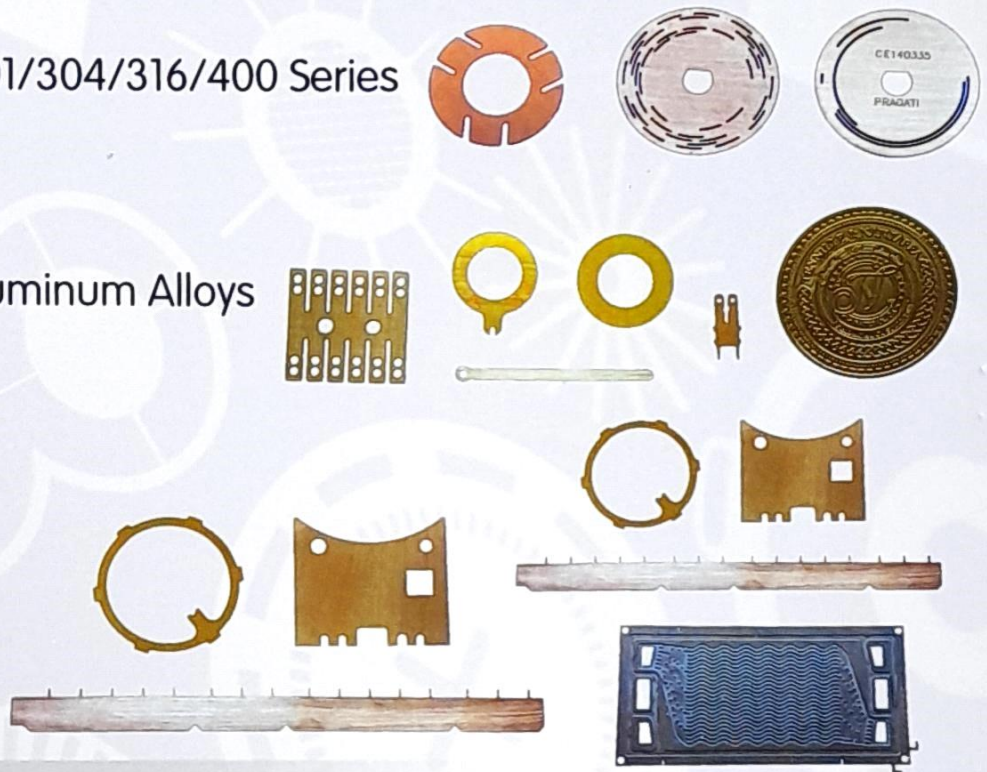
Comparison Of PCM And Other Processes

PROCESS CHARACTERISTICS	PCM	LASER CUTTING	STAMPING/PUNCHING	WIRE CUT/EDM	WATER JET CUTTING	ELECTRO FORMING
Sample Making	Low Cost	Low Cost	High Cost	Low Cost	Low Cost	Moderate Cost
Material Type	Almost All Metals	Almost All Metals	Almost All Metals	Carbon Steel and Iron	Almost All Metals	Nickel, Silver, Gold
Metal hardness	Unlimited	Unlimited	Limitation on Small size, High Hardness, Structural Strength and Shatter	Limitation on Hardness	Limitation on Hardness	200-670 HV
Scratchability	No Scratches	Edges are very Rough	Edges are very Rough	Twist, Deform and Structure change is to be expected	Edges are very Rough	No Scratches
Glitches	No Burr	Lots of Burr	Lots of Burr	Fine Burr	Lots of Burr	No Burr
Design Change Flexibility	Fast, Simple and Efficient	Fast, Simple and Efficient	Time Consuming and Expensive	Fast, Simple and Efficient	Fast, Simple and Efficient	Fast, Simple and Efficient
Process Time	48 hours	48 hours	Few Weeks	48 hours	48 hours	48 hours
Thickness Tolerance	+/- 10%	+/-5%	+/-10%	+/-10%	+/-15%	+/-5%
Convenience in Product Packaging and Transport	Yes	Yes	Difficult	Yes	Yes	Yes
Conversion to Bulk	Very Easy	Very Easy but time consuming	Low volume and Bulk is identical	Very Time Consuming	Very Easy but time consuming	Very Difficult and time consuming
Mechanical Stress	Zero	Yes	Very High	Zero	Yes	Zero



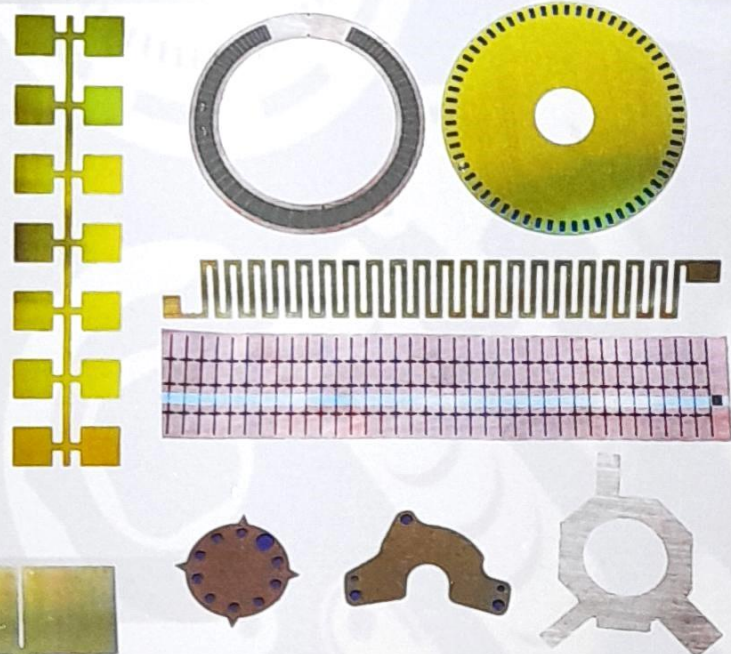
Materials compatible with PCM

1. Mild Steel
2. Stainless Steel - 301/304/316/400 Series
3. Copper
4. Brass
5. Bronze
6. Aluminum and Aluminum Alloys
7. Nickel
8. Silver
9. Gold
10. Phosphor Bronze
11. Nickel-Silver
12. Nickel-Chrome
13. Inconel
14. Kovar



Surface Finishes offered

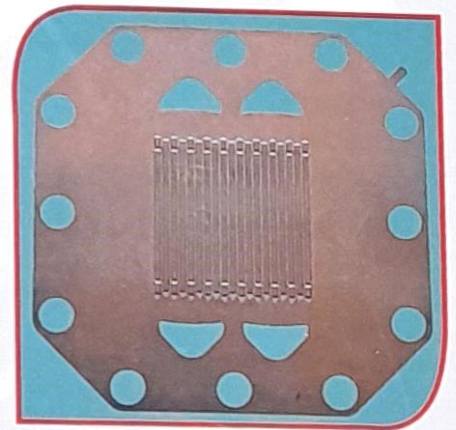
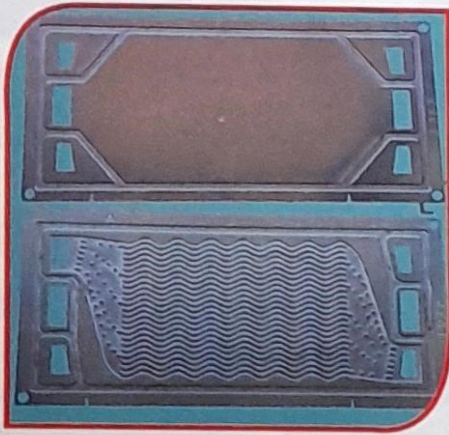
1. Natural Surface Finish
2. Copper Plated
3. Tin Plated
4. Brushed Finish
5. Texture oriented Etch Finish
6. Colour Filling
7. Mirror buffed
8. Laser Marked
9. Serial Marking
10. Sand Blasting finish



Applications

1. Aerospace
2. Communication and RF
3. Electrical & Electronics
4. Mechanical & Automobile
5. Medical
6. Thermal
7. Name Plates & Decorative items
8. Bi-Polar Plates





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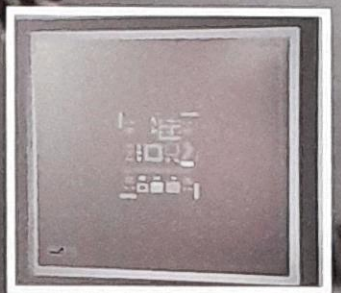
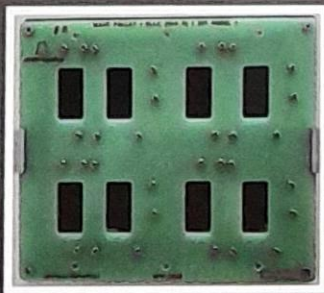
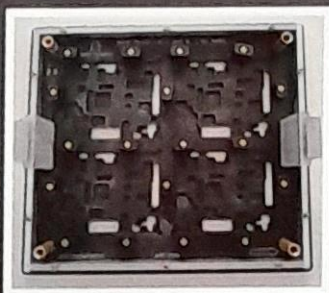
TM



APERTRONICS

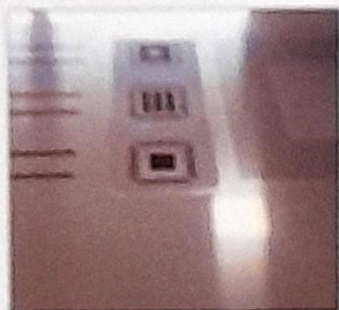
PRIVATE LIMITED

SMT STENCIL | SMT TOOLING



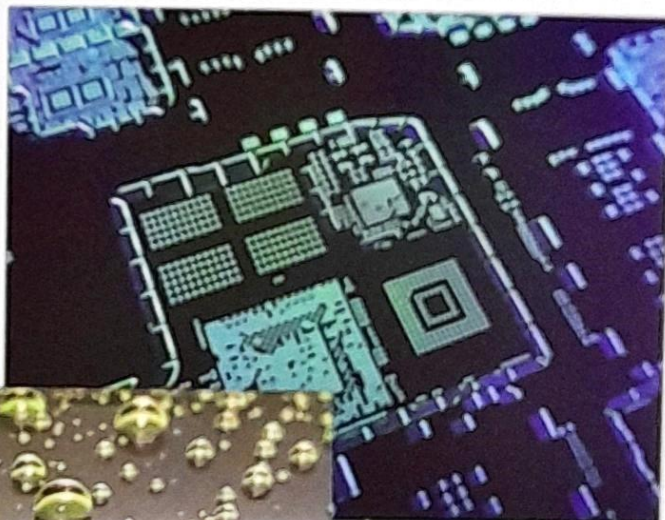
Apertronics is fully committed to introducing the latest generation of technology in all the markets that we operate in. Our state-of-the-art fibre laser cutting systems are used to manufacture the most precise stencils and "NanoSlic Gold" coating allows us to provide our customers with the best paste release in their stencils, print after print.

We lead in the manufacture of SMT stencils and SMT Tooling for PCB Assembly. We have an in-depth understanding of the surface mount assembly process from print through reflow in all areas from Design to Manufacturing to Execution. Apertronics focuses efforts on better understanding the entire process and designing our stencils and tooling to improve customer's yields, ultimately leading to total customer satisfaction.



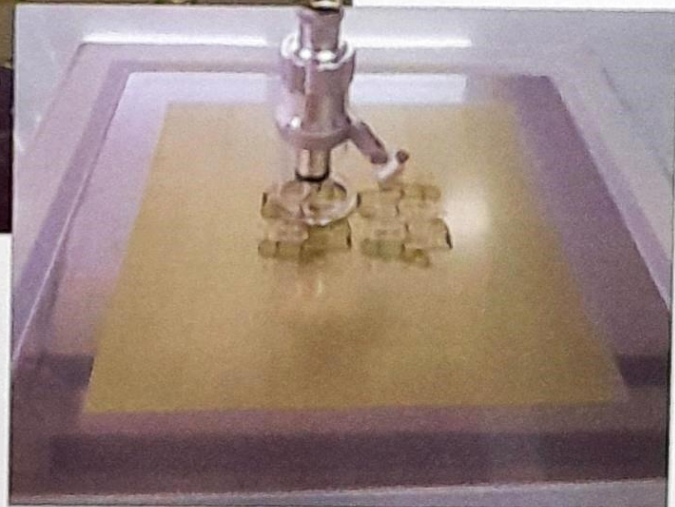
SMT STENCILS

- LASER CUT SMT STENCILS
- STEP UP/STEP DOWN STENCILS
- FRAMELESS STENCILS
- NICKEL STENCILS
- NANO SLIC GOLD COATING STENCILS
- MICRO SHIELD COATING STENCILS
- MICRO STENCILS



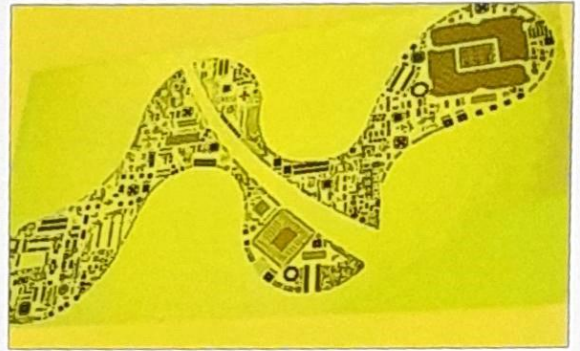
OUR VISION

"TO BE A WORLD-CLASS MANUFACTURER OF NEXT GENERATION HIGH PRECISION LASERCUT PRODUCTS AND SMT TOOLING"



NANO SLIC GOLD STENCILS

NanoSlic Gold has a robust, abrasion resistant surface that stands up to repeated cleaning. Under normal printing conditions, the coating will provide long lasting benefits. There are no issues with contamination or long term reliability of the printed circuit board. The NanoSlic Gold coating is non-ionic, not conductive, and chemically inert.

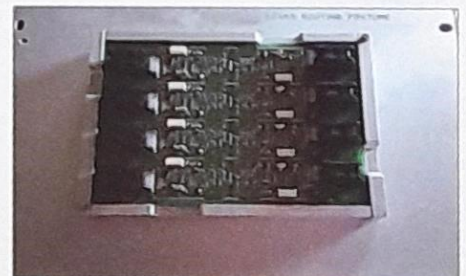
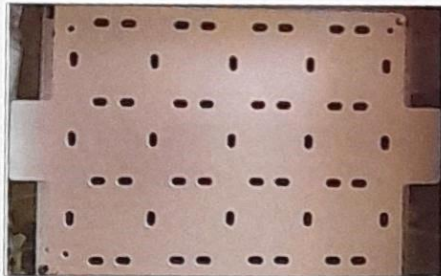
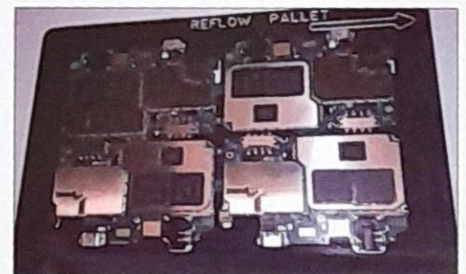


Material	Minimum Area Ratio (AR)	
	No Stencil Coating	NanoSlic Gold™
Slic™ (2-5 micron grain size)	0.66	0.55
UltraSlic™ (1-2 micron grain size)	0.60	0.50

*Lower area ratios can be achieved depending upon the application.

SMT TOOLING

- Wave soldering pallets
- Reflow pallets
- PCB De-paneling fixture
- Conformal coating pallets
- Press-fit fixture
- Universal Adjustable pallets



MATERIALS

- Ricocel
- Durostone
- Aluminium
- Titanium
- FR4

