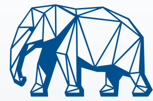
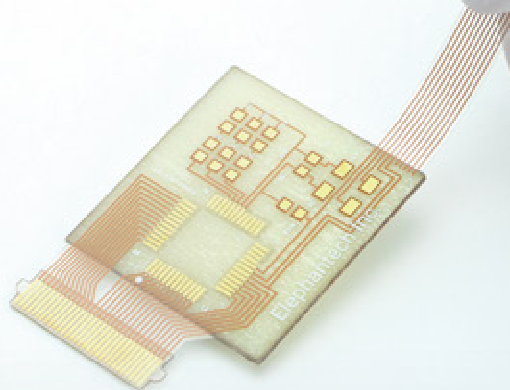


Elephantech

P-Flex® PET

Standard single-sided FPC

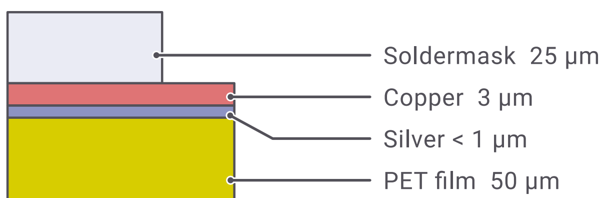


Main Characteristics of P-Flex® PET

It is inexpensive to mass produce compared to polyimide base materials, and it is suitable for environments with high or extreme humidity due to it being resistive to absorbing moisture. Also, parts other than the pattern or components can have a transparent appearance when transparent resist is used.

Layer structure of P-Flex® PET

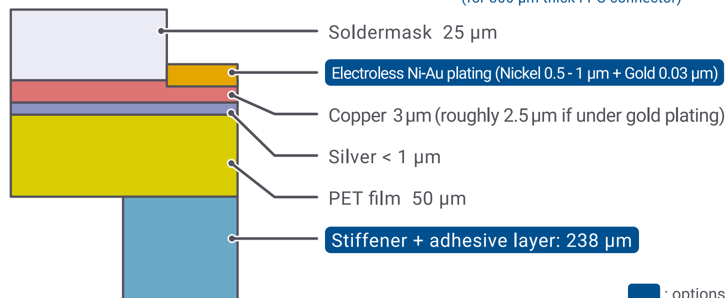
Standard layer composition



Total theoretical thickness: 83 µm

Layer composition including options

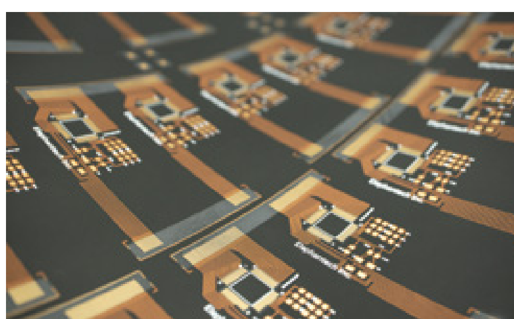
(for 300 µm thick FPC connector)



Total theoretical thickness: 321 µm

(The thickness from the conductor surface to the stiffener is 291 µm.)

Standard single-sided FPC



Applications

Replacement of wiring, of FFC, and of common flex PCB

Industries

Consumer electronics, printers, toys, industrial machinery

About P-Flex®

About Elephantech's manufacturing method (Pure Additive™ processing)

This manufacturing method consists of inkjet-printing silver nano-ink onto the substrate before electroless copper plating is applied to form the circuit. By reducing the amount of metal, liquid waste and man-hours, we can lessen manufacturing costs and shorten the lead time.

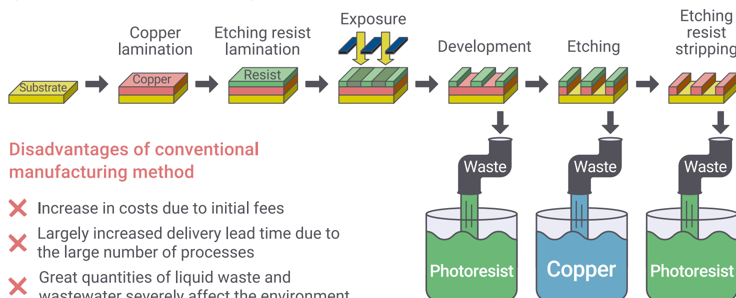
(* Patent No. 6300213 acquired)

Elephantech's manufacturing method (Pure Additive™ processing)

Advantages of Elephantech's manufacturing method

- ✔ Forming the circuit only where needed allows for a reduction in manufacturing cost and environmental footprint.
- ✔ A simple manufacturing process allowing for a shorter lead time.

Conventional manufacturing method (subtractive method)



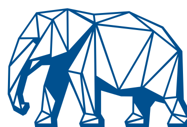
Disadvantages of conventional manufacturing method

- ✘ Increase in costs due to initial fees
- ✘ Largely increased delivery lead time due to the large number of processes
- ✘ Great quantities of liquid waste and wastewater severely affect the environment

P-Flex® manufacturing specifications

Substrate	Transparent heat-resistant PET film: 50 µm thick, 125 µm thick PI (Polyimide) film: 25 µm thick
Line width / spacing	200/200 µm min. 200/150 µm min. (only PET substrate option)
Outline-pattern spacing	0.3 mm min.
Operating temperature	Between -20 °C and +105 °C
Copper foil thickness	3 µm (contact us for thicker options)
Panel size	180 × 270 mm max.
Wiring layer	Single-sided
Soldermask coating (PET)	UV inkjet printing (transparent)
Coverlay pasting (PI)	PI film 12.5 µm, adhesion layer 15 µm
Legend printing	UV inkjet printing (white)
Surface finish	Oxidation prevention treatment, Electroless Ni-Au plating (option)
Outline cutting / Hole drilling	Laser cutting
Stiffeners	Wide range of material and thickness
PCBA Service	Available. Subject to negotiation.

Company Overview



Elephantech

Elephantech Inc.
(Formerly AgIC Inc.*)

*Changed corporate name on September 4, 2017

Website

Contact

Establishment	January 6, 2014
Address	4-3-8 Hatchobori, Chuo-ku, Tokyo 104-0032, Japan
Capital	JPY 310 million
Representative	Shinya Shimizu, CEO
Website	https://www.elephantech.co.jp/en/
Contact	https://www.elephantech.co.jp/en/about/#contact