



# P-Flex™ PET Applications

## IME (In-Mold Electronics)

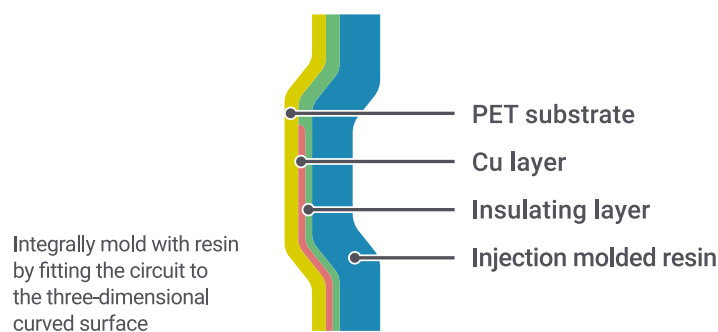
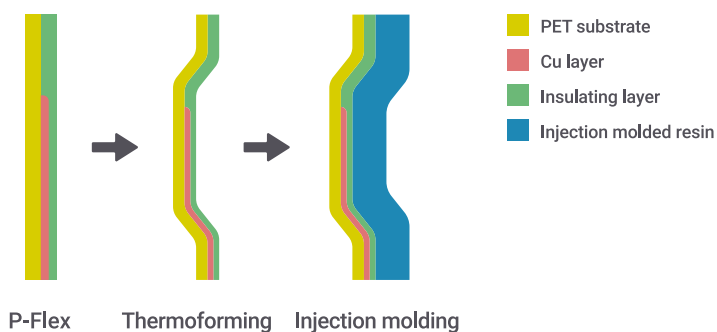


### IME (In-Mold Electronics)

IME (In-Mold Electronics) is a technology for integral molding to form three-dimensional molded film which electronic circuit was drawn on and resin. By integrating parts that had been divided into the housing and electronic board, the following effects can be expected.

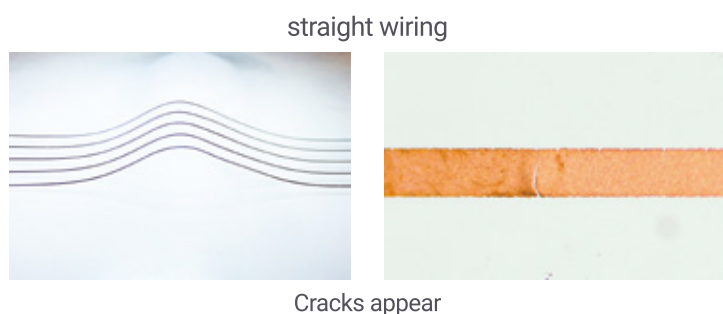
- ✓ Gross weight reduction
- ✓ Improve the performance of touch sensors, antennas, etc.
- ✓ Improve the quality of design, reduce assembling process
- ✓ Protect circuits
- ✓ Reduce cost

Our P-Flex makes multi-layerization possible not only for using PET substrate but through the process such as vacuum forming with meander copper wiring. These 3D shaped films use the process of the film of insert molding and such and enable the electronic substrate to integrate into the resin part.



## Regarding Elephantech's IME

In use case of straight wiring, it will be cut if it makes three dimensions, but meander wiring will prevent this disconnection.



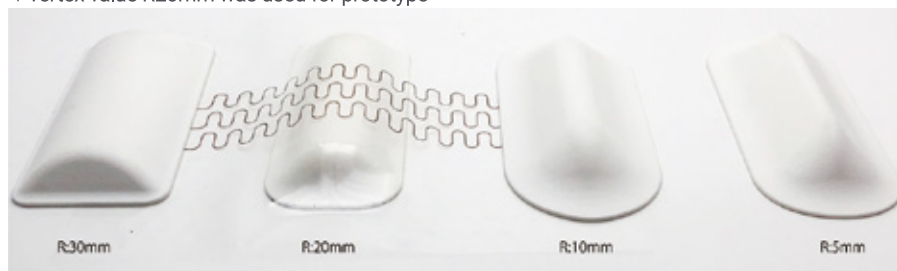
### Applications

Antennas, touch sensors, single-sided circuit mounted

### Industries

Mobile, automotive, consumer electronics, drone

▼ vertex value R20mm was used for prototype



## 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)

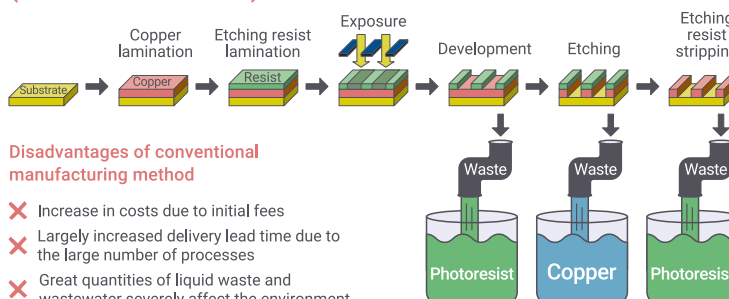
### Elephantech's manufacturing method (Pure Additive™ processing)



#### 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

## Company Overview



Elephantech Inc. (Formerly AgIC Inc.\*)

\*Changed corporate name on September 4, 2017

Contact QR code



Establishment  
 Address  
 Capital  
 Representative  
 Business description  
 Website  
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January 2014  
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 Development of printed electronics manufacturing technology and provision of related services  
<https://www.elephantech.co.jp/en>  
<https://www.elephantech.co.jp/en/about/#contact>