



KODAK FLEXIBLE PRINTED ELECTRONICS

Realize your next product – in unrivaled detail

With Kodak as your functional printing partner

Making your vision real

At Kodak, we've spent years developing our expertise and assets in the design and manufacture of fully additive, transparent, flexible electronics. And now we're sharing them with you.

You may be looking to develop your own proof of concept or cost-effective prototypes. You may even be ready for full-scale production. Whatever your vision, we're ready to offer our expertise and support, our groundbreaking KODAK EKTALEX functional print technology — and our world-class cleanroom facility — to propel you on your path, without you having to risk a major capital investment.

We can produce transparent, highly-conductive patterned film products for your applications:

- Conductive traces & passive circuitry
- Surface heating
- Capacitive sensing
- Antennas and RF shielding

Alternatively we can partner to commercialize your cleanroom manufactured printed electronics product in our facility.

What we'll do

We can image your designs in ultra-high resolution to flexographically produce features that simply aren't possible with screen or inkjet printing — in pilot or mass production quantities. We'll even do this on both sides of a substrate simultaneously.

Our seasoned specialists will remain by your side throughout the process, giving you the confidence to integrate your functional print innovations, seize new opportunities, and make even your most future-facing ideas a reality — fast.

How we do it

We've taken the huge advances we've made in flexography over the past decade to develop our KODAK EKTALEX functional printing tools. KODAK EKTALEX patterned plates can be used to print ultra-high-resolution features on a range of substrates.

We use a highly productive, cost-effective roll-to-roll flexo printing process to create extremely detailed patterns on flexible substrates for integration into your products. This patterning is enabled by our KODAK EKTALEX imager that produces patterns on flexographic plates at 12,800 dpi. We can:

- Manufacture multilayer printed electronic components in our cleanroom
- Add value to your product with transparent conductive film components with copper micro-wires formed by printing a catalyst and electroless plating copper for conductivity
- Further obscure these elements with a neutral color passivation layer and additional graphics inks

We've long since proven this technology in our own manufacturing operations. Now we want to see where you can take it.

A revolution in resolution.



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Design Services

Supported file types	Most vector formats, such as: AI, PDF, DXF and other CAD and PCB formats; Preferred multi-layered DWG/DXF; wire-frame, closed polyline for contract manufacturing and copper micro-wire products
Design translation	Optimization for performance and transparency for copper micro-wire products
Imaging resolution	12,800 dpi imager, 2 μ m edge definition

Substrate Specifications

Standard	PET, 50 μ m to 125 μ m (2-mil to 5-mil)
Alternative substrates	Certification of customer specified substrates from 50 μ m to 125 μ m (2-mil to 5-mil)
Width	Standard roll width @ 17"
Standard design area	337 mm x 566 mm

Supporting Graphics Content

Inks / colors / etc.	UV curable preferred; black and yellow graphics inks standard
Logos, labels, etc.	Customer defined process color possible
Camouflage	Pattern and color matched to copper micro-wire patterns for improved covert integration
Marks for downstream processing	Customer defined marks and fiducials for downstream integration (black ink standard)
Serialization	Unique 2D data matrix barcode & human readable text inkjet printed on each part (black)

Functional Patterns (Contract Manufacturing Products)

Functional inks	Conductive Ag and dielectric inks available
Customer supplied/defined inks	Standard process for ink certification for contract manufactured products

Functional Patterns (Copper Micro-Wire Products)

Copper thickness	Cu thickness from .5 μ m to 1.5 μ m
Passivation	Standard option for environmental stability and color neutralization
Copper minimum feature size	10 μ m standard; below 7-10 μ m available depending on design

Delivered Product Specifications

Release testing	Electrical, optical and/or dimensional testing available
Finished format	Roll, sheet, or die cut
Protective liner	Optional on one or both sides

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