

## CONDUCTIVE INKS

Conductive inks are essential materials widely used in the fields of printed electronics, flexible heaters, and electrochemical devices such as biosensors and printed electrodes. These inks enable the creation of conductive pathways on a variety of substrates through techniques like screen printing, inkjet printing, and other deposition methods.

At BioInkTec, we specialize in the production of a wide range of high-performance conductive inks, with a particular focus on electrochemical-grade inks that demonstrate excellent electrochemical stability and sensitivity.

Our conductive inks are designed to adhere to various substrates including PVC, glass, paper, ceramics, and more. These inks are also formulated to be highly flexible, making them suitable for both rigid and flexible applications

Ink type	Main component
Water-Based Graphite Ink	Graphite in aqueous binder
Solvent-Based Graphite Ink	Graphite in solvent binder
Graphite + Carbon Black Ink	Graphite, Carbon Black (Enhanced conductivity)
Graphite Flake Ink	Flake Graphite for higher surface area

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# BioInkTec

Each ink can be selected depending on the specific application requirements such as conductivity, substrate compatibility, or surface area.

## Electrical Properties

- **Electrochemical-Grade Inks:**

Typical surface resistivity is around  $80 \Omega/\text{cm}^2$  at a  $50 \mu\text{m}$  dry film thickness.

- **Electronics-Grade Inks:**

Available in different resistivity levels. The lower the resistivity, the thicker and more paste-like the ink becomes.

A typical electronic ink has a resistance of approximately  $15 \Omega/\text{cm}^2$  at  $50 \mu\text{m}$  thickness

- **hardness**

The cured printed ink exhibits a surface hardness between 4H and 5H (depending on the substrate).

- **drying process**

After printing at a thickness of  $50 \mu\text{m}$ , the ink fully cures within 12 hours at room temperature; however, the drying process can be accelerated by heating at  $80^\circ\text{C}$  for 10 minutes.

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