EcoInk

CNC & Graphene-based conductive ink

Product description & benefits

Our conductive EcoInk is formulated using mechanically exfoliated graphite enhanced with cellulose nanocrystals (CNC), resulting in a high-performance material ideal for electrical conductivity applications. Our CNC is produced via an enzymatic process, offering a sustainable and environmentally friendly alternative to traditional acid-based methods.

This innovative approach enables the generation of graphene-like particles while ensuring excellent excellent dispersion and stability in the ink formulation.

EcoInk is specifically formulated for applications such as flexible electronics, printed circuits, sensors, and other use cases where precision and conductivity are critical. Our primary focus is on radio frequency (specifically, RFID) tags manufactured through screen printing.

EcoInk ´s unique composition delivers superior film formation, adhesion, and electrical performance while maintaining eco-friendly manufacturing standards.

EcoInk is a project that we develop with passion at **Myruns** and **Evolgene**

Preliminary Technical Data Sheet

Properties of uncured EcoInk	
Material	Graphite dust, Enzymatic Cellulose nanocrystal, water-base solvents
Color	Shiny Black
Percent solid Oven drying at 110ºC until constant mass	28-32% (w/w)
Viscosity	5 - 15 Pa.s

EcoInk processing conditions	
Deposition methods	Screen printing
Substrate	Regular paper sheet (80g / cm^2)
Recommended screen	55 threads/cm^2, 0,64µm diameter, 22º (for multilayer), 34 threads/cm^2, 0.83µm diameter, 22º (for monolayer)
Flood speed	70 mm / s
Print speed	240 mm / s
Pressure	250N
Printed thickness	45µm per layer (55 threads), 90 µm per layer (34 threads)
Curing process	Oven dried 100ºC 30min, or in an oven with air flow during 5 minutes, and subsequent compaction

Properties of cured EcoInk	
Cured thickness	10-12 µm
Sheet resistance	1.7 ± 0.3 Ω/sq/10µm