

MAGNETOELECTRIC INK

Nanopaint's MEInkNP® is a screen printable magnetolectric ink, able to generate an electrical response to the variation of a magnetic field. With this ink it is possible to produce and implement magnetic sensors, measuring mechanical stress or electric field variations, on rigid or flexible substrates.

INK FEATURES

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| ✓ High dispersion and isotropy | ✓ Magnetolectric |
| ✓ High magnetolectric response | ✓ Several types of sensors and actuators can be printed |
| ✓ Custom formulation suitable | ✓ Easy processability |
| ✓ Easy screen printable | ✓ Of easy cleaning |

INK PROPERTIES

Apparency	Dark brown/Black
Cure processing	Thermal cure
Solid content (%)	40%
Viscosity	8 000 – 12 000 cP
Base polymer	PVDF-TrFe

PIEZOELECTRIC/PYROELECTRIC VALUES

Piezoelectric coefficient d33 (pC/N)	18 - 23
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DIELECTRIC VALUES

Dielectric const. range @1 KHz, 25 °C	8 - 12
Coercive field (KV/cm)	45 - 50
Poling min. (KV/cm)	600
Poling max. (KV/cm)	1000



MAGNETIC PROPERTIES

Magnetization saturation (emu.g ⁻¹)	6
Remanence (emu.g ⁻¹)	3
Coercive Field (Oe)	2500

HANDLING PROPERTIES

Processing	Vigorously stir with a spatula
Printing equipment	Screen printer, doctor blade printing
Mesh count, warp (n/cm)	55-63
Squeegee hardness	60-75 Shores
Cure conditions	135°C for 10 minutes in a regular or ventilated oven
Clean-up solvent	Nanopaint's cleaning solvent Clear100NP
Substrates	Glass, PET, PC or paper
Storage	Should be kept well sealed in its container, away from direct sunlight and stored at a controlled temperature > 20°C
Shelf-life	Ink in an unopened container has a recommended shelf life of 3 months from the date of delivery