Micropen: Substrates and Inks

At Exxelia, we are advancing printed electronics through high-performance substrates and custom conductive inks. Designed to meet the rigorous standards of the medical, aerospace, and space sectors, our solutions enable circuit miniaturization, enhanced functional integration, and flexible design.

From silver-based inks to polyimide or ceramic substrates, and Micropen® printing technologies, each component is engineered for reliability, accuracy, and performance in the most demanding environments.

Substrate	Common Trade names*	Material Applied by Exxelia Micropen	Function Added	Applications Demonstrated
Polymers				
Polyethylene Terephthalate (PET)	Mylar,® Melinex®	Ag, W	Conductivity, Radiopacity	Cardiac ablation balloon, lead on cardiac ablation wire guide
Polyurethane	Texin,® Desmopan,® Tecothane,® Estane,® Pellethane®	Ag, TiO2	Conductivity, Opacity	Capsule antenna, Tecothane,® Estane,® electrode on sheath, Pellethane® visualization
Silicone	SilMedic,® BioSil,™ Silikophen,® Nusil™	Ag, W	Conductivity, Radiopacity	Atrial ablation balloon, flexible brain stimulation electrode

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S.A.S. au capital de 12.525.700 €
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Silicone-Urethane Copolymer	Elast-Eon™	Ag, W	Conductivity, Radiopacity	Visualization
Polyamide (Nylon)	Vestamid,® Grilamid®	Ag, W	Conductivity, Radiopacity	Sensing on balloon catheter
Polyetheramide	PEBAX	Ag, W	Conductivity, Radiopacity	Catheter stimulation and sensing, ablation catheter
Polyetherimide	Ultem®	Ag	Conductivity	Stimulation
Polyetherether Ketone	Vestakeep,® PEEK-Optima®	Ag, W	Conductivity, Radiopacity	Heater
Polysulfone	Radel,® Udel,® Fortron®	Ag	Conductivity	Sensing
Polytetrafluoroethylene (Etched)	Teflon®	Ag, W	Conductivity, Radiopacity	Visualization

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Polycarbonate	Makrolon®, Calibre,™ Lexan®	Ag, W	Radiopacity, Conductivity	Sensing on surgical device
Polyvinylidene Fluoride	Dyflor,® Kynar®	W	Radiopacity	Visualization
Polyvinyl Chloride	Nakan,® Chlorite™	Ag	Conductivity	Sensing on endotracheal tube
Polyhydroxyalkanoate	Biopol,™ Mirel™	W	Radiopacity	Visualization
Liquid Crystal Polymer	Vectra®	Ag	Conductivity	Heater, thermistor
Poly(P-Xylylene)	Parylene™	Ag	Conductivity	Balloon electroporation
Styrene-Butadiene	Styrolux®	Ag	Conductivity	Opthalmic electroporation
Metals				
Stainless Steel	316SS, 304SS, 420SS	Various polymers, Ag	Dielectrics, Conductors	Heaters

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Titanium	—	Au	Conductor	Sensing
Silicon	—	Various polymers, Ag	Dielectrics, Conductors	Sensing
Ceramics				
Alumina	—	Ag, Au, Pd, Pt	Conductor, Capacitor,	Electrocauterization, heaters, sensors
Silica	Pyrex,® Glass, Quartz	Ag, Various polymers	Conductors, Protective layers	Heaters

**All registered trademarks and tradenames are the property of their respective owners.*

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