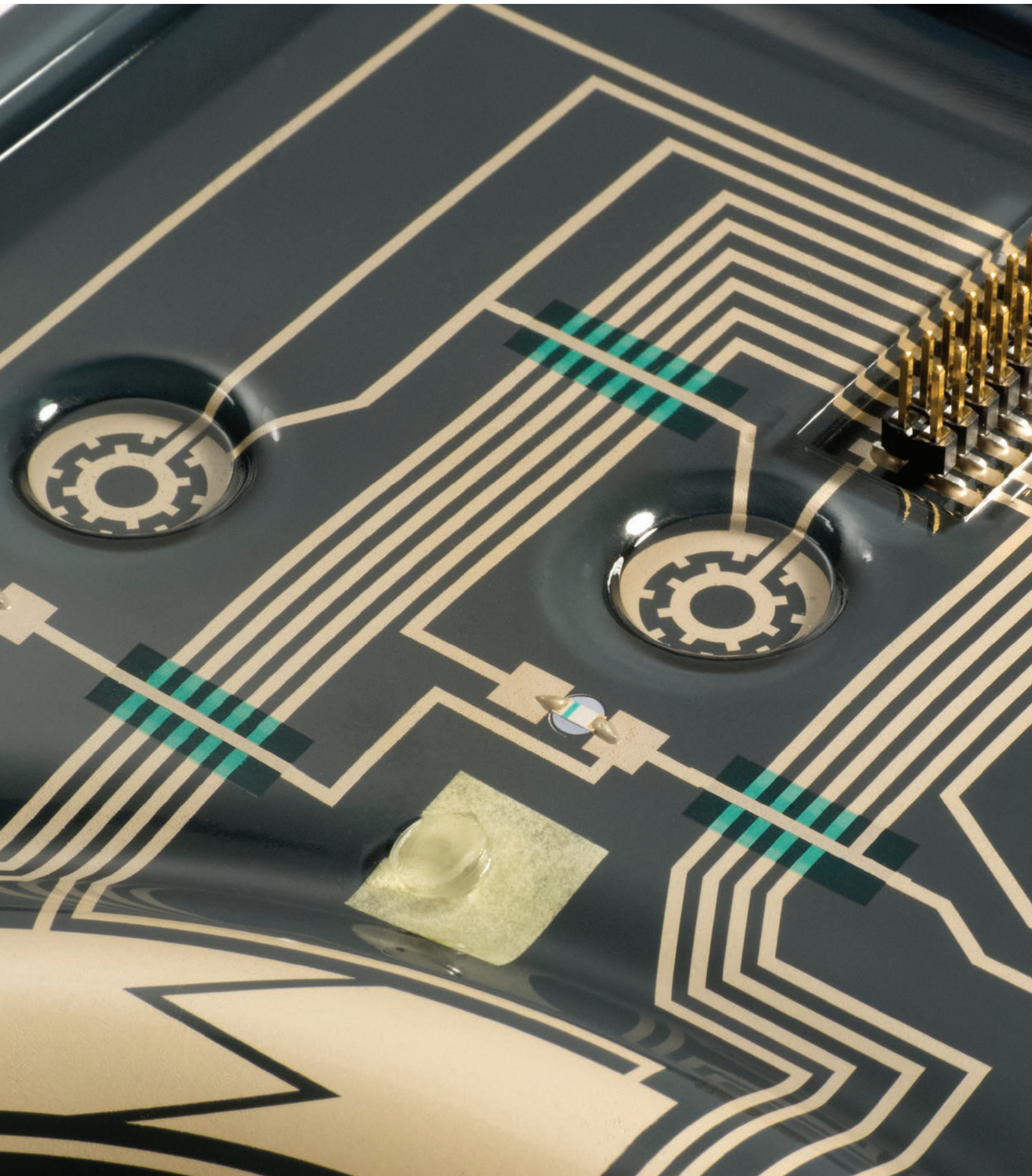
Advanced Materials

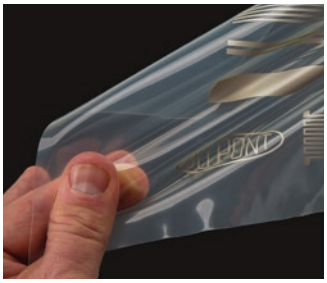
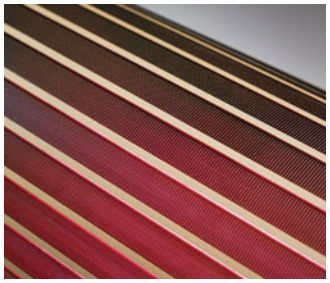
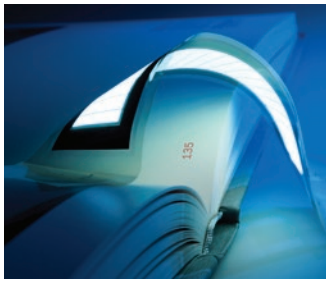
DUPONT

New Dimensions In Printed Electronics

Product Overview



Application	Composition	Product Code	Features
Printed Electronics	Silver	5065/5028	High conductivity/fine line
Printed Electronics	Silver	5025	Multi purpose conductor
Printed Electronics	Carbon	7105/7102	Low cost carbon
Printed Electronics	Dielectric	5018/5018A/G	UV cure. Cross-over or encapsulant, blue, clear and green
Printed Electronics	Ag composite	PE825/PE826	Low silver circuitry 37% / 18% Ag
Digital Electronics ink-jet	Silver	PE410	High conductivity nano-Ag for ink-jet printing
RFID/HF (NFC)	Ag alloy	PE815	Low silver 27% Ag, photonic cure and calendar
RFID/HF (NFC)	Silver	5029/PE819	High conductivity for printed HF antennae
RFID/UHF	Copper	PE510	Low cost copper for photonic curing, UHF antennae
RFID/UHF	Ag composite	PE825/PE826	Low Ag option for UHF antennae
Biomedical	Silver	5025/5028	Signal lines and sensor pads
Biomedical	Ag/AgCl	5880/5874	Stable reference electrodes
Biomedical	Carbon	BQ226/BQ242	High sensitivity electrodes
Biomedical	Gold	BQ331	Inert surface electrodes
Biomedical	Platinum	BQ321/7112	High activity electrodes
Biomedical	Dielectric	BQ10	Fast UV cure, high resolution flexible insulator
In-Mold Electronics	Silver	ME101	Formable low stretch conductor for antennae and interconnects
In-Mold Electronics	Carbon	ME201	Formable carbon overprint
In-Mold Electronics	Silver	ME602/ME603	Formable conductors, good adhesion to polycarbonate
In-Mold Electronics	Dielectric	ME778/ME779	Formable dielectric, white solvent based crossover
In-Mold Electronics	Dielectric	ME780	Formable transparent protective overprint
In-Mold Electronics	Transparent	ME801	Formable organic transparent conductor
In-Mold Electronics	Silver	ME902	Conductive adhesive for electronic component attach
OLED Lighting	Silver	9169	Bus lines, good adhesion to ITO
OLED Lighting	Silver	PE410	Ink-jet nano-Ag for bus and grid lines
LED Lighting	Silver	5028/5065	High conductivity signal lines
LED Lighting	Dielectric	5056	Flexible solder mask and white reflector
LED Lighting	Ag/Cu	CB230	Solderable contact pad
Heaters	Carbon	7292	PTC composition for self-limiting heaters
Heaters	Silver	Kapton™ KA802	High temperature operation up to 300°C
Heaters	Dielectric	Kapton™ KA702	High temperature operation up to 300°C
Touch Panels/Smartglass	Silver	9169	Good adhesion to ITO, low contact resistance
Wearables	Silver	Intexar™ PE874	Stretchable, washable conductor. Best stretch recovery
Wearables	Silver	Intexar™ PE876	Stretchable, washable conductor. Best washability
Wearables	Dielectric	Intexar™ PE773	Stretchable, washable encapsulant
Wearables	Carbon	Intexar™ PE671	Stretchable, washable overprint
Wearables	Film	Intexar™ TE-11C	Stretchable polyurethane base film
Wearables	Film	Intexar™ TE-21C	Cover film for part packaging
Electroluminescent	Phosphor	8150L/8152B	White and blue-green phosphors
Electroluminescent	Dielectric	8153	High dielectric constant
Electroluminescent	Silver/Carbon	9145/8144	Rear electrode / Front bus bar
Electroluminescent	Translucent	7162	Front translucent electrode
Pressure Sensors	Carbon	7082M	Piezoresistive composition
Smartpackaging	Silver	PE827/PE828	Low temperature curing (60°C – 100°C)
Thin Film Photovoltaic	Silver	PV412/PV416	High conductivity and adhesion on TCOs


Introduction

For over 50 years, DuPont has been a leading innovator and global supplier to the Printed Electronics industry. Our extensive offering of low temperature curing inks for flexible substrates enables a variety of advanced printed electronics applications. With an expanding range of new, innovative products targeted to critical customer applications, we are driving the future of Printed Electronics.

In-Mold Electronics

A complete system of conductive and dielectric inks that are designed to survive the intense stretching and heat of the thermoforming and injection molding processes. These can be used to construct ergonomically-friendly control surfaces with 3D circuits that feature capacitive switches and LED lighting for applications such as touch-panel control interfaces in automobiles and domestic appliances. By removing bulky physical switches and part assembly process steps, significant cost and weight savings can be achieved.

Wearables

Intexar™ is the new suite of stretchable, washable electronic ink and substrate materials enabling a manufacturing-ready approach to deliver superior comfort and functionality for smart clothing and other wearable electronics such as healthpatches. Intexar™ inks and substrates are designed for exceptional stretch performance and endurance through multiple wash cycles.

Smart Packaging

Low temperature curing (60°C – 100°C) silver and carbon inks for printing conductive tracks and features on functional packages. The low temperature performance enables designers to print electronic circuits on substrates with lower temperature tolerances such as PVC and polyolefins.

Flexible Heaters

New DuPont™ Kapton™ inks for high temperature heater applications and Positive Temperature Coefficient (PTC) carbon resistors for self-limiting heater applications.

Touch Panels/Smartglass

Fine line, high resolution silver pastes suitable for grid lines and bus bars with good adhesion to ITO and low contact resistance. This additive technology simplifies production of touch panels and functional glass such as self-dimming windows.

Digital Printing

A nano-Ag ink-jet composition suitable for digital printing of conductive paths and components. This ink combines very high conductivity with excellent adhesion, fine line resolution and low surface roughness.

Biomedical Sensors

Silver/silver chloride and carbon screen formulations for highly stable electrode systems for point-of-care applications such as blood glucose and blood coagulation test strips. Low temperature curing gold ink for highly inert electrode surfaces for immunodiagnostic and blood gas sensors. Highly active platinum and platinized carbon compositions are also available.

Photovoltaics

Silver grid and bus bar materials for current collection in flexible thin film, organic and perovskite photovoltaic cells. Key properties are high conductivity, fine line resolution and low contact resistance on transparent conductive oxides.

Membrane Switches and Interconnects

For general purpose conducting lines and contacts in all printed electronics applications. A wide range of inks are available from very high conductivity pure silver to low cost carbon, copper and alloy conductors.

Force Sensing Resistors

For fabricating printed force sensing resistors on flexible substrates, a piezoresistive carbon ink is available. This carbon ink is complimented by accompanying substrate, silver electrode and dielectric spacer materials for a fully printed system.

RFID/NFC

High-conductivity silver compositions for printing HF and UHF antennae. New copper and alloy compositions have been introduced that display excellent conductivity after lamination and/or photonic curing, ensuring a cost-effective solution.

LED Lighting

A range of inks are available for fabricating LED circuits on both flexible and rigid substrates including a high conductivity silver for LED interconnect, a solderable low temperature curing conductor and a flexible reflective dielectric capable of withstanding solder reflow

Electroluminescent Lighting

DuPont™ Luxprint® is a fully screen printable system of inks for fabricating electroluminescent lighting. These include silver, dielectric, carbon, phosphor and overprint compositions.

For more information on DuPont printed electronics materials or other DuPont Advanced Materials products, visit **advancedmaterials.dupont.com** or contact your local representative

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