



# SunTronic® Materials for Printed Electronics

*Experience. Transformation.*

**SunChemical®**

a member of the DIC group



Color & Comfort



## Trusted Solutions Provider

SunTronic Printed electronics materials, together with Sun Chemical's SunHytek screen graphic inks and DIC's DAITAC pressure sensitive adhesives (PSA) tapes and foams, offer a complete material solution for multiple markets, including consumer electronics, home appliances, automotive, medical, industrial, and aerospace.

## Polymer Thick Film Inks

PTF inks found success in additive manufacturing of flexible circuits for keyboards, membrane switches and capacitive switches, flexible heaters, sensors and other flexible hybrid electronics. Advancements in PTF inks technologies now offer better cost effectiveness, higher performance and reliability for printed electronics.

Product Type	Product Name	Features
Silver, solvent-based	AST6320	<b>Universal purpose low silver content ink</b> with excellent adhesion to treated and untreated PET; <15 mOhms/sq/mil, fast drying, screen printable
	CHSN8013	<b>Proven flexible silver ink</b> for printed membrane switches, < 12 mOhms/sq/mil, screen printable
	AST6000	<b>Halogen free silver ink for printed switches</b> , < 20 mOhms/sq/mil, screen printable
	AST6010	<b>High performance silver ink</b> for printed interconnects and antennae, halogen free, < 12 mOhms/sq/mil, screen printable
	AST6202	Silver ink with low resistivity, <7 mOhms/sq/mil, at low silver loading, <b>higher mileage silver ink</b> option with <b>high current carrying capacity</b> , screen printable
	AST6025	<b>Silver ink for high resolution</b> screen printing (min <b>trace width 50 um</b> ) with high solids and excellent conductivity (<10 mOhms/sq/mil), high current carrying capacity, screen printable
	AST6140	Silver ink for printing on <b>solvent sensitive and temperature sensitive substrates</b> such as PC, PVC and acrylics, <15 mOhms/sq/mil, screen printable
	AST6400	Highly flexible and <b>elastic silver conductive ink</b> , suitable for <b>stretchable electronics</b> applications on TPU & other stretchable substrates, < 15 mOhms/sq/mil, screen printable
Silver, water-based	AFT6700	<b>Water-based flexographic conductive silver</b> , excellent for coated papers and paperboard applications
Conductive polymer, water-based	C2100629D1	<b>Transparent conductive ink, PEDOT:PSS-based</b> , suitable for transparent electrodes applications, screen printable
Carbon/Graphite, solvent-based	GST4000	<b>Universal purpose PTF Carbon</b> with adhesion to many plastic substrates, <20 Ohms/sq/mil, screen printable, blendable with AST6320 silver
	GST4300	<b>Proven PTF Carbon for membrane switches</b> with good flexibility and reliability, <20 Ohms/sq/mil, screen printable, blendable with CHSN8013 silver
	CRSN2644	General purpose PTF Carbon - <b>halogen free binder</b> , <20 Ohms/sq/mil, screen printable, blendable with AST6000 silvers
	GST4510	Highly flexible and <b>elastic carbon conductive ink</b> , suitable for stretchable electronics applications on TPU and other stretchable substrates, <50 Ohms/sq/mil, screen printable
Carbon/Graphite, water-based	GFT4600	<b>Water-based flexographic conductive carbon</b> , excellent for coated papers and paperboard applications
Dielectric/insulator, UV cure	DSU4601	Excellent <b>reliability and stability</b> dielectric with high insulation resistance, screen printable
	DSU4606	Universal purpose <b>flexible PTF dielectric with excellent adhesion</b> to broad range of substrates, including untreated PET, screen printable
	DSU4607C	Excellent <b>flexibility, low haze and non-yellowing</b> , ideal as protective clear ink for transparent electronics applications, screen printable
Dielectric/insulator, UV-LED cure	DSUL4605B	Flexible dielectric with excellent reliability and stability, more environmentally friendly process with <b>UV-LED curing</b> , screen printable
Dielectric/insulator, water-based	DWT1000	<b>Water-based printable TPU ink</b> , can be used as insulator, encapsulant as well as a carrier film for stretchable electronics applications, screen printable

## Application Selector Guide

**Silver PTF inks** are used primarily for printing high conductivity interconnects, bus bars for heaters and touch panels, electrodes for various sensors, and for RF antennae. **Carbon/Graphite PTF inks** are used for low conductivity interconnects, resistors, heating elements and as a protective layers for connector pads to prevent silver pads from mechanical damage as well as to prevent silver migration. **PTF dielectrics** are used as cross-over insulators for multilayer circuits, and as passivation and protective layers to improve reliability of printed silver circuits.

Below table can be used to find suitable SunTronic materials for selected printed electronics applications. For biosensors, in-mold electronics, electroluminescent products, and ink-jet products, please see individual application brochures on <https://www.sunchemical.com/product/suntronic-advanced-materials/> or contact us at [globalmarketing@sunchemical.com](mailto:globalmarketing@sunchemical.com) to assist with more product details and finalize product recommendations.

### End-use Application

Product Name	Flexible Hybrid Electronics	Membrane Switches	Capacitive Switches	Printed Antenna	Printed Heaters	Smart and Security Labels	Smart Packaging	Touch Panel Displays/ ITO-Based	Transparent Electronics	Stretchable Electronics
AST6320	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
CHSN8013	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗
AST6000	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗
AST6010	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
AST6202	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
AST6025	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗
AST6140	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗
AST6400	✓	✗	✓	✓	✓	✗	✓	✗	✗	✓
AFT6700	✗	✗	✓	✓	✗	✓	✓	✗	✗	✗
C2100629D1	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
GST4000	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	✗
GST4300	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	✗
CRSN2644	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	✗
GST4510	✓	✗	✓	✗	✓	✓	✓	N/A	N/A	✓
GFT4600	✗	✗	✗	✗	✓	✓	✓	N/A	N/A	✗
DSU4601	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗
DSU4606	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
DSU4607C	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓
DSUL4605B	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
DWT1000	✓	✗	✓	✗	✓	✗	✗	✗	✗	✓

✓ Highly suitable

✓ Suitable

✗ Not recommended

N/A Not applicable

# Experience. *Transformation.*

## A partner who transforms with you.

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