

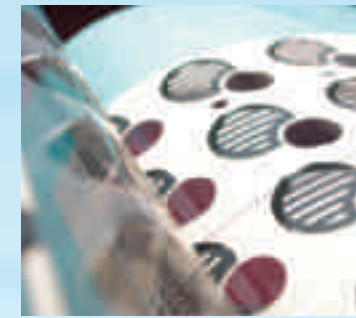
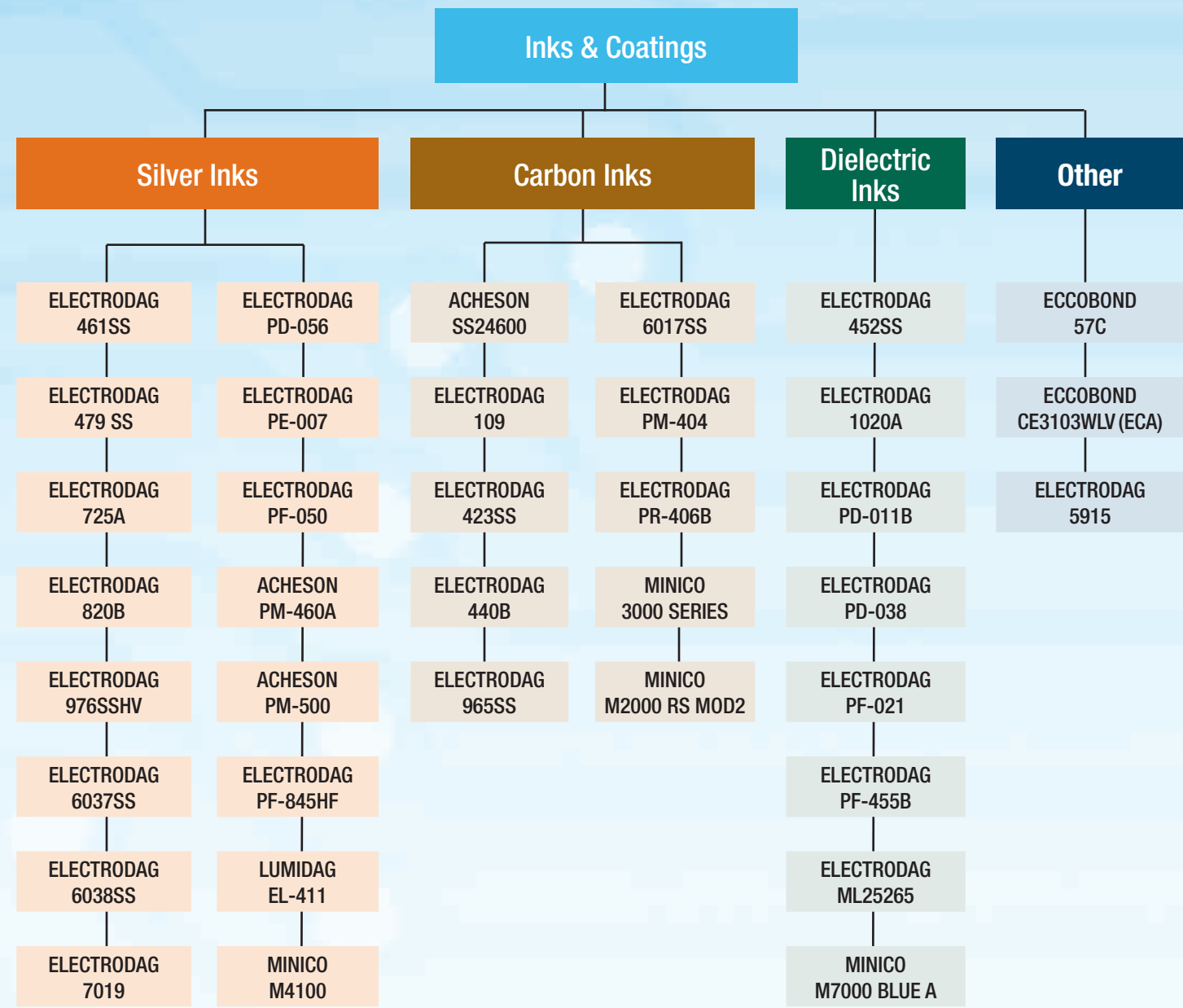


Inks & Coatings



Printed Electronic Applications

Printed Electronic Inks



Biosensors and EKG/ECG electrodes



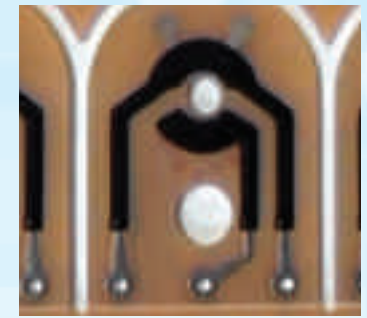
Electroluminescent Lamps



MembraneTouch Switches



Printed Circuit Boards



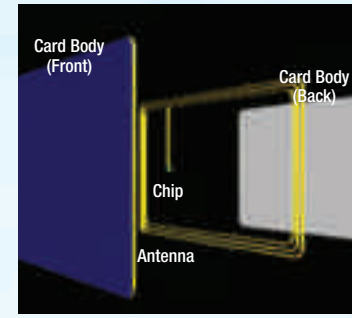
Printed Potentiometers



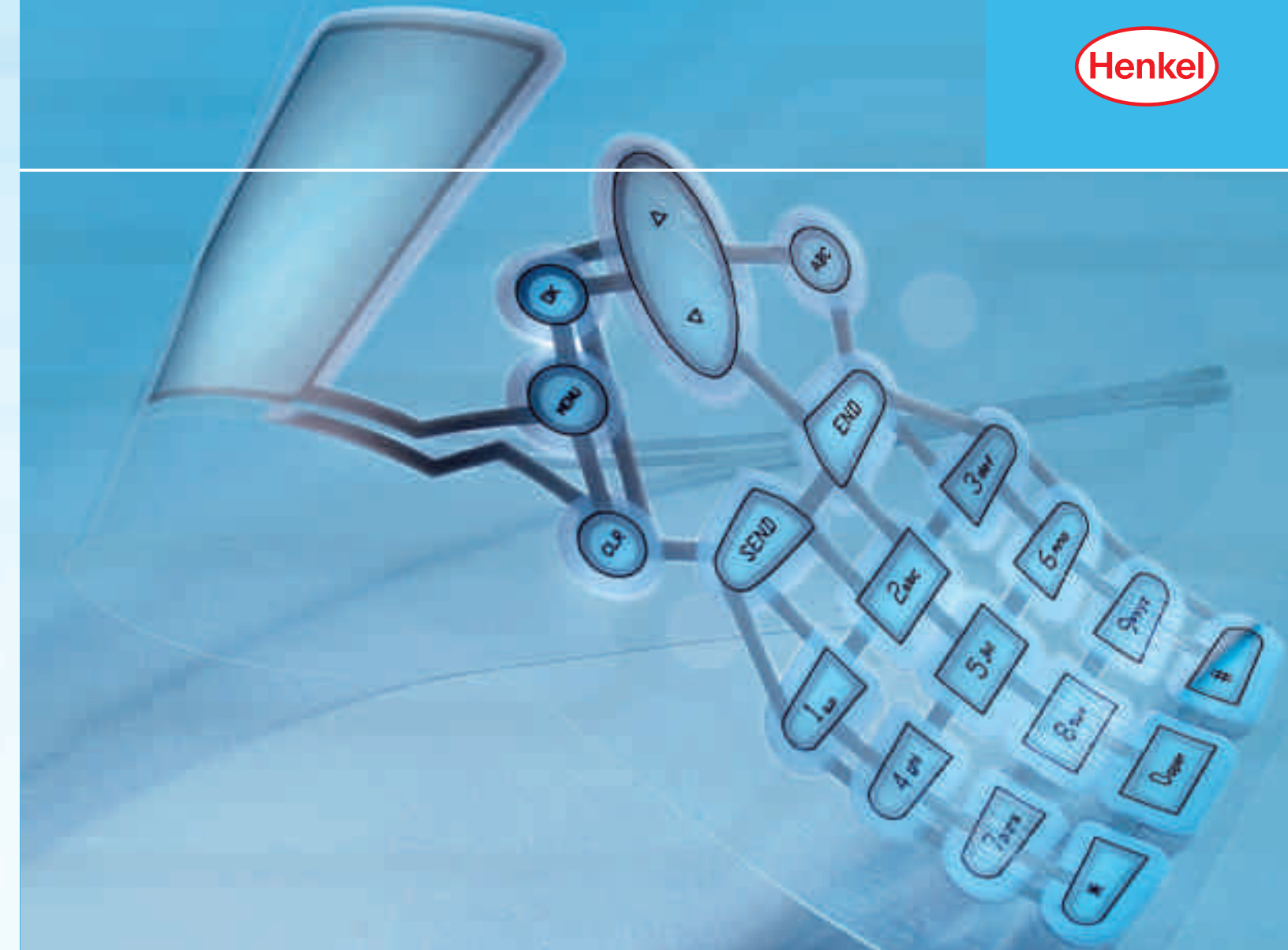
Resistors/Heating Elements



Capacitive Display Touchscreens



Contactless Smart Cards and RFID Labels



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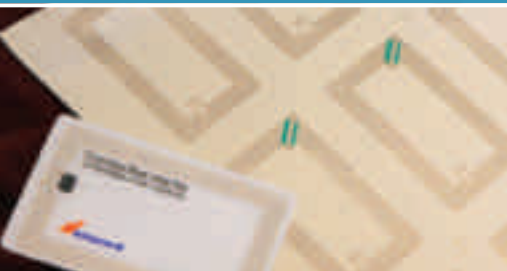
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Inks & Coatings



For decades, the Acheson brand of conductive inks, dielectric coatings and other functional polymer thick film products have been used to selectively apply electronic patterns for a wide variety of applications. Selectively applied via screen, flexographic or rotogravure printing methods, these printed electronic materials can be used on a variety of rigid or flexible substrates. Now part of the Henkel Electronic Materials umbrella of brands,

Henkel is committing more resources to further the development of the use of polymer thick film materials in printed electronics.

These products can be effectively dried or cured through heat or UV radiation. Henkel's conductive (silver, silver/silver chloride, carbon-based), dielectric and other functional (e.g., electroluminescent or adhesive) inks are used for the production of:

- Flexible circuits for membrane touch switches and keyboards for desktop and notebook PCs
- Heating elements
- Automotive sensors
- Biosensors and EKG/ECG electrodes
- Antennas for contactless smart cards and RFID labels
- Touch screens
- EL lamps
- Printed circuit boards and potentiometers



Product	Description	Application	Cure Schedules	Sheet Resistance OHM/Square/25μ	Shelf Life (<25°C)
Silver Inks					
ACHESON PM-460A	Fast drying silver ink for flexographic or rotogravure printing.	Fast speed web printing	5 sec. @ 120°C	<0.010	12 months
ACHESON PM-500	Water-based silver ink for flexographic printing on paper and plastic film.	Fast speed web printing	1 min. @ 120°C	<0.025	6 months
ELECTRODAG 461SS**	Screen printable silver ink for ITO sputtered substrates.	Touch screens, Flexible Solar	5 min. @ 121°C	<0.020	12 months
ELECTRODAG 479SS	Screen printable, silver ink for membrane switches and flexible circuitry display devices.	Flexible circuits, package two; Medical - Glucose sensors, screen printable; Printed resistors and heating elements for flexible inks	15 min. @ 93°C	<0.020	12 months
ELECTRODAG 6037SS	Screen printable, silver/silver chloride conductive ink for electrode material in biomedical sensing devices, can be blended with ELECTRODAG 6038SS to achieve customized Ag/AgCl ratios.	Medical - Tens pads, Iontophoretic, screen printable inks.	15 min. @ 120°C	<0.120	12 months
ELECTRODAG 6038SS	Screen printable, silver/silver chloride conductive ink electrode material in biomedical sensing devices, can be blended with ELECTRODAG 6037SS to achieve customized Ag/AgCl ratios.	Medical - Tens pads, Iontophoretic, screen printable inks.	15 min. @ 120°C	<0.040	12 months
ELECTRODAG 7019	Screen printable, silver/silver chloride conductive ink for use in the manufacture of electrically conductive medical devices.	Medical - Tens pads, Iontophoretic, screen printable inks.	10 min. @ 107°C	<0.050	12 months
ELECTRODAG 725A*	Screen printable, economical silver ink for PET film. Excellent flexibility.	Flexible circuits, package one	10 min. @ 120°C	<0.015	12 months
ELECTRODAG 820B	Screen printable, silver ink for use on membrane keyboard printing.	Desktop keyboard	20 min. @ 120°C	0.015	12 months
ELECTRODAG 976SSHV	Screen printable, silver ink for use in the manufacture of rigid printed circuit boards.	Rigid Circuits, LED attach	30 min. @ 150-160°C	<0.025	12 months
ELECTRODAG PD-056	Fast drying conductive silver coating.	Fast speed web printing	10 sec. @ 130°C	<0.006	12 months
ELECTRODAG PE-007	Silver/silver chloride ink for flexographic/rotogravure printing on plastic film.	Medical - EKG Pads, high speed printing	2 min. @ 110°C	<0.100	12 months
ELECTRODAG PF-050	Screen printable silver ink for plastic film and paper substrates. Highly conductive, superior fine line printability.	RFID	15 min. @ 120°C	<0.010	12 months
ELECTRODAG PF-845HF	Halogen-free ink designed for notebook computer keyboard touch switch application.	Notebook keyboard	1 hour @ 145°C	0.013	6 months
LUMIDAG EL-411	Conductive ink designed for display applications on ITO film.	Flexible Solar; Touch screens	15 min. @ 120°C	<0.03	6 months
MINICO M4100	Thermoset conductive ink designed for potentiometers or rigid board applications.	Rigid circuits, LED attach	5 min. @ 120°C (Dry); 20 min. @ 200°C (Cure)	<0.040	12 months
Carbon Inks					
ELECTRODAG 109	Conductive ink for flexographic or rotogravure printing.	Medical - EKG pads, high speed printing; Fast speed web printing	10 sec. @ 130°C	<30	24 months
ELECTRODAG 423SS	Screen printable carbon ink used for membrane switch applications.	Desktop keyboard; Notebook keyboard	5 min. @ 120°C	<42	12 months
ELECTRODAG 440B*	Screen printable, carbon ink formulated to provide excellent print properties. Flexible conductive coating.	Flexible circuits, package one; Medical - Tens pads, Iontophoretic, screen printable inks.; RFID	10 min. @ 107°C	No Data	12 months
ELECTRODAG 6017SS	Screen printable ink for production of low voltage circuitry on polyester film. Blendable with ELECTRODAG PM-404 to achieve custom resistive targets.	Printed resistors and flexible heating elements	5-10 min. @ 120°C	<35	12 months
ELECTRODAG PM-404	Blendable with ELECTRODAG 6017SS to achieve custom resistive targets.	Printed resistors and flexible heating element	15 min. @ 120°C	<2 x 10 ⁹	12 months
ELECTRODAG 965SS**	Conductive screen printable ink for production of low voltage circuitry on polyester.	Flexible circuits, package two; Medical - Glucose sensors, screen printable inks	15 min. @ 120°C	<60	12 months
ELECTRODAG PR-406B	Carbon polymer thick film ink for application on most rigid substrates.	Rigid circuits, LED attach	30 min. @ 150°C	<10	12 months
ACHESON SS24600	Flexible conductive coating.	Fast speed web printing	Air dry 10 min.	<40	24 months
MINICO 3000 series	One component, flexible, screen printable, resistive carbon system.	Printed resistors and heating elements for flexible applications	30 min. @ 120°C; IR 2 min. @ 120°C	Resistance values of 1, 10, 20, 100, 1,000, 10,000 Ohms/sq/mil	12 months
MINICO M2000 RS MOD2	One component, rigid screen printable, resistive carbon system.	Rigid circuits, LED attach	30 min. @ 200°C	Resistance values of 1, 10, 100, 1,000, 10,000 Ohms/sq/mil	12 months
Dielectric Inks					
ELECTRODAG ML25265	Screen printable, UV curable dielectric-ink for ITO treated PET film and copper-etched circuitry.	Touch screens	0.3-0.6 J/cm2 UV "A" region	<2 x 10 ⁹	12 months
ELECTRODAG PD-038	Screen printable ink is designed for use as an insulator for printed circuitry or dot spacer on ITO sputtered polyester film.	Flexible Solar; Touch screens	0.3-0.6 J/cm2 UV "A" region	<2 x 10 ⁹	12 months
ELECTRODAG 1020A*	Screen printable, UV curable dielectric coating. It has been formulated to provide outstanding electrical insulation in the manufacture of flexible circuitry.	Flexible circuits, package one	0.3 first pass, 0.5- 0.6 J/cm2 second pass UV "A" region	<2 x 10 ⁹	12 months
ELECTRODAG 452SS**	Screen printable, UV curable dielectric ink for plastic film and paper substrates. Excellent flexibility. For excellent humidity resistance, PF-455B is recommended.	Flexible circuits, package two; Desktop keyboard; Notebook keyboard	0.3 first pass, 0.5- 0.6 J/cm2 second pass UV "A" region	<2 x 10 ⁹	12 months
ELECTRODAG PD-011B	Flexographically printable, UV curable dielectric ink for plastic films and paper substrates.	Fast speed web printing	0.2-0.4 J/cm2 UV "A" region	<2 x 10 ⁹	12 months
ELECTRODAG PF-021	Dot dispensable, UV curable, encapsulating photopolymer designed to secure low profile surface mount devices to rigid or flexible substrates.	Flexible Solar	0.4-1.0 J/cm2 depending on deposit thickness. For thickness >0.002", a doped bulb is recommended.	<2 x 10 ⁹	12 months
ELECTRODAG PF-455B**	Screen printable, UV curable dielectric ink for plastic film. Excellent humidity resistance.	Medical: Glucose sensors, screen printable inks; Medical - Tens Pads, Iontophoretic, screen printable inks; Printed resistors and heating elements for flexible, RFID; Flexible circuits, package two	0.3 first pass, 0.5- 0.6 J/cm2 second pass UV "A" region	<2 x 10 ⁹	12 months
MINICO M7000 Blue A	Screen printable, solvent-based dielectric ink for rigid substrates.	Rigid circuits, LED attach	25 min. @ 165°C	<2 x 10 ⁹	12 months
Other					
ECCOBOND CE3103WLV (ECA)	Electrically conductive adhesive for thin film PV assembly with superior contact resistance stability. Low viscosity for fine line dispensing.	Flexible solar	5 min. @ 125°C	8 x 10 ⁻⁴	6 months @ -40°C
ECCOBOND 57C*	Convenient 1:1 mix ratio, high electrical and thermally conductive two-component adhesive.	Flexible circuits, package one	45 min. @ 100°C	6 x 10 ⁻⁴	12 months
ELECTRODAG 5915**	Electrically conductive one part adhesive for application of components to thin film substrates such as PET. Can be applied using screen printing techniques or stencil.	Desktop keyboard; Notebook keyboard; Flexible circuits, package two	30 min. @ 120°C	0.25	12 months @ -40°C

Flexible Circuits, Compatible Products: * Package 1 = ELECTRODAG 725A, 440B, 1020A, ECCOBOND 57C ** Package 2 = ELECTRODAG 479SS, 965SS, PF-455B, 452SS, 5915