



LOCTITE® ECI 1010 E&C and LOCTITE ECI 1011 E&C

HIGHLY CONDUCTIVE SILVER INKS

LOCTITE® ECI 1010 E&C and LOCTITE ECI 1011 E&C are conductive silver inks that allow for increased design flexibility, cost reduction through lower ink consumption, and increased current carrying capacity. These highly conductive silver inks can be used in SmartCard applications, flexible circuits, printed circuit boards, membrane switches and RFID.

LOCTITE ECI 1010 E&C

This screen and rotary screen printable conductive silver ink combines excellent conductivity with optimum mechanical strength and flexibility.

LOCTITE ECI 1011 E&C

This highly conductive submicron silver ink is screen and flexo printable. The silver pigment is partly sintering, resulting in optimum sheet resistance for excellent current carrying capacity.

KEY BENEFITS	LOCTITE ECI 1010 E&C
Cost savings	Very standard silver ink with very low resistance – thinner layers and narrower lines possible
Power output	Low resistance allows high power generation in heating elements
Mechanical	Low resistance increase after double crease and mandrel tests
Environmental stability	Limited resistance increase when exposed to higher temperatures or 85% RH/85 °C

KEY BENEFITS	LOCTITE ECI 1011 E&C
Cost savings	Very conductive silver – thinner lines can be applied
Power output	Very low resistance allows high power generation in heating elements
Resolution	Small particle size allows application of fine structures
High speed printable	Excellent flexo printing capabilities, resulting in very solid and highly conductive layers
Environmental stability	Almost no resistance increase when exposed to higher temperatures or 85% RH/85 °C

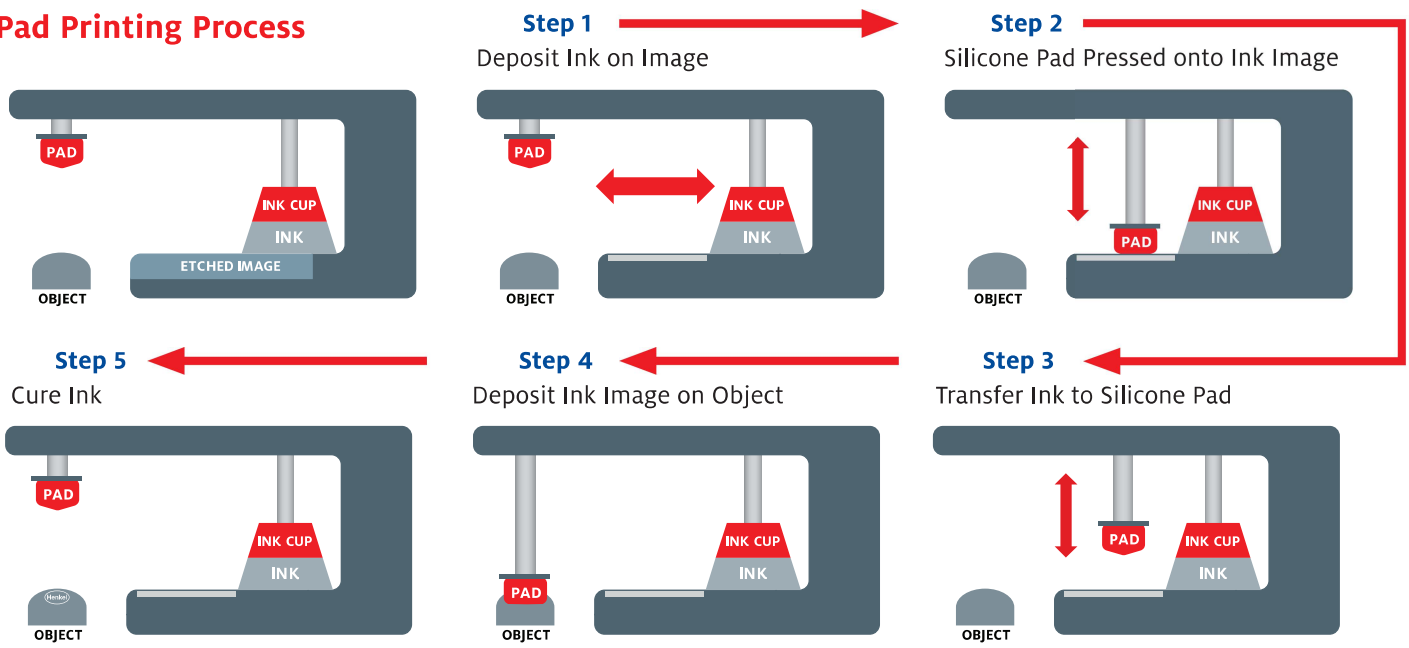
*Target markets: membrane switches, printed heaters, RFID, and printed electronics



Henkel's expertise in conductive ink formulation is lending new levels of function and efficiency to a process known as pad printing. Pad printing has traditionally been carried out with non-conductive inks or for marking applications, but new technology and robust materials are extending the benefits of pad printing to achieve delivery of electrical, current carrying capability onto 3-D substrates. With the pad printing process, indirect gravure printing with a silicone pad is used to transfer a 2-D image onto 3-D objects with varied shapes such as cylinders, spheres and angles, among others. Henkel's *LOCTITE ECI 1010 E&C* and *LOCTITE ECI 1011 E&C* are highly-conductive, printable silver inks that are used in pad printing for multiple applications including automotive car lenses, printed heaters, white goods, medical devices and keyboards.



Pad Printing Process



Product Properties

PRODUCT	SOLID CONTENTS (%)	VISCOSITY (cP)	CURING	KEY SUBSTRATES	SHEET RESISTANCE (mΩ/sq/25 μm)	COVERAGE (m ² /kg at 10 μm)
<i>LOCTITE ECI 1010 E&C</i>	61 – 63	4,500	15 min. at 120°C	PET, PI	6 – 7	10.7
<i>LOCTITE ECI 1011 E&C</i>	76	2,000	15 min. at 150°C	PET, PI	2 – 3	8.3

**Across the Board,
Around the Globe.**
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