LOCTITE®

# 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.

| 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 |

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

### *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.

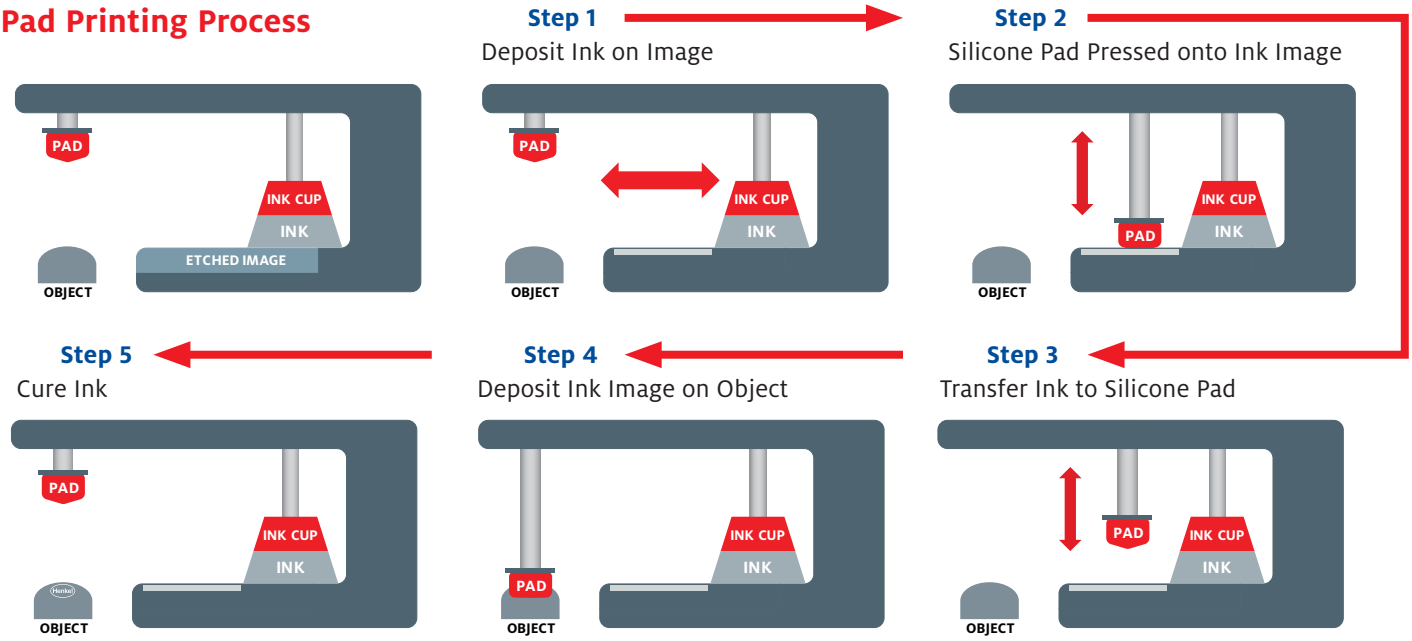
| KEY BENEFITS | *LOCTITE* ECI 1011 E&C |
|---|---|
| Cost savings | Very conductive silver – thinner lines can be applied |
| Power output | Very low resistance allows high power generation in heating elements |
| Resolution | Small particle size allows application of fine structures |
| High speed 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 |

Henkel

LOCTITE®

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) |
|---|---|---|---|---|---|---|
| *LOCTITE* ECI 1010 E&C | 61 – 63 | 4,500 | 15 min. at 120°C | PET, PI | 6 – 7 | 10.7 |
| *LOCTITE* ECI 1011 E&C | 76 | 2,000 | 15 min. at 150°C | PET, PI | 2 – 3 | 8.3 |

**Across the Board, Around the Globe.**
**henkel-adhesives.com/electronics**


**Henkel Corporation**
14000 Jamboree Road
Irvine, CA 92606
United States
+1.888.943.6535

**Henkel Europe**
Nijverheidsstraat 7
B-2260, Westerlo
Belgium
+32.1457.5611

**Henkel Asia**
332 Meigui South Road
WaiGaoQiao FTZ
Shanghai 200131 China
+86.21.3898.4800




Henkel