



LOCTITE® ECI 8000 E&C Series

Self regulating conductive printable ink for heating applications

Applications that require uniform, self-regulating heating – everything from mirrors to floor heating to batteries – are on the rise. To date, however, most wire-based solutions have been bulky, as well as time consuming and costly to manufacture. That's why Henkel developed the LOCTITE® ECI 8000 E&C Series, the market first, screen-printable alternative to traditional wires. Because of its deposition flexibility, LOCTITE® ECI 8000 E&C Series offer users the benefits of more effective application, greater design latitude and a larger scope of applications. With Positive Temperature Coefficient (PTC) functionality that enables self-regulation to a specific threshold temperature, uniform and flexible heating as compared to wires, thin and lightweight characteristics and sustainability, LOCTITE® ECI 8000 E&C Series is set to dramatically change heating applications for modern manufacturing.

Applications:

- Automotive battery heaters
- Floor heating
- Wall heating
- Greenhouse heating
- Mirror heaters/defoggers
- Medical equipment
- Video camera lens defoggers





KEY BENEFITS

VALUE	DETAILS
Rapid heating	Resistance remains low just before self regulating kicks in, high power and thus heat generation.
Uniform/flexible heating	Wire/cables have hot/cold spots and by design optimization, these can be eliminated for PTC heaters. Design can be easily adjusted to the shape of the surface that requires heating.
Self regulation	Self regulation significantly reduces the chance of overheating. Safety is increased. No external temperature control necessary.
Light weight	Substrate is light, thin layers are printed. Limited space/weight needed to implement material.
Sustainability	Environmentally stable with long life time. Low power consumption, no external controls needed. Additive printing process which uses less waste compared to etch process.

PRODUCT	DESCRIPTION	APPLICATION	TPTC (°C)	RESISTANCE (Ω/sq@25μm)	COVERAGE (m²/kg) @ 10μm	PTC RATIO
LOCTITE ECI 8045 E&C	Screen-printable, self-regulating, Positive Temperature Coefficient (PTC) ink.	Printed resistors, heating elements, membrane switches, flexible display circuitry	45	1200 - 1700	37	>100
LOCTITE ECI 8001 E&C			65	1500 - 2000	48	>8
LOCTITE ECI 8080 E&C			80	1500 - 2000	38	>15
LOCTITE ECI 8120 E&C			120	1500 - 2000	43	>15

PRODUCT	DESCRIPTION	APPLICATION	SHEET RESISTANCE (mΩ/sq@25μm)		COVERAGE (m²/kg) @ 10μm	TIMES BULK AG RESISTIVITY	% RESISTANCE INCREASE AFTER DOUBLE CREASE
			PET	PI			
LOCTITE ECI 1010 E&C	Highly conductive, screen-printable, silver ink for PET film.	Printed resistors, heating elements, membrane switches, flexible display circuitry	4-6	4-6	10.5	8	20

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



HENKEL AMERICAS
Henkel Electronic Materials, LLC
14000 Jamboree Road
Irvine, CA 92606
+1.714.368.8000
+1.800.562.8483

HENKEL EUROPE
Henkel Electronics Materials (Belgium)
N.V. Nijverheidsstraat 7
B-2260 Westerlo, Belgium
+32.1457.5611

HENKEL ASIA-PACIFIC
No. 332 Meigui South Road
WaiGaoQiao Free Trade Zone
Shanghai 200131, P.R. China
+ 86.21.3898.4800

