

## Press Release

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See the Newest Materials at LOPEC 2015

### Henkel Printed Inks Deliver Excellent Performance and Design Flexibility

From Hall B0, Booth #400 at the upcoming LOPEC event, set to take place in Munich, Germany on March 4 and 5, Henkel will showcase a range of new printed ink formulations that address emerging requirements for improved form and function of printed electronics applications.

Delivering a streamlined alternative to conventional copper wire and printed carbon materials, Henkel has developed a portfolio of novel positive temperature coefficient (PTC) printable inks that provide exceptional functionality and design flexibility for a variety of heating applications. Available in three formulations, the Loctite ECI 8000 series PTC inks offer more uniform and flexible heating, while providing improved safety through temperature self-regulation.

Leveraging unique resistance technology that increases with the elevation in temperature, Loctite ECI 8000 materials are self-regulating so that the temperature will not rise above its set point. This is contrary to conventional heating methods, where a linear relationship between heating and voltage requires the use of a control unit for temperature regulation and a fuse to prevent overheating. Other benefits of the Henkel PTC inks are rapid and uniform heating, reduced weight, sustainability due to long lifecycles, and environmental stability.

“Aside from the outstanding performance of the materials,” explains Hans VanOosten, Technical Service Project Leader for Henkel, “the design flexibility enabled by Henkel’s new PTC inks is unmatched. The inks have very thin form factors, can be printed in almost any pattern and can be incorporated into very small, confined spaces. The applications – which range from mirror heating to floor heating to condensation control in consumer goods – are limitless.”



## **Highly-Conductive, Flexible Silver Inks**

In addition to the PTC inks, Henkel has also recently formulated a new highly-conductive, flexible silver ink that provides nearly twice the conductivity of previous-generation products. The novel material, Loctite ECI 1010, extends new levels of performance for products such as heaters, antennae, keyboards or any application where optimum conductivity is required.

Whereas traditional flexible silver inks have a resistance level of 0.010 Ohm/sq/25µm, Loctite ECI 1010 delivers much lower resistance of 0.005 Ohm/sq/25µm, providing twice the conductivity. From a design perspective, this enables the printing of finer lines that still have the necessary current capacity. For manufacturers that require even greater conductive capability in a slightly less flexible material, Henkel has developed Loctite ECI 1011, which provides a resistance level of 0.003 Ohm/sq/25µm. Henkel technology specialists will be on-hand throughout the LOPEC event to discuss these latest innovations.

## **Expertise Shared at the Exhibitor Forum**

Not only will Henkel provide in-depth information regarding its printed electronics materials at the Henkel exhibit, but key members of the company's technology team will also share their expertise at the Exhibitor Forum, where two presentations highlight the significance of the latest materials advances. Sharona Sente, Associate Technical Service Engineer, will present a paper entitled "Highly Conductive, Flexible Silver Inks for Printed Electronics" that delves even further into the benefits of the new Loctite ECI 1010 and Loctite ECI 1011 materials. Visitors can attend Ms. Sente's presentation on Wednesday, March 4 at 3:15 p.m. in the LOPEC Forum. The following day at 11:00 a.m., Henkel Senior Development Chemist, Rudie Oldenzijl, is scheduled to deliver a presentation focusing on force sensitive resistor (FSR) materials requirements. FSR's are currently used in various touch and detection applications, which is a subset of the growing flexible printed organic sensor market.

For more information or to schedule an appointment with Henkel during LOPEC, send an e-mail to [Jeroen.verlinden@henkel.com](mailto:Jeroen.verlinden@henkel.com)

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Henkel operates worldwide with leading brands and technologies in three business areas: Laundry & Home Care, Beauty Care and Adhesive Technologies. Founded in 1876, Henkel holds globally leading market positions both in the consumer and industrial businesses with well-known brands such as Persil, Schwarzkopf and Loctite. Henkel employs about 47,000 people and reported sales of 16.4 billion euros and adjusted operating profit of 2.5 billion euros in fiscal 2013. Henkel's preferred shares are listed in the German stock index DAX.

**Photo material is available at <http://www.henkel.com/press>**

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**The following material is available:**



Henkel has a range of new printed ink formulations that address emerging requirements for improved form and function of printed electronics applications.