

Press Release November 21, 2016

Importance of Robust Thermal Solutions Resonates with Attendees, Judging Panel

Henkel Wins Best Paper Award at IPC India Conference

Düsseldorf – With shrinking dimensions and increased function, the need for adaptable and effective thermal solutions to ensure electronics reliability is greater than ever before. This indisputable reality was at the fore during Henkel's paper presentation during the recent IPC India Conference, which took place alongside Electronica/Productronica India 2016. In fact, the subject is so important that the paper, entitled "High Efficiency Liquid Gap Filler Materials", earned the conference's Best Paper Award.

Accepting the award on behalf of Henkel was Holger Schuh, Henkel EIMEA Business Development Manager for Liquids and the paper's author. Schuh, who has worked in the thermal materials market for over 25 years, notes the changing requirements for heat management that have been brought on by smaller, more complex product designs. "The paper highlights the need for efficient thermal management solutions and, specifically, how liquid dispensed thermal materials are providing a viable alternative for applications where traditional pad-based thermal interface materials are not as effective," he explains. "With architectures that are not flat, the use of a liquid material allows better wet-out, lower contact resistance and improved thermal performance. Plus, liquid thermal solutions facilitate an automated process for higher throughput, which is a significant consideration."



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In addition to these benefits, the paper underscores other advantages of liquidbased thermal materials including high conformability for product design flexibility, lower component assembly stress, efficient use of material with minimal waste, and logistics simplification through the ability to source a single material for multiple programs. Not only does the paper present details on liquid Gap Fillers, Schuh's work also outlines the various equipment options to be considered when employing liquid dispensed thermal materials.

"We were grateful for the opportunity to present this information to the nearly 200 people in attendance," says Schuh in conclusion, "and we thank the IPC for recognizing the importance of this topic by selecting the paper for the Best Paper Award."

To learn more about Henkel's full line of thermal materials, visit <u>www.henkel-adhesives.com/thermal</u>. To obtain a copy of the paper presentation, send an e-mail to holger.schuh@henkel.com.

About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2015, Henkel reported sales of 18.1 billion euros (20.1 billion US dollars), adjusted operating profit of 2.9 billion euros (3.2 billion US dollars). Its three top brands, Persil (detergent), Schwarzkopf (hair care) and Loctite (adhesive) generated more than 6 billion euros (around 6.6 billion US dollars) in combined sales. Henkel employs around 50,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel's preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

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



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The following material is available:



Henkel's Holger Schuh presents the award-winning "High Efficiency Liquid Gap Filler Materials" paper at IPC India.