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Henkel Develops Electrically Conductive Adhesive Compatible with Lower-Cost Components

In a significant formulation breakthrough, Henkel Electronic Materials announces that it has developed a new electrically conductive adhesive (ECA) compatible with lower-cost, tin-terminated components to enable more cost-effective assembly processes. The new material, ABLESTIK ICP-3535M1 is a one-component, pre-mixed ECA that provides low and stable contact resistance when used with 100% tin-terminated components.

The benefits of ECAs are well-established and include lower temperature processability, more streamlined manufacturing techniques, lower stress assemblies and regulatory-compliant lead-free formulations. Historically, one of the few drawbacks associated with ECAs has been the materials' inability to cope with non-noble metals on component terminations, making them useful primarily with palladium silver-, silver-, or gold-finished components. ABLESTIK ICP-3535M1 now delivers all of the aforementioned benefits with the added advantage of tin compatibility, thereby enabling high-performance and cost-efficient processes.

"ABLESTIK ICP3535M1 is extremely adaptable," notes Tom Adcock, Henkel's Global Product Manager for Assembly Adhesives. "Not only does it deliver significant savings in the form of lower cost component use, but the material also provides reliable component assembly to a variety of substrates including low-temperature co-fired ceramics (LTCCs), high-temperature ceramics, and OSP-finished printed circuit boards (PCBs). This flexibility is central to reducing supply-chain complexity, allowing manufacturers to source a single material for multiple applications."

The reliability of ABLESTIK ICP-3535M1 has been confirmed through various analyses, maintaining its stable contact resistance and good mechanical integrity after 3,000 hours of temperature and humidity testing, 3,000 cycles of thermal shock evaluation and 3,000 hours of heat storage. In each case, ABLESTIK ICP-3535M1 outperformed competitive samples against which it was tested. In addition, the new ECA from Henkel also exhibits excellent performance with very small components such as 0402s, displaying absolutely zero bridging or wicking with highly miniaturized devices.

ABLESTIK ICP-3535M1 is particularly well-suited for a variety of automotive applications, but also has relevance for any environment where high reliability and cost reduction targets are important. These may include the aerospace sector, wireless datacom infrastructure (WDI) products, security devices, lighting technology and others.

"The potential cost-savings per board that ABLESTIK ICP-3535M1 can enable are significant," concludes Adcock. "With this material, there's no decision to be made between cost-down or performance-up objectives -- you get them both!"

For more information on ABLESTIK ICP-3535M1 or any of Henkel's next-generation ECAs, log onto www.henkel.com/electronics or call the company headquarters at 714-368-8000.

About Henkel

Henkel operates worldwide with leading brands and technologies in three business areas: Laundry & Home Care, Cosmetics/Toiletries 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 48,000 people and reported sales of 15,092 million euros

and adjusted operating profit of 1,862 million euros in fiscal 2010. Henkel's preferred shares are listed in the German stock index DAX and the company ranks among the Fortune Global 500.

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