



Press Release

September 17, 2019

From the package level to the board level, advanced formulations enable reliable performance for demanding applications

Henkel Features Material Solutions for High-Reliability Applications including Aerospace Electronics at IMAPS 2019

Irvine, California – Henkel’s presence at the upcoming [IMAPS symposium](#), taking place September 30 – October 3 in Boston, MA, will center on its high reliability know-how at the wafer and board level, with particular emphasis on the company’s solutions for aerospace electronics. As miniaturization and expanded function are impacting the entire electronics ecosystem -- from bare wafers to integrated systems – new materials are required to cope with the effects of increased heat generation, exposure to harsh environments and smaller package dimensions.

Henkel has developed a wide range of advanced formulations to address the challenges of today’s electronic realities. At IMAPS 2019, expert Henkel team members will deliver informative presentations on emerging technologies and will be available in the booth 408 to discuss several of the company’s enabling products, including:

Aerospace-capable adhesives and protection materials:

- High-reliability assembly film -- A silver-filled, epoxy-based assembly film formulated for extreme reliability, **LOCTITE® ABLESTIK CF 3366** provides strong adhesion to facilitate reliable RF ground plane performance even during long-term exposure to elevated temperatures.
- High operating temperature compatible underfill -- A one-component underfill that prioritizes health and safety*, **LOCTITE ECCOBOND UF 1173** protects array devices in a formulation that is compatible with applications where higher temperatures are the norm.
- Semi-sintering interconnect paste --- Smaller, higher-functioning devices and the use of new high thermal chip structures within the aerospace sector present challenges when it comes to management of the increased thermal

LOCTITE TECHNOMELT BONDERITE

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 Dial

 RIGHT GUARD

 Snuggle

 Persil

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 Purex

load. Conventional soft solders and many adhesives cannot handle operating temperatures as high as 200°C. Semi-sintering paste, *LOCTITE ABLESTIK* ICP 9000, offers a lead-free interconnect solution compatible with these demanding conditions and operating temperatures as high as 200°C.

Package-level warpage control and EMI shielding:

- Wafer-level encapsulants –Henkel’s new low modulus, low CTE liquid compression molding (LCM) and printable encapsulating materials allow fan-in and fan-out wafer-level packages (WLPs) and wafer-level chip-scale packages (WLCSPs) to be processed with minimal warpage for high reliability.
- Package-level EMI shielding – Integration and miniaturization have driven the development of Henkel’s package-level EMI shielding solutions. *LOCTITE ABLESTIK* EMI 8880S, a conductive spray coating, and *LOCTITE ABLESTIK* EMI 3620FA, a component isolating paste for integrated packages, can be used in combination or as stand-alone solutions for an effective alternative to conventional EMI approaches.

While advanced, capable materials are essential, practical knowledge and expertise about their selection, use and integration are the linchpins to success. Henkel materials and process thought leaders share their know-how during several educational sessions throughout the IMAPS event. Top materials scientists from Henkel will present on topics including thermal management techniques using thermal interface materials; advanced assembly materials for heterogeneous integration and 3D packaging; electrically conductive film adhesives for high temperature compatibility and high reliability performance; and, innovative solder alloys for demanding automotive applications. Details for these courses and presentations can be found on www.imaps.org/imaps2019.

The Henkel team invites all show delegates to connect with its technical experts in IMAPS booth 408 to learn more or discuss specific technology requirements in greater detail. For information about Henkel’s high-reliability materials and application expertise, visit www.henkel.com/electronics.

**As per June 2018 REACH SVHC documentation.*

About Henkel in North America

In North America, Henkel operates across its three business units: Adhesive Technologies, Beauty Care, and Laundry & Home Care. Its portfolio of well-known consumer and industrial brands includes Schwarzkopf® hair care, Dial® soaps, Right Guard® antiperspirants, Persil®, Purex® and all® laundry detergents, Snuggle® fabric softeners, as well as Loctite®, Technomelt® and Bonderite® adhesives. With sales of around 6 billion US dollars (5 billion euros) in 2018, North America accounts for 25 percent of the company’s global sales. Henkel employs approximately 9,000 people across the U.S., Canada and Puerto Rico. For more information, please visit www.henkel-northamerica.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 2018, Henkel reported sales of around 20 billion euros and adjusted operating profit of around 3.5 billion euros. Henkel employs around 53,000 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 www.henkel-northamerica.com/press

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