

Press Release

January 18, 2018

Temperature-stable, low-voiding and jettable solder pastes, high-temperature underfills and ultra-low modulus TIMs among innovations at Henkel's Solutions Across the Board exhibit

New Interconnect, Thermal and Protection Materials from Henkel on Display at IPC APEX **Expo 2019**

Irvine, CA - At this year's IPC APEX Expo, taking place January 29 - 31 in San Diego, CA, Henkel Corporation will debut several new materials featured as part of six different display and demo areas within booth #907. Highlighting the breadth of its portfolio and the company's ability to deliver complete material sets for demanding applications, Henkel's Solutions Across the Board exhibit allows show delegates to see materials in action and discuss specific requirements with the knowledgeable Henkel technical team.

At Henkel's booth, visitors can learn more about:

- New LOCTITE® solder materials and fluxes for high-reliability automotive applications, as well as temperature-stable LOCTITE GC formulations for lowvoiding on QFNs and LGAs and jetting for ultra fine-pitch architectures and flexible substrates.
- Low pressure molding TECHNOMELT® to facilitate automated masking of keep out zones prior to conformal coating processes and to provide a simple, three-step, potting alternative for electronic device encapsulation. Live molding demonstrations will take place throughout the show in booth #907.
- BERGQUIST® thermal control solutions in liquid and pad formats ensure effective heat dissipation for increased reliability. The newest product in Henkel's TIM portfolio, BERGQUIST GAP PAD® TGP 7000ULM, delivers the unique properties of ultra-low assembly stress and high thermal conductivity (7.0 W/m-K) and is ideal for today's Telecom, Power, Automotive and Consumer applications.
- PCB Protection from a wide range of solvent-free conformal coatings, which safeguard printed circuit boards from thermal shock, moisture, corrosive liquids and other adverse environmental conditions.











- High-temp compatible device protection with LOCTITE® ECCOBOND® UF
 1173 underfill, which combines a high Tg (160°C) with a solder-like low CTE
 for maximum protection in extreme conditions. The material, which is one of
 only five products selected for an IPC APEX Expo Innovation Award, also
 complies with current REACH substances of very high concern (SVHC)
 guidelines and contains no reportable carcinogenic, mutagenic or toxic for
 reproduction substances (CMRs).
- Structural adhesives, inks and electrically conductive adhesives that enable modern designs for wearables, streamlined medical devices and incabin automotive comfort and functionality.
- Novel EMI conformal shielding materials offer a thin, streamlined replacement for conventional and cumbersome RF isolation approaches. See a live EMI spray coating demonstration in Asymtek booth #2125.

As part of IPC APEX Expo's technical conference, key members of Henkel's expert team will share their materials and process knowledge during three paper presentations:

- Thermal materials specialist and Principal Scientist, John Timmerman, Ph.D., will present his work entitled "The Effects of Filler Morphology on the Fracture Toughness of Thermally Conductive Adhesives" on Wednesday, January 30th at 10:30 a.m.
- Addressing advances in medical devices and the materials used to facilitate smaller, smarter designs, Senior Technical Service Engineer, Jeffrey Grover, shares details on medical sensor manufacturing in his paper "Printed Electronics for Medical Devices" on Wednesday, January 30th at 3:30 p.m.
- As part of its collaborative work with supplier partners, Henkel's development efforts in the area of package-level EMI shielding will be discussed during the "Dispensing EMI Shielding Materials: An Alternative to Sputtering" presentation delivered by Asymtek's Garrett Wong on Tuesday, January 20th at 1:30 p.m.

IPC APEX Expo show delegates are invited to learn more about specific Henkel solutions by visiting the team in booth #907 throughout the three-day event. Additional details about Henkel's full portfolio of advanced electronic materials are available by visiting www.henkel-adhesives.com/electronics.

About Henkel in North America

Henkel operates across its three business units – Adhesive Technologies, Beauty Care and Laundry & Home Care – in North America. Its portfolio of well-known consumer and industrial brands includes Schwarzkopf® hair care, Dial® soaps, Right Guard® antiperspirants, professional hair care brand Sexy Hair®, Persil®, Purex® and all® laundry detergents, Snuggle® fabric softeners as well as Loctite®, Technomelt® and Bonderite® adhesives. North America is an important region for Henkel: With sales of around 5.8 billion US dollars (5.2 billion euros) in 2017, North America accounts for 26 percent of the company's global sales. Henkel employs more than 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 2017, Henkel reported sales of 22.6 billion US dollars (20 billion euros) and adjusted operating profit of around 3.9 billion US dollars (3.5 billion euros). Combined sales of the respective top brands of the three business units – Loctite, Schwarzkopf and Persil – amounted to 7.2 billion US dollars (6.4 billion euros). Henkel employs more than 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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