



Press Release

April 23, 2018

Developmental Silicone-Free Liquid TIM, Ultra-Soft *Gap Pad*[®] top Product Lineup

Henkel's automotive thermal management expertise on display at Battery Show Europe 2018

Düsseldorf, Germany – From bumper to bumper, Henkel's advanced materials are enabling automotive electronics applications throughout the vehicle ecosystem. At the upcoming Battery Show Europe, taking place May 15 to 17 in Hanover, Germany, the company will focus specifically on power storage systems, showcasing its thermal management and PCB assembly solutions for Lithium-Ion (Li-I) battery and powertrain applications.

"Development of Lithium-Ion batteries has accelerated in recent years, with power and energy densities increasing to record levels," says Henkel TIM Business Development Manager, Holger Schuh. "Efficiently managing the thermal load in these high-voltage batteries is essential for performance, work life and safety. Our *Bergquist*[®] brand thermal interface materials both in pad and liquid formats deliver the critical thermal control needed to enable charging efficiency, reliable battery function and an optimized working life."

Throughout the battery system, Henkel's thermal interface materials (TIMs) provide robust management of heat generated during charging and operation. At the module level, *Bergquist Gap Pad*[®] 1450 delivers a soft and compliant solution to move heat away from Li-I cells. Ideal for fragile applications, *Bergquist Gap Pad* 1450 has excellent wet-out characteristics on various surface topographies and maintains its elastic characteristics to eliminate stress. Because the material includes a permanent liner, puncture resistance and handling are improved, and rework can be easily facilitated. Managing the thermal load from



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multiple modules assembled into the battery pack, hood or chassis is achieved with Henkel's *Bergquist* liquid *Gap Filler* TIMs. This portfolio of materials has been optimized for high-speed dispensing applications, enabling exceptional throughput for high-volume manufacturing. The latest in the *Gap Filler* innovation pipeline is a novel silicone-free material with a thermal conductivity of 3.0 W/m-K. This developmental formulation, which is currently available in limited sample quantities, addresses the requirement to eliminate outgassing commonly associated with silicone-based TIMs. Henkel's new material delivers long-term reliability, reduced stress during assembly, robust gap stability, room temperature curing and optimized rheology for high-volume production. Show delegates are invited to visit Henkel in Stand 452 to learn more about these new formulations and the company's complete line of thermal interface materials.

Also as part of the Battery Show Europe event, Henkel's TIM Business Development Manager, Holger Schuh, shares his more than 20 years' application engineering and thermal management experience in a series of pre-recorded and live sessions:

- Download the pre-recorded "Overcoming the Impacts of Fast Charging H/EVs, Batteries and Charging Systems" webinar [here](#).
- Take part in a live demonstration and product showcase at Henkel Stand 452 on Tuesday, May 15 at 11:30 a.m. The focus is "Flexible Thermal Solutions for Powertrain Applications".
- Attend the "Advancing High Performance Thermal Materials for Battery Pack and Power Electronics Applications" conference paper on May 16 at 9:50 a.m. (Battery Conference Area – exhibition hall – main entrance access)

"Thermal control is crucial to the reliability and performance of multiple automotive electronics systems, as are comprehensive electrical interconnect and protection solutions,"



Schuh says in summary. “Anyone attending the Battery Show event who wants to learn more about maximizing power storage and powertrain performance should take the time to explore Henkel’s broad offering – you won’t be disappointed!”

For more information, visit www.henkel-adhesives.com/thermal.

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 <http://www.henkel.com/press>

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The following material is available:

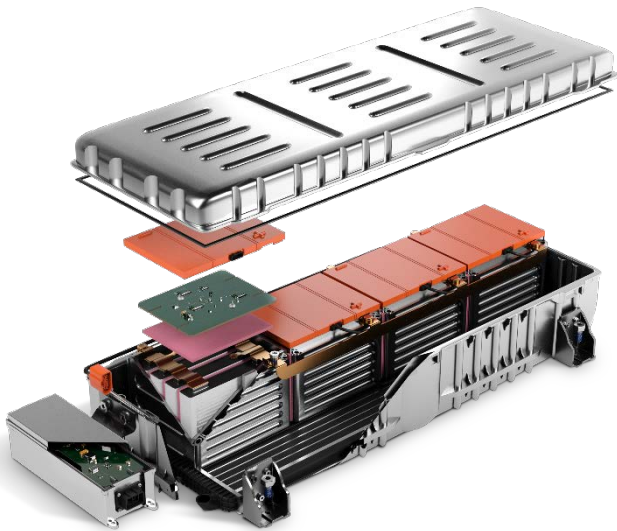


Figure 1: Advanced Material Solutions for Power Storage Systems.