

Press Release

November 15, 2023

Bergquist[®] Hi Flow THF 5000UT delivers low thermal resistance, low stress, high-reliability thermal performance, takes top honors in Global Technology Award program

Henkel thin bondline phase change thermal interface material (TIM) earns industry award for innovation

Irvine, CA – Henkel announced today that its new phase change thermal interface material (TIM), Bergquist® Hi Flow THF 5000UT, has been named the Global Technology Awards' TIM category winner. Bergquist Hi Flow THF 5000UT is a groundbreaking phase change material that provides excellent thermal performance without the requirement for extreme mechanical pressure. Even under low pressure, the material achieves thorough wet out. It forms an ultrathin bond line at the interface, enabling low thermal resistance and excellent heat dissipation for some of today's most challenging high-performance applications.

The cutting-edge Henkel thermal interface solution was named the award winner during a November 14 ceremony at the productronica trade show event in Munich, Germany. Recognizing the best innovations in the printed circuit assembly and semiconductor packaging industries, the Global Technology Awards are presented annually by Global SMT & Packaging magazine.

Trevor Galbraith, Global SMT & Packaging Publisher and Editor, congratulated the Henkel team, highlighting the company's innovation track record. "Once again, Henkel has demonstrated its formulation expertise with yet another Global Technology Award win," he commented. "This is the latest in multiple Global Technology Awards for Henkel, many of them in the TIM category. Well done!"

Ideal for high-performance compute and industrial applications where thin, multi-die designs are the norm and space is limited, Bergquist Hi Flow THF 5000UT helps protect devices from stress-induced damage and delivers exceptional thermal performance. The silicone-free material has demonstrated low thermal impedance for different bond line thicknesses while

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subjected to ultra-low and low pressures (0.04° C-cm2/W at 35psi, 0.06° C-cm2/W at <10 psi). Evaluated at up to 150° C, Bergquist Hi Flow THF 5000UT has achieved thermal conductivity as high as 8.5 W/m-K and has exhibited excellent performance over a wide power range of up to 800W. These attributes provide much-needed thermal control for demanding high-reliability devices like ultra-high-power networking processors.

"In addition to its stand-out thermal capability under very low pressure," said Wayne Eng, Henkel Data & Telecom Global Head of Market Strategy, "Bergquist Hi Flow THF 5000UT offers simple application for heat sink suppliers and easy final assembly. Its mess-free film medium can be applied to heat sinks before shipment, and the material does not require pre-burn prior to use, saving valuable production time and cost. We are honored to have been recognized and thank Global SMT & Packaging magazine for offering this forum to showcase innovations like Bergquist Hi Flow THF 5000UT."

More information about Bergquist Hi Flow THF 5000UT is available here.

About Henkel

With its brands, innovations and technologies, Henkel holds leading market positions worldwide in the industrial and consumer businesses. The Adhesive Technologies business unit is the global leader in the market for adhesives, sealants and functional coatings. With Consumer Brands, the company holds leading positions especially in hair care and laundry & home care in many markets and categories around the world. The company's three strongest brands are Loctite, Persil and Schwarzkopf. In fiscal 2022, Henkel reported sales of more than 22 billion euros and adjusted operating profit of around 2.3 billion euros. Henkel's preferred shares are listed in the German stock index DAX. Sustainability has a long tradition at Henkel, and the company has a clear sustainability strategy with specific targets. Henkel was founded in 1876 and today employs a diverse team of about 50,000 people worldwide – united by a strong corporate culture, shared values and a common purpose: "Pioneers at heart for the good of generations." More information at <u>www.henkel.com</u>

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

Contact	Sebastian Hinz
Phone	+49 211 797-85 94
Email	sebastian.hinz@henkel.com

Henkel AG & Co. KGaA