



## Press Release

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Bergquist® Hi Flow THF 5000UT phase change adhesive delivers low thermal resistance, low stress, high-reliability thermal performance

### **Low-pressure, thin bond line thermal interface material (TIM) from Henkel brings best-in-class thermal management solution for next-gen ICs**

Irvine, CA – Adding to its broad portfolio of thermal interface material (TIM) innovations, Henkel today announced the commercial availability of Bergquist® Hi Flow THF 5000UT. The phase change film TIM marks a significant milestone in thermal management materials development, allowing for low mechanical pressure to achieve thorough wet out and an ultra-thin bond line at the interface. This is critical for challenging package designs with complex architectures, such as lidless multi-chip devices used in high-performance compute and industrial applications.

Bergquist Hi Flow THF 5000UT demonstrates low thermal impedance across various bond line thicknesses at both ultra-low and higher pressure (0.04° C-cm<sup>2</sup>/W at 35psi, 0.06° C-cm<sup>2</sup>/W at <10psi), delivers excellent reliability as evaluated up to 150° C, and achieves thermal conductivity as high as 8.5 W/m-K. Additionally, customer evaluation on a thermal test vehicle confirmed Bergquist Hi Flow THF 5000UT's robust performance with ultra-high power networking processors.

Wayne Eng, Henkel Data & Telecom Global Head of Market Strategy, commenting on the significance of the application pressure range achieved with this material, said, "Bergquist Hi Flow THF 5000UT is one of the market's best performing thin bond line phase change TIMs at low pressure. Reduced mechanical pressure is essential to avoid stress-induced defects on certain devices that integrate large, thin, delicate die. And notably, even lower thermal resistance can be achieved with slightly higher pressure, if desired. The versatility is exceptional."

In addition to its robust thermal performance, Bergquist Hi Flow THF 5000UT provides heat sink suppliers with no-mess, easy application and integrators with simple final assembly. The film medium – as opposed to liquid materials -- allows heat sink manufacturers to apply the phase change TIM before shipment. During assembly, attaching the heat sink to the heat-producing component is easy, providing a clean alternative to greases and other liquid-based TIMs. Moreover, unlike many phase change materials, Bergquist Hi Flow THF 5000UT does not require pre-burn before use. Once the assembled parts are heated to the phase change temperature of 45° C, the material flows into the bond line, immediately providing excellent heat dissipation. Eliminating the burn-in step saves time, lowers costs, and reduces energy use.

“Leading data center innovators have already embraced Bergquist Hi Flow THF 5000UT, as it enables space-saving, low-stress, high thermal performance for switches and routers with higher-power processors,” explained Eng. “The data center space is one of the most demanding in terms of thermal management requirements, and has been a good proving ground for this novel phase change material, which met or exceeded challenging metrics. Bergquist Hi Flow THF 5000UT’s robust performance is an excellent solution for any high-power application – industrial and automotive, for example -- that requires a low thermal impedance, high-reliability thin bond line TIM.”

Discover more about Bergquist Hi Flow THF 5000UT and Henkel’s complete TIM portfolio by visiting [this resource](#).

#### **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 more than 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 [www.henkel.com](http://www.henkel.com)

**Photo material is available at [www.henkel.com/press](http://www.henkel.com/press)**

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