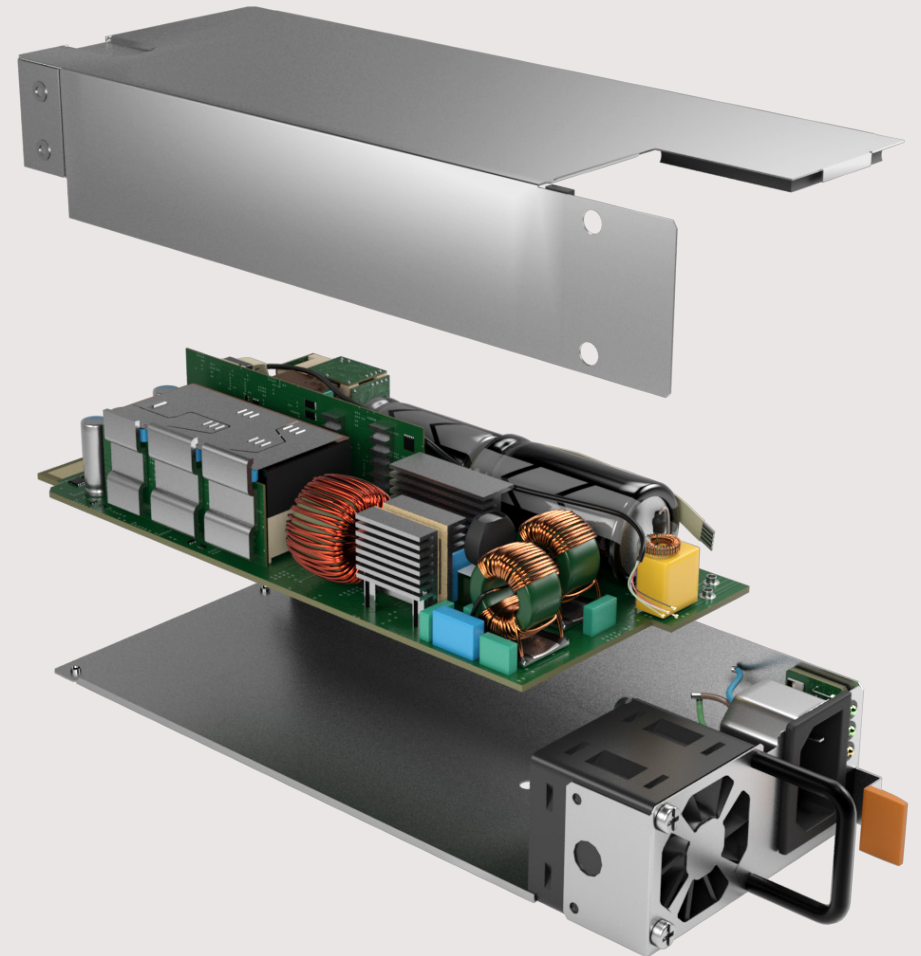




CASE STUDY

**BERGQUIST LIQUI BOND Thermally
Conductive Adhesive Delivers
Efficient Solution for Data Center
AC/DC Power Supply**





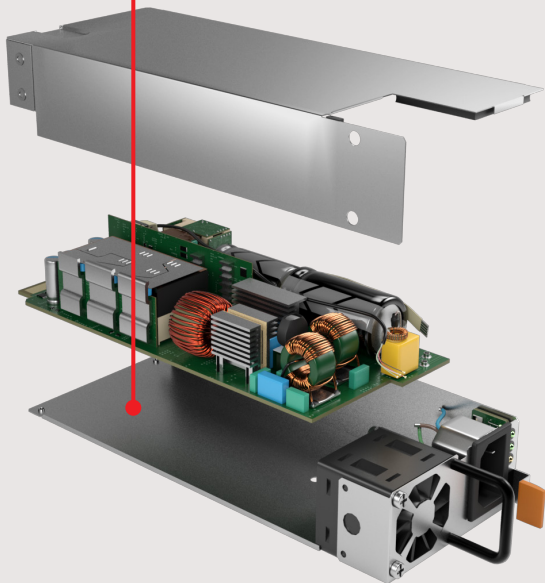
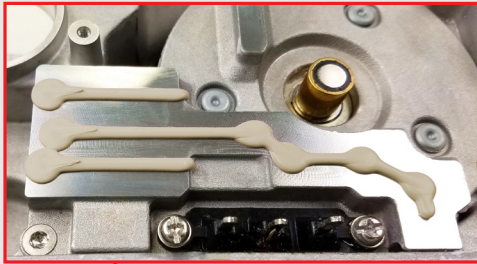
Customer Challenges

- The customer's new AC/DC power supply for Cloud and Hyperscale Data Centers required a robust thermal management solution for its compact design.
- Different substrate surface topographies across the device dictated an adaptable material that could accommodate for dimensional variations to maximize thermal transfer.
- Secure parts, dissipate heat and reduce mechanical stress while working within the space constraints of the new design.



Customer Requirements

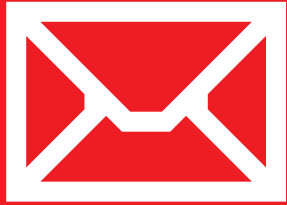
- **Process and Resource Efficiency:** New thermal management solution needed to leverage existing dispensing equipment for maximum cost-efficiency and accelerate assembly through simplified attachment of devices.
- **Quick Qualification Turnaround:** The timeline for deployment of the new AC/DC system was short, so strong support on critical trial schedules was required.
- **High Reliability:** Constant power access in data centers is essential. The device has to deliver clean power reliably through strong adhesion and thorough heat dissipation for operational efficiency over the life of the system.



Henkel Solution

- Henkel's established partnership with the customer ensured in-depth application understanding and helped streamline information gathering. Ultimately, **BERGQUIST LIQUI BOND TLB SA2000** thermally conductive adhesive was recommended, as it delivered on the customer's performance and production requirements, as well as its evaluation timeline:
 - A silicon-based liquid thermal adhesive, BERGQUIST LIQUI BOND TLB SA2000 allowed the customer to leverage existing dispensing equipment for a drop-in solution. Being able to dispense precise volumes of material with high bond strength also eliminated the requirement for mechanical fasteners and helped reduce stress. Productivity and output rates were improved by 20% to 30% and overall total manufacturing cost by 15% to 20%.
 - Henkel's liquid thermally conductive adhesive adapts to surface variations, filling in gaps to reduce thermal resistance; it provides high thermal efficiency and thermal conductivity of 2.0 W/m-K with high reliability, passing challenging thermal cycling and thermal aging testing.
 - BERGQUIST LIQUI BOND TLB SA2000 is a thermal adhesive solution that the customer can leverage for multiple platforms, thereby streamlining inventory and reducing supply complexity which can easily translate to 15% to 30% additional opportunity cost for the customers' system.
- With this material solution, the customer has satisfied production efficiency requirements, ensured minimal device stress, secured reliability and has been able to deliver a more compact AC/DC power solution that helps meet the demands of data center power consumption.

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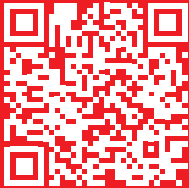
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