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Lohmann's high-conductivity tapes optimize thermal management in EV batteries

Neuwied / Germany. With the rapid advancements in the EV battery sector and digitalization as well as miniaturization on the rise, high-tech tape manufacturer Lohmann offers customized bonding solutions to the Li-Ion battery sector that do more than just bond. Their innovative multifunctional materials product range contains adhesive tape solutions that also offer functions such as damping, sealing, electrical insulation or conductivity as well as a reliable thermal management.

With more than half of electronic malfunctions being caused by thermal overstress, a safe and reliable heat transfer within the EV battery is key. Lohmann's new Duplo**COLL TC** (Thermally Conductive) range of acrylic transfer tapes provide a thermal conductivity of up to 2 W/mK, tested according to ASTM D 5470. Connected to the cooling or heating element inside the EV battery, the **TC** tapes help keeping the temperature of the lithium-ion cells between 20 and 35 °C by enabling a homogenous heat-transfer. Additionally, they protect reliably against corrosion and abrasive dust, thus helping to maximize the lifetime of the cells.

The range fulfills the flame-retardant requirements according to UL 94 V-0. For short-term usage the portfolio provides heat resistance up to 180 °C, while additionally enabling a high electrical insulation with a breakdown voltage of up to 26 kV/mm.

The new **TC** tapes are free of silicones, halogens and solvents and provide immediate adhesion even to irregular surfaces, realizing excellent surface wetting. Additionally, these thermal interface materials (TIMs) can compensate component tolerances as well as seal against dust or moisture. In contrast to liquid TIMs, the assembly is clean and easy, no additional processing tools or special storage is needed and due to the customizable format of the tapes (die-cuts), there is a high freedom of design. They also offer several advantages to silicone gap pads besides eliminating the danger of migrating silicone oil: The tapes are tacky at room temperature and therefore no additional fixation is needed during the assembly. As screws or clamps are not necessary, the adhesive tape solutions are a weight-saving alternative, combining fixation and function in one product.

Lohmann's thermally conductive range is available as rolls or customized high-precision die-cuts in various thicknesses from 140 µm to 2 mm. To support seamless integration into highly automated production processes, different colors are available for better detection by camera or optical sensor systems.

Along the entire value chain, from the formulation of the adhesive to individual product modification, high-precision die-cutting and process integration, Lohmann's adhesive engineers are on hand to support their partners in the industry. With a 100 % green power production at the headquarters in Neuwied, Germany, Lohmann offers the advantage of a low-CO₂ European supply chain.



To learn more about Duplo**COLL TC** as well as Lohmann's entire portfolio of multifunctional adhesive tapes for electronics, you can visit the adhesive specialists at this year's Battery Show in Stuttgart, May 23-25, at booth E80 in hall 8.

For more information, please contact electronics@lohmann-tapes.com

Founded in 1851, the family-owned company Lohmann GmbH & Co KG is considered a specialist in adhesive bonding technology. With annual sales of around 349 million euros, more than 1,800 employees in 27 sites and exclusive sales partners in over 50 countries, Lohmann is active around the globe. The headquarters are located in Neuwied, Germany.

The company offers high-tech adhesive solutions for applications primarily in the automotive, construction & architecture, consumer goods, electronics and graphical industries. Lohmann engineers' solutions range from multifunctional adhesive tapes to precision die-cut parts and process integration.

Caption: Thermal management in EV batteries is made easy with Lohmann's new thermally conductive adhesive tape range with a thermal conductivity of up to 2 W/mK.