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Autoneum Presents Next-Gen Battery Lid for BEV Packs

On display at the Battery Show Europe 2026 in Stuttgart, Booth #J43

Autoneum will showcase its latest battery housing solutions for electric vehicles at the Battery Show Europe in Stuttgart, Germany, from June 9 to 11, 2026 (Booth #J43). A key highlight is the first public debut of its new battery lid prototype. The multifunctional component simplifies battery pack design while meeting key safety and performance requirements of modern BEVs.

Functionally, the battery lid is conceived as a highly adaptable top cover for the battery pack. Its composite structure allows the integration of additional functional layers, such as flame-retardant layers or electromagnetic shielding, depending on vehicle and platform requirements. “By consolidating functions that previously required multiple individual components—such as a separate battery lid and a flame shield—our solution reduces assembly complexity and effort,” says Luca Mazzarella, Head New Mobility at Autoneum. “We can replace two or more parts with a single one.”

Manufactured using cost-effective Spray Transfer Molding (STM), the battery lid features glass fiber reinforcement and polyurethane matrix, offering high mechanical strength, formability for complex 3D shapes and tight radii, and thin part thickness for lightweight potential. The STM process achieves fast production cycles, design flexibility, and 30% weight saving compared to traditional manufacturing methods.

Integrating multiple protective functions into a single, lightweight composite part

From a safety perspective, the battery lid is a further development of Autoneum’s flame shield technology, combining structural integrity with enhanced thermal and electrical insulation properties and improved thermal runaway confinement. Both the battery lid and flame shield are produced without mica, addressing sustainability and supply-chain concerns associated with conventional flame protection materials. By integrating multiple protective functions in a single, lightweight composite part, the battery lid supports simplified battery pack designs and contributes to efficient packaging—a key enabler for scalable BEV platforms.

“Our new battery lid represents a step-change in battery housing technology for electric vehicles,” states Luca Mazzarella. “By integrating advanced composite materials and multifunctional design, we are able to offer OEMs and partners a solution that elevates safety and efficiency, while addressing the demands of future BEV platforms.”

At its booth at the Battery Show Europe, Autoneum will present a broad portfolio of battery housing components. Together, these technologies demonstrate how high-voltage batteries are protected under real-world conditions.

Autoneum's E-Fiber **flame shield** is designed for installation inside the battery housing, acting as a thermal barrier between the battery cells and the vehicle interior. Made from glass-fiber-based composite material, it withstands temperatures of up to 1,400 °C and resists hot particle impact and gas pressure during thermal runaway events. Compared to conventional mica-based solutions, E-Fiber shields are lighter and less brittle. Moreover, the fibers provide the part's non-conductive and insulating properties, which are necessary for the battery system's electrical insulation and thermal safety.

The **impact protection plate** (IPP) protects the battery pack against collisions, impacts, stones, debris, fire and corrosion from the underbody side. Based on long-fiber thermoplastic (LFT) technology, the IPP combines high mechanical stiffness with thermal insulation properties, contributing to improved energy efficiency and therefore a greater driving range. The composite structure rebounds after repeated impact without permanent deformation and has been validated through simulations and vehicle testing with European OEMs. The production process allows waste-free manufacturing and offers flexibility in design, making it a sustainable and cost-effective solution for modern EVs.

The **under-battery shield** utilizes Ultra-Silent textile technology to enhance thermal insulation and minimize heat leakage from the battery housing. This lightweight, compact solution also provides stone chipping protection and reduces rolling noise, contributing to better battery range, charging time, and lifecycle performance. The shield is assembled directly in OEM plants, demonstrating ease of integration and practical benefits for BEV manufacturers. Made entirely from polyester with up to 70% recycled content, Autoneum's solution is fully recyclable at end of life and ensures zero-waste manufacturing process.

Meet the Expert at Booth #J43

The Autoneum team invites industry professionals, business partners and technical journalists to experience the battery lid prototype and its portfolio of battery housing solutions at Booth #J43 during the Battery Show Europe 2026.

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About Autoneum

Autoneum is globally leading in acoustic and thermal management for light and commercial vehicles. The Group develops and produces multifunctional, lightweight and sustainable components and systems for interior floor, interior trim as well as engine bay and underbody. Customers include almost all automobile manufacturers in Europe, North & South America, Asia and Africa. Autoneum is represented in 25 countries, employs around 16 400 people and operates more than 70 production facilities worldwide. The Group with its headquarters in Winterthur, Switzerland, is listed on the SIX Swiss Ex-change (ticker symbol AUTN).

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