EQACC SOLAR

Continuous fiber for bottom cover of new energy battery cabinet

Overview

What is a fiber-reinforced composite battery cover?

In 2025, several high-profile OEMs— Xiaomi EV, Hyundai Mobis, and BYD —announced expanded use of fiber-reinforced composite lids in their battery enclosures. These covers are typically made using glass fiber or carbon fiber fabrics, paired with flame-retardant epoxy, phenolic, or thermoplastic resins, offering substantial advantages over metal.

Why should you choose a fiber composite battery enclosure?

The excellent properties of the fiber composite construction make the battery enclosure a supporting element of the vehicle structure. We accompany you in all stages of your product development: from planning and conception to product completion and serial production in automotive quality and high volumes – and all this at attractive costs.

What are composite battery covers?

Composite battery covers are engineered to reduce weight by as much as 60% compared to aluminum, significantly enhancing EV range and energy efficiency. Beyond lightness, their low thermal conductivity and inherent flame resistance help delay thermal propagation—a key factor in meeting safety standards like UN-ECE R100 and GB 38031.

Are composite battery covers safe?

“Battery safety is no longer just about the cells—it’s about the entire enclosure ecosystem,” says Dr. Rui Chen, chief materials engineer at EVTech Materials Lab. “Composite battery covers offer critical thermal and structural performance without adding weight.”

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Structure Design and Performance Analysis of Battery Pack Cover

To produce a lightweight, high-performance battery pack top cover for new energy vehicles, glass fiber-steel plate laminated composite was selected, and the structures of ...

Multi-material battery enclosures: Using composites for ...

3 new fire-resistant SMC formulations have been developed for battery box applications ATH filled - Highly filled with ATH; release of water molecules (self extinguishing) ...

New Energy Carbon Fiber Battery Cabinet

The rapid advancement of new energy vehicle technology has led to the widespread placement of battery packs at the bottom of vehicles. Finite Element Analysis and Machine Learning ...

A prototype of carbon fiber-based battery enclosure for ...

These outstanding battery enclosure characteristics mainly owe to the bottom and cover plate design, combining a sandwich core with multiple layers of carbon fiber non ...

Battery pack lower box body continuous fiber foam bottom ...

A technology of continuous fiber and bottom guard, which is applied in the direction of secondary batteries, structural parts, battery pack components, etc., can solve the problems of difficult ...

On the radar: Innovations in composite battery enclosures

A look at recently reported design, material and process innovations for composites-intensive battery enclosures, developed to support EV and AAM vehicles.

Battery Cases for Electric Vehicles , SGL Carbon

SGL Carbon manufactures high-quality battery cases made from fiber composite materials for the electromobility.

Thermoplastic Battery Enclosures , Trinseo

Transformation Process LFT-D (Long-Fiber Reinforced Thermoplastic-Direct) is a manufacturing process used to produce fiber-reinforced thermoplastic composite materials ...

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Application of Continuous Fiber Reinforced Composites in Power Battery

Power battery housings, including system enclosures and covers, are commonly made of metal materials such

as steel and aluminum. These materials offer high strength and ...

Composite Battery Covers: Lightweight & Fire-Resistant for EVs

Explore how composite battery covers enhance EV safety, reduce weight, and meet global standards like UN ECE R100 and GB 38031-2020.

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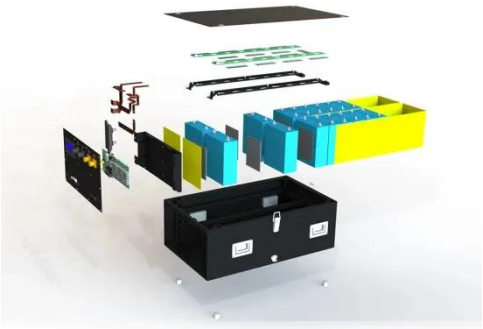

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