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# Power battery pack structure and functional requirements

What is a battery pack box structure?

The power battery is the only source of power for battery electric vehicles, and the safety of the battery pack box structure provides an important guarantee for the safe driving of battery electric vehicles. The battery pack box structure shall be of good shock resistance, impact resistance, and durability.

What is a power battery pack design scheme?

Through weight reduction and structural optimization, an innovative power battery pack design scheme is proposed, aiming to achieve a more efficient and lighter electric vehicle power system.

What are the components of an electric vehicle power pack?

The main components of an electric vehicle power pack referenced in this paper include the battery cell, battery module, battery management system (BMS), cooling equipment, electrical system, and various structural components: the upper cover, lower box, bracket, etc. [10, 11, 12].

Why do electric vehicles need a power battery pack?

Among them, the power battery pack is the key component of electric vehicles, which directly affects the endurance, safety, and overall performance of the vehicle [2,3].

The charging and discharging requirements of the battery pack are directly related to the power demand required by the electric motors and the charging time. The battery pack ...

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Abstract This project offers a detailed overview of the process involved in designing a mechanical structure for an electric vehicle's 18 kWh battery pack.

The battery pack is the most valuable component of the electric vehicle and its disassembly is the key process to recover the inner value of the product and apply circular ...

Discover how EV battery pack design shapes electric vehicle performance with a focus on structure, safety, thermal management, and cutting-edge integration methods.

This paper systematically sorts out the design specifications of electrical components covering the conventional requirements of power battery pack and energy ...

2. Battery Pack Features 3. Battery Pack Technical Roadmaps Current battery pack integration technologies have evolved through three main stages: MTP, CTP, and CTC. MTP ...

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