

New Energy Battery Frame Profile

How to evaluate battery system frame topology?

Three main steps to evaluate the battery system frame topology. Firstly, various outer profiles were created using the GHT topology optimization methods developed by Ortmann . The method is used to find feasible profile structures balancing both the crash as well as the crush test requirements.

What is a battery frame & why is it important?

The main function of battery frames is to hold and protect the battery modules. By protection,I also mean that the frames have to be leak-free to make sure the battery modules and electronics are kept safe at all times. Light weight matters,too,because this is going to affect the performance of the car.

What are battery frames for electric vehicles?

Battery frames for electric vehicles come in all sizes and shapes. This flexibility is something you get with aluminium extrusions. The main function of battery frames is to hold and protect the battery modules.

Why do aluminium extrusions have battery frames?

This flexibility is something you get with aluminium extrusions. The main function of battery frames is to hold and protect the battery modules. By protection,I also mean that the frames have to be leak-free to make sure the battery modules and electronics are kept safe at all times.

What are the literature findings based on a battery system?

Literature findings are used to validate the overall optimized cost distributions. Generally,very few analyses of total costs or weight shares at the component level for entire battery systems are described in the literature. One bigger compilation is given by Lutsey et al. in .

How does a battery optimization tool work?

The tool optimizes based on the user-defined input parametersdescribing the general requirements for the battery system. These are,for example,the overall installation space,the system energy,and power demand.

Through the modeling and simulating of the battery pack of an electric car, the deformation and acceleration after loading are evaluated, which provides a reference for the optimal design of the...

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In combination with actual engineering needs, this article summarizes the key points of profile design for battery packs by analyzing the requirements of mechanical strength, safety, thermal management and ...

The graphs below depict the contact force between the pole and the mechanical battery outer frame profile. An

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exemplary maximum contact force F_{max} is reached close to the maximal intrusion x_{max} . The energy absorption E is described as the spatial integral of the axial impact force $F(x)$ over the deformation and displacement x : $(2.5) E \dots$

Chinese solid-state battery startup Talent New Energy has unveiled a new all-solid-state battery cell with ultra-high energy density, as the industry's quest for new battery technology continues to advance. Join us on Telegram or Google News. Talent has successfully developed the world's first automotive-grade, all-solid-state lithium metal battery prototype with ...

Q. Ma, Q. Zhou, F. Shen, et al. Integrated design of frame-battery tray for micro new energy vehicles. *Manufacturing Automation*, 42, 8-12 (2020). [Google Scholar]

With the rapid growth in new energy vehicle industry, more and more new energy vehicle battery packs catch fire or even explode due to the internal short circuit.

Modular and scalable frame designs. Smart designs using aluminium extrusions can simplify the assembly process and fixation of the individual battery modules. They also provide more energy absorption in case ...

The utility model relates to the technical field of battery pack frames, in particular to a new energy battery pack frame structure. The technical proposal comprises: including the...

Offering Various Batteries since 2012 Established in 2012, Shenzhen HaiLei New Energy Co., Ltd. is one of the largest manufacturers of batteries in China. The main business is lithium batteries, lithium iron phosphate batteries, solar ...

This paper investigates the current state of batteries and frames in new energy vehicles, summarizing and analyzing optimized design solutions that affect their performance ...

With the rapid development of new energy vehicles, we have developed a variety of high-performance anodized aluminum alloy battery tray profiles with automobile manufacturers. Aluminum profile for battery tray

And a bigger frame. So besides holding the modules in place and protecting them, the battery frame is now having to actually interact with the car body. Big frames can impact the whole architecture of the car body. In some models, battery frames are as big as almost the whole floor of the car. This means they have to be integrated cleverly in ...

Stellantis Launches Third All-New, Multi-energy Platform: STLA Frame Offers Best-in-Class 690-Mile Electrified Range or 500-Mile BEV Range, Towing and Payload . Designed for full-size, body-on-frame trucks and SUVs, STLA Frame is versatile: supports internal combustion, hybrid, hydrogen, battery electric (BEV) and range-extender electric vehicle ...

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The graphs below depict the contact force between the pole and the mechanical battery outer frame profile. An exemplary maximum contact force F_{max} is reached close to ...

The invention relates to the technical field of battery frames, and discloses a high-efficiency frame for battery management of a new energy automobile, which comprises the following...

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