

New energy battery frame packaging diagram

What is the main structure of a battery pack box?

The main structure of the battery pack box includes the upper-pressure cover,the upper-pressure rod,the lower box body of the battery pack,the inner frame,the lifting lug,the battery module,the single battery,and other structures.

What is a power battery pack box?

The power battery pack box is the core component of the BEV. The power battery pack provides energy for the whole vehicle,and the battery module is protected by the outer casing. The battery pack is generally fixed at the bottom of the car,below the passenger compartment,by means of bolt connections.

What is the stress nephogram of a battery pack box?

Figure 10 shows the distribution of the stress nephogram of the battery pack box during the collision. The maximum stress value of the box is 335.5 MPa, and the maximum stress value of the lifting lug closest to the collision rigid column is 413.4 MPa.

How does a battery pack work?

The power battery pack of the target vehicle is connected with the structural bolts of the vehicle chassis through the lifting lugs welded on the lower box of the battery pack. The battery pack box of the target vehicle is arranged under the chassis, below the floor of the passenger compartment, disassembled from the electric vehicle.

How many cells are in a battery pack?

The power battery pack module of the target model is composed of 288single cells,every 12 single cells are combined into an independent battery module in parallel,and a total of 24 battery modules are arranged in the quadrilateral battery pack box.

How can a battery pack box reduce the displacement?

Jia Feng et al. optimized components such as the carrying beamof the battery pack and box cover,which reduced the battery pack box mass by 41.7 kg,solved the problem of stress concentration on the bearing beam,and resulted in a maximum displacement reduction of 3.6 mm under quasi-static operating conditions .

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The utility model discloses a new energy power battery frame assembly, which comprises a battery frame and a bottom bracket; the battery frame comprises a plurality of layers of horizontally arranged frames which are sequentially arranged from top to bottom, and the layers of frames are fixedly connected through upright

posts; a plurality of guide holes communicated ...

Stress cloud diagram of battery box Figure 9. The deformation and displacement under sharp turning. of battery box under sharp turning. When driving, the maximum stress ...

By establishing models in virtual prototypes and simulating and analyzing the performance parameters of the battery pack box structure, the model was often simplified in the analysis.

This paper takes a BEV as the target model and optimizes the lightweight design of the battery pack box and surrounding structural parts to achieve the goal of improving vehicle crash safety ...

New energy electric vehicles will become a rational choice to achieve clean energy alternatives in the transportation field, and the advantages of new energy electric vehicles rely on high energy storage density batteries and efficient and fast charging technology. This paper introduces a DC charging pile for new energy electric vehicles. The DC charging pile ...

New energy battery frame packaging design Battery modules are the driving force of EVs, serving as the primary energy storage units that power the electric motor. A battery module is a complex assembly of individual battery cells, housing, thermal ...

aspects. On the other hand, the application of foam aluminum material in the box structure of the battery pack for new energy vehicles should be paid more attention to. needs further research. This paper considers the box structure of the battery pack ...

The battery is integrated into the chassis of the new energy-pure electric car, which has a higher percentage of unsprung mass, a lower center of gravity, and improved stability. For vehicle handling

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