

Can an underbody shield protect a car battery?

The developed underbody shield could protect the battery against the impact damage successfully, showing that the deformation of a rear part was within 5 mm and no battery leakage occurred. As there has been a growing interest in and demand for eco-friendly energy, electric mobility has emerged as an industry with great prospects.

What is a lithium battery underbody shield (UBS)?

The electric vehicle uses a large number of lithium batteries as sources of power, and the lithium battery poses a risk of fire and explosion when the external impact is loaded. Therefore, in this study, an underbody shield (UBS) was designed and manufactured using carbon fiber reinforced thermoplastic composites for battery protection.

Why do electric vehicles need an underbody shield?

Generally, the battery is located under the electric vehicle and is more likely to be exposed to the risk of collision with obstacles from the road surface while driving. Because of the above fact, it is necessary to develop an underbody shield to be able to fully protect the battery from such collision.

How to reduce the weight of the underbody shield?

The underbody shield is composed of two parts, which are the shield body and collision protection bar (CPB). Here, the hybrid composites with CF/PET and SRPP were used for the shield body to achieve weight reduction. The impact simulation was performed to evaluate the UBS properties according to the geometry, thickness, and hybrid ratio.

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What challenges do automotive tier suppliers face when producing EV battery enclosures?

Automotive Tier suppliers face a changing landscape when it comes to producing EV battery enclosures, including looming changes in battery pack energy density and potentially even battery chemistry, more demanding battery safety requirements and a rapid increase in the rollout of EV programs, plus continuing supply challenges.

Bonn, Germany (6 February, 2023) - Kautex Textron GmbH & Co. KG (Kautex), a Textron Inc. (NYSE: TXT) company, announced it has received the first order from an automotive OEM for a thermoplastic

Battery underbody guard plate New energy prices are high

composite underbody battery protection skid plate. The skid plate is part of the company's new Pentatonic battery system product line supporting ...

Tesla offers Model S owners a new Titanium/Aluminum underbody plate to prevent battery punctures. Seth Weintraub | Mar 28 2014 - 8:25 am PT 0 Comments Watch a trailer hitch, concrete block and ...

The car's lithium-ion battery, which sits in the underbody, consists of 12 modules - each with 15 prismatic nickel-manganese cobalt cells, making for 180 in all - connected in series, and ...

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BCP has a growing portfolio of electric vehicle clients and provides bonding, Design, and cooling plates for electric vehicle batteries systems. This includes the upper housing, cell modules, ...

Europe and China currently lead the market in terms of the volume of Battery Underbody Shielding. China holds the pole position in terms of sales of plugged-in vehicles. The B-2-B price of Battery Underbody Shielding is highest in USA. ...

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Bottom impacts to power batteries are a leading cause of fires and explosions in new energy vehicles. Focusing on the safety of power battery bottom impacts, this article first proposes applying honeycomb panels to the battery's bottom guard plate. Through the ball impact test, the effect of honeycomb panel surface material thickness on ...

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