Car Door Frame BYD New Energy Vehicles Aluminum Alloy Lightweight

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Dongfeng
- Certification: IATF 16949:2016
- Model Number: S31
- Minimum Order Quantity: 100 piece
- Packaging Details: Metal mesh box packaging
- Delivery Time: Spot goods
- Payment Terms: T/T
- Supply Ability: Annual production of 50000 pieces

Product Specification

- Shape: Rectangular
- Type: Door Frame
- Finish: Powder Coated
- Compatibility: Universal
- Usage: Automotive
- Size: Standard
- Material: Aluminum Alloy
- Functionality: Protective
- Installation: Easy
- Style: Modern
- Durability: High
- Color: Black
- Design: Sleek
- Weight: Lightweight
- Highlight: **aluminum alloy Car door frame**,

Our Product Introduction

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Product Description

The threshold beam of new energy vehicles is a crucial component of the vehicle structure, which not only has a significant impact on the overall rigidity and safety of the vehicle, but also bears the responsibility of protecting special components such as battery packs. The following is a detailed introduction to the threshold beam of new energy vehicles.

1, The basic function and importance of threshold beams

The threshold beam, also commonly known as the "threshold plate", is located below the car door and extends along the side of the vehicle, connecting the front and rear doors. It mainly serves the following functions:

Enhancing vehicle rigidity: The threshold beam provides additional structural support, which helps to enhance the overall rigidity of the vehicle, which is crucial for its handling and stability.

Improving safety: In the event of a side collision, the threshold beam can absorb and disperse the impact force, protecting the safety of passengers inside the vehicle. In addition, it can prevent damage to the bottom of the vehicle from gravel, mud, and other debris on the road surface.

Protecting the battery pack: For new energy vehicles, the threshold beam also plays an important role in protecting the battery pack. The battery pack is usually located at the bottom of the vehicle, and the design and material selection of the threshold beam are crucial to ensure the safety of the battery pack in a collision.

2, Material and Design of Threshold Beam

The material of the threshold beam is usually high-strength steel or aluminum alloy, which ensures sufficient strength while minimizing the weight of the vehicle body. With the advancement of automobile manufacturing technology, some high-end car models even use carbon fiber composite materials to manufacture threshold beams, in order to further reduce weight and improve performance.

When designing threshold beams, engineers consider various factors, including material selection, structural design, and integration with other parts of the vehicle body. Here are some advanced design ideas:

Multi layer structure design: Some advanced threshold beam designs use multi-layer structures, including combinations of materials with different properties. For example, the threshold solution proposed by ArcelorMittal in the S-in motion pure electric SUV body in white lightweight technology adopts a five layer structural design, including three-layer martensitic steel MartINsite roll formed reinforcement and two-layer aluminum silicon coated hot formed steel Ductibor 1000 stamping parts. This design allows the threshold beam to prevent deformation to the maximum extent possible and absorb energy when impacted.

Reinforced beam design: In order to further improve the strength and rigidity of the threshold beam, some car models have designed reinforced beams inside the threshold beam. This design enables the threshold beam to better absorb and disperse impact forces when subjected to side impacts.

Lightweight design: The lightweight design of threshold beams while maintaining sufficient strength is also a current research hotspot. By using lightweight materials and optimizing structural design, the weight of the threshold beam can be reduced, thereby improving the fuel economy and range of the vehicle.

3, The special role of threshold beams in new energy vehicles

For new energy vehicles, the role of threshold beams is even more important. Due to the fact that battery packs are typically located at the bottom of vehicles, the design and material selection of threshold beams are crucial for ensuring the safety of battery packs in collisions. Some advanced threshold beam designs use special materials and structures to enhance the protection of battery packs. For example, designing reinforced beams inside the threshold beam and adopting multi-layer structural design can improve the protection ability of the threshold beam for battery packs.

In addition, with the continuous development of new energy vehicle technology, the design of threshold beams is also constantly innovating. For example, Chery New Energy Automobile Co., Ltd. has applied for a patent called "An Electric Vehicle Threshold Reinforcement Beam, Skeleton, and Automobile", which proposes a new threshold reinforcement beam design that improves the strength and rigidity of the threshold beam and reduces component weight by optimizing the structure and material selection of the threshold beam body and reinforcement beam body.

In summary, the threshold beam of new energy vehicles is a crucial component of the vehicle structure. It not only has a significant impact on the overall rigidity and safety of vehicles, but also bears the responsibility of protecting special components such as battery packs. Therefore, when designing and manufacturing threshold beams, it is necessary to fully consider factors such as material selection, structural design, and integration with other parts of the vehicle body to ensure that the performance and durability of the threshold beams meet the requirements.

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