

Solar Storage Container Solutions

Aluminum Alloy Battery Station Cabinet



Overview

Are aluminum battery enclosures a good choice?

Aluminum battery enclosures or other platform parts typically provide a weight savings of 40% compared to an equivalent steel design. The most-used and best-suited alloys for battery enclosures are of the 6000-series Al-Si-Mg-Cu family, Afseth shared, noting that these alloys are “very well compatible” with end-of-life recycling.

What material is used for a battery enclosure?

The majority of long-range BEVs in production use aluminum as the main material for the battery enclosure. (Constellium) Mass reduction is the main driver behind aluminum battery enclosures, but thermal requirements prove challenging for the lightweight material.

What is a cast hybrid battery enclosure?

Utilizing advanced cast aluminum alloys that are heat-treated for enhanced strength, these enclosures are produced on high-capacity die casting machines to ensure precision and reliability. Magna's Cast Hybrid Battery Enclosures are designed to provide robust and reliable housing for hybrid vehicle batteries.

Are EV battery enclosures steel or mixed-material?

Some OEMs already have begun shifting to steel or mixed-material designs for their battery enclosures, Afseth acknowledged. Tesla is a prime example. The EV maker has reduced the amount of aluminum in the battery enclosure for the Model 3 and Model Y compared to what was used in its S and X models, according to Afseth.

Can battery cells be placed directly in a body-in-white box?

“The outer reinforcement is designed to crumple in a very controlled way without fracturing so the maximum amount of energy is absorbed.” The

concept of placing battery cells directly in the body-in-white (BiW) is “very interesting” and would remove the redundancy of having a “box within a box,” he said.

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Constellium aluminum EV battery enclosures

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Battery Cabinet Aluminum Frames , Huijue Group E-Site

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Aluminum Battery Solutions , Constellium

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APPLICATION SCENARIOS



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