

Precision structural parts for energy storage batteries





Overview

These components—ranging from housings and brackets to heat sinks and end caps—support the mechanical stability and thermal management of batteries used in energy storage systems and electric mobility solutions. What are structural batteries?

This type of batteries is commonly referred to as “structural batteries”. Two general methods have been explored to develop structural batteries: (1) integrating batteries with light and strong external reinforcements, and (2) introducing multifunctional materials as battery components to make energy storage devices themselves structurally robust.

What is a structural battery electrolyte?

These bi-continuous multifunctional electrolytes, sometimes referred to as structural battery electrolytes (SBEs) , , can be used to manufacture CF-reinforced structural batteries with high tensile modulus (25–50 GPa) and good cycling performance , .

What are structural energy storage devices?

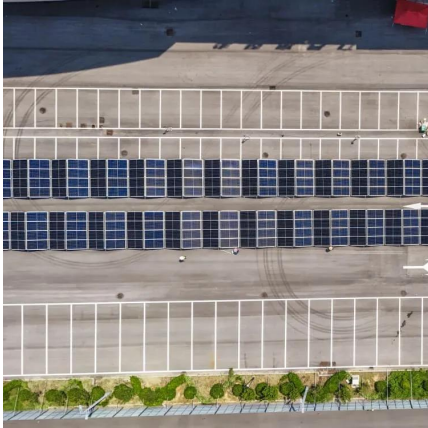
Structural energy storage devices can serve as various components in a system to enable more efficient designs, and their best solutions are system and application-specific. Therefore, it is important to first understand potential applications and corresponding required performance metrics.

Can a 1U CubeSat battery be a structural battery?

Capovilla and coworkers later developed a structural battery as an external face of a 1U CubeSat, and also conducted FE analysis to prove the stability of the proposed batteries under launch and find optimizing methods .



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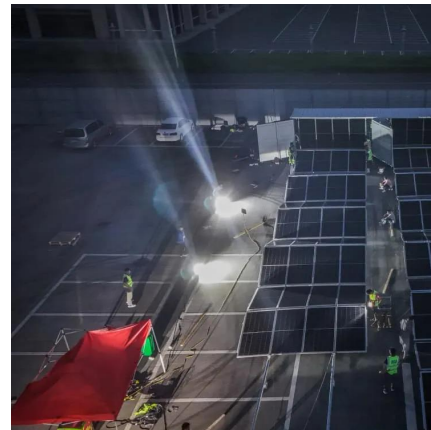


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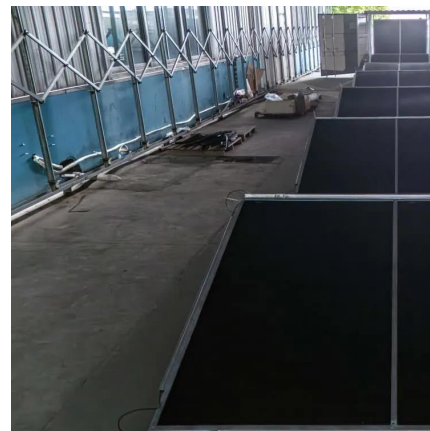
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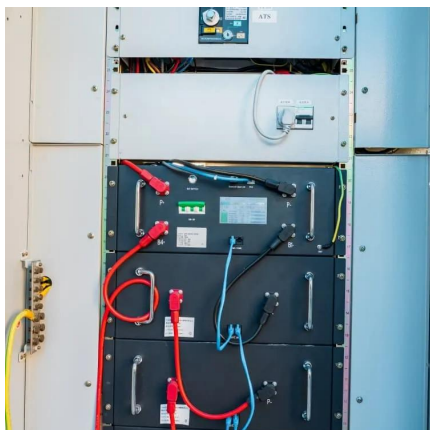
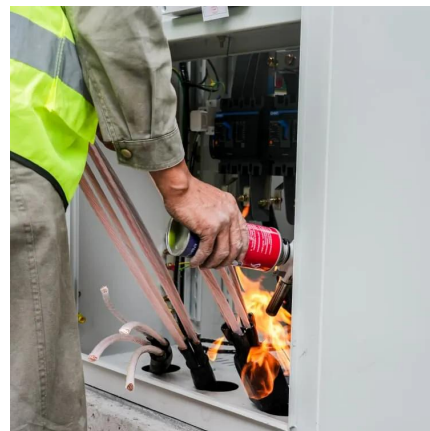


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