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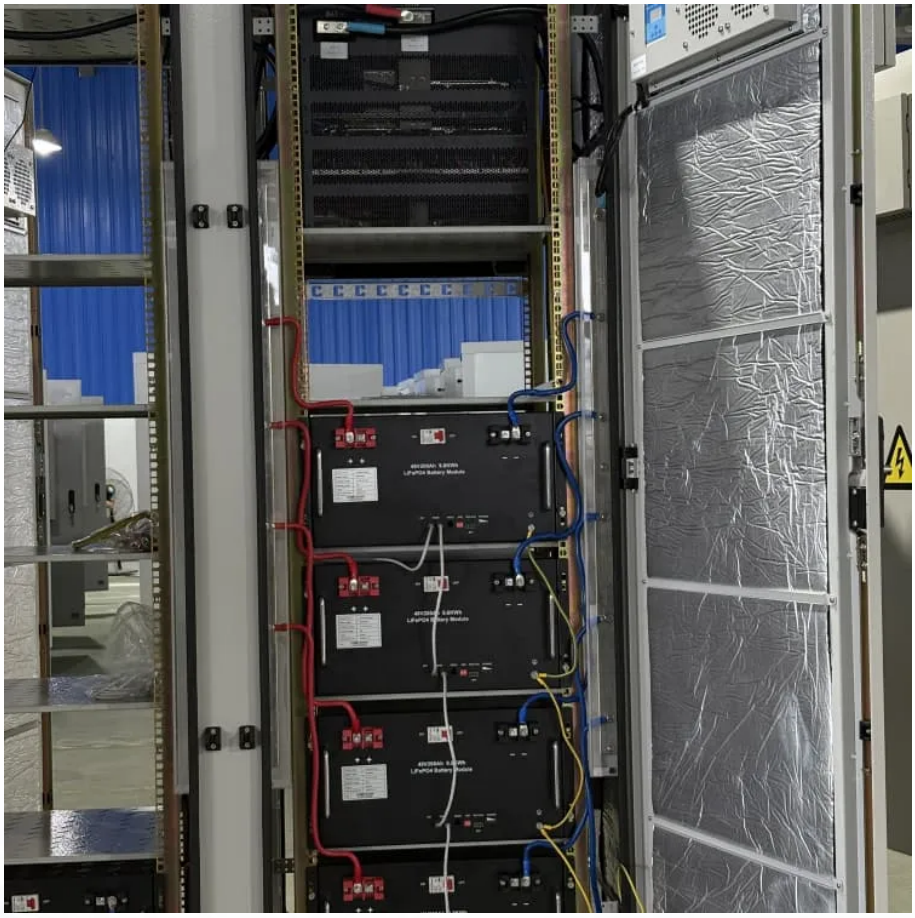
Corrosion resistance of energy storage containers



Overview

In recent years, thermal energy storage (TES) systems using phase change materials (PCM) have been widely studied and developed to be applied as solar energy storage units for residential heating and c.

Why is corrosion resistance important for macro packaging?

For macro packaging, ensuring the corrosion resistance of packaging materials in the TES system has become its main problem, because it is not only related to the safety of food in the transportation process but also related to the long-term use and complete function of the entire energy storage system , .

Can organic phase change materials corrode packaging containers?

When organic phase change materials are used as energy storage media, corrosion of packaging containers will also occur. Kahwaji et al. performed corrosion tests on six organic phase change materials, and their selected material formulations are shown in Table 9.

Can PCM be used as energy storage media?

When using PCM as energy storage media, the corrosion problem is also extremely important, because different PCM for different packaging materials corrosion is also very different. PCM will inevitably cause varying degrees of corrosion to both metals and polymers, damaging the storage containers to varying degrees and reducing their life.

What is corrosion inhibitor technology?

The corrosion inhibitor molecules are adsorbed on the surface of the container to form a protective layer, which greatly reduces the corrosion rate of the container in an acidic environment. At present, corrosion inhibitor technology is also developing in the field of energy storage.

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