

Corrosion-resistant mobile energy storage containers for Ukrainian steel plants





Overview

Using phase change material (PCM) as the energy storage medium and applying it in a latent heat energy storage system has become an important way of new energy application. PCM has been widely used i.

What is energy storage container?

Energy Storage Container is an energy storage battery system, which includes a monitoring system, battery management unit, particular fire protection system, special air conditioner, energy storage converter, and isolation transformer developed for the needs of the mobile energy storage market.

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 , .

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.

Which packaging materials are suitable for high-temperature thermal energy storage?

Jacob et al. report on packaging materials suitable for high-temperature thermal energy storage and indicate that steel (carbon and stainless steel), nickel (and nickel alloys), sodium silicate, silica, calcium carbonate, and titanium dioxide can be further investigated in high-temperature PCM.



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Anti-corrosion measures for energy storage containers

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MOBILE THERMAL ENERGY STORAGE (M-TES)



The most promising mobile thermal energy storage devices, which implement a similar principle of thermal energy conservation and have a positive experience of use, were noted.

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