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# Corrosion-resistant solar-powered containers for chemical plants

Why is molten salt protective film important for concentrating solar power plants?

Protective film formed by  $\text{CaCr}_2\text{O}_4$  deposition slows down the corrosion process. The molten salt thermal energy storage system is the most important composition of concentrating solar power plants, resulting in the corrosion behavior of alloys in molten salts is essential to be analyzed to ensure the long-term stability of the system.

Which Alloy owes the best corrosion resistance in solar salt?

Dorcheh et al. studied the corrosion behavior of ferritic steel, austenitic steel and Inconel625 alloy in solar salt at 600 °C, drawing a conclusion that Inconel625 alloy owed the best corrosion resistance.

Do P plants accelerate corrosion of structural materials?

P plants will accelerate the corrosion of structural materials, e.g., Fe-Cr-Ni based alloys [9,23-30]. The detrimental effects of residual moisture and

Concentrating solar power (CSP), also known as solar thermal electricity (STE), is increasing its deployment worldwide. One of the potential ways to decrease costs in CSP ...

The oxidation resistance, and corrosion-resistant containment, of such molten chlorides at 750 C are then demonstrated. Such chemically-robust, low-cost TES media and ...

A corrosion test under dynamic conditions on common container materials used in TES systems for CSP Plants, CSA516 and SS347, was successfully performed with molten ...

Thermal energy storage (TES) systems based on molten salt are widely used in concentrating solar power (CSP) plants. The investigation of the corrosion behavior of alloy ...

High-Temperature Molten Salt Tanks and Pipes ... Overview Concentrated solar power (CSP) plants can become cheaper if they become more efficient, but this will require operating the ...

The actual technology for solar power plants-CSP have thermal storage system composed by molten salts. Molten salts technology means electrochemical electrolytes in contact with ...

The superior corrosion resistance of Haynes230 can be attributed to its higher Ni and W content. These results are significant for optimizing the usage of novel molten salts and ...

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