

Reliable Containment of High-Temperature Molten Halide Salts for Thermal Energy Storage

A multi-layer, low-cost liner design prevents salt leakage in high-temperature energy storage tanks and pipes.

Researchers at Purdue University have developed a new liner design for molten salt containment devices in thermal energy storage applications. Molten halides are attractive low-cost fluids for use as elevated temperature thermal energy storage media for electricity- and heat-generating systems. However, such molten salts are challenging to contain owing to their tendency to penetrate low-cost porous liner materials in tanks and pipes. Purdue researchers have developed a new, low-cost, multi-layer liner strategy for the reliable containment of molten salts. This new strategy may be readily implemented in thermal energy storage tanks, pipes, and other containment devices for electricity and heat production systems.

Advantages

-Cost-Effective Containment of Molten Halide Salts

-Reliable Containment of Molten Halide Salt

Potential Thermal Energy Storage Applications

-Electricity Production

-Waste Heat Recovery

-Chemical Processing

TRL: 2

Intellectual Property:

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