

Title (en)
HIGH-TEMPERATURE LATENT HEAT ACCUMULATOR

Title (de)
HOCHTEMPERATUR-LATENTWÄRMESPEICHER

Title (fr)
ACCUMULATEUR DE CHALEUR LATENTE À HAUTE TEMPÉRATURE

Publication
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Application
EP 10704337 A 20100121

Priority

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Abstract (en)
[origin: WO2010084161A1] The invention relates to a high-temperature latent heat accumulator, which comprises a storage tank (32) having a storage tank inner wall (33) and a storage medium (31) arranged in the storage tank (32), wherein the storage medium directly adjoins the storage tank inner wall (33) and is present in the liquid state at least at an operating temperature. Furthermore, an insulation layer (35), a thermal loading device, and a thermal unloading device are provided. According to the invention, the materials of the storage medium (31) and of the storage tank inner wall (33) and the operating temperature of the latent heat accumulator are selected in such a way that in thermal loading up to the operating temperature, a sacrificial portion of the material of the storage tank inner wall (33) dissolves in the liquid storage medium (31) until a stable thermodynamic equilibrium develops. The thickness of the storage tank inner wall (33) is selected in such a way that even after the sacrificial portion dissolves at maximum thermal loading, the storage tank inner wall is closed and leak-tight to the storage medium (31) in order to satisfy the mechanical stability requirements.

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