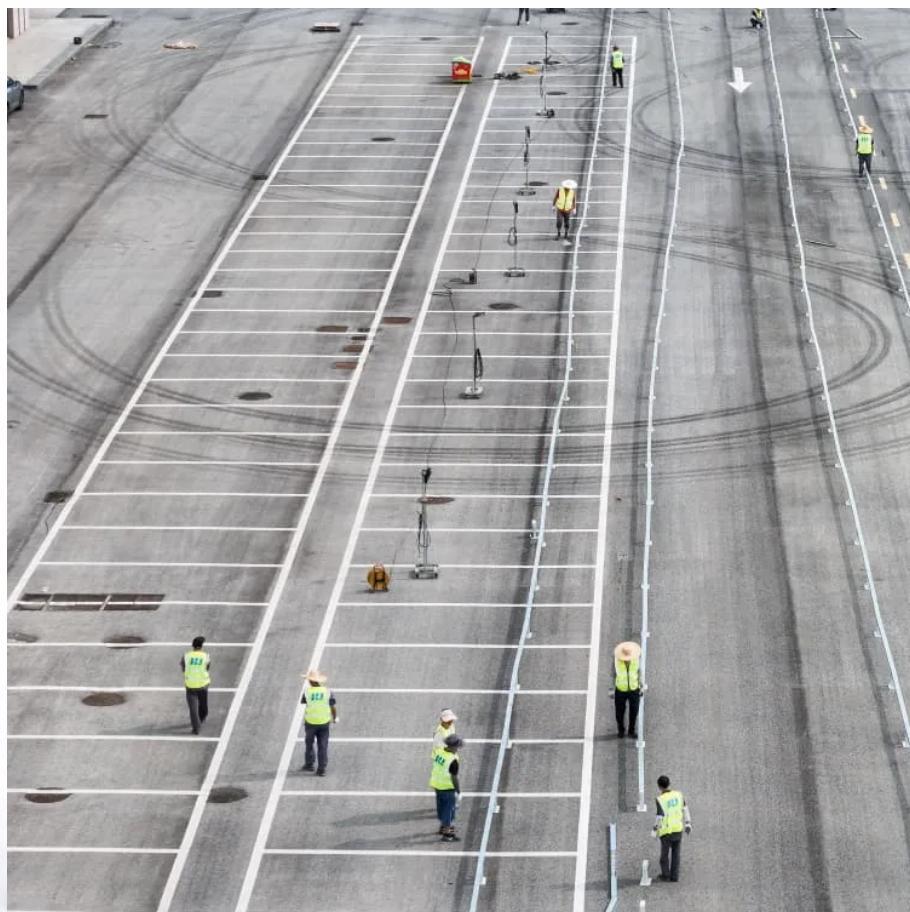




WALMER ENERGY

High-Temperature Resistant Solar Containers for Cement Plants





Overview

This study evaluates the proposal of a concrete storage tank as molten salt container, for concentrating solar power applications. A characterization of the thermal and mechanical properties including com.

Which cement plant is used for solar thermal application?

Location and DNI availability of the investigated plant A conventional cement plant (Kotputli Cement Works (KCW), an UltraTech Cement Limited manufacturing unit) at Kotputli, Jaipur, Rajasthan, was investigated for solar thermal application.

Can solar energy be used in cement manufacturing?

Gonzalez and Flamant (2013) designed a hybrid model that uses solar and fossil fuel energy to fulfill the thermal energy requirement for cement manufacturing. Concentrated solar thermal (CST) is a potential replacement for 40%-100% of the thermal energy needed in a conventional cement plant.

How a solar cement plant is designed?

Solar cement plant was designed based on cement production and the Direct Normal Irradiation (DNI) data available at plant location. Total thermal energy and the amount of land needed for the solar cement factory were analysed. Additionally, total mirror surface, number of heliostats, and land requirement are estimated.

Can solar clinker be used for cement production?

For the first time ever, CEMEX and Synhelion successfully connected the clinker production process with the Synhelion solar receiver, producing solar clinker. This revolutionary innovation is an initial step to develop fully solar-driven cement plants.



High-Temperature Resistant Solar Containers for Cement Plants

Decarbonizing Cement Production Using Concentrated Solar ...

Sep 4, 2025 · Concentrated Solar Thermal (CST) technology, when paired with high-temperature Thermal Energy Storage (TES), presents a direct and compelling pathway to address the ...

Thermal and mechanical degradation assessment in refractory concrete ...

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Innovative refractory concrete for high temperature thermal

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Design of solar cement plant for supplying thermal energy in cement

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