High-Temperature Resistant Solar Container for Oil Refineries in Jakarta

Can a TRNSYS solar heating system be used in a refinery?
Using TRNSYS software, the proposed Parabolic Trough Collector (PTC)-based solar heating system paired with the boiler is modelled. Sensible thermal energy storage (TES) system is integrated into the refinery''s process heating to handle the intermittent nature of solar energy.

Can a high-temperature solar tower integrated system power a petrochemical refinery?
Green hydrogen and power produc-tion using a high-temperature solar tower integrated system have been previously investigated but notin the con-text of a petrochemical refinery. Hydrogen is a significant raw material in petrochemical hydrogenation process (e.g.,hydrocracking,hydrotreating),whereas steam has multiple uses within a refinery.

Can a hybrid solar heating system be integrated with a storage tank?
Conclusion perature of heavy crude oil products before despatching from storage tanks. Due to the intermittent behaviour of solar energy,the solar hybrid system is integrated with a sensible heat storage tank. The suggested hybrid solar heating system for the renery was simulated using TRNSYS software,followed by experimental validation.

Can solar-assisted petrochemical refineries greenize oil refineries?
This paper proposes a solar-assisted method for a petrochemical refinery, considering hydrogen production deployed in Yanbu, Saudi Arabia, as a case study to greenize oil refineries.

Managing crude oil and heavy fuel oils demands more than just standard tanks. Our insulated, double-walled storage solution maintains product ...

Industrial environments that require high-temperature piping systems face unique challenges. Whether in power plants, chemical ...

This leads to a higher potential CO2 reduction of up to 17%. Conclusion: opportunities for solar heat integration in refineries All ...

The present study investigates the feasibility of solar hybrid system to generate steam in the oil refinery to maintain the temperature of heavy crude oil products before ...

The excess energy of about 101.44 MWt is converted to electricity of 54.2 MWe, send to the public grid. While applications at oil refineries, high-temperature nuclear reactors ...

Table 2 provides a brief summary of the commercial available optical polymer films with relatively high optical transmittance and high-temperature resistance properties. CPI ...

The purpose of this study is to investigate the potential use of solar energy within an oil refinery to reduce its fossil fuel consumption and greenhouse gas emissions. A validated ...

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Further, medium- to high-temperature steam can be generated using concentrating solar power systems which can replace conventional fuel boilers. This chapter deals with the ...

Mining area; Oil field exploration; Remote Telecommunication bases and Radar stations; Solar power containers can provide a stable and reliable power supply for mining equipment, lighting ...

This leads to a higher potential CO2 reduction of up to 17%. Conclusion: opportunities for solar heat integration in refineries All findings point out the tremendous ...

The solution: high-temperature-resistant silicone coatings and ceramic additives. Plant coating service for Middle East refineries requires ...

Solar tower technology gener-ating superheated steam at 550 °C is being used to energize high-temperature refinery processes such as heavy oil crack-ing reactions: CnHm -> ...

The PG reservoir in Jidong Oilfield is at a depth of around 15,000 ft with an extremely high-temperature of about 300 °F. The average water cut has reached nearly 80%, ...

Managing crude oil and heavy fuel oils demands more than just standard tanks. Our insulated, double-walled storage solution maintains product temperature, minimises risks, and ensures ...

Introduction Crude oil refineries are recognized as energy-intensive facilities that require substantial heat to fulfill their primary function of refining crude oil into valuable ...

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