

Overview

In high-temperature tunnels, it is difficult to predict the temperature distribution, and the effectiveness of comprehensive cooling measures is not yet clear. This study proposed a highly accurate tunnel environ.

How do high-geotemperature tunnels affect construction efficiency?

During the construction and operation of high-geotemperature tunnels, the high temperatures profoundly affect grouting materials, support structures, and the tunnel environment, posing a substantial threat to the safety and well-being of construction personnel and diminishing construction efficiency [17, 18, 19, 20].

Can high-geotemperature areas be avoided during tunnel construction?

High-geotemperature areas cannot be avoided during tunnel construction in these regions, and high-geotemperature tunnels frequently arise. Moreover, high temperatures in tunnels often occur simultaneously with high-temperature water gushing, significantly amplifying the complexity of tunnel construction.

How can we address high-temperature heat hazards in tunnel construction?

Proposed countermeasures for addressing high-temperature heat hazards in actual projects are delineated for two stages of tunnel construction: the geological investigation stage and the construction stage. The insights gained from our research have a certain degree of relevance and applicability to tunnels in other parts of the world.

Do geothermal tunnels have high-temperature thermal hazards?

This investigation assesses the potential for high-temperature thermal hazards within the tunnels, evaluates the geological conditions, verifies the factors governing the geothermal field, and outlines specific measures for the prevention and control of high geothermal tunnels.

High-Temperature Resistant Photovoltaic Containers for Tunnels

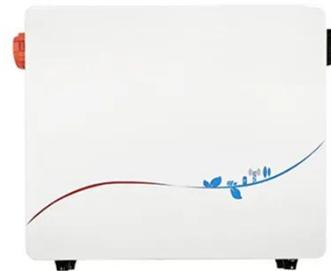


High Temperature Materials and Packaging Solutions for ...

The selection of these high-temperature resistant materials is crucial for ensuring the longevity and performance of TPV systems, particularly in applications where heat sources ...

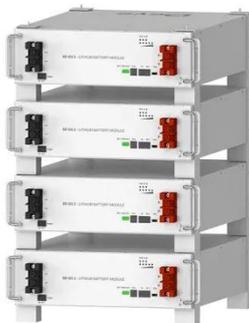
A method for predicting the ambient temperature distribution of high

The development of new high-temperature resistant materials and cooling techniques, which are essential for the construction of high ground temperature tunnels, has ...



Thermal pressure ventilation analysis in a sloping high-temperature

This study provides theoretical guidance for the thermal pressure ventilation of high-temperature inclined tunnels and offers a novel model for thermal pressure ventilation ...



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Heat Hazards in High-Temperature Tunnels: Influencing Factors, Disaster Forms, the Geogenetic Model and a Case Study of a Tunnel in Southwest China



An exploratory study on road tunnel with semi ...

An exploratory study on road tunnel with semi-transparent photovoltaic canopy--From energy saving and fire safety perspectives

Development of flexible phase-change heat storage ...

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Heat Hazards in High-Temperature Tunnels: Influencing ...

The construction of extensive tunnels in regions characterized by high

geothermal activity presents significant challenges and inherent risks that affect both the safety and ...



Photonics roadmap for ultra-high ...

In this perspective, we present a new approach to ultra-high temperature thermophotovoltaics (TPVs), which involves bilayer ...



Heat Hazard Control in High-Temperature Tunnels: ...

Fangchao Kang et al. [23] established a heat transfer model for high-temperature tunnels, compared the temperature fields of tunnels with and without insulation, and judged ...



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tunnel has been extended to remote areas and mountainous areas. It is difficult to connect to the power ...



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