Secondary grouting of photovoltaic construction support

What is secondary grouting?
Secondary grouting serves as a supplementary phase to synchronous grouting. Its primary purpose is to fill any remaining voids or gaps that might have been left by the initial grouting process. By conducting secondary grouting,these voids are effectively filled,ensuring the comprehensive consolidation of the surrounding strata.

What type of grout is used in a geotechnical project?
In 1992,cement/bentonite grouts were first utilized in the UK by the grouting specialist company Keller-Colcrete. Chemical groutshave also been employed to enhance compensation grouting in subsequent geotechnical projects.

Are grouting materials suitable for shield tunneling in different geological conditions?
In order to ensure the suitability and performance of grouting materials for shield tunneling in different geological conditions, it is essential to conduct thorough testing and investigation of their properties (Jiang et al., 2022b; Zhou et al., 2018).

Can alkali-activated materials be used as grouting materials for shield tunnels?
Alkali-activated materials (AAMs) have emerged as a potential alternative due to their green and low-carbon nature, as they make use of solid waste materials such as municipal, industrial, and agricultural waste. Song et al. (2022) conducted a study to investigate the engineering properties of AAMs as grouting materials for shield tunnels.

What type of grout is used in shield tunneling?
The existing grouting mortars used in shield tunneling primarily consist of conventional single-liquid or double-liquid grouts. However,as the development of underground space progresses,there is a growing demand for grouting materials that offer enhanced resilience and low carbon footprint to meet sustainability requirements.

How does synchronous grouting improve tunnel waterproofing?
Improved tunnel waterproofing. The grouting materials injected into the annular tail void during synchronous grouting contribute to enhancing the tunnel's waterproofing. The set grouts act as the initial waterproof layer,effectively sealing the void between the segmental lining and the strata.

Grouting is done generally for high permeable soil which may cause seepage above the concrete structure. Purpose of grouting in construction. Grouting is done for repairing concrete cracks, filling gaps in the tiles, and waterproofing. Grouting is done for giving additional strength to the foundation of the load-bearing structure.

studied on design and stability analysis of SP support structure made of mild steel. The result shows that the SP support structure can able to sustain a wind load with velocity 55m -1.

Shield tunneling will first cause the deformation of the surrounding soil [48], and then the soil deformation acts on the existing pipeline, causing the deformation of the pipeline.Soil deformation and pipeline deformation are inextricably linked, so we first investigate the current status of domestic and international research on these two aspects.

Tunnel, Secondary Grouting, Double Grout, Slurry, Formation . ????????????? DOI: 10.12677/jogt.2018.402011 7 ??????? ... ???????EPC (engineering procurement construction?????????????????) ----? ...

grouting to fill the remaining space, and the secondary grouting slurry is mostly viscous "cement + gypsum + putty" system; due to the poor fluidity of secondary grouting slurry, there is still a ...

The results show that: (1) according to the general requirements of 4 rows and 5 columns fixed photovoltaic support, the typical permanent load of the PV support is 4679.4 N, the wind load being 1 ...

This paper reports on the unsuccessful application of secondary grouting which was used in a shield tunnel in Hefei city, capital of Anhui province in China in December 2015. The secondary grouting was selected to treat leakage issues. However, the grouting work led to track, and track bed uplift with several cracks appearing on tunnel segments.

Grout provides structural support, enhances stability, and facilitates the transfer of loads from the wind turbine to the seabed. It acts as a crucial bonding agent, securing the foundation and preventing any potential movement or instability ...

Backfill grouting plays a vital role in shield tunneling. This paper aims to present a comprehensive review of the development and progress of backfill grouting materials specifically designed for ...

According to the engineering practice of secondary grouting of shielding tunnels,the paper introduces the secondary grouting construction technique of the shielding method in the second period project of the subway from the applied scope,the technical requirement,the proportion of slurry,the control over grouting pressure,the grouting volume,the grouting sequence,and the ...

The 15.2km long headrace tunnel (HRT) is a key component of the Uma Oya Multipurpose Development Project (UOMDP). The HRT takes water from Dyraaba Dam to the pressure shaft that feeds the power house.

2. Compaction Grouting. 3. Jet Grouting 4. Rock / Fissure Grouting 5. Compensation Grouting. 1.Permeation Grouting. Permeation grouting, also known as cement or pressure grouting, is a widely used method in

construction. It involves injecting grout into the soil to fill the pores and joints without disturbing the soil"s structure and volume.

To study the influence of different grouting conditions on ground settlement and construction safety, this paper takes the Jiangyin-Jingjiang Yangtze River shield tunnel as the engineering ...

Celebrating its 17th year, the Breakthroughs in Tunneling Short Course is the longest running and most-attended course of its kind. Presented by leading practitioners from around the globe, the Breakthroughs in Tunneling Short Course focuses on real-world solutions for real-world problems.

By taking Nanjing secondary grouting of shield tunnel project for example, the suitable scope of secondary grouting, grouting effect, the ratio of slurry, grouting pressure, grouting amount, ...

PV support / structure optimization; Abstract: [Introduction] Due to the tendency of distributed photovoltaic power generation projects becoming more and more popular on the Internet, it is ...

Throughout the last decade the development of grouting additives allowed a wider application of cement and silica based grout mixtures, also as an alternative to the cost- intensive chemical grouting.

The grouting control has completed 29 grouting drilling boreholes. The grouting quantity is 12031 m3 while the aggregate 695.01 m3. After grouting control, the maximum subsidence may still reach 136 mm, the maximum horizontal deformation 2.8 mm/m, the maximum inclination deformation 3.2 m due to 5 more coal seams goafs.

In order to solve the grouting problem of tunnel lining vault cavity and local uncompacting, based on the project example of Qing-shiling tunnel and Yin-dongxia tunnel of Baoping Expressway, combined with the existing tunnel vault grouting construction technology, a construction method of embedded pipe grouting for tunnel lining vault is proposed, and the key ...

???????(sscg)??????(ss)????,??????????(pv)????????? ?????????? SSCG ??,??????????? ...

If required, secondary holes are bored between the primary holes to ensure the complete grouting of the area. ... Share your construction industry knowledge. Grouting in civil engineering refers to the injection of pumpable materials into a soil or rock formation to change its physical characteristics. It is one of the ways ground water can be ...

It is necessary to use secondary grouting to fill the remaining space, and the secondary grouting slurry is mostly viscous "cement + gypsum + putty" system; due to the poor fluidity of secondary grouting slurry, there is still a certain proportion of space between the segment and the surrounding rock after the whole grouting is completed,

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To prevent dilution in water, grout needs to exhibit appropriate performance. For example, a low bleeding rate allows the grout to maintain high stability [4].A short setting time quickly increases the viscosity of the grout, reducing its loss in water [5].The performance of ordinary grout is mainly influenced by W/B, B/S, Ben/W, and C/F [6]. ...

Secondary grouting can effectively control the ground settlement caused by shield construction and is widely used in urban shield tunnel construction. Therefore, it is necessary to study the ...

Semantic Scholar extracted view of "Repairing a shield tunnel damaged by secondary grouting" by L. Jinlong et al. Skip to search form Skip to ... aim of this study is to assess the workability of an innovative rubber concrete to fill in the gaps in a shield tunnel construction. This grouting material includes porous sand, PVA (polyvinyl ...

The grout is carried out by synchronous grouting. The average grouting volume, grouting pressure and incision pressure (the water pressure and soil pressure) of each hole are presented in Fig. 57.2b. The grouting volumes of holes 1, 12, 2, 11, 3, 10 are about 5 m 3, holes 4, 9, 5, 8 are about 1.9 m 3, while holes 6 and 7 are just used for ...

Grouting control of shield tunneling is of paramount importance to reduce settlements of existing tunnels below-passed by shield tunneling along a curved alignment and in crowded urban areas.

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