Application of Sleeve Valve Pipe Grouting Technology in Underground Station Construction Postprint

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Abstract

Sleeve valve pipe grouting technology has been applied for many years with numerous construction cases; however, the planning of Guiyang Metro commenced relatively late. To investigate the construction technical parameters of sleeve valve pipe grouting under the geological conditions of Guiyang, this paper summarizes the deformation control construction technical measures for sleeve valve pipe grouting in Guiyang Metro. Firstly, the reinforcement principle of sleeve valve pipe grouting, the construction technology, and the key technical points are introduced. Post-grouting settlement monitoring data indicates that the maximum settlements of buildings, pipelines, and ground surface are 5 mm, 6.2 mm, and 12.1 mm, respectively, demonstrating favorable stratum reinforcement effects and satisfying deformation control requirements during construction.

Full Text

The Application of Sleeve Pipe Grouting Technology in Underground Station Construction

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Abstract

Sleeve pipe grouting technology has been applied for many years with numerous construction cases worldwide. However, subway development in Guiyang began relatively late. To investigate the construction technical parameters of sleeve pipe grouting under the geological conditions of Guiyang, this study summarizes the technical measures for deformation control during sleeve pipe grouting

in Guiyang Metro construction. The paper first introduces the reinforcement principle of sleeve pipe grouting, followed by the construction technology and key technical points. Post-grouting settlement monitoring data reveals that the maximum settlements of buildings, pipelines, and ground surface are 5 mm, 6.2 mm, and 12.1 mm, respectively. These results demonstrate effective stratum reinforcement and satisfactory deformation control during construction.

Keywords: subway; sleeve pipe; deformation control; excavation

Note: Figure translations are in progress. See original paper for figures.