

论文

基于围岩松动圈理论的井筒壁后防渗注浆技术研究

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摘要:

分析了井筒开挖后井壁围岩“松动含水圈层”的形成原因及对井壁渗漏的影响, 提出了基于松动圈理论的井筒壁后注浆的基本原理及方法, 并比较了其相对传统壁后注浆设计方法的优势。通过在某煤矿相同工程条件下对比检验, 采用基于松动圈理论的壁后注浆方法比传统方法施工的浆材用量、钻孔进尺及工期都有较大幅度的减小, 说明基于松动圈理论的壁后注浆方法比传统的方法更具经济价值。

关键词: 松动圈; 渗漏; 破壁注浆; 松动含水圈层

Research on backfill grouting based on surrounding rock loose circle theory

Abstract:

The formation of “loose aquifer” in surrounding rock and its impacts on sidewall leakage after shaft excavation were analyzed. Based on surrounding rock loose circle theory, the basic principles and methods of backfill grouting were proposed, and the advantages of this new approach compared with traditional methods were analyzed. A practice test was done in a coal mine which has the same engineering conditions, the results show that, the amount of slurry, drilling footage and construction period is less using the new method, so compared with traditional methods, backfill grouting based on surrounding rock loose circle theory is more economic.

Keywords: loose circle; leakage; backfill grouting; loose aquifer

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