

论文摘要

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膏体泵送特性及减阻试验

方理刚

(中南大学 铁道校区 土建学院, 长沙 410075)

摘要: 基于管流流动基本理论, 对金川有色金属公司充填膏体的水平环形试验管路流动阻力进行了理论分析。为了检验理论分析结果的正确性和试验外加剂在减少膏体泵送阻力上的作用, 在现场约90*1m的水平环形管路中进行了由混凝土泵驱动的充填膏体输送阻力试验。结果表明: 该充填膏体可以划归为宾汉姆流变体, 用基于宾汉姆流变体理论的公式能够预计膏体输送过程中的泵压损失; 提供试验的泵送外加剂能够显著地降低膏体的泵送阻力。

关键字: 膏体; 泵送; 减阻

Investigation on paste pumping characteristics and reducing pumping resistance

FANG Li-gang

(School of Civil Engineering, Central South University,
Changsha 410075, P.R.China)

Abstract: Based on the basic theory of pipe column flow, the pumping resistance of backfill paste was analyzed and over 90 m long horizontal loop pipe tests driven with a concrete pump were carried out in situ to compare calculated pumping resistance with measured ones. The test results show that the fluid properties of paste mixes may be described in Bingham plastic fluids and the pumping pressure loss can be predicted with the theory. A special admixture (pumping aids) available for test can significantly reduce the pumping resistance of backfill paste.

Key words: backfill paste; pumping; reducing pumping resistance

地 址：湖南省长沙市岳麓山中南大学内 邮编： 410083

电 话： 0731-88876765, 88877197, 88830410 传真： 0731-88877197

电子邮箱： f-ysxb@mail.csu.edu.cn