

能源和环境工程

不同水煤浆添加剂与煤之间的相互作用规律 (II) 复合煤颗粒间的相互作用对CWM表观黏度的影响

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摘要 用14种不同变质程度的煤与12种分散剂成浆, 测定168个CWM的表观黏度. 结果表明, 对同种煤, 不同分散剂产生不同的分散降黏效果; 对不同煤, 同种分散剂的分散降黏效果也不同. 通过研究CWM相对表观黏度与煤体积浓度的关系, 发现Frankel方程中的 k 不仅与颗粒的几何分布有关, 而且与煤质特性紧密相关, 建立了 k 与煤质关系的经验方程, 分析了复合煤粒间的相互作用对CWM表观黏度的影响.

关键词 [水煤浆](#) [分散剂](#) [表观黏度](#) [复合煤粒](#) [相互作用](#)

分类号

INTERACTION CHARACTERISTICS BETWEEN DIFFERENT CWM ADDITIVES AND COALS (II) EFFECT OF INTERACTION OF COMPLEX COAL PARTICLE ON CWM APPARENT VISCOSITY

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Abstract

In this work 168 samples of CWM were prepared from 14 kinds of Chinese coals and 12 dispersants, and the apparent viscosities of these CWM were measured by Haake RV 12 model Rheogeniometer at shear rate $D=100 \text{ s}^{-1}$. Slurries formulated with different dispersants for the same coal or with the same dispersant for different kinds of coal showed obviously different results in the dispersibility and viscosity reduction. The relationship between relative apparent viscosity of CWM and volume fraction of coal in CWM was studied. The result showed that the experiential constant (k) in the Frankel equation was not only dependent on the geometrical distribution of particles but also on the coal properties, and an experiential relationship between constant (k) and coal properties was set up. Furthermore, the effect of interaction of complex coal particles on the apparent viscosity of CWM was discussed.

Key words [CWM](#) [dispersant](#) [apparent viscosity](#) [complex coal particle](#) [interaction](#)

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