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## 论文

扩展功能

## 高压密相气力输送弯管压降研究

本文信息

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在输送压力可达4 MPa的气力输送实验台上, 进行不同平均粒径煤粉的密相输送实验。获得了不同操作参数下的弯管压损实验数据。在Barth附加压力损失理论上, 考虑发送压力以及煤粉物性参数对弯管压损的影响, 运用量纲分析法, 得到高压密相输送时附加压损系数的关联式。用关联式预测的压损值与实验值吻合得很好。研究表明, 相同质量流量下, 平均粒径大的煤粉在弯管中的压损要高于平均粒径小的煤粉; 在密相气力输送中, 压损随表观气速的降低而增加。

本文关键词相关文章

关键词: 密相气力输送 高压 压损 平均粒径 弯管

▶ 密相气力输送

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▶ 压损

▶ 平均粒径

▶ 弯管

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## Study on the Pressure Drop of Bend in Dense Phase Pneumatic Conveying of Pulverized Coal at High Pressure

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## Abstract:

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Experiments of dense-phase pneumatic conveying of pulverized coal with different mean particle size using nitrogen were carried out in an experimental test facility with the conveying pressure up to 4 MPa. The experimental data of pressure drop across bend was obtained under different conveying condition. Based on Barth's pneumatic conveying theory, an empirical correlation of the additional pressure drop coefficient of bend was proposed taking account of the conveying pressure and properties of pulverized coal. Comparing the pressure drop predicted by the correlation with experimental data, it is found that the calculation results agreed fairly well with the experimental data. Results indicate that, the pressure drop for coarse coal is higher than that of fine coal with the same mass flow rate, and the pressure drop increase with the decrease in superficial velocity in dense-phase pneumatic conveying.

**Keywords:** dense-phase pneumatic conveying high pressure pressure drop mean particle size bend

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