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论文

稀相气固流化床分选电厂磨煤机返料的研究

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摘要：

通过分析磨机返料的粒度和密度分布，将物料分为0.500～0.125 mm和＜0.500 mm两组，并分别对其进行稀相气固流化床分选实验。结果表明，两组物料的起始流化速度均为0.41 cm/s，物料中的黄铁矿和铝硅酸盐等矿物质得到了去除，0.500～0.125 mm和＜0.500 mm两组物料轻产物和重产物灰分分别为38.90%，77.58%和44.64%，74.55%，硫分分别为1.09%，6.97%和1.62%，6.99%，可燃体回收率分别为94.11%和91.16%。其中，＜0.500 mm物料流化床层更连续、稳定。扫描电镜（SEM）背散射图像与能谱仪（EDX）测试验证了分选的有效性。

关键词： 气固流化床；磨煤机；分离器返料；微粉煤；矿物质；背散射成像

Study on recirculating loads of power plant pulverizer separated by dilute gas-solid fluidized bed

Abstract:

In order to investigate the application of dilute fluidized bed in desulfuration and ash reduction to the classifier’s recirculating loads in the power plant pulverizer，and how fine coal can influence the separation process in the fluidized bed，the size and density distribution of the pulverizer recirculating loads were analyzed to divide the materials into 0.500-0.125 mm and ＜0.500 mm groups.Then the separation experiment was performed on the fluidized bed.The results show that the minimum fluidization velocity of both these groups is 0.41 cm/s.At the same time，minerals，including pyrite，are effectively removed.The ash content of light and heavy products in the two groups are found to be 38.90% and 77.58% for 0.500-0.125 mm，and 44.64% and 74.55% for ＜0.500 mm.The sulfur content are 1.09%，6.97% and 1.62%，6.99% respectively，and the combustible material recovery rates are at 94.11% and 91.16% respectively.The results also show that the ＜0.500 mm group has a more continuous and stable fluidized bed.The back scatter imagery of SEM and the energy spectrum test show the effectiveness of the separation.

Keywords: gas-solids fluidized bed；pulverizer；recirculating load of classifier；fine coal；mineral；backscattered electron image

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