

Characteristic of Magnetic-Substance Classification from Coal Bottom Ash during Wet Magnetic Separation

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ABSTRACT

The coal-fired power plant has generated about 5 million tons of coal bottom ash in Korea. All of the coal bottom ash has been treated as reclamation of the landfill until now, although that could be used in many fields effectively through the physical treatment-process: classification, magnetic separation, flotation, gravity concentration and etc. If the coal bottom ash which contains various materials, such as silicate, unburned carbon, aluminate, hematite and magnetite can be separated respectively, it will obtain the high-value products in recycling field. In the case of the magnetic-substance (hematite and magnetite), it is easy to be removed by magnetic separation. So, in this study we investigated the characteristic of magnetic-substance classification from coal bottom ash during wet magnetic separation. Then the ferrous product per coal bottom ash (w/w,%) based on the particle size by wet magnetic separator as a various magnetic force was studied, also, the content rate between hematite and magnetite and the majority of content as a coal bottom ash particle size were confirmed.

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