

World Congress and Expo on **Recycling**

July 20-22, 2015 Barcelona, Spain

The use incineration bottom ash as land reclamation material

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Incineration is a common waste treatment process that involves the combustion of municipal solid wastes to produce incineration ashes. More than 80% of these ashes comprise of a heavy fraction known as incineration bottom ash (IBA). IBA has been used in a few countries in road construction, embankments and other civil engineering applications. Another potential use for IBA is in land reclamation. Binding IBA with marine clay with additives produced solid matrices with high physical strength and low environmental impacts. Results showed that heavy metal concentrations within the matrix meet the Dutch criteria for industrial land use.

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Study the influence of the type of cast iron chips on the quality of briquettes obtained with controlled impact

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Preparation of briquettes of metal chips with good density and quality is of great importance for the efficiency of this process. In this paper are presented the results of impact briquetting of grey cast iron chips with rectangular shape and dimensions 15x25x1mm. Density and quality of briquettes of these chips are compared with those obtained in another work of the authors using cast iron chips with smaller sizes. It has been found that by using rectangular chips with a large size are produced briquettes with a very low density and poor quality. From the photographs taken by X-ray tomography, it is clear that the reason for this is the orientation of the chip in the peripheral wall of the briquettes, which does not allow of the air to escape from it. It was concluded that in order to obtain briquettes of cast iron chips with a large size, these chips must first be ground for example in a small ball mill.

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