

Stabilization of FGD By-products for Road Construction

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ABSTRACT

Flue gas desulphurization (FGD) sludge is a by-product from the air pollution control systems used in coal-fired power plants. The objective of this work was to stabilize FGD gypsum and FGD filter cake using class C fly ash, cement and sialite (a cement made of mostly waste materials) to investigate its possibility of utilization in road construction. In this work, the chemical, physical and mineralogical properties of FGD gypsum and FGD filter cake were analyzed. In addition, compaction test, California bearing ratio (CBR) test and unconfined compressive strength (UCS) tests were conducted on FGD gypsum and FGD filter cake treated with fly ash, cement and sialite, respectively. The environmental implications of these two types of FGD by-products treated with different cementitious materials were also investigated.

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