Jan Koplík

STABILIZATION OF FLY ASH CONTAINING HEAVY METALS BY ALKALI ACTIVATION

Jan Koplík, Lukáš Buzek, František Šoukal, Jiří Másilko
Brno University of Technology, Faculty of chemistry, Purkyňova 118, 612 00 Brno, Czech Republic, xckoplik@fch.vutbr.cz

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Abstract.

The immobilization of waste materials is receiving increasing attention from scientist all over the world. Alkali activation of fly ash or blast furnace slag is method, that succesfully stabilizes these waste materials in solidified matrix. Fly ash from Czech powerplant Počerady contains exept the mains compounds also small amount of heavy metals – Ba^{2+}, As^{3+}, Cr^{2+}, Mn^{2+}.
The aim of this work is to evolve the suitable matrix, that will stabilize and imobilize these compounds. Amount of heavy metals in raw materials was investigated by XRF and it shows that it exceeds the values from 293/2006 Sb. The matrix was characterized by various analytical techniques like compressive and flextural strenght, XRD, SEM. The ability of matrix to fix and imobilize heavy metals have been investigated by leaching tests.