

INFLUENCE OF AGEING TEMPERATURE AND TIME ON COMPLETE CONVERSION OF FLY ASH IN TO A FRAMEWORK ALUMINOSILICATE UTILIZING ALKALINE HYDROTHERMAL SYNTHETIC METHODOLOGY

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ABSTRACT

The demand for coal in India's power plants has rapidly increased since 1970's with power plants absorbing about 80% of the coal produced in the country. It is expected to increase in future and dominated mainly by the power sector. In the process of generating electricity using coal, large quantities of coal combustion by-products (CCPs) are generated. Coal fly ash occupies a great part of the total non-combustible residual particles resulting from the coal combustion processes in thermal power plants and it is being generated at the rate of about 112 million tons per annum (MTPA). More than half of the discharged fly ash is used as a raw material for cement and so on and rest of it is disposed to landfill sites which create serious environmental health hazards. Therefore, recycling coal fly ash has important economic and environmental implications. So the present paper is aimed at the synthesis of fly ash based zeolites which includes alkaline treatment of fly ash using a hydrothermal synthetic methodology.

KEYWORDS: Fly Ash Based Zeolite, Thermal Power Plants, Hydrothermal Activation, Waste Management

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