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INFLUENCE OF CURING TEMPERATURE AND TIME ON COMPLETE CONVERSION OF FLY ASH IN TO A FRAMEWORK ALUMINOSILICATE UTILIZING ALKALINEHYDROTHERMAL SYNTHETIC METHODOLOGY

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ABSTRACT

The need of electrical power requires adequate supply of power stations. Although there are various renewable energy sources that do not encounter environmental problems, a number of the power stations are still in India fed by fossil fuels. Coal is one of the major fossil fuels used in thermal power stations and is significantly increasing every year. In the production of electricity using coal, coal fly ash is discharged from thermal power plants and globally, over 500 million tonnes of fly ash is generated annually. About 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 site. Land requirement envisage for disposal of fly ash is about 50,000 acre with an annual expenditure of about Rs500 million for transportation. Thus its disposal poses major challenges and serious environmental and economic problems. To overcome these difficulties it is very important to promote the effective recycling of these waste materials into products of greater value and thus mitigate the depletion of resources and environmental impacts. These objectives can be achieved through zeolitization of fly ash.

KEYWORDS: Coal Fly Ash, Zeolite Synthesis, Hydrothermal Method, Synthetic Methodology, Hydroxysodalite Structure

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