

## Methodology to Establish Zeolitization Potential of Fly Ash

### **Abstract**

The present invention relates to a method to synthesize fly ash zeolite-X from fly ash. The method involves a three step fusion process (F1, F2 and F3) to form a highly porous product of the fly ash. The raw fly ash is dissolved with sodium hydroxide to provide contact between the two at a temperature of 500°C - 700°C. The mixture was also air dried (at 25°C) for 24 hours. To cause enhanced fusion of the two ingredients in the mixture, the experiment was carried out in three steps, each of 2 hours. For optimizing the alkali content in the mixture, NaOH/RFA ratio was varied from 0.2 to 1.4 (at an increment of 0.2). The present invention provides conversion of fly ash to a better grade of zeolite Na-X and Na-Y, which can sustain thermal exposure up to 700 °C.

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