



ChemTech

## International Journal of ChemTech Research

CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555

Vol.10 No.6,pp709-715,2017

# Experimental Study on Flyash Based Geopolymer Concrete Blended with GGBS and Phosphogypsum after Exposure to Elevated Temperatures

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**Abstract:** Geopolymer is an inorganic alumino-hydroxide polymer synthesized from predominantly silicon and aluminum materials of geological origin and by product materials such as Flyash. In this paper an attempt was made to study the compressive strength properties of Flyash based Geopolymer Concrete blended with GGBS and Phosphogypsum which was exposed to higher temperatures of 200<sup>o</sup>C and 300<sup>o</sup>C.

This experiment consists of Flyash blended with 5 different percentages of GGBS and 5 different percentages of Phosphogypsum. 10 Molar Sodium Hydroxide and Sodium Silicate solution is used as alkaline activator. These Geopolymer samples were cured at 60<sup>o</sup>C for 24 hours and these samples are sintered at four and six hours after 28 days at above mentioned temperatures. These samples are tested for compressive strength due to thermal changes. The results showed that Geopolymer exhibits lesser strength after temperature exposure.

A.Kiran Kumar *et al*/International Journal of ChemTech Research, 2017,10(6): 709-715.

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