



ChemTech

International Journal of ChemTech Research
CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.10 No.4, pp311-317,2017

Influence of calcium content on durability of geo polymer mortar

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Abstract:In recent times, interest in research stimulated in the field of geopolymerisation because of its environmentally friendly nature. Despite extensive research conducted on various aspects of geopolymerisation, especially in enhancing the properties of resultant binders, a number of questions remain to be answered. The role of calcium in geopolymerisation is one of them. In this study an attempt is made to understand the effect of exterior calcium on durability aspects of geopolymer mortar. Experimental work is done by partially replacing fly ash (FA) with optimum 10% calcium hydroxide (CH) for alkaline liquid ratio (AL/FA) of 0.5 at 10M of sodium hydroxide (NaOH). Hence a comparative study is done with optimum 10%CH and 0%CH, Cube strength is monitored against durability properties such as water absorption, resistance to acids, sulphate and chloride attacks up to 3 months (90 days).

Keywords:Geopolymer mortar, Calcium content, Compressive strength, Durability, Acid, Chloride and Sulphate attack.

D. Annapurna *et al*/International Journal of ChemTech Research, 2017,10(4): 311-317.
