

Effect of alkali concentration on mechanical properties of kaolin geopolymers

Abstract

Alkali concentration is the most significant factor in geopolymerization process that must be taken into consideration during the synthesis of kaolin geopolymers. The kaolin geopolymers were prepared by mixing kaolin and alkali activator solution. The alkali activator solution used was mixture of sodium hydroxide (NaOH) and sodium silicate (Na_2SiO_3). This study aims to analyze the effect of NaOH concentration (6-14M) on mechanical properties of kaolin geopolymers. Compressive strength results showed that the optimum NaOH concentration is 8M. SEM, XRD and FTIR analysis were performed to study the transformation taken place during the geopolymer synthesis.