

## **Effect of curing profile on kaolin-based geopolymers**

### **Abstract**

Depending on the processing conditions, geopolymers can exhibit a wide variety of properties and characteristics. Curing profile serves as a crucial parameter in synthesis of geopolymers. In this paper, the influence of curing temperature and curing time on the properties of kaolin-based geopolymer was studied. The samples were separated into several curing conditions; including curing at ambient temperature, 40°C, 60°C, 80°C and 100°C for 1 day, and up to 3 days. The compressive strength and SEM analysis of geopolymer products were evaluated. Results showed that curing condition has a significant effect on the mechanical properties of kaolin-based geopolymer. Generally, curing at ambient temperature was not feasible, while increase in temperature favored the strength development. In addition, prolonged curing time improved the geopolymerization process, and led to higher strength gain. However, curing at high temperature for a long period of time caused failure of the sample at a later age.

### **Keywords**

Curing profile; Curing temperature; Curing time; Geopolymer; Kaolin