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Effect of curing system on properties of fly ash-based geopolymer bricks

Abstract

The influence of curing time and curing temperature on properties of fly ash-based geopolymer bricks has been studied. The compressive strength and water absorption of geopolymer bricks were investigated which are produced by applying heat treatments between the ranges of room temperature to 80°C at several period of time for curing (1 - 24) hours. In this research, the fly ash-based geopolymer bricks showed that the curing system have a significant effect to the properties of fly ash-based geopolymer bricks. It was observed that prolonged curing time enhanced the geopolymerization reaction resulting increase in compressive strength. The highest compressive strength of geopolymer bricks for different curing temperature given by bricks sample cured at 70°C for 24 hours at the ageing of 7 days.

Keywords

Bricks; Fly ash; Geopolymer; Mechanical properties