

Characteristic on Compressive Strength of Blast Slag and Fly Ash Hybrid Geopolymer Mortar

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Abstract : Geopolymer mortar is produced by alkaline activation of pozzolanic materials such as fly ground granulated blast-furnace slag (GGBFS) and fly ash (FA). Its unique reaction pathway facilitates rapid strength development in comparison with hydration of ordinary Portland cement (OPC). Geopolymer can be fabricated using various types and dosages of alkali-activator, which effectively gives a wider control over the performance of the final product. The present study investigates the effect of types of precursors and curing conditions on the fresh state and strength development characteristics of geopolymers, thereby comparatively exploring the effect of precursors from various sources of origin. The obtained result showed that the setting time and strength development of the specimens with the identical mix proportion but different precursors displayed significant variations.

Keywords : alkali-activated material, blast furnace slag, fly ash, flowability, strength development

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