SHEAR BEHAVIOUR OF HYBRID FIBER ENRICHED GEOPOLYMER CONCRETE

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Abstract

The main objective of the study is to look into the shear behaviour of hybrid fibre reinforced geopolymer concrete beams. Test specimens of 1200×150×150 mm size were used for the study. 10% of Fly ash by the mass was replaced by GGBS. The variable used were percentage of steel fibre volume fraction viz. 0.0%, 0.25%, and 0.5%, and polypropylene fibre volume fraction viz. 0.0%, 0.25%,and 0.5% .The concentration of sodium hydroxide was 10Molar in geopolymer concrete. The geopolymer specimens were cured by using steam curing chamber. The specimens were cured after the rest period of three days. For curing, temperature was fixed as 600 C for 24 hours. The specimens were tested after the age of 28 days.Test results shows that first crack load, ultimate load, energy absorption capacity, experimental shear strength and ductile characteristic of FGHGPC geopolymer concrete specimens.

Keywords---Cement, Carbon Dioxide, Geopolymer, Shear Behavior, Hybrid Fiber.

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