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EXPERIMENTAL STUDIES ON STRENGTH CHARACTERISTICS OF FLY ASH BASED GEOPOLYMER CONCRETE

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ABSTRACT

Global warming, a well known word in the present world created by the emission of CO_2 into the atmosphere in various ways during the production and utilization of many materials. As a part of civil engineering we all now concrete is a key product in building structures. To prepare concrete and make it as a rock stratum, OPC plays a prominent role by improving binding properties among the other ingredients of concrete. But production of OPC causes emission of harmful gases into the atmosphere and also major consumption of natural resources. As a part of my research a step is made towards producing of concrete without using OPC as a binding material. NaOH of 8, 10, 12, 14 & 16 molarities and Na_2SiO_3 chemicals are used as activators with 100 % fly ash. Compressive strength properties were studied for 7, 14 and 28 days air curing after 24 hours oven curing at a temperature of 60^0C.

KEYWORDS: Geopolymer Chemistry, Fly Ash-Based Geopolymer Concrete, Fine Aggregates