

ChemTech

International Journal of ChemTech Research CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555 Vol.10 No.8, pp 765-771, 201

Experimental Investigation on Strength Properties of GEO Polymer Concrete using GGBS

R.Preetha, P.Siva Nandhini*, K.Sreenaath, S.Tharun, S.Vignesh Raja

SNS College of Engineering, Department of Civil Engineering, Coimbatore-641107, India

Abstract : Geo polymer concrete utilizes an alternate material including GGBS as binding material in place of cement⁶. This GGBS reacts with Sodium silicate (SiO₂) and Sodium Hydroxide (Na₂O) to form a gel which binds the fine and coarse aggregates. Since Geo polymer concrete is the emerging field, the guidelines from the Bureau of Indian Standards are yet to be formulated. An attempt has been made to find out an optimum mix for the Geo polymer concrete. Concrete cubes of size 150 X 150 X 150mm were prepared and cured under ambient curing for 28 days. The compressive strength was found out at 7days, 14 days and 28 days. The results are compared. The optimum mix is GGBS : Fine aggregate : Coarse aggregate (1:1.5:3) with the solution (Na₂O & SiO₂ combined together). High early strength was obtained in the Geo polymer concrete mix.

Keywords : Geo polymer concrete, optimum mix ratio, ambient curing.

P.Siva Nandhini et al /International Journal of ChemTech Research, 2017,10(8): 765-771.
