International Journal of Civil, Structural,
Environmental and Infrastructure Engineering
Research and Development (IJCSEIERD)
ISSN(P): 2249-6866; ISSN(E): 2249-7978
Vol. 4, Issue 4, Aug 2014, 121-128

COMPRESSIVE STRENGTH OF GREEN CONCRETE FOR THE SUSTAINABLE DEVELOPMENT OF CHHATTISGARH, CENTRAL INDIA

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ABSTRACT

This paper mainly focusing on the compressive strength and durability of bricks fabricated by the use of fly ash and polypropylene fiber from the site of national thermal power corporation korba, and bhilai chhattisgarh, central india as a partial replacement of 25%, 55% and 100% of sand due to high price as per the instruction of chhattisgarh states mineral policy act and rules 2013 which is being used for construction work. An experimental investigation has been carried out to find out the compressive strength of eco-friendly green concrete with different curing methods. Polypropylene fiber was used to increase the compressive strength of concrete. Totally 09 cubes were cast and tested. Based on the experimental results, mechanical strength studies, and a two length of 06 mm and 10 mm and three volume fractions 1.0%, 2.0% and 3.0% are chosen for further studies. An equation recommended by ACI committee for conventional concrete was used to predict 7, 28, 56, 90 and 180 days compressive strength from 28 days compressive strength of the eco-friendly green concrete. This testing was concluded that the later age compressive strength will save finance, time and material.

KEYWORDS: Compressive Strength, Green Concrete, Fly Ash, Polypropylene and Curing