International Journal of Civil, Structural,
Environmental and Infrastructure Engineering
Research and Development (IJCSEIERD)
ISSN(P): 2249-6866; ISSN(E): 2249-7978
Vol. 5, Issue 5, Oct 2015, 109-120

HIGH STRENGTH CONCRETE USING GGBS AND NANO TIO_2

M.J.ESHWAR REDDY[1] & T.CHANDRA SEKHARA REDDY[2]

[1]M.Tech Student, Department of Civil Engineerin, Gprec, Kurnool, Andhra Pradesh, India

[2]Professor, Department of Civil Engineerin, Gprec, Kurnool, Andhra Pradesh, India

ABSTRACT

High strength concrete appears to be a better choice for a strong and durable structure. In this project, investigations were carried out on durable and strength properties of M80 grade of HSC mixes with different replacement levels, such as 10%, 20%, 30% and 40% of GGBS with cement and optimum percentage level of GGBS constant and sand are replaced with GBS by different level 10%, 30%, 50%, 70%, 90%. Keeping both optimum percentage levels of GBS and GBS is constant and cement replaced with Tio_2 with different level 1%, 2%, 3%, 4%, 5% by cement replacement. The HSC mix, grade M80 concrete is designed as per ACI 211. 4R-08 Guide for selecting proportions for high strength concrete with Pozzolana Portland cement and other cementitious materials. The result of these investigations demonstrates the strength characteristics of GGBS based concrete mixes. Based on the results obtained, the replacement of 20% of GGBS, and 70% GBs with 3% of Tio_2 which superior strength characteristics were arriving with compared to conventions concrete.

KEYWORDS: High Strength Concrete, Ground Granulated Blast Furnace Slag, GBs, Tio_2