International Journal of Civil, Structural,
Environmental & Infrastructure (IJCSEIERD)
ISSN(P): 2249-6866; ISSN(E): 2249-7978
Vol. 5, Issue 1, Feb 2015, 25-30

THE EFFECT OF CRUSHED ROCK POWDER AND SUPERPLASTICZER ON THE FRESH AND HARDENED PROPERTIES OF M_{30} GRADE CONCRETE

M. VIJAYA SEKHAR REDDY [1], D. MRUDULA[2], M. SESHALALITHA[3] & P. HARIPRASAD[4]

[1]Head and Assistant Professor, Department of Civil Engineering, Srikalahasteeswara Institute of Technology, Andhra Pradesh, India

[2, 3]Lecturer, Department of Civil Engineering, Srikalahasteeswara Institute of Technology, Andhra Pradesh, India

[4]Assistant Professor, Department of Civil Engineering, Shree Institute of Technical Education, Andhra Pradesh, India

ABSTRACT

As the country becomes prosperous, there is a greater demand on upgrading infrastucture facilities that too at a rapid pace.There is already acute pressure on our natural aggregates in view of ever increasing population .The recycled aggregate technology and related issues including environmental impact are well understood. In US, Japan and Europe, this technology is being used quite efficiently and ecomomically. Thus, in India also it is becoming inevitable to use alternative materials for aggregates in concrete which include recycled aggregates, fly ash, manufactured sand, crushed rock powder etc. The use of such materials not only results in conservation of natural resources but also helps in maintaining good environmental conditions. This paper provides a solution for alternate construction materials for sustainable development by using quary dust (crushed rock powder) as fine aggregate replacement. A reference mix was proportioned by adopting IS 10262-2009 procedure for M_{30} grade concrete. The present experimental investigation aims in the study of the Workability and Strength properties of concrete made by replacing Fine Aggregate with Crushed Rock Powder at different percentage levels of 10%, 20%, 30%, 40%, 50% and 60%. In order to maintain the workability of concrete superplasticizer conplast was used.

KEYWORDS: Compressive Strength, Quarry Dust, Superplasticizer, Workability