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DEVELOPING AN IMPERICAL METHOD OF MIX DESIGN FOR HIGH STRENGTH CONCRETE USING LOCAL MATERIALS

RAKESH KUMAR SAHU[1] & S. P. MISHRA[2]

[1]M. E. Scholar, Department of Structural Engineering, BIT, Durg, Chhattisgarh, India

[2]Professor, Department of Civil Engineering, Bhilai Institute of Technology, Durg, Chhattisgarh, India

ABSTRACT

The present research aimed to developed for High Stength Concrete mix design using local materials and method for Normal Strength Concrete.

As the trend of high strength concrete increases in all over the world it is strong need to investigate the factor enhancing the compressive strength of concrete at least economical expenditure. To makes economical use of high strength concrete in Chhattisgarh a mix design for high strength concrete was developed. In this research work nine mixes designed and other six mix were selected from directly to different research papers to achieve a compressive strength up to 100 Mpa fifteen mix ratios by weight were selected with 0.30, 0.32, and 0.35 water cement ratio Gelenium 140 Superplasticizer was use to improve the workability of concrete mix. Locally available coarse and Fine aggregate were used with Portland Pozzolana Cement (43 Grade). But low W/C ratio make concrete mixes significantly less workable to compensate for reduced workability the effects of the use of S.P. in concrete for early Strength and loss of workability are highlighted. In compatibility with P.P.C. with respect to dosage are also observed. Finally a glance on overcomes slump problems is deal in the process.

In this research work the design mixes developed for High Strength Concrete due to Existing mix design method of Normal Strength Concrete such as Bureau of Indian standard (BIS), Department of Environmental (DOE), and American Concrete Institute (ACI) methods applicable for HSC.

KEYWORDS: High Strength Concrete, Mix Design Methods, Local Material, Super Plasticizers