

DEVELOPING ECONOMICAL ROLLER COMPACTED CONCRETE MIX FOR PAVEMENTS

Hemant Shrivastava¹ S. P. Mishra²

¹Student, Associate Professor, M.E. (Civil) in Structural Engineering Department of Civil Engineering, B.I.T., Durg, Chattisgarh State, India, ²B.I.T. Durg, Chattisgarh State, India, Email:

shrivastavahemant007@gmail.com

Email: spmbits@gmail.com

ABSTRACT

Construction activity is increasing day by day as per the population & development and continuous dependence on conventional material of concrete making for pavements are leading to scarcity of the construction material and increased construction cost. If some of the waste materials are found suitable in concrete making not only cost of construction can be reduced but also safe disposal of waste materials can be achieved. Nearly 20-20% of rock is converted into stone dust and 12mm metal while crushing rock into aggregate at stone crushing plants.

In the present work experimental study of crusher stone dust and 12mm metal as a partial substitute of sand and 20mm metal in roller compacted cement concrete mix has been made in laboratory with the following two important criteria-

- (i) To achieve target mean strength.
- (ii) To maintain workability and smoothness of roller compacted concrete pavement.

Experimental results show that the fine aggregate sand was easily partially replaced by stone dust and coarse aggregate 20mm metal partially replaced by 12mm metal without hampering the strength and other required qualities of good roller compacted concrete mix for pavement.

Key Words:- Compressive Strength, Crusher stone dust, Strength, Paving Proportions Roller Compacted Concrete, Smoothness Texture.