

EXPERIMENTAL INVESTIGATION ON EFFECT OF FLY ASH AND STEEL SLAG IN CONCRETE PAVEMENTS

N. SUMI & R. MALATHY

Department of Civil Engineering, Sona College of Technology, Salem, Tamil Nadu, India

ABSTRACT

This paper describes the optimum level of replacement for strength and workability of concrete for pavement by replacing different percentage of fly ash and steel slag by weight of cement and fine aggregate for a mix of M40 grade concrete. Hence the study is made on effect of fly ash and steel slag on the performance of various parameters of concrete so as to produce an economical concrete for rigid pavements. An experimental investigation has been made to utilize the achieved flexural strength of concrete in the rigid pavement design which is greater than the required flexural strength as per IRC: 58-2002. Pavement design results are verified with Analysis software. The main objective of the project is to find out alternative materials for road pavements to meet the demands of bitumen for the upcoming years, to provide adequate serviceability at minimum cost, to make the eco friendly roads with safety, and speed for the flow of traffic. In this investigation, an attempt has to be made to determine the feasibility of industrial waste products such as steel slag and fly ash use in base layer of concrete road pavements.

KEYWORDS: Concrete Road Pavements, Fly Ash, Steel Slag, Cost Effective