

Study on Fiber Reinforced Concrete Pavements

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ABSTRACT

Roads are very important to any economy. Bituminous pavements are tend to damage earlier to their counterparts known as fiber reinforced concrete pavements .On several parts fiber reinforced concrete pavements are superior. This research paper explains on FIBER REINFORCED CONCRETE PAVEMENTS, which is a new technology in the field of reinforced concrete pavement design. Polymer pavements prove to be more efficient than conventional RC pavements, in several aspects, which are explained in this paper. The designing of pavements are discussed in this paper as well as the use of waste polymers in the pavements is discussed in detail. Comparison of conventional RC pavements is made with the advanced polymer fiber reinforced concrete pavements are made in detail and the advantages and the disadvantages are also clarified in the end.

Keywords: polymer fiber, pavements, concrete, PFRC, fiber reinforced concrete.

INTRODUCTION:

India is country where the roads lays the foundation of an advanced economy and again India is developing too so there is a greater need for the advancement in the road technology too. Today , the use of the bituminous pavements is very common in the roadwork but a very high cost is to be compensated against it. As bituminous is the by product from the petroleum industry and the petrol prices are gaining height day by day so there is a greater need for the alternative methods. And here comes the new technology of polymer fiber reinforced concrete pavements. "FRC is defined as composite material consisting of concrete reinforced with discrete randomly but uniformly dispersed short length fibers." In this new technology fibers are used as a reinforcing agent. These fibers not only reduce or limits the drying shrinkage cracks but also provide better tensile and flexural strength to the pavements. Also bituminous pavements needed early maintenance and because of its low water resisting properties, it requires early management. In few years bituminous pavements will be the history and the new fiber reinforced concrete pavements will take their place over the Indian roads.

FIGURES:



CONCLUSION:

Polymer fiber reinforced concrete pavements are overall cost effective structures over the conventional bituminous concrete pavements. The initial cost of fiber reinforced concrete pavements are high upto 15-20% but the maintenance cost is very low which takes to the overall cost to the level of 25-30%. Polypropylene and polyester are used as fibers which can be taken from the waste industry easily. In the new era FRC will be taken as the major contributor to a country's economy and is said to be the true roads of a country.

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