

Development of Rigid Pavement by using ECC Material - A Review

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ABSTRACT

ECC is likely to be the fiber reinforced concrete. ECC contains Cement, sand, coarse aggregate, fine aggregate, water, ECC fiber and some admixture like fly ash, silica fume etc. An ECC is highly crack resistant with the tensile strain capacity over the conventional concrete. In this research work used polypropylene fiber as an ECC material. Polypropylene fiber having many advantageous characteristics like high chemical and corrosion resistance, high tensile strength, excellent abrasion resistance, long life span etc. the bonding between cement and Polypropylene fiber stabilize the crack propagation in the concrete. Hence in this research work study the behavior of ECC using polypropylene fiber incorporating with Fly ash. In the prepared mix design 0%, 1%, 2%, 3% of polypropylene fiber is used. Also 40% and 50% Fly ash is replaced with cement. The experimental study is to present the effect of addition of polypropylene fiber and replacement of Fly ash with cement on the behavior of concrete under compressive and tensile test.

Keywords: ECC (Engineering Cementitious Composite), Fly Ash, Polypropylene Fiber.

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