

Evaluation of Engineering Cementitious Composites (ECC) with Different Percentage of Fibers

Authors : Bhaumik Merchant, Ajay Gelot

Abstract : Concrete is good in compression but if any type of strain applied to it, it starts to fail. Where the steel is good tension, it can bear the deflection up to its elastic limits. This project is based on behavior of engineered cementitious composited (ECC) when it is replaced with the different amount of Polyvinyl Alcohol (PVA) Fibers. As for research, PVA fibers is used with cementitious up to 2% to evaluate the optimum amount of fiber on which we can find the maximum compressive, tensile and flexural strength. PVA is basically an adhesive which is used to formulate glue. Generally due to excessive loading, cracks develops which concludes to successive damage to the structural component. In research plasticizer is used to increase workability. With the help of optimum amount of PVA fibers, it can limit the crack widths up to 60µm to 100µm. Also can be used to reduce resources and funds for rehabilitation of structure. At the starting this fiber concrete can be double the cost as compare to conventional concrete but as it can amplify the duration of structure, it will be less costlier than the conventional concrete.

Keywords : compressive strength, engineered cementitious composites, flexural strength, polyvinyl alcohol fibers, rehabilitation of structures

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