

FIBER REINFORCED CONCRETE WITH WASTE AND POLYPROPYLENE FIBERS

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ABSTRACT

Fiber Reinforced Concrete overcomes characteristics of brittleness and rigidity of cement concrete effectively making it more versatile. Correct quantities and the right size of fibers when incorporated into conventional concrete substantially add to the strength as compared with concrete products made without fibers. Fiber Reinforced Concrete is tougher and more resistant to impact in comparison with plain concrete. It is being increasingly used to increase static and dynamic tensile strength. The investigation reported in this paper was carried out to study the feasibility of using fiber reinforced concrete.

This paper attempts to compare properties of concrete made from industrial Waste namely ,lathe , wire winding , and wire drawing industries were collected and used in this investigation and polypropylene fibers form aggregates such as basalt. Numbers of concrete specimens were cast with fibers and were tested under compression , split tension and flexure as per relevant standard specifications. Test result indicate that addition of waste fibers from lathe and wire winding industries in plain concrete enhances the strength markedly, were as inclusion waste fibers from wire drawing industries decreases the strength concrete Also the percentage increase in strength and the strength to weight ratio achieved by incorporating lathe industries wastage fibers in plain concrete is higher then those obtain by adding wire winding industries wastage fiber.

KEYWORDS

Fiber, reinforce, cement, slump, concrete

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