Experimental Study on Effects of Steel Fiber on Hardened Concrete

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ABSTRACT

Innovative Research on concrete technology has become an important study in present world as the use of concrete has increased enormously in recent decades and hence causing a negative impact on our environment. So, as to shift our innovation towards sustainable environment, new studies are being carried-out on a day-to-day practice, to enhance concrete's philosophical characteristics, making them cost effective, economical and safe for environment. But significant research has not been done with use of steel fibre, and hence very less is investigated about the mixture on concrete qualities. Critical study conducted to look into the effects by addition of hook end steel fibres with dosage of 0%, 1%, 2% and 3% by weight of concrete and having aspect ratio 50, 60 and 75. The mechanical properties i.e. compressive strength, flexural strength and split tensile strength was computed for steel fiber reinforced concrete (SFRC). The experimental outcomes were procured and the outcome data were analysed with each other. A correlation between Compressive strength, Flexural strength and Split tensile strength represented as charts was compared. Experimental outcomes revealed the increase in percentage of various strengths for concrete grade M40 in 28 days period after curing.

Keywords: *Steel fibers, aspect ratio, Compressive strength, Flexural and Split Tensile Strength of Concrete.*