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BEHAVIOURAL STUDY OF STEEL FIBER AND POLYPROPYLENE FIBER REINFORCED CONCRETE

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ABSTRACT

This paper presents the results of an experimental study investigating the effects of steel fibres and polypropylene fibres on the mechanical properties of concrete. Experimental program consisted of compressive strength test, split tensile strength test and flexural strength tests on steel fibre reinforced concrete and polypropylene fibre reinforced concrete. Three types of fibres used are hooked end steel fibre of length 30mm, crimped steel fibre of length 25mm and enduro-600 polypropylene of length 50mm with aspect ratio 50. The main aim of this experiment is to study the strength properties of steel fibre and polypropylene fibre reinforced concrete of M30 grade with 0%, 0.25%, 0.5%, and 0.75% by volume of concrete. This study consisted of compressive strength test and split tensile strength test on hybrid fibre reinforced concrete with 0.5% polypropylene fibres and 0.75% steel fibres.

KEYWORDS: Aspect Ratio, Enduro-600 Polypropylene Fibre, Hybrid Fibre Reinforced Concrete, Polypropylene Fibre Reinforced Concrete, Steel Fibre Reinforced Concrete