Experimental Studies on Mechanical Properties of Sisal Fiber Embedded Groundnut Shell Concrete

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ABSTRACT

Concrete is the most widely utilized "manmade" material globally for construction in many developing countries in all types of civil engineering works. Also, concrete is an environmental – friendly material and in areas of growing environment – related awareness that is of prime importance. Many of investigations were attempted by the researchers to improve the quality, strength and durability against adverse exposures, since decades. River sand is considered to be a really a rare material for concrete. The major replacement for river sand is M-sand. Now a days M-sand is been used in all type of construction. This project is an experimental study to use groundnut shell powder for the replacement of M-sand. The experimental investigation consisting of casting and testing for compression and split tensile tests were conducted on 150x150x150mm cube and cylindrical specimens with and without sisal fiber of volume fractions 2%, 3%, 4% based on the results the superior crack resistance, compressive strength and split tensile strengths are investigated. The proposed sample will be tested at 7 days, 14 days and 28 days age of curing. These results will show whether the fiber embedded groundnut shell concrete is suitable for proper confinement or not for structures subject to extreme load conditions.