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Experimental Investigation of Compressive Strength of Concrete By Using Coconut Fibres"

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Abstract: *Sustainability is a wide accepted concept in modern construction scenario. Even though the construction industry is revolutionizing in a significant manner in terms of both equipment and materials used, the cost of construction has skyrocketed along with the deteriorative impact on environment. This resulted in the adoption of a more balanced approach with the environment as its nerve centre to create a better world to live in. This has led to the adoption of a natural fibre like Coconut for the strength enhancement in concrete Coconut fibre is available in abundance at the test site, which makes it quite viable as a reinforcement material in concrete. Further, it acts as a new source of income for the coconut producer who gets the benefits of the new demand generated by the construction industry. In addition to this, it is an effective method for the disposal of coir mattress waste which will reduce the demand for additional waste disposal infrastructure and decrease the load on existing landfills and incinerators. The problem of high rate of water absorption of the fibre could be reduced by coating the fibres with oil. This experiment describes the behavioral study of coconut fibre in concrete structure. The addition of coconut fibre in concrete improves various engineering properties of concrete. Coconut fibre is treated as natural fiber before using in concrete. Addition of coconut fibre improves the compressive strength, flexural strength and split tensile strength of concrete. The experiment was conducted on high strength concrete with the addition of fiber with 5 mix proportions (1%, 2%, 3%, 4% and 5%) by the weight of cement. The compressive strength and split tensile strength of cured concrete evaluated for 7days and 28days.The study found the optimum fiber content to be at 1%(by the weight of the cement).This results show coconut fiber can be used in construction.*

Keywords: Coconut coir fibre, Compressive Strength.