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An Evaluation on Comparative Study of Compressive Strength of Concrete by Using Banana Fiber and Human Hairs

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Abstract: *Concrete is the most useful construction material because it can be designed to withstand the toughest environments while taking on the most inspirational forms. Engineers are continually pushing the parameters to improve its performance with the help of progressive materials. The paper covers the characteristic on how to pick a material for Eco friendly concrete. It presents the possibility of the usage of by product materials like banana fiber (musa), human hairs in a concrete. Banana plant (Scientific name: Musa acuminate) not only harvests the delicious fruit but it also provides the textile fibre. This paper largely focuses the banana fibre based composites which have wide applications in construction. These banana fibres have good physical and mechanical properties and can be employed more effectively. Banana fibres are economical, ecological and perishable. Banana fibre reinforced concrete is high performance fibre reinforced concrete with significant behavior under tension. Banana fibres have indicated that they possess noble performance properties, are environment friendly, are less costly, and are readily obtainable, and thus, it can be utilized to improve mechanical properties of concrete. Human hair is a waste product and its disposal is concern for environment due to its non-biodegradable nature. The human hair possess similar properties to that of other synthetic fibers. The hair fiber reinforced concrete is the type of concrete the mixture of concrete with discontinuous discrete fibers which results in the tensile strength and also reduces the growth of micro cracks in the concrete. Hair fiber reinforced concrete is very effective and economical process to enhance the physical and mechanical properties of the concrete. In present study an attempt is made to review the use of HH in concrete and its properties. It is observed that hair fibers can effectively be used in concrete and it also results in improvement of mechanical properties of concrete. The detailed experimental investigation is doing to study the effect of partial replacement of cement by BF and HH in concrete. Ordinary Portland cement of grade 53 and M25 grade concrete were used. In this paper proportion form are 0%, 0.25%, 0.50%, 0.75%, 1.00% BF and HH in concrete by replacement of cement. The purpose of this research is to study the effects Of BF & HH on compressive strength and flexural strength of concrete.*

Keywords: BF[Banana fiber(musa)], HH [Human Hairs], CS [compressive strength], FS[flexural strength]

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