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Experimental Study on Mechanical Properties of Jute Fibre Reinforced Concrete with Partial Replacement of Cement by Wollastonic Powder

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Abstract: *Concrete is a widely used construction material for various types of structure due to its structural stability and strength. The ordinary Portland cement is one of the main ingredients used for the production of concrete and has no alternative in the civil construction industry. Sustainable energy and cost saving can result when industrial by-products are used as a partial replacement of cement. Wollastonite increases the performance of products like polymers, plastics, paints and coatings, construction materials, friction devices, ceramic, etc. It also been employed for metallurgical applications. Wollastonite powder is used in numerous mixtures which can be replaced at from 0% to 18% through weight of cement in concrete and constant percentage of jute fiber. After curing period of 28 days, it is checked for its compressive strength, flexural strength test and durability test are taken. These are in comparison with a normal mixture which is 0% of wollastonite powder and constant percentage of jute fiber determine the best combination of replacing the material.*

Keywords: Wollastonite Powder, OPC, Concrete, Compressive Strength, Flexural Strength

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