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Development of Coconut Coir Frp Hollow Sections and Evaluate the Structural Behavior

G.B. Sakura, W.M.P. Kumara, H.R.A.D. Ishara and H. Sooiyaarachchi

Department of Civil and Environmental Engineering, Faculty of Engineering, University of Ruhuna, Hapugala, Galle

Cost of timber and increasing pressure on the already dwindling forest cover due to over exploitation of timber, continuously encourage us to look for environmentally friendly alternatives for timber. Coconut Coir Fiber Reinforced Polymers (CocoCoirFRP) is a viable alternative for timber. Coconut Coir is abandoned available naturally occurring fiber which can be transformed into Fiber Reinforced Polymers products. This research explores the viability of CocoCoirFRP, to develop into Hollow sections to replace common timber sections in the market. There are distinct advantages of the use of coir FRP Hollow sections. Ability to optimize the use of materials based on the structural demand and the fact that exploitation of fibers has no environmental impact are major advantages of the use of CocoCoriFRP. From the research work it is found that Coconut Coir Fiber can be developed to achieve strength properties of timber classes C35 to D40 of BS 5268: part 2:2002. Durability of Coir FRP is also expected to be better due to polymer protecting the fibers. This paper presents the development and structural behavior of two Hollow sections that are customize to use in the place of commonly used timber sections in roof structures.