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Development of Oil Palm Fruit Fibre/Cementitious Based Composites for Building Applications

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Abstract: *In this paper, cement and red sand were used as the ceramic matrix based material reinforced with oil palm fruit fibre (OPFF) to develop composite for structural applications. The composite was produced by mixing red sand, cement and the fibres (treated and untreated) in predetermined proportions using open mould and hand laying process. Compressive, bending and water absorption properties were examined by carrying out these tests on the cured samples. From the results, it was observed that both treated and untreated OPFF reinforced composite samples showed improved properties. It was also observed that the rate at which the treated OPFF within 0-10 % reinforced sample absorbed water is lower than that of unreinforced sample. Untreated OPFF reinforced composite samples demonstrated best compressive and bending strength potentials when compared to their treated counterparts.*

Keywords: *Cement, sand, oil palm fruit fibre, composites, building application*