

# Properties of palm oil fuel ash cement sand brick containing pulverized cockle shell as partial sand replacement

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**Abstract.** Environmental pollution caused by the disposal of solid wastes generated from both palm oil industry and cockle shell trade has motivated researches to explore the potential of these wastes. Integrating these wastes in production of construction material is one of the way to reduce amount of waste thrown at dumping area. Thus, the present investigation investigates the performance of palm oil fuel ash (POFA) cement sand brick containing pulverized cockle shell as partial fine aggregate replacement. All mixes used contains 20% of POFA as partial cement replacement. Total of six mixes were prepared by adding a range of pulverized cockle shell that is 0%, 10%, 20%, 30%, 40% and 50% as partial sand replacement. The mixes were prepared in form of brick. All the water cured samples were tested for compressive strength and flexural strength until 28 days. Findings show that brick produced using 20% pulverized cockle shell exhibit the highest compressive strength and flexural strength also the lowest water absorption value.