

Performance of Fly Ash Cement Sand Brick Containing Palm Oil Clinker as Mixing Ingredients

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Abstract:

Environmental pollution caused by disposal of by-product from local industries namely fly ash from coal power plant and palm oil clinker generated by palm oil mills needs to be resolved. In order to reduce amount of waste ending at landfill, the present research investigates the effect of palm oil clinker as partial sand replacement on mechanical properties and water absorption of fly ash cement sand brick. Five cement sand brick mixes were prepared using fly ash blended cement mix as the binder. The mixes were produced by varying the quantity of pulverised palm oil clinker ranging from 0%, 10%, 20%, 30% and 40% by weight of sand. All specimens were water cured for 28 days. The specimens were subjected to compressive strength, flexural strength and water absorption test. The finding shows the quantity of clinker used influences the performance of brick. Using suitable amount of clinker enhances the brick strength owing to pozzolanic effect of fine clinker particles that creates denser internal structure.

Keywords : Compressive Strength; Flexural Strength; Water Absorption; Mixing Ingredients

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