

BEHAVIOUR OF OIL PALM SHELL REINFORCED CONCRETE BEAM PARTLY  
REPLACED BY PALM OIL FUEL ASH

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## ABSTRACT

In Malaysia, issue of natural contamination coming about because of transfer of Palm Oil Fuel Ash (POFA) which is a by-item from palm oil mill has started exploration to consolidate this waste in Oil Palm Shell (OPS) lightweight concrete structural. The current investigates the behaviour of oil palm shell reinforced concrete beam partly replaced by palm oil fuel ash. All mixes were casted in total of 4 reinforced concrete beam and 24 cubes with OPS RC mixes were producing by replaced 20% of POFA on cement, sand and aggregates were fabricated and tested. The flexural test and compressive test is conducted in accordance to BS EN 12390 – 3 and BS EN 12390 – 5 at the age of 7 and 28 days. The Data presented include the load – deflection curves, ductility, compressive strength and cracking pattern. From the result, it was observed that mixes with replaced POFA on cement would enhance the strength of concrete and from the flexural test shows that with replacement on cement, the ductility of beam is better than others replacement.