



OPS lightweight concrete reinforced with polypropylene fiber

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Oil palm shells (OPS) is a renewable resources obtained from agricultural solid end products after the extraction of palm oil. A study on preparing the lightweight concrete (LWC) using with and without heat-treated OPS aggregate has been investigated. High performance polypropylene twisted bundle fiber (PPTBF) was incorporated in this OPSC in different volume fractions (V_f) (0, 0.25, 0.5, 0.75 and 1%). The performance of OPSC with and without heat-treated OPS fiber-reinforced concrete (OPSFRC) mixtures was evaluated by conducting a series of comprehensive tests. Fresh and mechanical properties of these concretes mixtures such as slump, Vebe, density, compressive strength, tensile strength, modulus of elasticity (E) and stress-strain behaviour were described. Rapid chloride penetration test (RCPT), porosity measurement, water absorption and drying shrinkage tests were performed in order to signify the effects of heat-treated OPSFRC on durability. The use of PPTBF induced the beneficial of reducing the permeability and capillary porosity and water absorption by pore blocking effect. It was also concluded that the optimum amount of PPTBF is 0.5% V_f . | Format: Paperback | Language/Sprache: english | 56 pp.



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