

Engineering properties of concrete with oil palm shell as coarse aggregate

Abstract

In a short-term study, for up to 90 days, properties of oil palm shell (OPS) concrete namely compressive strength, flexural strength, splitting tensile strength, modulus of elasticity, drying shrinkage and initial surface absorption, have been determined and a comparison is made with control concrete. Two conditions of curing, namely, one to simulate the practical curing condition and another laboratory curing condition, are employed. It is observed that OPS concrete has sufficient strength to be accepted as structural lightweight concrete and that the trend of behaviours of OPS concrete and control concrete is very similar. However, the modulus of elasticity of OPS concrete is lower compared to control concrete and ISA is more in OPS concrete compared with control concrete.