ABSTRACT

Light weight concrete is a mixture made with a light weight aggregate and sometimes a portion or entire fine aggregates may be replaced instead of normal aggregates. Sintered fly ash aggregate is a group of material that can vary significantly in composition. Sintered fly ash aggregates when used as a substitute for natural aggregates benefits the preservation of natural aggregates as well as the utilization of fly ash which poses a great environmental problem for its disposal. Simultaneously, it also reduces the cost of concrete. In this present investigation, sintered fly ash light weight aggregates have been used as a partial replacement of natural aggregate for coarse aggregate in concrete. Experimental investigations have been carried out to study the mechanical properties related to the strength of concrete, namely, compressive strength, split tensile strength and flexural strength with sintered fly ash aggregate as coarse aggregate substitute in concrete. Lightweight concrete weighs 300–1900 kg/m^3, here the density for the replacement of 30 % of sintered fly ash ranges 1750 kg/m^3 and the density for the replacement of 60 % of sintered fly ash ranges 1440 kg/m^3.