# A Review on Various Alternative Materials for Coarse Aggregate in Concrete

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## ABSTRACT

Concrete is becoming increasingly important in the building business as the world becomes more urbanised. Concrete use is rapidly growing, while important natural resources are being depleted. Cement manufacture also emits greenhouse gases such as carbon dioxide. Waste material, such as sintered flyash aggregate, palm kernel shell, or coconut shell, can be utilised as coarse aggregate to tackle the problem of coarse aggregate shortage, reducing waste disposal issues. As the need for concrete grows, one of the most efficient strategies to reduce concrete's detrimental effects is to increase its structural efficiency and durability. Building industry impacted by coarse aggregate availability or shortage, necessitating development of new alternative material to replace fine aggregate avoiding environmental harm.The feasibility of manufacturing structural lightweight aggregate concrete using sintered fly ash aggregate was investigated in this work. It is also feasible to make high-strength lightweight concrete with a compressive strength of up to 55 MPa. This study reviews recent studies on the use of sintered flyash aggregate and other waste materials as a partial replacement for coarse aggregate in the production of light weight concrete.

***Keywords:*** *Fly ash, Light weight aggregate concrete, Sintered Fly ash Aggregate, palm kernel shell, coconut shell*