

## Suitability of Crushed Cow Bone as Partial Replacement of Fine Aggregates for Concrete Production

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**Abstract:** This paper presents an assessment of the strength properties of concrete containing crushed cow bone (CCB) as partial or full replacement of fine aggregates. Fine aggregate was replaced with CCB by weight up to 100 % at intervals of 10%. The properties investigated were: workability, density and the compressive strength. The slump test and the compacting factor test were used to assess the workability of the concrete sample specimens. The density and compressive strength were determined using 150 mm cube specimens. The results showed that: (i) increase in the percent replacement of sand with CCB resulted in less workable concrete, (ii) replacing sand with CCB resulted in different types of concrete, and (iii) a compacting factor test will be appropriate to assess the workability of concrete containing CCB because of the resulting dry mix and (iv) up to 20% of sand replacement with CCB will result in compressive strength that is not significantly different from the control.

**Keywords:** Compressive Strength, Concrete, Crushed cow bone, Density, Workability