

# Dumping of Clay Bricks in Fresh Concrete

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## ABSTRACT

The title of the project is “*Dumping of clay bricks in fresh concrete*”. This project aims at recycling the broken clay bricks and assessing the effect of use of crushed brick aggregates replacing the stone Aggregates thereby reducing the dead weight of concrete as well. Clay bricks from the debris of a demolished structure were recycled during the project. Bricks were collected from rubble and reclaimed Bricks were hand crushed and sieved. Aggregates passing through 40mm sieve and retaining on 20mm Sieve were separated. Nominal mix of 1:1.5:3 was used. 50% replacement of aggregates was done by volume. 6 cubes were casted keeping in mind the proposed mix. 6 more cubes with no replacement of Aggregates were also casted keeping the cement content and the mix same. The compressive strength of the casted cubes was checked. The age of casted cubes were tested at 3, 7 and 28 days respectively. The obtained strength of cubes with aggregates replaced was also compared with the compressive strength of cubes without any replacement to evaluate the impact of replacement. Dead weight of both types of cubes was also noted and compared. The compressive strength of concrete with crushed bricks was found to be lower initially, but with the passage of time, the rate of increase of strength dominated and the strength of the concrete with crushed bricks surpassed the strength of concrete with no replacement. Self curing property may be one probable explanation for the same.

**Keywords:** Sustainable Development, Crushed Bricks in Concrete, Partial Aggregate Replacement, Compressive Strength of Concrete with Marginal Materials.