

## Comparative Study of Natural Coarse Aggregate Concrete with Recycled Concrete Aggregate Concrete

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**Abstract :** The partial or full replacement of natural coarse aggregate by recycled concrete aggregate (RCA) is of great benefit to the environment, as the demand of natural coarse aggregate reduces. In the modern construction and practice, the use of RCA is limited to backfilling and road construction. The establishment of RCA for its wide application can only be done after having an understanding of the use of RCA in conventional concrete. To have an insight to this, various tests to determine the compressive strength, elastic strength, workability, durability and drying shrinkage tests can be done and the test results may be different from that obtained from natural coarse aggregates, by using natural coarse aggregate in concrete. This paper gives a comprehensive review of the said tests done on RCA concrete. The results obtained from the tests indicate that RCA concrete gives comparable compressive strength, stiffness, and workability relative to the corresponding results obtained from the natural coarse aggregates. However, the durability and drying shrinkage had more variance but well within recommended limits.

**Keywords :** aggregate, compressive strength, durability, modulus of elasticity, recycled concrete, shrinkage, workability

**Conference Title :** ICCSCT 2018 : International Conference on Cement Science and Concrete Technology

**Conference Location :** Mumbai, India

**Conference Dates :** February 22-23, 2018