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STRENGTH ANALYSIS OF CONCRETE BY USING HYBRID WASTE MATERIALS

ABSTRACT

Environmental contamination is the major issues associated with rapid increase in the by product and waste generated from industries, domestic and other daily life activities. Solutions to reuse and incorporate waste (electronic waste, ceramic waste, and lathe machine scrape waste) can be rewarding for many reasons, specifically for environmental, economic and technical aspects. In this study experimental investigation was done on M-15 grade concrete mix by replacement of coarse aggregates with hybrid waste materials in the range of (0%, 5%, 10%, and 15% by weight of the coarse aggregate) with constant water cement ratio as 0.4. Tests were carried out to examine the workability using the slump cone test, compressive strength and flexural strength of the concrete mix specimens. The specimens were in the form of cubes and beam obtained from the addition of hybrid waste materials and compared with control concrete mix out as per recommended procedures by relevant codes and standards. The test results showed that addition of hybrid waste in to plain cement concrete mixture significantly enhanced its compressive strength and flexural strength while it decreased the workability of the fresh concrete as compare to conventional concrete.

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