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A Project Report (10CV85)

on

“MANUFACTURE OF ECO BLOCKS FROM SOLID WASTE”



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ABSTRACT

Presently in India, about 960 million tones of solid waste is being generated annually as by-products during industrial, mining, municipal, agricultural and other processes. Of this _350 million tones are organic wastes from agricultural sources; 290 million tones are inorganic waste of industrial and mining sectors and _4.5 million tones are hazardous in nature. Advances in solid waste management resulted in alternative construction materials as a substitute to traditional materials like bricks, blocks, tiles, aggregates, ceramics, cement, lime, soil, timber and paint. To safeguard the environment, efforts are being made for recycling different wastes and utilize them in value added applications. In this paper, present status on generation and utilization of both non-hazardous and hazardous solid wastes in India, their recycling potentials and environmental implication are reported and discussed in details.

In present study, the eco-blocks are manufactured by using waste material like fly ash and debris using with cement and course aggregate. The materials are optimized by using different combinations, and compressive strength of eco blocks is determined. The compressive strengths of 7, 14 and 28days are 3.71, 5.8 and 9.10 N/mm² respectively. The strength of eco blocks are equal to or more than standard concrete blocks manufactured by local company. From the study it is found out that solid waste debris can be used in the manufacture of solid blocks. We have taken the initiative to see how debris can be recycled to find an alternative to reduce the cost and the consumption of natural resources and also manage wastes.