IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, April 2025
Impact Factor: 7.67

Ecological Bricks by the Use of Plastic Waste

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Abstract: *Effort is made under this UG level study to make use of waste plastic to manufacture bricks. Plastic waste along with being non-biodegradable also causes land and water pollution. Among the various types of plastics used, Polyethylene (PE) is one of the most used. It is usually used in single use plastics such as carry bags, plastic bottles etc. One viable solution to using this plastic waste can be bricks with the use of such plastic. Main objective of the work was to develop an efficient plastic waste disposal system which has become a nuisance due to its large amount of dumping and non-biodegradable nature and to reduce the consumption of natural resources, like clay. Under the work plastic waste was collected and melted to mix with river sand. This mixture was placed in mould for getting the brick of size 190 mm X 90 mm X 90 mm. The mould was then Sun dried for two days and the brick was removed from the mould for curing. Compressive strength was recorded 3.5 N/mm2 for no plastic to 19.2 N/mm2 for 30% plastic. Water absorption was found to be 20% for no plastic and 11% for 30% plastic. The results were found to be encouraging and the increase in compressive strength with the increase of plastic and decrease in water absorption could be helpful to use such bricks for construction purpose replacing the normal clay bricks.*

Keywords: Ecological, compressive strength, non-biodegradable, water absorption

DOI: 10.48175/568