

**UTILIZATION OF PLASTIC WATER BOTTLE WASTE FOR
MAKING BRICKS WITH THE USE OF SAND**



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ABSTRACT

The outline of this study is to conserve the environment and manufacture bricks by the utilization of plastic water bottle waste. Plastic is a non-biodegradable waste so after usage it becomes hazardous waste. This hazardous waste creates environmental pollution such as land, water pollution, and air pollution. In this developing world plastic waste is increasing rapidly. This project mainly tries to utilize PET-type plastics (Plastic water bottle waste). This PET plastic waste poses the potential danger of being transformed into hazardous material. Because of the high cost to manage this waste, only a small portion of PET bottles are being recycled. These materials have good characteristics such as lightweight and high strength, etc. so we can utilize these characteristics innovatively to produce plastic bricks. In this project, this plastic waste is used to manufacture plastic bricks with the addition of sand, brick manufacture by the traditional method. The plastic and sand were used in different ratios to produce plastic brick (1:1, 1:2, 1:3, 1:4.1:5, and 1:6). For the evaluation here I have used a compressive strength test and water absorption test, With these test results, I concluded these bricks are suitable for underground construction and pavement construction. Plastic waste can be used as a binding agent and the utilization of plastic waste can reduce environmental pollution.

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