# STRENGTH EVALUATION OF PERVIOUS CONCRETE WITH WASTE POLYETHYLENE TEREPHTHALATE (PET)

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**Abstract**
To reduce the negative impact of waste materials on nature and the environment, it seems to be logical to propose a means of re-using waste materials in engineering and industrial construction projects such as road and parking lot pavement. The current paper presents developmental research on the application of waste plastic bottles Polyethylene Terephthalate (PET) as an additive in pervious concrete. The design mix, fabrication, curing and testing of the sample model were based on the reference standard of ACI and ASTM for strength evaluation respectively. Mechanical tests were carried out on the mixtures that included various percentages of waste PET as 0.5%, 1.0 %, and 1.50% by weight of coarse aggregate content. By experimentation, the appropriate ranges percentage amount of waste PET was determined to be 0.5 % by weight of the coarse aggregates.  The results show that increasing the amount of waste PET in the mixture has a significant positive impact on the environment by promoting of reuse and recycling of waste materials in a more environmentally and economical way. On the other side, increasing the amount of waste PET in the mixtures reduces the strength properties of the pervious concrete such as compressive & flexural strength, which could deteriorate the mixture's resistance against permanent deformation (rutting) and decreases the stiffness of the mix. Preventive Maintenance is highly recommended to maintain the efficiency of pervious concrete to reduce runoff during rainfall season, use for parking lot for bicycles and light vehicles, and construction of shallow wells in that way this study becomes realistic and acceptable.

**Keywords:** Pervious concrete, concrete aggregate, design mix, compressive strength, flexural strength, polyethylene terephthalate