

The Effects of adding Waste Plastic Fibers on The Mechanical Properties and Shear Strength of Reinforced Concrete Beam.

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The concept of sustainability was developed in the last years and included the construction industry to solve the issues that pertaining by high consumption of natural sources, environmental pollution and high amount production of solid wastes. On the other hand, the plastics generation is growing exponentially every year, especially, types of Polyethylene Terephthalate (PET) that are used to produce soft drinks bottles, this study attempts to apply the concept of sustainability and reduce the environmental pollution by cutting the plastic bottles (PET) as small fibers added to the ordinary concrete to improve the shear and tensile strength of reinforced concrete beams. For this purpose, the experimental work was carried out to study the effect of waste plastic fibers (PET) on the shear behavior of seven reinforced concrete beams with dimensions of (100×150×1200) mm that were designed to fail in shear, the fibers percentages that were used in this study are (0.25, 0.5, 0.75, 1, 1.25 and 1.5%). Also, the influence of Polyethylene Terephthalate (PET) fibers on the mechanical properties of concrete was studied such as: workability, compressive strength, splitting tensile strength, static modulus of elasticity and ultrasonic pulse velocity