

The effects of adding waste plastic fibers on some properties of roller compacted concrete

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An attempt to produce of roller compacted concrete (RCC) improved by adding waste plastic fibers (WPFs) resulting from cutting the PET beverage bottles was recorded in this study. The method which is used for production of RCC is an approved design method for ACI committee (5R-207,1980)[1]. WPF was added by volumetric percentages ranging between (0.5 to 2 %) and reference concrete mix was produced for comparison reason. Many tests were conducted on the models produced by rolling compacted concrete like compressive strength, flexural strength, modulus of elasticity, dry density, water absorption and ultrasonic pulse velocity. The analysis of the results showed that the use of plastic waste fibers (1%) had led to improvement in the properties of each of the compressive strength and flexural strength compared with reference concrete. Results also showed that the addition of these, fibers increase water absorption and reduce the speed of Ultrasonic pulse velocity.