

Some Mechanical Properties of Polymer Modified Concrete Reinforced with a Waste Plastic Fiber

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This research includes study the effect of adding plastic chips resulting from cutting the plastic beverage bottles (which is used in Iraqi markets now) as fiber added to the polymer concrete and study their effects on some properties of polymer modified concrete like compressive strength and flexural strength. Two different percentage of fiber by volume equal to (1.6% and 3.25%) were used to made mixes. A reference mix was also made. SBR polymer was added as percentage of cement weight equal to (10%) to all concrete mixes.

Results proved that, improvement in mechanical properties with an increasing of fibers percentage by volume. An improvement in flexural strength (modulus of rupture) appeared more clearly. The maximum increasing in the value of 28-day modulus of rupture equal to (24.4%) for PMC mix with fiber percentage (3.25%), whereas the maximum increasing in compressive strength was equal to (4.1%) for the same mix. No clear different in density are notes.