

Polymer Modified Polystyrene Concrete

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ABSTRACT.

This research work includes production of polymer modified polystyrene concrete and studies the mechanical properties. Several proportions of raw materials were used to produce this type of concrete. This study is intended to improve the mechanical properties of light weight polystyrene concrete using styrene butadiene rubber(SBR) with rate of (5,10,15and20)% of cement weight. Compressive strength, flexural strength, impact strength and dry density tests were made on more than 150 specimen at age of 28 days. The results show that the addition of (SBR) with range of (5-20)%of cement weight is improve the flexural strength with range (3.74-18)%, and improve the impact strength with range (39- 163)%. Also the results show that it is possible to produce polystyrene concrete with density (1680,1433 and 1147) kg/m³ replacing light weight Polystyrene aggregate with volume fraction (30,50 and70)%of sand