

Mechanical Properties of No-Fines Polymer Concrete

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This research includes the study of the properties of No-fines concrete using 10-mm maximum size of aggregates and improved by SBR polymer. The concrete mixes by weight were (1:5), (1:6) and (1:7) (cement:aggregate) respectively. The polymer was added as percentages of cement weight and were 5% , 7.5% and 10%. Reference mixes were made for every case.

Appreciable improved was recorded in compressive and flexural strengths. The 28-day compressive strength for polymer no-fines concrete ranged between (7.65-17.65)MPa whereas the reference concrete ranged (3.05-14.72)Mpa. The 28-day flexural strength for polymer no-fines concrete ranged (2.935-0.375)MPa corresponding to (0.4605-0.493)MPa for reference concrete. The density of concrete varied between 2030 and 2170kg/m³.