

البحث رقم (1)

مكان النشر (بلغة مكان النشر):

The Second Minia International Conference For Advanced Trends In Engineering
7-9 April 2002, El-Minia University, El-Minia, Egypt

Towards The Analytical Evaluation of Concrete Strength in Accordance with Its Components Ratios

The concrete compressive strength is affected by several factors such as water cement ratio (W/C), aggregates cement ratio (A/C), and concrete age. The aim of this research is to drive analytical equations relating concrete compressive strength and its components. Forty mixes were studied, water cement ratio (W/C) was increased form 0.48 to 0.75 in twenty mixes, and aggregates cement ratio (A/C) was increased from 5.43 to 6.48 in twenty mixes. For each mix, compressive strength and splitting strength were tested at 7 and 28 days. The results of the experimental tests were analyzed to evaluate analytical equations between concrete compressive strength and water cement ratio, concrete compressive strength and aggregates cement ratio, concrete compressive strength and splitting strength, and concrete compressive strength at 7 and 28 days. The proposed analytical equations show good results with experimental results.