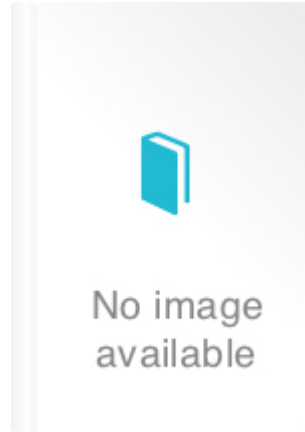


Download Mixing Time & Strength of Concrete Engr Sajjad Qaiser, Dr Raja Rizwan Hussain



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This book is about the Relationship between Mixing Time and Compressive Strength of Concrete. It involves the study of variations of compressive strength of concrete with mixing time at different ages like 7, 14 and 28 days. For this purpose three mixes, 1:2:4, 1:2:4 with plasticizer and 1:4:8, having total 90 cubes of 4 inch (30 cubes for each Batch) were cast having different mixing times varying from 3 minutes to 5 minutes with the difference in mixing time interval of 30 seconds. The cubes were placed under normal conditions for the purpose of curing and testing. The testing was done on Denison Compression Testing Machine. The failure load was worked out and then the compressive strength of concrete was calculated in 'Psi' by dividing the failure load by cross-sectional area of the concrete cube. Graphs displaying the variations of strength of concrete with different mixing time intervals were plotted for all the three mixes and from these graphs, the conclusions were drawn. It was observed that the compressive strength of concrete increases with increase in mixing time but with the increase in mixing time after a certain time of mixing, the concrete strength tends to decline. The time at which the strength of concrete is maximum, is the optimum time for which the concrete should be mixed thoroughly to achieve maximum strength. This time was found out to be between 4 minutes to 4.5 minutes for different mixes used in the experiment. Thus we may conclude from this research work that concrete should be mixed for at least 4 minutes but not more than 4.5 minutes to achieve maximum compressive strength.

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