A B S T R A C T

In this thesis, the workability of concrete using Trinidad Melajo aggregate is investigated. Definitions of workability and methods of measuring are discussed, actual laboratory results of slump, compacting factor and V.B consistometer tests are described and compared and the determination of optimum aggregate/cement ratios for different degrees of workability is analysed.

A mathematical expression for the V.B. consistometer test is developed and is used to show that mixes which have the same compacting factor do not necessarily need the same amount of work for full compaction. This expression is successfully used to confirm the data given in Road Note No:4 from the British Road Research Laboratory and Research Report No:2 of the Cement and Concrete Association in Britain.

An analysis is also made of the phenomenon of the increase in compressive strength corresponding to increase in aggregate/cement ratio for mixes with the same water/cement ratio and that of the decrease in compressive strength for mixes of low consistency.

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