

Determination of Need for Water Soaking Period in Measurement of Concrete Volume of Permeable Voids

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Introduction

Water permeability of concrete is one of the key factors concerning many concrete deterioration problems. It is often evaluated indirectly by measuring the volume of permeable voids through the KT-73 (2012) testing procedures. These procedures include a 48-hour water soaking period of the concrete samples. It is desired to omit the step of water soaking in order to simplify the test and reduce the time required to carry it out.



Boiling Test Apparatus

Project Description

In order to examine the significance of the water soaking step, 31 different concrete mixtures were tested with and without the 48-hour water soaking period. A statistical *F*-test was performed on the obtained data and it was concluded that the effect of the water soaking period on the measured volume of permeable voids was statistically insignificant.

Project Results

Based on the results obtained in this study, it is recommended to omit the 48-hour water soaking period from the KT-73 testing procedures as it does not significantly affect the measured value of the volume of permeable voids of concrete.

Project Information

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