

Effect of Strength Class of Concrete and Curing Conditions on Capillary Water Absorption of Self-Compacting and Conventional Concrete

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Abstract : The purpose of this study is to compare Self Compacting Concrete (SCC) and Conventional Concrete (CC) in terms of their capillary water absorption. During the comparison of SCC and CC, the effects of two different factors were also investigated: concrete strength class and curing condition. In the study, both SCC and CC were produced in three different concrete classes (C25, C50 and C70) and the other parameter (i.e curing condition) was determined as two levels: moisture and air curing. It was observed that, for both curing environments and all strength classes of concrete, SCCs had lower capillary water absorption values than that of CCs. It was also detected that, for both SCC and CC, capillary water absorption values of samples kept in moisture curing were significantly lower than that of samples stored in air curing. Additionally, it was determined that capillary water absorption values for both SCC and CC decrease with increasing strength class of concrete for both curing environments.

Keywords : capillary water absorption, curing condition, reinforced concrete beam, self-compacting concrete

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