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Evaulation of setting time of mortar cured various environmental conditions using electrical resistivity measurement

Hong Jae Yim and Hanju Lee
Kyungpook National University, South Korea

The development of various non-destructive measurements involves study on the microstructure evolution of cement based materials. Electrical resistivity measurement is a method that can monitor microstructure evolution due to change in resistivity through hydration products by filling pore space. This study aims to measure electrical resistivity in order to investigate an affect of various environmental conditions. A same mix-proportion mortar samples are prepared to study the effect of curing various temperatures and various humidty ranges. As a result, the rising time, which is the onset of an increase in electrical resistivity, is shortened and the increasing ratio of electrical resistivity is increased at higher curing temperature where various humidity ranges are not significant effec.

yimhongjae@gmail.com

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